REPORT

OF THE

COMMITTEE APPOINTED BY THE CENTRAL ADVIOSORY BOARD OF EDUCATION IN INDIA 1938 - 43

REPORT OF THE FIRST COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION APPOINTED TO CONSIDER THE WARDHA EDUCATION SCHEME, 1038.*

1. *Genesis of the Wardha Scheme.*—The present educational system of ıdia has of recent years been condemned on the grounds that it has failed to djust itself to changed conditions and is "uninspired by any life-giving and 'eative ideal". In 1937 Gandhiji initiated in the columns of the Harijan a scussion of the Indian educational problem and offered many suggestions the ain principles of which were:—

(a) The course of primary education should be extended at least to seven :ars and should include the general knowledge gained up to the matriculation andard less English and *plus* a substantial vocation.

(b) For the all-round development of boys and girls all training should so r as possible be given through a profit-yielding vocation.

(c) This primary education, besides training the mind, should equip boys ıd girls to earn their bread by the State guaranteeing employment in the voca- ons learnt and by buying from the schools their manufactures at prices fixed the State.

(d) Such education taken as a whole can and must be self-supporting.

(e) Higher education should be left to private enterprise and the State ıiversities should be purely examining bodies.

2. An All-India National Education Conference, which was convened at ardha in October 1937 under the presidentship of Gandhiji to consider his 'oposed scheme of self-supporting education, passed, the following resolu- ons:

(a) that free and compulsory education be provided for seven years on a ıtion-wide scale;

(b) that the medium of instruction be the mother-tongue;

(c) that the Conference endorses the proposal made by Gandhiji that the 'ocess of education throughout this period should centre round some form of anual and productive work and that all the other abilities to be developed or aining to be given should, as far as possible, be integrally related to the central ındicraft chosen with due regard to the environment of the child;

(d) that the Conference expects that this system of education will be gra- ıally able to cover the remuneraion of the teachers.

he age of entry to school should be 7 years and the standard attained end of 7 years schooling should approximate to the Matriculation (less

ıtaion Conference then appointed a Com- Zakir Husain, Principal of the Jamia Millia of basic education on the lines suggested rked out in detail the implication of those ıritative Wardha Scheme of Education.

es of reference, the Zakir Husain Report) he Central Advisory Board of Education n either on the principles on which the ıils, Dr Zakir Husain, whose presence at point ed out that many of the criticisms

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* with t alteration in December 1938.

to which the Wardha Scheme had been subjected, arose from either a miscon ception of the fundamental ideas on which the scheme rests or from statement extracted from their context which give a false or distorted impression.

5. Dr. Zakir Husain felt that the discussion would be less discursive if h first pointed out what the Wardha Scheme was not. The removal of misunde standings and the correction of false impressions would enable the members the Committee to confine their remarks to the real and not to some hypothetic scheme and so avoid irrelevancy.

6. Dr. Zakir Husain mentioned that criticism was directed mainly again the idea that the scheme was conceived wholly with the set purpose of maki education self-supportting by the sale of articles made by the pupils. It appear to be a scheme of production with conscript child labour. This impression w entirely wrong. The scheme was one of education, not production. The educ tive value of craft-work and activity was throughout emphasised and the econom question was quite subsidiary. Education in Wardha schools would be carri on through real life situations arising from the physical and social environme of the child and the craft activity. Education through activity is now consider by all teachers as "the most effective approach to the problem of providing integral all-sided education".

7. The Zakir Husain report defines the aim of the Wardha Scheme not "the production of craftsmen able to practise some craft mechanically but rat the exploitation for educative purposes of the resources implicit in craft work and sounds a warning of the obvious danger of stressing the economic aspect the sacrifice of the cultural and educational objectives. The Wardha sche rejects any mechanical labour in schools *merely* for production and states as necessary condition of education that "the craft or productive work chosen shou be rich in educative possibilities. It should find natural points of correlation wi important human activities and interests". This view is identical with th expressed in paragraphs 10—17 and 24-25 of the Wood-Abbott Report and is complete accord with modern educational thought. The Wardha Scheme dea only with compulsory primary education and does not imply any stoppage grants to existing schools or colleges.

8. Hence all criticism, directly or indirectly implying that child labour to be exploited for economic purposes, so that the schools can be wholly or eve partially self-supporting is irrelevant. Critics therefore who believe tha schools will be industrial or vocational in the narrow sense and that the is intended to force young children into prescribed vocations have not appre the real significance of the Wardha Scheme.

9. Dr. Zakir Husain deprecated uninformed criticism of the Scheme as result of statements made by enthusiastic but misguided protagonists. He deni that the scheme would remove unemployment; indeed the question of unem ment was not even mentioned in his report, though he felt that the pupi That Wardha schools would be better "employable" material than the p ing schools because the scheme was designed to produce "work upon all kinds of useful wo rk as honourable and who will be b e ar willing to stand on their own feet". He also denied that the Scheme stated even implied either that the Government would provide employment a t the en of the course or that all existing schools were to be transformed immediately in Wardha schools.

10. Dr. Zakir Husain next answered the criticism which had arisen in o n form or other mainly from Muslin sources that the propos Wardha schoo neglected religious education, and entirely secular in outlook. He admitt ec

that the scheme prescribed no syllabus in religious education as the difficulties were obvious, but one of its foundations was a respect for all religious. The Wardha scheme neither made nor implied any alteration in the present position y which any community at its own expense is permitted to give religious teaching in Government or Local Body schools to the pupils of that community out of school hours. Dr. Zakir Husain stated that no community need have the least apprehensions that the Wardha Scheme was intended to discourage any form of religion or religious observance.

11. Misunderstanding also existed in regard to co-education. The Wardha Scheme does not make co-education compulsory to any age, and can be adopted in either boys or girls or co-educational schools. Indeed it expresses no opinion whatever whether or not co-education is desirable. The option given to parents in the Wardha Scheme to withdraw their girls from school after the completion of the twelfth year does not imply that boys and girls should receive co-education up to that age.

12. After illuminating the educational and sociological bases on which the Wardha Scheme rests, Dr. Zakir Husain referred to the charge that under the Wardha scheme universities were to be merely examining bodies and as such would receive no financial aid from Government. Such a charge needs no refutation. His Report expressly excludes any discussion on secondary education for pupils above the age of 14. If the Wardha Scheme is adopted, a system of higher education co-ordinated with the Wardha organisation will have to be worked out.

13. To summarize, the Wardha Scheme—

(a) emphasises education through activity and is not primarily concerned with the production of saleable material;

(b) does not make spinning and weaving the only basic craft, but admits of the inclusion of any craft of equal or higher educative possibilities;

(c) does no imply the ruling out of facilities for religious (denominational) education, where any community desires it; and

(d) does not state or imply that the salary of the teachers must be directly met from the sale of material made in the school.

Dr. Zakir Husain's explanation removed from the minds of some members of the Committee the apprehension aroused by the literature which preceded the formulation of the Wardha Scheme and by some of the phraseology of the Wardha Scheme Report itself and so prepared the ground for a discussion of details.

The framers of the Wardha scheme deliberately confined their proposals
k of India's population resides in villages. The
or rural areas. The Committee therefore wish to
be introduced in rural areas and should not be
ut necessary modifications though the principle
as true for urban as for rural schools.

education.—The Zakir Husain Committee lays
lucation from the age of 7 to 14. They however,
ge for the introduction of compulsory education,
portant period of the child's life. In view of
ons, they did not feel justified in including the
e age of 7 as a part of the compulsory scheme,
and infant schools would be started and encou-

16. The normal age for admission to school in all advanced countries is 5 or 6. Even in India under the existing system of education children are usually admitted to school about the age of 6. This period of a child's life offers such educative possibilities that the majority of members preferred that the age range for compulsory education should be six years to fourteen years, though children of 5 years of age should not be excluded from school. It was agreed that compulsion could not be made effective merely by passing an Act making compulsion universal. Such a course would be unwise and impracticable, but the difficulties must be faced and effective compulsion extended as rapidly as possible.

17. In provinces where compulsion is in force the age limits are usually 6 to 11. The Committee agree that this higher age limit must be increased to 14. Protagonists of the Wardha Scheme prefer that if for compulsory education, any lesser period than seven years has to be taken, the higher age limits of 14 should remain and whatever period is fixed should be reckoned downward from the age of 14 rather than upward from the age of 6. In other words, compulsion from 9 years to 14 years is preferable to compulsion from 6 years to 11 years. They argue that in the present circumstances education in the early years is of little worth, causes wastage and stagnation and is therefore a waste of money and that the years of adolescence offer greater educative possibilities than the age of childhood. By retaining the higher age limit, civic and social responsibilities, permanent literacy and craft skill and interest can be the better developed.

18. The Committee whilst recommending that the age for compulsion should be 6 to 14 were not unaware of the financial and other difficulties, particularly that of the supply of suitable teachers, and feel that the approach to universal compulsory education from 6 to 14 will depend on the financial and other resources of the different provinces. A number of members prefer the compulsory period to begin from the age of 6 and gradually work up to 14.

19. *Stoppages of Education.*—All schools under the Wardha Scheme are basic schools and therefore no difference in nomenclature between "primary" and "secondary" classes or stages is made. Primary and secondary education, however, form two well-defined stages each with its own scope, aims and methods. The clear distinction in aims and methods between these stages must be kept in view. This question is discussed at length in the Hadow Report. The Central Advisory Board of Education at its first meeting held in 1935 recommended a revised school organisation consisting of a primary stage of four years, a lower secondary stage of four years and a higher secondary stage of three years. The writers of the Wood-Abbott Report "whole-heartedly commend the general lay-out of this proposed reconstruction". Indeed every province makes the distinction between primary and secondary or middle education though the dividing line is at the end of the fourth class in some provinces and at the end of the fifth in others. The Committee, however, felt that it was unnecessary to make any recommendation in this connection as the question would need consideration at greater length when the co-ordination of the final form of the Wardha Scheme with higher education is taken up. It was agreed unanimously that transfer to Anglo-vernacular and other schools should be permitted after the completion of the fifth class or about the age of 11.

20. *Medium of Instruction.*—The Wardha Scheme lays down that the medium of instruction shall be the mother-tongue, that is, the vernacular of the pupils. The Wood-Abbott Report makes the same recommendation and few will be found to disagree. The Committee unanimously approve, though they are aware that in certain provinces a difficulty might arise as more than one vernacular may be spoken. In making this recommendation the Committee wish to emphasise that the term "vernacular" connotes the "literary" language and not a dialect.

21. *Hindustani.*—The object of including Hindustani as a compulsory subject in the school curriculum is, according to the Zakir Husain Committee, to ensure that all the children educated in the "basic" schools may have a reasonable acquaintance with a common "lingua franca". That Committee has accordingly recommended that in Hindustani-speaking areas this language should be the mother-tongue but the students as well as the teachers will be required to learn both the scripts so that they may read books written in Urdu as well as in Hindi, and that in non-Hindustani speaking areas, where the provincial language will be the mother-tongue, the study of Hindustani should be compulsory during the 5th and 6th years of school life but the children will have the choice of learning either one or other script. Thus teachers who have to deal with children of both types must know both the scripts. The Committee recognise the desirability of a common language for India which should be Hindustani with both the Urdu and Hindi scripts, though some members believe that the adoption of one common script, the Roman, would considerably simplify teaching procedure and tend to unity among different communities. There is the danger that undue influence might be brought to force children to read in the script other than that of their choice, especially when the number of such children is small. The Committee desire to emphasise that full option should be given to children to choose the script and that provision should be made for teaching them in that script.

22. *English.*—Discussion on the question whether English should be taught in the "basic" schools revealed considerable difference of opinion. Some members of the Committee feel that English should have no place in these schools which are primarily meant for rural areas. The study of English in such schools is educationally unsound. The time taken in its study is out of all proportion to the advantage gained and tends to prevent the formation of a firm foundation of education.

23. On the other hand, some members of the Committee believe that a good grounding in English is essential for higher studies and so long as English remains the medium of instruction in colleges and retains its importance in all phases of Indian life, the study of English must be started at an age earlier than 14. The Wood-Abbott Report, with its emphasis on teaching through the vernacular, admits that "the study of English, at least as an optional subject, may have to be included in the curriculum of some of the lower secondary schools where there is a public demand for it".

The Committee, however, agree that the demand for English will be met by the possibility of transfer after the 5th class or about the age of 11 to schools where English is taught and that English should not be included in the curriculum of "basic" Wardha Schools.

24. *Craft and Manual Activities.*—The fundamental principle of the Wardha Scheme is education through productive craft activity. Perhaps the word "creative" would be preferred to "productive" by educationalists as the word "productive" may be and has been read to imply that economic production outweighs educative development. We emphasise that the Wardha Scheme stresses the educative value of craft work. That saleable material will be produced in the higher classes of the basic schools is no objection to the scheme. Indeed unless saleable material is produced the educative possibilities have not been satisfactorily exploited. The income from the sale of such material might well be applied to the upkeep of the school.

25. It is unnecessary to discuss the educative principle of learning by doing. All recent literature emphasises this principle and all schools with any pretence to be up-to-date have adopted it. Indeed the education of children through

hand work in its various forms is one of the outstanding features of modern education. The Committee unanimously agree with the principle of educating children through purposeful creative activities which should gradually develop into productive work.

26. To prescribe one basic craft in the lowest classes of a school which children of the age of about 6 may join is educationally unwise. The activities in these classes arise from the child's interests and desires and should not be forced on him by the adult. Any activity which appeals to a child's interest is suitable so long as it "makes a demand on a boy's skill, judgment, sense of observation and power of calculation and combines all or some of these in a constructive effort to achieve an end which he himself wishes to achieve". As, the Wood-Abbott Report says, "it is not so much the thing made or done as the integration required in the making or doing, which is of educational value. Dr. Zakir Husain himself emphasises this point in his appendix to "The Activity School," when he says, "It is not the attainment of skill but the process of acquiring it that is educative". As the child becomes older his interests change. Many of them become less transitory and can be satisfied through one basic craft in which the pupils should reach a high degree of skill. Such crafts as agriculture, weaving, woodwork, metal work provide facilities for educational development, appeal to the growing child's sense of making and doing something, increase his self-respect since the product of his labour has a market value and tend to remove the false idea that manual work is objectionable.

The Committee therefore are of opinion that in the lower classes (to the age of about 10 plus) there should be no single basic craft but that the various forms of activity should serve as a preparation for, and develop into, a productive basic craft in the higher classes.

27. It naturally follows that in all basic schools, indeed in all primary classes, various kinds of material for handwork must be available. Unless sufficient material is provided, the school cannot be a centre of activity.

28. *The Teacher.*—The most important condition for the success of any educational scheme is the teacher. Revised methods may be proposed, new procedure suggested or a different organisation adopted, yet these will be ineffective and fruitless unless the teachers are able to appreciate and understand the theory leading to the changes and are competent to carry them out so that the desired intention may result. As Dr. Zakir Husain writes in his report, "it is essential that these teachers should have an understanding of the new educational and social ideology inspiring the scheme combined with enthusiasm for working it out".

29. The teacher must therefore be competent to teach the standard of the Matriculation in the usual school subjects, must be expert in methods of teaching these subjects through craft activities and must be skilled in the processes and technique of certain basic crafts. Without such teachers the Wardha schools cannot succeed and teachers of the type required are practically non-existent at present. To attempt to introduce the scheme over any wide area would invite failure.

30. The pace at which the schools can be established will depend almost entirely on the supply of trained teachers competent to implement the scheme. Hence the Committee agree with the recommendation in the Zakir Husain Report that a reasonably large area should be selected for the experiment and an educational survey of that area should be carried out by the Education Department. Immediate steps should then be taken to train the required number of teachers in the existing normal schools which should be reorganised and restaffed to suit the new system of training. In the meantime all normal schools should

be so reorganised and schools should be gradually converted to activity schools as suitable teachers become available. The provision of suitable teachers will be accelerated when pupils having passed through the Wardha schools seek training as teachers, for such pupils will have absorbed the spirit of the teaching and will be skilled in some basic craft.

31. At present the usual qualificaion for a teacher in a primary school is a pass in the vernacular middle school examination (held after completing an eight-year course) followed by one or sometimes two years training in a normal school. Many primary teachers do not possess even these qualifications whilst a small percentage have passed the Matriculation. This qualificaion, however, is for primary school purposes little if any better than the vernacular middle qualification as the gain in English often does not compensate for the loss in other ways. Obviously teachers with these qualifications cannot be expected successfully to teach satisfactorily up to a standard as advanced as their own.

32. The Wardha Scheme rightly emphasises the importance of the teacher and in order to start the scheme proposes a short emergency course of one year for specially selected teachers. The complete training course, however, is to cover a period of three years.

33. Before admission to the training college the candidate must have passed the Matriculation examination or have had at least two years' experience after passing the Vernacular Final or equivalent examination. The Committee agree that as the success of the scheme mainly depends upon the teachers it is imperative to prepare competent teachers. Some of the members, however, are apprehensive whether sufficient candidates will be forthcoming to undergo a three years training in return for the exiguous salary a primary teachers now receives.

34. Even after the three years course of training, these teachers will hardly be competent to carry out satisfactorily the work in the highest classes of the "basic" schools. The Zakir Husain Committee contemplated the necessity of employing in the higher classes teachers with better academic qualifications on a higher pay and with this view, the Committee entirely agrees.

35. The Committee recommend that effort should be made to increase the supply of competent women teachers. Both the Zakir Husain and the Wood-Abbott Reports point out the need of women teachers especially in the lower classes. This point was discussed at some length in the Report on the Curriculum of Girls' Primary Schools (Central Advisory Board of Education, 1937) and the Committee wish to emphasise the conclusions stated therein in regard to the need of women teachers and the spheres of possible recruitment. Several members of the Committee pointed out that the present low salaries in some provinces would not attract a suitable type of recruit and that the teachers' social status in the villages was as a rule low. This was not surprising as his salary is frequently lower than that of a menial servant. The Committee endorse the recommendation of the Zakir Husain Committee that the salary of a trained primary school teacher should be Rs. 25 if possible, but in no case less than Rs. 20 per mensem. Efforts should also be made to raise the status of the teacher by giving him on public, semi-public and other occasions the respect his profession deserves.

36. *"Cultural Subjects"*.—The Committee discussed whether or not it was possible to teach through the basic craft all subjects to the standard anticipated. There was general agreement that in the lowest classes education can be satisfactorily carried out through activities. In this connection the work at Moga and other schools was cited. But as the child advances in age and reaches the higher classes opportunities for centring his cultural work and intellectual progress on the basic crafts become less frequent. Much of the academic work

even in the highest class can be correlated with the basic craft, but all aspects of the "cultural" subjects cannot so be treated not even by stretching correlation beyond its legitimate limits. Formal instruction will therefore be necessary to teach certain elements of cultural subjects which cannot naturally be co-ordinated with the basic craft, Dr. Zakir Husain agrees that "the school has to provide for the attainment.....of some passive knowledge. I say this lest we forget that.....not all knowledge comes through our own active experience but through the accumulated experience of generations long past" (The Activity School—Ferriere).

37 *Curriculum.*—The subjects forming the curriculum and the syllabuses of individual subjects were seriously criticised from different points of view. Amongst the points discussed were the length of time allotted to the basic craft, the political tone of parts of the syllabus in Social Studies, the omission of algebra and major games, the ambitious nature of some of the subjects of study, the lack of suitable text-books, and other matters of lesser importance.

38. Dr. Zakir Husain pointed out that the proposed syllabuses were merely tentative and their interpretation depended on the teacher and on the provision of suitable text-books. Experience would show what changes were necessary and the syllabuses would be modified accordingly. The syllabuses published with the Wardha Scheme do little more than indicate the nature of the work of the Wardha schools. Necessary details will be incorporated after experience. Indeed the Wardha Scheme advises the appointment in every province of "academic assistants" whose main duty will be to keep the curriculum under constant examination in the light of educational, local and other demands. Details will also be worked out in the normal schools and training colleges whilst the preparation of suitable text-books will be immediately taken in hand.

With this explanation the Committee noted that the curriculum and syllabuses of the Wardha basic schools are not rigid but will be changed as experience necessitates.

39. *Religious Education.*—The absence of all religious teaching from the curriculum was adversely commented on and this question showed fundamental differences of opinion. On the one hand it was contended that if the State makes education compulsory for all, then the State must make provision for religious education. Muslim members pointed out that religious instruction is an essential part of general education and any scheme of compulsory education which excludes religious instruction will be resented by that community.

40. Dr. Zakir Husain had already pointed out that the Wardha Scheme makes provision for the teaching of the principles common to all religions in the hope of developing mutual respect and toleration. In Gandhiji's words:—

"We have left out the teaching of religions from the Wardha Scheme of education, because we are afraid that religions, as they are taught and practised to-day, lead to conflict rather than unity. But on the other hand, I hold that the truths that are common to all religions can and should be taught to all children. These truths cannot be taught through words or through books. The children can learn these truths only through the daily life of the teacher. If the teacher himself lives up to the tenets of truth and justice then alone can the children learn that truth and justice are the basis of all religions".

41. The majority of members felt that religious teaching was best left to the parents or to the communities concerned, but that the State should permit religious instruction to be given in the school building, out of school hours. After considerable discussion the Committee agreed that the Government should provide facilities for religious teaching, as at present, but was not unanimous whether or not such teaching should be given in or out of school hours. The question of the inclusion of religious instruction in the curriculum is discussed in the Report of the Women's Education Committee of the Central Advisory

Board of Education on the curriculum of Girls Primary Schools (1937). The majority of the members are in agreement with the views expressed in para. 11 of that report. Dr. Sir Zia-ud-Din Ahmad and Khan Fazl Muhammad Khan, however, desired that religious instruction should be a school subject. The syllabus of studies for Muslim Theology should be prepared by Muslims, taught by Muslims and the State should provide all facilities.

42. *Examinations.*—The Wardha Scheme of education makes no provision for external examinations but emphasises the need of efficient and helpful supervision as contrasted with mere inspection.

43. In regard to examinations the Committee would go even further than the Wardha Scheme anticipates. The Zakir Husain report states that "the purpose of the examination can be served by an administrative check of the work of the schools in a prescribed area, by a sample measurement of the attainment of selected groups of students conducted by the Inspectors of the Education Board". The Committee feels that even this sample measurement is open to objection and might be omitted. The standard of work in the school should be maintained by the inspecting staff and by local exhibitions of work. Promotion from grade to grade should drest entirely with the school on the result of an internal test. The papers and work of the pupils and the results of the test should be reviewed by the inspecting officer at the time of his visit. At the end of the school course the school itself can grant a leaving certificate after a final internal examination stating merely that the pupil has satisfactorily completed the course of the basic school. The certificate may be countersigned by the supervisory or inspecting officer after he has reviewed the pupil's work in the final test if an additional check is considered necessary. For pupils who leave the basic schools for other schools about the age of 11 plus after having completed the first five classes a similar leaving certificate will suffice. Admission to these schools should be controlled by their Headmasters who may prescribe any form of test they consider suitable for their purpose.

44. *Finance.*—The Committee did not consider the question of finance as this was outside their terms of reference. They wish, however, to point out that "activity" schools will cost more to run in the beginning than the present type of school and that the rate at which compulsion proceeds and the age to which it is applied are primarily financial questions, the consideration of which must be left to the Provinces.

45. *Conclusions.*—The following is a summary of the main conclusions reached at the meeting of the Committee:—

(1) The scheme of "basic" education should first be introduced in rural areas.

(2) The age range for compulsion should be 6 to 14 years, but children can be admitted to the "basic" school at the age of 5.

(3) Diversion of students from the "basic" school to other kinds of school should be allowed after the 5th class or about the age of 11 plus.

(4) The medium of instruction should be the vernacular of the pupils.

(5) A common language for India is desirable. This should be Hindustani with both the Urdu and Hindi scripts. Option should be given to children to choose the script and provision should be made for teaching them in that script. Every teacher should know both scripts, *viz.*, Urdu and Hindi. Some members of the Committee suggest that the adoption of Roman script might prove a solution to the language difficulty and greatly minimise the work of both scholar and teacher.

(6) The Wardha Scheme of basic education is in full agreement with the recommendations made in the Wood-Abbott Report so far as the principle of

learning by doing is concerned. This activity should be of many kinds in the lower classes and latter, should lead to a basic craft the produce from which should be saleable and the proceeds applied to the upkeep of the school.

(7) Certain elements of cultural subjects, which cannot be correlated with the basic craft, must be taught independently.

(8) The training of teachers should be reorganised and their status raised.

(9) No teacher should receive less than Rs. 20 per mensem.

(10) Efforts should be made to recruit more women teachers and to persuade girls of good education to take up teaching.

(11) Basic schools should be started only when suitable trained teachers are available.

(12) The curriculum will need revision in the light of experience.

(13) English should not be introduced as an optional subject in basic schools.

(14) The State should provide facilities as at present for every community to give religious teaching, when so desired but not at the cost of the State.

(15) No external examinations need be held. At the end of the basic school course a leaving certificae based on an internal examination should be given.

(16) Pupils wishing to join other schools at the end of the 5th class (age 11 +) should also be granted a leaving certificate.

(17) Promotion from class to class will be determined by the school, though the results of the internal examinations should be subject to the supervisor's inspection.

B. G. KHER (*Chairman*).
AMRIT KAUR.
W. H. F. ARMSTRONG.
GERTRUDE C. GRIGG.
HANSA MEHTA.
FAZAL MUHAMMAD KHAN.
SYED MAHMUD.
S. P. MOOKERJEE.
J. E. PARKINSON.
R. S. SHUKLA.
ZIA-UD-DIN AHMAD.

On account of his illness, Dr. Zakir Husain has not been able to sign the Report. He has, however, approved it.

REPORT OF THE SECOND WARDHA EDUCATION COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATOIN 1939 TOGETHER WITH THE DECISIONS OF THE BOARD THEREON.

At their meeting held at Simla on May 6th and 7th, 1940, the Central Advisory Board of Education had before them the report of the Committee which they appointed in December 1938, to consider further issues arising in connection with the system of basic education such as its relation to other branches of education and the financial problems implicit in its adoption.

The decisions reached by the Board with regard to the various conclusions and recommendations contained in the Committee's report are set out below.

While, as will be seen, the Board were unable to accept the conclusions and recommendations in their entirety, they felt that the report, read in conjunction with the report of the previous Committee appointed by the Board to consider the Wardha Scheme, might well prove a valuable contribution towards the exploration of a most important problem.

The Central Advisory Board of Education adopted the conclusions and recommendations Nos. 1, 2, 3, 4, 5, 6 and 9. With regard to the others, *viz.*, Nos. 7 and 8, the Board arrived at the following decisions:—

No. 7.—The Board decided that to implement this recommendation it would be better to strengthen their existing Vernacular Education Committee than to set up a special Committee.

The Vernacular Education Committee was accordingly reconstituted as set out below: it has power to co-opt.

1. Rajkumari Amrit Kaur.
2. The Right Rev. G. D. Barne, C.I.E., O.B.E., V.D., Bishop of Lahore.
3. Mr. R. M. Statham, C.I.E., I.E.S., Director of Public Instruction, Madras.
4. Mr. W. H. F. Armstrong, I.E.S., Director of Public Instruction, Punjab.
5. Dr. Sir Zia-ud-Din Ahmad, C.I.E., Ph.D., D.Sc., M.L.A.
6. Pandit Amaranatha Jha, M.A., Vice-Chancellor, Allahabad University.
7. Mr. J. M. Botttomley, I.E.S., Director of Public Intruction, Bengal.
8. The Educational Commissioner with the Government of India.

No. 8.—While the majority of the members of the Board accepted the view of the Committee, the official members representing the Government of India expressed their inability to commit themselves in any way. The representative of the Legislative Assembly attending the meeting felt himself precluded under existing circumstances from supporting the Committee's recommendation. One or two members, while in favour of the principle that the Central Government should make some contribution, found themselves unable to go as far as the Committee desired.

The Board also decided that—

(a) a copy of the Report, together with the decisions of the Board in regard thereto, should be forwarded to the Provincial Governments for consideration and such action as they might consider necessary;

(b) their thanks be expressed to the Chairman and members of the Committee for the great amount of time and care which they had obviously devoted to the preparation of the Report.

REPORT OF THE COMMITTEE.

1. *"Pre-basic" education.*—The original Wardha Scheme advocated the free and compulsory education of all boys and girls between the ages of 7 and 14, though girls might be withdrawn after the completion of their 12th year if their guardians so desired. The Zakir Husain Committee recognised the importance of providing educational facilities for children below the age of 7 and envisaged the possibility of this being done on a voluntary basis with State help where possible, but did not feel justified in including it as a part of the compulsory scheme in view of financial and other considerations. The report of the first Kher Committee, as adopted by the Central Advisory Board of Education, contemplated the period of compulsory education as extending from the age of 6 to the age of 14 for all children.

The Committee fully recognise the importance in the child's educational life of the years 5—7. During this period the foundation of good habits, mental, moral and physical can be laid and the effects of childish ailments detected and remedied more easily and more effectively than at any later age. They understand that in many provinces at the present time children are admitted to the infants classes of primary schools at about the age of 5 and that parents are often glad to be able to leave their children during the day where they will not only be looked after but will also receive some useful training. They also appreciate the fact that where parents have acquired the habit of sending their children to school at an early age the difficulties of enforcing attendance when the compulsory stage is reached will be considerably reduced. They are accordingly anxious that facilities for education at the 'pre-basic' stage, so far from being reduced, should be widely extended by increasing the number of infants classes in State schools and by encouraging the establishment of efficient 'pre-basic' school by voluntary agencies. They also suggest that Provincial Governments should set up a few model infants schools where the correlation of Kindergarten instruction with the curriculum of the 'basic' school may be studied and developed. The Committee do not, however, consider that it is practicable at the present stage to lower the minimum age of compulsory attendance below 6 years. To do so would add substantially to the serious financial problems already involved by the 'basic education' scheme and would also assume an adequate supply of properly trained women teachers, since children at this early age should be taught by women and not by men. Such a supply is practically non-existent in India at the present time. Steps should be taken to create it, either by adding special courses in infants teaching to existing training schools or by establishing special institutions for this purpose. The Committee were interested to learn that in certain provinces the possibility of utilising the services of widows in this connection was being explored and believe that this source of recruitment may be further enlarged. In the meantime, however, pending the solution of the two major problems referred to above, the Committee are of opinion that 'pre-basic' education, when provided by the State, should be free but not compulsory.

2. *Basic education and its division into two stages.*—A "basic" school as at present conceived would appear to constitute a unit by itself for children between the ages of 7 and 14. The protagonists of the 'basic education' scheme are rightly insistent that the whole course should be regarded as coherent and consecutive. There is nothing, however, in this conception which conflicts with the view generally accepted by educationists to-day that the mental and physical changes which boys and girls undergo as a rule about the age of 11—12 should be recognised by corresponding adjustments both in the content of the curriculum and in the methods of instruction. Hence arises the need for treating the instruction given before and after this psychological break as forming two

well-defined stages, each with its own scope, aims and technique though inspired by the same fundamental aim. It was for this reason that the Central Advisory Board of Education, when formulating a framework of educational organisation at its first meeting in 1935, recommended an organisation consisting of a primary stage, a lower secondary stage, and a higher secondary stage. There is, in fact, nothing novel so far as India is concerned, about the idea of break at about the age of 11—12, as every province makes a distinction between primary and secondary or middle education, though the dividing line is at the end of the fourth class in some cases and at the end of the fifth in others. Nor is there anything in the general conception of the 'basic education' scheme which is repugnant to the notion that the onset of adolescence should receive recognition by a suitable differentiation in the scope and method of instruction. The principle of 'learning by doing' is equally applicable in the primary and in the post-primary school, only its practical interpretation needs adjustment to the growing powers and changing interests of the children. Moreover, if opportunities are to be provided for children to transfer from 'basic' schools to other forms of post-primary education and if as the Committee contemplate, the 'basic' school is to become the normal type of primary school not only in rural but also in urban areas, where the number desiring such transfers is likely to be much greater, a break in the organisation at about the age of 11—12 will become a matter of normal convenience as well as of educational desirability. It is obviously important that a child, if and when he transfers, should have completed a planned stage in his school career. Apart from those likely to be transferred to other forms of post-primary education—and they will be a comparatively small minority—there is an equally strong argument in the case of the remainder for a break between the primary and post-primary stages. The organisation of practical activities and their correlation with other subjects will be more effective and less expensive at the post-primary stage, from the point of view both of grading pupils according to their intelligence and of economising staff, accommodation and equipment, wherever it is possible to provide a central school to serve a number of contributory primary schools. This will be possible as a rule in towns and in those rural areas where villages are fairly large and close together. Finally, boys and girls, who under satisfactory arrangements may be educated together during the primary stage, will have to be taught separately subsequently. Provision for their post-primary education will be much facilitated if they can be collected in sufficient numbers into 'basic' post-primary central schools.

After serious consideration of this most important problem the Committee reached the conclusion that the divergence between those who regard the 'basic' course as one and indivisible and those who realise the need for a break between about the age of 11—12 is more apparent than real. For those children —and they will be the great majority—who remain to the end of their school career under the 'basic' system, there will be no break in the continuity or aim of the instruction, and such a break as there may be will be only a transference from one 'basic' school to another. For those who pass to other forms of post-primary instruction, the effects of the change will be minimised if the curriculum of the institutions in question is closely related, as the Committee recommend, to that of the 'basic' school. The Committee accordingly are agreed that 'basic' education should comprise a correlated course of eight years from the age of 6 to the age of 14, which for the sake of convenience should be divided into two stages—the first stage covering a period of 5 years and the second stage 3 years. The first stage should be called "junior" and the second stage "senior". Moreover, the curriculum for all schools beyond the 'junior basic' stage, whether 'senior basic' or other forms of post-primary education, should develop logically from that of the 'junior basic' school.

3. *Transfer of children from 'basic' schools to other schools.*—The Committee contemplate that the 'basic' school will be the normal type of school attended by all children up to the end of the 'junior' stage. They realise, however, that after that stage certain children, and particularly those who may be intended for a university career, will transfer to schools of a different type from the 'senior basic' school. The Committee feel that arrangements should be made for such transfers in the case of children who have completed the fifth grade in 'basic' schools and shown the necessary aptitude for benefiting by a course of higher education. Without desiring to prescribe in any detail the nature of such a course, the Committee lay emphasis on the fact that the curriculum should derive naturally from that of the 'junior basic' school, but should vary in its later stages to meet both the differing aptitudes of the pupils and the requirements of the occupations they intend to enter on leaving school. These variant forms of higher education should extend over a minimum period of 5 years, with a further course of more advanced work for those who intend to proceed to a university or enter occupations for which a more prolonged course of study is regarded as essential. It may be convenient for such diversified courses to be given in separate institutions and the possibility of developing Technical High Schools in or in connection with existing Technical Colleges, as forms of higher education alternative to that provided by the normal high school, should receive careful consideration. It is particularly important that subject to the over-riding right of the parent to make the final decision, the school to which a child should go at the conclusion of the 'junior basic' stage should be determined primarily by the special aptitudes he has displayed during this stage. In any area where compulsory education up to 14 is in force, a child will remain under obligation to attend school to that age whatever the type of school he may be attending.

While those children whose general intelligence or future careers make it obvious that they cannot complete their education in a 'senior basic' school, should be transferred at the end of the fifth class wherever possible, provision must also be made for those children who wish to continue their education after completing the course at the 'senior basic' school. Special arrangements must be made so that such children may receive special tuition in those subjects, *e.g.*, English, which do not form part of the curriculum of the 'senior basic' school.

As regards the relation of the post primary schools other than the 'senior basic' with university courses, the Committee did not consider it desirable to go into details, as it is for the universities to prescribe their own courses. They feel, however, that it is by no means impossible for the responsible educational authorities to relate the instruction provided in such schools to that of the 'junior basic' school at one end and of the university at the other.

4. *Parallel courses of instruction for girls in the upper classes of 'basic' schools.*—The Wardha Scheme, while allowing girls to be withdrawn from 'basic' schools after the completion of their 12th year if their guardians so desire, clearly did not contemplate that the education of all girls would cease at this stage. The Central Advisory Board of Education assume that compulsion up to the age of 14, if and when introduced, will apply to girls as well as to boys. A suitable modified syllabus will therefore be necessary for those girls who continue their education in 'senior basic' schools. The Committee accordingly recommend that courses should be framed specially suited to the aptitudes and requirements of older girls and should include such subjects as cookery, laundry-work, needlework, homecrafts, the care of children, first aid, etc., the rest of the instruction being correlated with these practical activities in accordance with the general principles of the 'basic education' scheme.

5. *Appointment of a standing committee to watch education developments.*—Provinces are now embarking on new educational experiments and the system

of 'basic education', which many of them are introducing, is still in the experimental stage. It will be advantageous if the results of all these experiments are watched and co-ordinated by some central body. The Committee, therefore, recommend that a standing committee of the Central Advisory Board of Education be appointed to survey the general progress of educational developments in all the provinces, with special reference to 'basic' education, and to make recommendations to the Board for necessary action from time to time. This standing committee should contain a representative of the Hindustani Talimi Sangh.

6. *Central Bureau of Information.*—The syllabus outlined in the Zakir Husain Report is admittedly tentative and is likely to require adjustment in the light of local conditions. The interpretation of the syllabus in this connexion, the extent to which a particular topic or craft is to be introduced and the nature of the incidental information to be given to children at any given age are problems which require to be carefully handed. The Committee considered whether any organisation such as a central bureau, through or by which these and similar problems can be elucidated, should be set up, but came to the conclusion that as this was essentially a matter for local decision it was not necessary to create a central bureau at this stage.

7. *Ways and means to finance 'basic' education.*—The framers of the original Wardha Scheme hoped that while such education during the earlier stages might not be productive yet for the whole period of seven years it would be self-supporting. The Wardha Conference which met in 1937 to consider this scheme was not convinced that it could or should be made self-supporting although it considered that it would gradually be able to cover the remuneration of teachers. The Zakir Husain Committee also doubted whether such education could be made entirely self-supporting and while expressing the opinion that 'basic' education should cover the major portion of its running expenses, stated that all other educational expenditure, *e.g.*, on buildings, equipment, etc., must be met from other sources, public and private. The Committee of the Central Advisory Board of education appointed in 1938 to consider this scheme also pointed out that 'activity' schools would cost more to run in the beginning than the present type of school. It may now be accepted that no school, 'basic' or otherwise, which devotes itself to its proper function is likely to be an entirely self-supporting unit. This, however, is no reason why the marketable articles it produces should not be sold as advantageously as possible. After this and other possible sources of income have been fully explored, the balance of the cost of providing a compulsory system of education, which must be free, will have to be met from public funds.

The provision of such education as is necessary for its own stability and the well-being of its citizens is a fundamental responsibility of the democratic State —a responsibility which should be divided equitably among those authorities which are concerned with educational administration. In countries like England, about 50 per cent. of educational expenditure comes from the Central Government and the rest is found from local sources. In India, the authorities concerned are the Central Government, the Provincial Governments and the local bodies entrusted with educational powers. Each of these authorities must contribute their share of the net cost of education, *i.e.*, the total cost after receipts from fees, voluntary contributions and the sale of articles made in school have been deducted. Apart from this general consideration the Committee are satisfied from figures submitted to them that the cost of introducing a free and compulsory system of 'basic' education between the ages of 6 and 14 is beyond the existing financial capacity of any provincial Government or local body, a minimum estimate of the net cost being Rs. 2 per head of population per annum.

As they are convinced that the future of India must depend very largely on such a system being introduced without delay, the Committee have no alternative but to recommend that the Central Government should contribute not less than half the approved net expenditure of a Provincial Government on this particular service. Such a contribution would naturally be contingent on the Provincial Government (*a*) raising the remaining sum required from its own resources (*b*) undertaking to pay an agreed minimum scale of salaries to its teachers and (*c*) satisfying the Central Government that the amount is spent on free and compulsory education. The Committee further suggest that in order to lighten the immediate burden of the non-recurring expenditure required to bring the scheme into operation the cost of all sites, buildings, equipment, etc., exceeding Rs. 5,000 for any single item should be met from loan.

8. *Disposal of the produce of schools.*—The 'basic education' scheme centres round a productive basic craft. Means will have to be devised for the disposal of the marketable articles thereby produced. An economical method of marketing is essential, and as this is beyond the scope of any individual school, it will only be possible if a central agency in each province undertakes this work. The Committee do not mean by this that there should be only one central depot in each province for collecting and selling articles produced at school but that the Provincial Government in each case should undertake direct responibility for this organisation.

9. *Resolutions of the All-India Muslim Educational Conference.*—The Committee also gave careful consideration to the resolutions submitted on behalf of the All-India Muslim Educational Conference and were gratified to find that on all major educational issues there was a substantial measure of agreement between the decisions of the Conference and their own conclusions.

10. *Main conclusions.*—The following is a summary of the Committee's main conclusions:—

(1) That while the provision of 'pre-basic' education in Nursery and Infants schools and classes is highly desirable, it is not practicable at this stage, in view of the lack both of money and of trained women teachers, to advocate its introduction on a compulsory basis. Provincial Governments should aim in the first place (*a*) at providing model Infants and Nursery Schools in suitable centres, (*b*) at increasing the supply of properly trained infants teachers, who should be women, (*c*) at encouraging the enrolment in 'basic' schools of children below the minimum age for compulsory attendance and (*d*) at stimulating the provision by voluntary agencies of efficient 'pre-basic' schools.

(2) That 'basic' education should comprise a course of eight years from the age of 6 to 14 years and that this course while preserving its essential unity should consist of two stages—the first stage, the 'junior' stage, covering a period of 5 years and the second stage, the 'senior', 3 years.

(3) That the transfer of children from the 'basic' school to other form of post-primary education should be allowed after the 5th grade, *i.e.*, at the conclusion of the 'junior basic' stage.

(4) That the various types of post primary school (other than the "senior basic" school) to which suitable children may be transferred at the end of the 'junior basic' stage should provide a variety of courses extending over a period of at least five years after the age of 11. These courses, while preserving an essentially cultural character, should be designed to prepare pupils for entry to Industrial and Commercial occupations, as well as to Universities.

(5) That special arrangements should be made in these schools for assimilating pupils who decide to continue their education after completing the full course in the 'basic' school, *i.e.*, after reaching the 8th class.

(6) That suitable courses should be framed for girls attending 'senior basic' schools, which should include such subjects as cookery, laundry work, needlework, homecrafts, the care of children and first aid, the remainder of the instruction to be correlated with this course of domestic science in accordance with the general principles of the 'basic education' scheme.

(7) That a standing committee of the Central Advisory Board of Education should be appointed to watch new educational experiments carried on in the provinces as well as the progress of educational developments generally, with special reference to 'basic' education, and to make recommendations to the Board for necessary action. There should be a representative of the Hindustani Talimi Sangh on this Committee.

(8) That subject to such conditions as are set out in the report the Central Government should contribute not less than half the amount of the approved net recurring expenditure on 'basic' education in each province, the balance to be found by the Provincial Government and the local bodies entrusted by it with the administration of compulsory education. For capital expenditure on buildings, equipment, etc., a loan system should be adopted.

(9) That a central agency should be established in each province for the disposal of marketable articles produced in schools.

B. G. KHER (*Chairman*).
AMRIT KAUR.
W. H. F. ARMSTRONG.
Q. ATAULLAH.
HANSA-MEHTA.
ZAKIR HUSAIN.
PIR ILLAHI BAKSH.
W. A. JENKINS.
AMARANATHA JHA.
J. C. POWELL-PRICE.*
JOHN SARGENT.
C. J. VARKEY.

NOTE OF DISSENT BY MR. J. C. POWELL-PRICE.

While agreeing with the main conclusions of the Committee, I am unable to subscribe to the theory that Pre-Basic Education should not be the concern of Government. In India there is only one agency which can be entrusted with elementary education and that is Government. The Infants class is an integral part of primary education and should in no case be separated. The nursery school is a totally different proposition and it only leads to confusion to class Infant and Nursery classes together. I cannot, therefore, agree with conclusion No. 1.

*Subject to a note of dissent.

REPORT OF THE ADULT EDUCATION COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION, 1933, TOGETHER WITH THE DECISIONS OF THE BOARD THEREON.

At their meeting held at Simla on May 6th and 7th, 1940, the Central Advisory Board of Education had before them the report of the Committee which they appointed in December, 1939, to consider the question of adult education both generally and with special reference to the removal of illiteracy and the provision of village libraries.

The decision reached by the Board with regard to the various conclusions and recommendations contained in the Committee's report are set out below.

While, as will be seen, the Board were unable to accept these conclusions and recommendations in their entirety, they felt that the report might well prove a valuable contribution towards the solution of a most important problem and that is publication in full might be of assistance to all bodies and persons concerned with the adult education movement.

The Central Advisory Board of Education adopted the conclusions and recommendatons Nos. 1, 2, 3, 4, 6, 7, 8, 9, 11, 14, 15, 16, 17, 18, 20, 23 and 26.

With regard to the others the Board arrived at the following decisions:—

No. 5.—The Board were of opinion that it would be premature at this stage to appoint a Committee as suggested. It is too early as yet to survey the progress of the movement as a whole or to assess the results of the experiments which are being carried out in many areas. The Educational Commissioner was asked to collect information from Provincial Education Authorities as and when available and to prepare a statement for the Board.

Nos. 10, 12 *and* 13.—The Board decided, without endorsing them, to ask Provincial Governments to bring them to the notice of universities in their areas for such action as they might think fit.

No. 19.—While in full agreement as to the need for extending libraries and providing suitable literature, the Board felt that no useful purpose would be served by asking the Central Government for special postal concessions as suggested by the Committee.

No. 21.—The Board felt that practical difficulties would arise with regard to the levying of a tax on those employers who do not make provision for the education of their employees.

No. 22.—While agreeing as to the desirability of all Government departments giving every encouragement to their staffs to become literate, the Board did not agree that this should be made obligatory under existing circumstances.

No. 24.—In view of the prior claims of primary education to any financial assistance which might be forthcoming from the Central Government towards educational development in the provinces, the Board was unable to accept the recommendation of the Committee that the Central Government should make a specific grant to Provincial Governments for carrying out approved schemes of adult education.

No. 25.—The Board were in sympathy with the general policy outlined but thought it advisable to wait for action by Provincial Governments before expanding their own Bureau for this purpose.

The Board also decided that—

(a) a copy of the Report, together with the decisions of the Board in regard thereto, should be forwarded to the Provincial Governments for consideration and such action as they might consider necessary;.

(b) their thanks be expressed to the Chairman and members of the Committee for the great amount of time and care which they had obviously devoted to the preparation of the report.

REPORT OF THE COMMITTEE.

The Chairman opened the proceedings with a speech. He emphasized the importance of adult education as a foundation on which the development of the social economic an political life of the country must be based. He also laid stress on the relation in which adult education must stand to the expansion of primary education and illustrated many aspects of the problem in the light of the work done and the experience gained from the campaign in Bihar during the past year. The Committee then, discussed the problem in its general aspects. It was agreed that to achieve success the movement must be carried on as a mass movement and the active assistance and support of all sections of public opinion must be enlisted. While literacy should always be regarded rather as a first step towards further education than as an end in itself and while its promotion is only one among many aspects of the adult education movement, nevertheless in view of the present situation in India, where it is estimated that approximately 90 per cent. of the adult population is illiterate, it is beyond doubt that aspect to which the greatest share of attention must in the beginning be devoted. The abolition of crime and disease, the establishment of higher standards of life and the development of democracy in the fullest sense can only be achieved by the diffusion of education throughout all sections of the community.

I. *The sphere of adult education in the general system of education.*—The Committee feel it necessary to preface their report by stating their conviction that whatever may be achieved by the adult education movement the early and general establishment of a compulsory system of primary education is the only effective and permanent solution of the problem of illiteracy, so far as the great bulk of the population is concerned. When this is in full operation, the problem in the case of the educable will be confined to those who relapse into illiteracy after their school days are over.

In the meantime, however, the needs of those who have passed their school days or what should have been their school days, must receive attention and the fact cannot be ignored that the existence of a large number of illiterate parents who attach no value to literacy in others, including their own children, will undoubtedly prove one of the greatest obstacles to the introduction of a compulsory system of primary education. The problem, therefore, has to be approached from both ends, and this reason alone is sufficient to make the Committee regard the provision of facilities for adult education on the widest possible scale as a matter of extreme urgency. The function of adult education in the general system of education may be defined as follows:—

(a) to make grown-up people literate in the narrow sense;

(b) to encourage adults who are already literate or who become literate as a result of (a) to continue their education and to provide them with facilities for so doing;

(c) to enable adults who show the capacity for it to proceed to the more advanced stages of education.

Considered from this wider aspect there must always be a recognised place for adult education in any well-ordered system of public instruction.

In view of the widespread prevalence of illiteracy throughout India and particularly in certain classes of the population, both in rural and urban areas, the Committee regard (a) above as the objective towards the attainment of which the main effort should immediately be directed and they note with satis

faction the energetic steps which have already been taken in certain Provinces with this end in view. They hope, for the reasons given later in this report, that these official efforts may be supplemented with equal enthusiasm by all those voluntary agencies which are interested not only in education but also in the wider aspects of social amelioration.

In recommending, however, that priority be given to the attack on illiteracy the Committee have no intention of suggesting that attention to functions (b) and (c) above can be postponed until (a) has been fulfilled. In fact it is hardly necessary to point out that if a man or a village or a district is made literate and then through lack of stimulus or facilities is allowed to lapse into illiteracy, the effort and money expended is not merely wasted but the last state will almost certainly be worse than the first. A very essential part of any scheme, therefore, will be the arrangements for consolidating the ground gained. The success of the literacy campaign in any area must depend in the Committee's opinion on the ability of those responsible.

(i) to ascertain which members of the adult population are illiterate;

(ii) to bring such pressure as may be practicable on the illiterates to undergo instruction;

(iii) to provide instruction in such forms as may be most likely to awaken the interest of the adult student and create in him the desire to continue his education;

(iv) to recruit an adequate supply of competent teachers for this purpose; and

(v) to provide facilities so that literacy may become permanent.

Many of the problems inherent in giving effect to the above will be discussed in greater detail in subsequent sections of this report. With regard to (i), however, the Committee are of opinion that the task of local authorities would be greatly facilitated if the information required, or a considerable part of it, could be obtained in connection with the official census and recommended that the Census authorities should be asked to amend the form of return so as to include such information as Provincial Governments might think desirable in this connection. It was decided to consult Provincial Governments at once on this matter.

With regard to (ii), while it was agreed that, in the beginning at any rate, every effort should be made to persuade illiterates voluntarily to undergo instruction, doubts were expressed as to whether a real measure of success could be achieved without sanctions of some kind. It was accordingly suggested that after due notice literacy might be made a condition of the franchise and or of any employment under a public authority, that enlightened employers should be asked to adopt a similar attitude and that after a certain date thumb-impressions instead of signatures on legal documents should be made invalid. The Committee, while recognizing the stimulus which the adoption of such measures would give to the movement and realizing the possibility that action on these or similar lines may ultimately become necessary, feel that their adoption in the early stages may provoke opposition in otherwise sympathetic quarters and bring the matter to the notice of the Board without making any specific recommendations. They are agreed, however, that continuous and effective propaganda of all kinds is essential.

With regard to (iii) many views were expressed as to the respective merits of individual and class tuition in the early stages, as to whether instruction should be limited to the 3 R's or whether subjects likely to attract the illiterate should be introduced concurrently and as to the order in which and the methods by which the 3 R's could be most effectively approached. The Com-

mittee believe that, in the beginning at any rate, the utmost freedom should be allowed to experiment, particularly in view of the varying aptitudes both of teachers and students and the very diverse conditions which obtain in a country as large as India. In so far, however, as these matters involve questions of educational technique, the Committee recommend that a committee of experts be appointed to consider and report upon them and upon any cognate problem which may arise in connection with the Adult Education Movement. This committee should consist mainly of persons who are actually engaged in literacy work. Provincial Governments and other bodies concerned might be invited to submit matters for the consideration of this committee. On the general question the Committee are convinced that whether instruction is individual or given in class and whatever the subjects of instruction, it is essential that it should be made intelligible and interesting to the student by being closely related to his occupation, his personal interest and the social and economic conditions under which the lives. It is further suggested that when new schools are built or existing ones altered the planning and equipment should be of such a character as will make them convenient and attractive for adults as well as for children.

In concluding their general observations on the function of Adult Education, as a part of the general educational system, the Committee reiterate their opinion that this cannot be confined to the promotion and maintenance of literacy. Every encouragement must also be given to the many adults, fully literate so far as the 3 R's are concerned, who will feel the need to continue their education, whether their object is to improve their efficiency as workers of citizens or simply to increase their capacity for intellectual enjoyment and recreation. Suitably graded part-time courses or classes should be provided to suit their needs. Such classes will generally be held in the evening but the possibility of starting part-time day classes in urban areas, particularly for women, should receive consideration. In this connection every effort should be made to enlist the help of Universities though their extra-mural departments as well as the co-operation of industrialists.

II. *The desirability or otherwise of distinguishing between adult education in the strict sense and other forms of part-time continuative education, e.g., those of a vocational character.*—Having outlined in the previous section what they regard as the main objectives of adult education, the Committee feel that the next step is to consider to what extent the existing circumstances of India make it advisable in pursuing these aims to distinguish between adult education and those other forms of part-time continuative education for adults which are primarily of a vocational character. They are aware that in Western countries it has been customary to draw a line between Adult Education in the strict sense and Technical, Commercial and Art Instruction. In recent years, however, the literary, aesthetic and recreative activities of adult education have been acquiring an increasingly important place in technical and similar institutions. The Committee welcomes on general grounds this tendency to co-ordinate all forms of adult instruction and believe that it is neither necessary nor expedient in India, and above all in the Indian village, to define too strictly the sphere of adult education. The main aim is to arouse the interest of the illiterate, whether a villager or a town dweller, and make him wish to learn. The best way of doing this may well be through activities closely associated with his daily work. Any form of instruction that will help him to improve his economic position may not only increase his respect for education but may also contribute indirectly towards securing a better education for his children. The worker for adult education should not be limited in his ways of approach by restrictions which may be valid under entirely different circumstances but are artificial as applied to India. The studies of the village adult centre, therefore,

should be based on agriculture and the crafts related to it and instruction in literacy should be correlated therewith. Apart from vocational considerations and whatever the age of the student, the importance of learning by doing things in the earlier stages of education is almost universally recognized.

In large urban areas it may be expedient to organize separate institutions for adult education and for vocatianal instruction but even here the reasons should be administrative and economic rather than educational.

III. *Attendance of pupils or students already undergoing full-time instructions at adult education classes.*—The function and sphere of Adult Education having been described as above, it becomes important to define what is meant by an adult student.

In many provinces no lower age limits have been prescribed for adult education centres. Those responsible have hesitated to refuse children who applied for admission, particularly where they had no other opportunity of obtaining education. There are, however, obvious disadvantages in teaching boys and men together. The former tend to be a disturbing element and many adults, who are conscious of their educational short-comings, are shy of exposing them in the presence of children. More important is the fact that grown-up people are capable of learning at a different rate from children. Furthermore there is a distinct technique for teaching adults.

The Committee are also conscious of the risk of young children being exploited, if parents instead of sending them to school in the day time can make them work during the day and attend school at night. After very careful consideration the Committee came to the following conclusions:—

(a) that a boy under the age of 12 should not be admitted to an adult centre under any circumstances;

(b) that a boy, so long as he is attending a full time day school, should not be encouraged to attend evening classes as well; and

(c) that subject to (b) above and wherever the numbers justify it, separate classes should be organized for boys between 12 and 16.

With regard to girls, the Committee are of opinion that the objections set out above to mixing boys and men do not apply with anything like the same force to the other sex. Moreover in view of the present limited facilities available for girls' education, it would be unreasonable to raise obstacles against girls joining any adult classes for women from which they might benefit.

IV. *To consider how far the problem of providing adequate facilities for adult education can be solved by using and developing existing agencies in* (a) *urban and* (b) *rural areas: in this connexion to consider the function of the University and the Technical, Commercial or Art College in relation to adult education.*—In England and other countries much valuable work in the adult education field is being done by and through voluntary agencies. Some of these are entirely devoted either to educational activities, *e.g.*, the University Extension Movement and the Workers Educational Association or to the amelioration of social conditions generally like the Rural Community Councils or the Women's Institutes, while others are primarily religious or political in their outlook. Classes run by these bodies are recognised by the Education Authorities provided that (a) they are open to inspection and comply with the regulations as to standards of work and attendance prescribed by these Authorities, (b) they abstain from propaganda which is not purely educational in its aim and (c) they are prepared to admit *bona fide* students who are not members of the bodies in question. The general experience has been that these conditions are loyally observed. Many of these classes are aided by the Education Authorities in the

way either of direct money grants or of the free use of buildings and equipment.

The Committee are aware of the existence of many similar bodies in India and realize the importance of enlisting their help in the Adult Education Movement, subject to the provision of adequate safeguards against non-educational propaganda on the lines set out above so far as any classes conducted by them may be concerned. There are indirect ways also in which such bodies might be invited to help, *e.g.*, by raising funds, recruiting workers or providing buildings, apparatus and literature. It was agreed that in order to prevent some of them becoming sources of weakness rather than strength, strict supervision over the activities of voluntary agencies would have to be exercised by the provincial authorities responsible for adult education.

The part that can be played by University professors and students in their personal capacities as helpers in the literacy campaign is discussed in sections V and VI. Most Indian Universities contain extra-mural departments but these generally confine themselves to providing extension lectures suitable for and mainly attended by persons of considerable education. The Committee are of opinion that Universities can render great service to adult education if they will expand and popularize their extra-mural activities. It was suggested that they might appoint tutors, each of whom in co-operation with other workers in the same field would devote his whole time to stimulating the demand for adult classes in a given part of the area served by the University. The tutor would also conduct formal classes extending over two or three years for the more advanced students. A further suggestion was that Universities should award diplomas to students who had successfully completed such a tutorial course. Facilities should also be provided for the occasional student of outstanding ability who may be thrown up by the Adult Education Movement, to proceed to the University itself and take a degree course; with this object in view Provincial Governments or Universities or both should offer a limited number of scholarships.

The importance of encouraging adult education classes in Technical, Commercial and Art Institutions has been referred to already. In the opinion of the Committee it is a good thing for technical students to have access to classes of a cultural and recreational as distinct from a purely vocational character and at the same time the existence of the former may attract to the other departments of the Institution students who would not otherwise have enrolled. The possibility of mobilizing students and pupils throughout the educational system to serve in the literary campaign and in the wider field of social reconstruction is a question of the utmost importance which will be discussed at length in the next section.

V. *New ways of attacking the problem.*—The Committee are left in no doubt after exploring the vast extent of the subject referred to them that while increased use ought to be made of existing agencies, both official and unofficial, rapid progress can only be expected if new ways of attacking the problem are devised. Adult education in the widest sense is only one aspect of the problem of social reconstruction, the scientific study of wich has not yet received the attention it deserves.

It was accordingly suggested that Social Science should be taught in all Universities and that it should be treated from the practical point of view and not academically. No student, for instance, should be eligible for a degree or diploma unless he has satisfactorily completed an allotted task as a social worker. The obvious advantages which would accrue from a practical course of this kind both to the student and to the community of which he is a member, led the

Committee to consider the possibility of a much wider application of the same principle, *i.e.*, whether all those who have enjoyed the advantage of higher education should not be required to make a contribution towards the social betterment of their less fortunate countrymen.

The Committee are unanimously of the opinion that some form of educational conscription is desirable, though views differed as to the stage at which and the period for which it should be enforced. The Committee conidered whether conscription of this kind could be introduced about the period of matriculation, the satisfactory completion of the prescribed task of social service to be made a condition of the award of the certificate. An alternative suggestion was that similar conditions might be attached to the award of a university degree. It was, however, pointed out in the case of the former proposal that a large number of boys in India take the matriculation examination before reaching an age at which their services as social workers would be really valuable. On the other hand, if conscription is postponed until the degree stage, a large number of young people with sufficient education to make them effective social workers will not be enrolled. Apart from the question of the best age at which to impose conscription there are many other problems to be solved. The first of these is whether the period of service should be continuous or so distributed as to interfere as little as possible with the students' ordinary studies. A second point for determination is the range of social services which should be included. Other issues are the best methods of organising, housing and feeding this educational army. While recognizing the magnitude of the administrative and social problems involved in a comprehensive scheme of this kind, the Committee are convinced that the benefits likely to accrue from it both to the students and to the community are so great as to warrant its possibilities being exhaustively explored. They are of opinion that a special body should be constituted on a national basis for this purpose, and that regard should be had both to the experience of those Provinces which have already succeeded in enlisting a large measure of voluntary support in connection with their literacy campaigns as well as to the support given to wider schemes for social reconstruction.

Pending consideration of this matter the Committee strongly recommend that every effort should be made in every part of India to bring home to all members of the educated classes, whether men or women, their obligation to take an active part in the work of extending the benefits of literacy among their less fortunate brothers and sisters. It was felt that definite steps might be taken at once to bring this obligation home to all Government servants.

A further means of expansion may also in the Committee's opinion be found by encouraging the formation of literary classes, study circles and discussion groups not associated with any organization, official or unofficial, but conducted by enlightened individuals who are willing and able to collect others round them. The informality of this method may make it particularly suitable in many rural areas where the exigences of work or other causes make the holding of regular classes at stated hours difficult if not impracticable. The essential conditions for success in these circumstances are an energetic and popular leader, a small amount of equipment in the way of lamps and literature and occasional supervision and advice by the officer responsible for adult education in the area.

The question of supplementing the various methods of approach discussed above by a much greater use of what are commonly described as mechanical aids to learning. *e.g.*, the radio, the cinema, the gramophone and the magic lantern is dealt with in section VII.

VI. *Supply and Training of teachers for adult schools and classes.*—The fundamental need in adult as in every other branch of education is an adequate

supply of trained and competent teachers. While it is Recognized that In India as elsewhere, adult education must depend to a large extent on the services of teachers already engaged in day schools, it cannot be too strongly emphasized that success in the latter is no guarantee of suitability for the former. Children are normally under some form of compulsion to attend school, adults generally are not. An adult has to be attracted to join a class in the first instance and the power of attraction must be maintained and increased if he is to be induced to remain in regular attendance. The teacher's manner therefore should be stimulating and his matter interesting. Apart from this a special technique is required for teaching adults in view of the fact that their capacity for learning differs in many ways from that of children.

The Committee appreciate the desirability of appointing in every area, in addition to Inspectors and organizers who should themselves be experts in adult education, a nucleus of specially trained teachers who will devote the whole of their time to this particular work. These would not only teach but would also assist in selecting, training and subsequently supervising other teachers, whether drawn from the staffs of the day schools or from outside the teaching profession.

On the assumption that the supply of Inspectors and organizers will not be adequate for the purpose, such specialist teachers could conduct refresher courses. the frequent holding of which is of the importance. That this policy though expensive is not outside practical politics is proved by the fact that at least one province has already adopted it. Normal and training schools should also aim in future at giving their students some knowledge of the problems peculiar to adult teaching.

Apart from what may be called the professional element, the Committee recognize the importance on economic grounds, in view of the extent of the problem, of exploring all sources of voluntary recruitment. They note with much interest the methods which have been employed with this object in Bihar and elsewhere and the amount of success which has been achieved. At the same time they feel it necessary to sound two notes of warning:—

(1) The volunteer, however, enthusiatic, may have no idea how to teach and should not be allowed to attempt class teaching, as distinct from individual tuition, at any rate until he has undergone some preliminary training. A bad failure in any area may prejudice the movement for years to come.

(2) Literacy is a means and not an end. One literate person may make another literate, one child even may succeed in making his grown up relations literate but unless he has the requisite further knowledge to continue the education of his newly made literates or unless there is some organization for taking them over, as soon as the first stages of literacy have been attained, the ground gained will be lost again in a very short space of time. The capacities of the workers must therefore be carefully assessed and their allocations to the various stages of instruction nicely adjusted so that progress may be steady and sustained. A final suggestion is that all workers should be provided with a hand book containing information as to the organization of the adult education movement in the Province, including the names of persons or bodies to which he can apply for help or instructions, as well as advice as to teaching methods, suitable literature, etc.

VII. *Questions of method and technique, including the introduction of mechanical aids to learning where practicable.*—The Committee have already emphasized the fact that the average adult student is a person whose interest must be continuously stimulated until he reaches the stage when he feels the attraction of learning for its own sake. Anything that imparts variety to the teach-

ing makes a particularly strong appeal in his case. In this connexion, the use of the cinema, radio, gramophone, magic lantern, etc., in adult classes should be encouraged wherever practicable. It is realized that the factor of cost alone will prevent the use of these mechanical aids on a wide scale for some time to come but in the meantime they may be supplemented on the visual side by the collection and circulation of pictures, illustrations and objects of artistic or other interest, and on the auditory by vocal and instrumental music. Dancing, which is popular in many parts of India, may be made a useful recreative activity in the adult curriculum.

The Committee feel that the educational possibilities inherent in the cinema are so great that the prospects of greatly extending its use in connection with adult education should be examined without delay. The first need is an adequate supply of suitable films. The output of such films has increased in recent years and in Great Britain a special body, the British Film Institute, has been established to promote the production and distribution of educational films. The Committee decided that steps should forthwith be taken to ascertain:—

(a) from Provincial Governments, what films of this nature were already in their possession and what further films were required, and

(b) from firms engaged in the production of films, what suitable films were already on the market and what others were likely to become available in the near future.

It was felt that as a result of these inquiries the Bureau of the Central Advisory Board might prepare a pamphlet containing a list of the films available and information as to where and on what terms they could be purchased or hired. At a later stage the possibility of creating a central film library from which films could be borrowed, as has been done by the British Film Institute, might usefully be considered.

The second main issue concerns the arrangements for showing films. Until the cost of an efficient machine is very substantially reduced, the chance of any but the most fortunate centre possessing a machine of its own is remote. In the meantime, in places where there are cinemas, it may be possible to arrange for educational films to be shown either as part of the ordinary programme or on special occasions. In addition the responsible authorities may be able to afford a travelling cinema or a few portable machines which could be circulated among adult education centres.

Ways and means of making greater use of broadcasting were also discussed. The first step in the Committee's opinion is to secure the production of an efficient radio set at a price, *e.g.*, not exceeding Rs. 50, which would make its supply to adult centres a practical proposition. The second requirement is to extend either the range or number of transmitting stations so that the whole area of each province can be covered. The third need is closer co-operation between the broadcasting and adult education authorities in regard to the preparation of suitable programmes. So far as gramophones and records and magic lanterns and slides are concerned the Committee are satisfied that ample material is available and that the problem of supply in this case is mainly a financial one.

Apart from the use of these mechanical aids, the Committee discussed the special methods of teaching which are now being employed or suggested for simplifying or expediting the acquisition of literacy. Much information on this head was supplied but the Committee are of opinion that in the present experimental stage no useful purpose would be served by attempting to arrive at definite conclusions as to which method or methods are the most effective. They recommend, however, that the expert committee whose appointment they have

already recommended, should report on this matter in the light of the further experience which the many experiments now proceeding will shortly afford. In conclusion, the Committee wish to reiterate their opinion that whatever mechanical aids may become available or new methods of teaching be evolved, the primary condition of success must always remain the establishment of cordial relations between the teachers and the taught.

VIII. *Provision of library facilities and of suitable reading material in* (a) *urban and* (b) *rural area.*—It is generally accepted that if a person who has learnt to read is to be encouraged to go on reading, he must have easy access to a good supply of suitable and interesting reading material. Where such material does not exist it must be created. The Committee are, therefore, convinced that every adult school should have a library of its own or be able to obtain free books of the right kind from a neighbouring library. Grants with this object in view should be made on as liberal a scale as possibble. Every library should contain books suitable for adults of limited educational attainments and should be open not only to those who are under instruction but also to those who have already been made literate.

The Committee further considered what steps could be taken to increase the supply of books and papers likely to interest those adults who are still in the early stages of literacy. In this connection their attention was called to the unsatisfactory conditions which obtain at present in many areas in regard to the supply of text books for schools of all kinds and particularly to the danger of schools being commercially exploited. While fully alive to the objections which may be raised against limiting the choice of teachers in the selection of such books, the Committee come to the conclusion that if well written and well printed books are to be made available for school purposes and for the adult education movement in particular, Provincial Governments should invite selected scholars to write them and should themselves assume direct responsibility for printing and publication. In addition to books, emphasis was laid on the importance of providing newspapers and magazines which would be both intelligible and interesting to the newly made literate.

IX. *Necessity for making special arrangements for women's adult education—its nature and organization.*—If the task of providing adequate facilities for adult education so far as men are concerned is a difficult one, the problem of doing the same for women, particularly in India, is still more difficult. And yet from the point of view of the next generation it is even more important that the mother should be educated than the father.

For these and other reasons it was unanimously agreed that those in charge of the adult education movement should be urged to devote special attention to the needs of women. The nature of these needs as well as social customs make it necessary to organize special institutes and classes for women, and these, wherever possible, should be under the control of women.

Moreover, as the calls on a woman's time particularly among the poorer sections of the community, leave her less free than a man to attend regular classes, a greater use must be made of individual tuition in her case and this will add substantially to the number of teachers required. Everything that has been said already as to the need for intensive propaganda can be repeated with additional emphasis here.

Every possible avenue must be explored in order to mobilize the army of women workers that will be required. The supply of professional women teachers, particularly in rural areas, is very limited and very few of the present teachers understand how to deal with adults. Here, as in the case of men, the

normal and training schools must include in their courses some instruction in adult teaching. The professional teacher, however, for some time to come can only be expected to supply a small proportion of the total teaching power that will be needed.

The Committee carefully considered the many suggestions that were put forward and regard the following as practicable:—

(a) The Principals of Colleges for Women and High Schools for Girls should lose no opportunity of impressing on their pupils the importance of their undertaking social welfare work both while at school and after leaving. Social service including practical work might even be given a definite place in the curriculum.

(b) The husbands of educated women, particularly among the upper and middle classes, should be urged to put no obstacle in the way of their wives devoting a reasonable portion of their spare time to welfare work. The wives of officials in country districts are in a position to render service of special value in this respect.

(c) The mistress of a house where servants are employed should regard it as an obligation to see that they and their families are made literate.

(d) A literate woman in a village should be encouraged, and paid where necessary, to make other women literate.

(e) School children should also be encouraged to teach their mothers and sisters who are illiterate.

(f) Employers who provide classes for their male employees should be urged to do the same for any women they employ.

(g) Those in charge of clinics and health or other welfare centres attended by women should co-operate in propaganda on behalf of adult education for women.

(h) Social workers should advise women, and particularly those who cannot afford servants, how to organize their domestic duties so as to leave themselves as much time as possible for leisure and education.

(i) Inducements should be offered to widows to qualify themselves for work as teachers or helpers in connection with the literacy campaign.

The Committee do not regard these suggestions as in any way exhaustive and are confident that experience and ingenuity will devise many other methods of attacking a problem which they regard as exceeding in importance and urgency any of the others which come within their terms of reference.

X. *Steps to be taken to enlist the practical support of large employers of labour, trade and professional associations, etc., in regard to the provision of adult education for their employees and members.*—Illiteracy is often spoken of as if it were a problem mainly confined to the village. In India this is by no means so. A large proportion of the workers in urban areas is also illiterate.

The problem is, however, less difficult to attack in a town. The urban illiterate is more liable to be conscious of the handicap under which he suffers and more appreciative of the advantages of being able to read and write. He is easier to get at and because there are more of him in a given area the organization of schools and classes for his benefit is a comparatively simple and economic matter. Trained teachers and social workers are also more plentiful in a town than in a village.

In addition to all that may be done by propaganda and the provision of facilities to induce the urban worker to attend classes, the utmost assistance can be given by firms and trade or other associations which take a practical interest in the general welfare of their employees or members. Employers can show their interest in many ways, *e.g.*, by themselves establishing classes in

connection with their works, by paying fees for their workers to attend outside classes, by releasing employees during working hours to attend classes and by offering inducements in the way of extra pay or promotion to those who have improved their efficiency by continuing their education. The Committee were aware of certain enlightened employers in India who have already taken steps in this direction and heard with pleasure of one important firm which in addition to looking after its own employees has taken active steps to promote literacy in the district in which its works are situated. In spite, however, of these outstanding examples, the Committee are reluctantly forced to the conclusion that employers in India as a whole do not recognize any obligation to promote either the general or the technical education of the people who work for them. They also regret that such associations of workers as exist do not pay that attention to the education and general welfare of heir members which has been characteristic of the Trade Union movement in England. They, therefore, recommend Provincial Governments to consider whether it would be feasible to levy a tax on employers of labour who do not provide adequate educational facilities for their employees, the proceeds to be devoted to adult education. Attention is directed in this connection to the French Loi Astier. The Committee recognize that there are many difficulties inherent in their suggestion, including that of defining what is meant by 'an employer of labour', but they feel that a beginning could at any rate be made with the larger industrial concerns.

It would naturally follow from the introduction of any such measure that all Government departments, whether central or local, would have to make themselves responsible for ensuring literacy in their employees, but the committee feel that in this respect Govenments may well set an example without waiting for legislation.

As a further corollary to this, consideration should be given to the possibility of introducing classes on day continuation school lines both in urban areas and in selected rural areas. The possibility of organizing instruction to fit in with the 'shift' system in large works might also be examined.

The Committee have already called attention to the inter-relation of Adult Education with Technical, Commercial and Art instruction, and apart from its other claims they commend the expansion of provision for the latter in view of the contribution it can make to the intellectual development of adults at almost any stage of their education.

XI. *General administrative arrangements necessary for promoting the spread of adult education, including ways and means to finance the same.*— From the experience they have gained in the course of this enquiry the Committee are left in no doubt that if the problem of adult education is to be tackled in a comprehensive and progressive manner, the ultimate administrative responsibility in each area, including the power to co-ordinate the activities of all agencies working in this field, must vest in a single authority.

The information given to the Committee indicated that at the moment there is no common agreement as to which department of government should be entrusted with this responsibility. While in some provinces the Education Department is in charge, in others, apparently the majority, the adult education movement is treated as one branch of the work for which the Department which deals with rural development is concerned. The Committee fully appreciate both the advantages of co-ordinating cognate activities and the waste of money and effort that will be entailed if he social services are allowed to work in water-tight compartments. At the same time, in view not only of the scope and complexity of the adult education problem but also of its urgency, the Committee are convinced that it is essential to its early and com-

prehensive solution that its direction should be in the hands of those whose primary interests and training are educational. The Committee, therefore, suggest that in each Province the Education Department should be made responsible for adult education generally, both on the grounds set out above and because it already controls these agencies, particularly the teachers, without whose services nothing effective can be accomplished. It is also the only Department which is competent to deal with such questions as the production of suitable literature and the working out of new teaching methods, to the especial importance of which in this branch of education attention has already been called. If the Committee's view is accepted, it will then become the business of the Education Department to ensure the necessary co-operation with those Departments and bodies which are concerned with other spheres of social reconstruction. It would do much not only to facilitate such co-operation but also to secure increased recognition of the place which Education ought to take among the activities of Government, if Governments generally would take more active steps to see that senior district officers are fully apprised of what Government policy is in the branches of administration for which they are responsible and are given clearly to understand that they will be expected to promote the carrying out of that policy by every means in their power.

The Committee have some reason to fear that administrative officers, particularly in the mofussil areas, tend to regard the police aspect of their duties as more important than the constructive and they feel that if this attitude is in fact widespread, steps should be taken to counteract it by giving every officer from the I.C.S. downwards a definite training in constructive administration. The Committee further suggest that in each Province there should be set up under the control of the Education Department a committee or Board to deal specifically with adult education. In addition to official members this body should contain representatives of the non-official agencies in the area associated with the movement. The methods by which and the extent to which this central body should delegate responsibility to subordinate bodies and the number and qualifications of the officials who will be required are questions which will require the most careful consideration but are at the same time matters which in the opinion of the Committee will necessarily be determined in the light of local circumstances.

No administrative system, however, efficient in its structure, can achieve its objects unless it has at its command the necessary funds. Apart from developments in the more advanced stages of adult education, which the Committee are most anxious to see effected at an early date, the financing of the literacy campaign alone will raise very serious financial difficulties so far as Provincial Governments are concerned. It is true, as the Committee have noted with gratification, that in certain areas much has been accomplished at a comparatively small cost. But if in this, as in other movements, it is not safe to assume that initial enthusiasm will prolong itself indefinitely and if, moreover, proper provision is to be made for consolidating and extending the ground already gained, a progressive increase in the amount required for payments to teachers and for the purchase of books and apparatus must be anticipated. In the absence of any reliable statistics as to the number of people to be made literate and in view of the impossibility of forecasting the extent to which the campaign may count in future years on the assistance of voluntary workers, no valid estimate can be produced at this stage of the total sum required. The Committee regard it as of the first importance that the literacy campaign should be pressed to the utmost during the next five years, both for its intrinsic urgency and for the contribution which its success would make towards the

solution of the primary education problem. To make this possible they suggest that the Central Government should offer a subsidy to those Provincial Governments which are prepared to carry out approved schemes during that period. The sum of a crore of rupees annually for five years is the amount suggested.

In addition to direct financial assistance, it was also felt that the Central Government might help the movement by allowing newspapers, books, etc., distributed by the approved authority to local centres, to be sent by post either free or at concessional rates. It was felt that this point might be submitted to the Communications Department for their sympathetic consideration.

XII. *Advisibility of starting a Central Bureau, as well as a Provincial Bureau of Adult Education in each province, with the object of collecting and furnishing information regarding the literature suitable for adults and giving publicity to the new methods and experiments being tried in different places.*— The Committee anticipate that those Provincial Governments, which adopt the suggestion made in the previous section that a special Board under the control of the Education Department should be set up to deal with Adult Education, will also agree as to the necessity of a Central Bureau in each of their areas to direct propaganda, to collect information and to keep local organizations and centres in touch with the progress of the movement, with the publication of suitable literature and with the introduction of new methods. Whether a Bureau exclusively devoted to Adult Education should be established or whether a special department should be instituted in any existing Educational Bureau, is a matter for determination by the Provinces concerned. The essential point is that there should be a central source of information and advice in each area. The Committee further consider that in a country as large as India, where Provinces do not find it easy to keep in touch with each other, it would be of the utmost value to have an All-India Bureau to collect, collate and publish at regular intervals information as to the progress of the movement in all parts of the country. The Committee discussed at some length whether this Bureau could be conducted by any existing association or whether they should advocate the setting up of an *ad hoc* body like the British Institute of Adult Education, which would make the running of a Bureau one of its objects. In the end, however, they came to the conclusion that as it is one of the functions of the Central Advisory Board to conduct a Bureau and as it is hoped to establish this as soon as funds for the necessary staff are available, this would be the obvious organisation to undertake the work. The Committee wish to acknowledge in this connection the pioneering efforts of the All-India Adult Education Conference and other voluntary Associations and conclude this report by reaffirming their belief that it is only the united efforts of all bodies concerned, whether official or unofficial, that will bring the adult education movement within reach of its goal.

XIII. *Main conclusions and recommendations*—

1. To secure an early and effective solution of India's educational problems, the provision of facilities for adult education on the widest scale and the introduction of a free and compulsory system of primary education are of equal urgency and must be treated as complementary to one another.

2. While the literacy campaign is only one aspect of the adult education movement, the prevalence of illiteracy in India at the present time makes it the aspect to which immediate attention must be devoted.

3. Literacy is a means to further education and must not be regarded as an end in itself. The primary aim of the campaign must be not merely to make adults literate but to keep them literate. To achieve its object the attack must be launched on the widest possible front with the help of every agency, human

or material, which can in any way contribute to its success. Continuous and effective propaganda of all kinds is essential.

4. Efforts should be directed in the beginning to persuade illiterates voluntarily to undergo instruction. If a voluntary system fails to achieve its object, ways and means of bringing pressure to bear on illiterates should be explored.

5. In a movement of this character the utmost freedom must be allowed to experiment and regard must be had at all times to local conditions. No useful purpose would be served by attempting to prescribe methods or draw up a code applicable to India as a whole. Valuable assistance might, however, be afforded to Provincial Governments and other authorities responsible for adult education if a committee of experts were appointed to report on questions of teaching technique and survey the results of experiments.

6. Whatever subjects are introduced into the curriculum and whatever the teaching methods adopted, the form in which instruction is given must be intelligible ann interesting to the student and the instruction itself should be closely related to his occupation, his personal interests and the social and economic conditions under which he lives.

7. It is unnecessary and inexpedient in view of the circumstances prevailing in India to draw any rigid distinction between adult education in the strict sense and technical, commercial or art instruction or to regard the latter as falling outside the sphere of the former. The easiest way of approach to many adult students may be through subjects of a vocational character.

8. With a view to defining what is meant by an adult it is recommended:—

(a) that a boy under the age of 12 should not be admitted to an adult centre under any circumstances;

(b) that a boy, so long as he is attending a full time day school, should not be encouraged to attend evening classes as well; and

(c) that subject to (b) above and wherever the numbers justify it, separate classes should be organised for boys between 12 and 16.

It is unnecessary to fix any age limits in the case of girls who wish to join adult classes for women.

9. Every effort should be made to enlist the help of voluntary agencies. Classes run by reputable associations should receive every encouragement and bodies whose primary objects are not educational need not be excluded if adequate safeguards are provided against any risk of the movement being used for religious or political propaganda.

10. Universities should be urged to expand and popularise the work of their extra-mural departments and provide opportunities for adult students of exceptional ability to take a university course.

11. An extension in the number and scope of institutions providing technical, commercial and art instruction is urgently needed, and subjects of a cultural or recreational kind should be included in their curricula.

12. Adult education is a branch of social reconstruction. Social science in a practical form should be taught in all universities.

13. The possibility of making a period of social service obligatory on all students in Universities and pupils in the upper forms of high schools should be carefully examined. Pending the setting up of a special committee for this purpose a strong appeal should be made to all educated persons, and in particular to Government servants, to render voluntary service in connection with the literacy campaign.

14. Mechanical aids to learning such as the radio, the cinema, the gramophone and the magic lantern can be used with great effect in adult education. To enable them to be employed much more widely than at present steps should be taken to increase the supply and reduce the cost. Information on this and other points should be collected and distributed by the Bureau of the Central Advisory Board of Education.

15. An adequate supply of trained and competent teachers is the fundamental need in adult as in every other branch of education. Teachers in day schools may be expected to form the nucleus of this supply but in view of the fact that teaching methods which are successful with children are not always suitable for adults, they will require a special course of training. It is recommended that the course of training in the normal schools should include instruction in the technique of teaching adults.

16. It will be necessary to supplement the professional teachers by a large body of helpers drawn from other occupations. The training of these is an essential preliminary to their employment, particularly if they are to be in charge of classes.

17. Every Province should appoint Inspectors and Organizers expert in and able to devote their whole time to adult education. The appointment by at least one Province of a number of full-time teachers for adult work only is a commendable experiment.

18. The movement so far has depended very largely on unpaid service but it is reasonable to anticipate that it will soon require a very considerable proportion of paid workers, especially when the demand arises for instruction beyond the stage of mere literacy. The financial implications of this, including the rates of pay and conditions of service to be offered, are matters for local consideration.

19. A library is an essential adjunct to every adult education centre. Liberal grants should be given to increase the number and size of liberaries, particularly in rural areas, and to assist the production of suitable literature. The Central Government should help in the distribution of books and other literature by granting special postal concessions. Provincial Governments should take immediate steps to deal with the present unsatisfactory state of affairs so far as the supply of text books is concerned.

20. The importance of a wide expansion of facilities for adult education is even more important in the case of women than that of men. The methods of approach in the case of women must be at once more varied and less formal. A number of suggestions for furthering the movement among women will be found in Section IX.

21. Illiteracy is not confined to the village: a large proportion of the workers in urban areas is also illiterate. In this connection it is essential to secure the co-operation of employers of labour and associations of workers. The question of levying a tax on those employers of labour who do not make adequate provision for the education of their employees is worthy of consideration.

22. It should be obligatory on all Government departments, central and local, to ensure that their staffs are literate.

23. The progress of the Adult Education Movement can only be ensured if its control in each Province is vested in a single authority. That authority should be the Education Department. It should be the duty of the Education Department (a) to establish satisfactory contacts with other authorities in the province

concerned with social reconstruction, of which adult education is a part and (b) to delegate authority to such subordinate bodies and to appoint such officers as local circumstances may require for the effective organisation and supervision of the movement.

24. The cost of the literacy campaign alone apart from other essential developments in adult education will impose a very severe strain on the resources of most Provincial Governments. In view of the extreme importance of bringing the campaign to a successful conclusion at the earliest possible date, the Central Government should afford financial assistance to those Provincial Governments which are prepared to carry out approved schemes within the next five years.

25. In each Province there should be established a Bureau to collect and distribute information with regard to the adult education movement. There should also be a Central Bureau to collect, collate and publish at regular intervals information as to the progress of the movement in all parts of the country. The Bureau of the Central Advisory Board of Education should be equipped to undertake this latter function.

26. The returns as to literacy in the Census Report should be so amended as to make them more useful for educational purposes.

SYED MAHMUD (*Chairman*)
W. H. F. ARMSTRONG.
S. R. BHAGWAT.
W. A. JENKINS.
KARAN SINGH KANE.
AMRIT KAUR.
J. B. RAJU.
K. G. SAIYIDAIN.
JOHN SARGENT.

REPORT OF THE SOCIAL SERVICE AND PUBLIC ADMINISTRATION COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION IN INDIA, 1940, TOGETHER WITH THE DECISIONS OF THE BOARD THEREON.

At the sixth meeting of the Central Advisory Board of Education held at Madras in January, 1941, the Honourable Sir Maurice Gwyer presented the report of the Social Service and Public Administration Committee, of which he was the Chairman. The decisions reached by the Board on the report are set out below.

The Board generally accepted the need for an All-India Council of Social Service. Discussion centred mainly on the question of the extent to which such a central institute should or could undertake the training of social workers. The general opinion was that since practically all the subjects covered by the term social service are included in the field of Provincial Administration, it would be impracticable for the training of workers to be carried out on an all-India basis. This practical training would best be done at Provincial centres. While, however, research should be the main function of the Central Institute, its students might be expected in the normal course to return to work in the Provinces and during their time at the Central Institute they would also require facilities for 'field work'. It would not be possible to decide the precise structure of the central organisation recommended by the Committee without more detailed information as to what is being done in the field of social service by various agencies, official and voluntary in various parts of the country.

The Board adopted the Committee's report generally, but decided that before implementing its recommendations Phovincial Governments and voluntary agencies of all-India character should be requested to furnish detailed information regading (i) existing agencies engaged in social service in their areas (including universities), (ii) the scope of their activities, (iii) their relation to one another and the means adopted to co-ordinate their activities. Suggestions should also be invited as to ways and means of consolidating and extending the work of social service generally and particularly among women.

The Chairman announced his intention, should the replies from the Provincial Governments justify it, of calling a conference of representatives of Provincial Governments and voluntary agencies.

The Board had also before it a letter from the Director of the Sir Dorabji Tata Graduate School of Social Work, which is given hereafter. With regard to this letter the Board considered that until the reports from the Provinces had been received it would not be feasible to consider the claims of any existing institution to be recognised as a central institute. It was, however, decided that in view of the very important work which the Tata Institute is doing in the field of social work it should be included among the agencies which it is proposed to consult in the matter.

COPY OF LETTER, DATED THE 28TH DECEMBER 1940, FROM DR. CLIFFORD MANSHARDT, DIRECTOR, THE SIR DORABJI TATA GRADUATE SCHOOL OF SOCIAL WORK, BOMBAY, TO THE EDUCATIONAL COMMISSIONER WITH THE GOVERNMENT OF INDIA.

I am in receipt of the Draft Report of the Social Service and Public Administration Committee of the Central Advisory Board of Education. The principal recommendations of the Committee are:—

(1) That a centre for social research should be established, preferably in Delhi.

(2) That the centre should have closely associated with it, if not under the same direction, a training school for social workers.

(3) That the research institute, should be under the direction of an All-India Committee of about 20 members.

(4) The Government should be asked to bear the recurring cost of the Institute, which would come to about Rs. 75,000—Rs. 1,00,000 annually.

(5) That there should be provincial training schools working in close co-operation with the central institution.

I have discussed the matter with the Trustees of the Sir Dorabji Tata Graduate School of Social Work and it is our opinion that the Tata School is in a position to co-operate advantageously in this general scheme.

Our position is somewhat as follows:—

(1) The Tata School has already passed through the throes of organisation, is established and has All-India and International connections. The proposed scheme could therefore be put into immediate operation.

(2) All members of the Tata School Faculty are qualified research workers. By adding an industrial expert and an agricultural expert to the present staff, the School could carry out in a very adequate manner, both teaching and research.

(3) The Tata School has already the nucleus of a most excellent social science library and new additions are being made constantly.

(4) The Tata School is affiliated to an excellent functioning Social Settlement, while the city of Bombay offers opportunities unrivalled in India for practical work for students.

(5) Under this scheme of co-operation with the Tata School, the Government of India's contribution could be almost cut in half. The principal expense would be the salaries of the industrial and agricultural expert, mentioned in (2) above, and stipends for research students deputed to the School.

The contribution of Government would be between Rs. 25,000 and Rs. 50,000 rather than Rs. 75,000 to 1,00,000 mentioned in the Committee Report.

Our Trustees would be prepared to admit Government representatives to the Board of Trustees and to allow an Advisory Committee of 20 members as suggested by the Committee to advise regarding the research activities of the School.

This is of course a skeleton outline and detailed plans would have to be worked out, but I feel that our proposal should at least be communicated to the Central Advisory Board at its Madras meeting in January.

REPORT OF THE COMMITTEE.

1. In opening the proceedings, the Chairman observed that the memorandum circulated with the agenda indicated most of the points which the Committee were called upon to consider. The first question they had to decide was whether the establishment of a centre or centres was desirable and if so whether it could be regarded as practicable within a reasonable period. After that general point had been settled the Committee would proceed to define the functions of such a centre or centres, the scope of the subjects to be studied or investigations conducted and the necessary organisation which would be involved.

As a preliminary to their discussion, the Committee asked Dr. Manshardt as Director of The Sir Dorabji Tata Graduate School of Social Work, which is a pioneer institution in this sphere so far as India is concerned, to describe the work which was being done under his guidance. Dr. Manshardt explained in detail the organisation and activities of the Tata School.

2. The Committee felt that as they were required to consider the social services in their relation to public administration rather than public administration so far as it was concerned with social service, their investigation must embrace the activities of voluntary agencies as well as the work of public bodies and government departments. The means of correlation between these two might indeed form the primary subject for exploration and in this connection the experience of European countries and of America might be usefully studied. On the other hand a country so vast in extent as India, with such varying climatic and economic conditions and with so complicated a social structure must present problems which can only be tackled in the light of original research. The Committee, therefore, envisaged the need for a central institution at which the main issues arising in connection with social welfare in the widest sense might receive impartial and scientific examination. The principal function of such an institution would be to study social problems rather than to train social workers but emphsis was laid on the fact that if its researches were to be practical and its influence far-reaching it must be staffed by people with as wide an experience as possible of social service in a concrete form. It was to be expected that the staff and student of such a central institution would be drawn from workers in provincial centres, whether voluntary or professional, and would in due course return to practical work. It would thus be at one and the same time a clearing house of information and ideas, a research bureau, and a kind of staff college for senior social welfare officers. The Committee had before them the constitution and programme of the American Public Welfare Association and felt that these with such modifications as might be needed to meet Indian conditions might be a useful guide in determining the more detailed functions of the institution they have in mind. In order, however, that the institution might be at all times in close touch with practical problems and have some place where actual experiments could be carried out it would be extremely desirable that there should be closely associated with it, if not under the same direction, a training school for social workers. Possibly the social welfare centre which a place of the size and importance of Delhi might be expected to support would serve this object.

3. The Committee recognised that a central institution of the kind outlined above could only be justified if its work were supplemented by and closely linked with that of provincial social service centres directly in contact with local problems. The Committee were glad to note that in addition to the Tata School there are a number of voluntary agencies already engaged in this field, such as the Institute of Rural Reconstruction at Santiniketan the Co-operative Institute at Gosaba as well as the social service centres run by the Ramkrishna Mission and numerous other missionary agencies. In addition to voluntary effort, Governments, whether Central, Provincial or State, are devoting increasing attention to the social services and this tendency may be expected to develop rapidly in the near future. There is therefore a promising nucleus of varied activities, the main need of which is consistent stimulus and effective organisation. To provide this a number of provincial centres are required, whose principal object would be to correlate the activities of all social service agencies in their areas. The proposed central institution in its turn would act as a focus for the provincial centres.

4. The Committee do not wish to do more than indicate in the broadest outline the function which in their opinion these provincial centres should fulfil. In order to ensure effective correlation it is important that their management should represent as fully as possible the various organisations at work in the area. In addition to this it will be their business to conduct propaganda and to train or arrange for the training of social service workers. The field to be covered is so large that it is unlikely that any one provincial centre will possess the necessary facilities for training workers in all branches of social welfare. Full use must therefore be made for training purposes of other suitable centres in the area. Similarly in the case of the workers themselves the call for service is so great that there is no possibility of satisfying it solely by means of full-time professionals. A nucleus of these will be essential in every area and their selection and training will be matters of the first importance but they will have to be reinforced by a much larger army of part-time and voluntary workers. The provision of courses for them will be an essential feature of any successful provincial organisation. In particular the Committee felt that it would be extremely desirable that departments of Government which deal with the social services should take steps to see that their officers receive similar training either during their period of probation or subsequently. Teachers and Health officers in particular should be made aware of the wider aspects of a movement with which their own activities are intimately concerned. It is an obvious truism that progress in social welfare must very largely depend on a sympathetic attitude on the part of those occupying position of administrative responsibility.

5. The Committee also considered what direct contribution Universities might be expected to make in this sphere. While they did not regard as practicable the suggestion recently put forward that some personal participation in social service should be made a condition of the award of a degree, they felt that Universities might render help of considerable value both by enlarging the scope of their extra-mural departments and by encouraging students to regard social service as the discharge of an obligation towards the less fortunate sections of the community. The Committee recognised the part played by Universities in the Literacy Movement and were glad to learn that some Universities were already actively interesting themselves in the establishment of Universities settlements and other forms of social work.

6. In considering the general lines which training for social service should follow the Committee had in mind the fact that the problems of social work in rural areas are distinct from those in cities and that in planning courses a different method of approach would be required in each case. Apart from the need to establish training centres in rural areas as well as towns it is not less essential to ensure that the students in the former are people with a real knowledge of and interest in rural life.

7. The Committee next considered the nature of the machinery which would be required to give effect to the ideas set out in the foregoing paragraphs.

As has already been indicated, they envisaged the need of an All-India body with a central institution under its control at which the main problems could be studied. In addition to research it would be the business of the central body and the central institution to establish and maintain contact with provincial centres which would in turn stimulate and co-ordinate social service activities in their own areas. The Committee felt it was outside their terms of reference to consider in any detail what form or forms of organisation should be adopted so far as provincial or other local areas are concerned. No useful purpose would in any case be served by attempting to prescribe a uniform

system. Provided that overlapping and waste of effort are avoided, this is a subject above all others where local conditions must be taken into account and freedom to experiment encouraged.

8. The central body, which might be called the All-India Council of Social Service, and would, as its name indicates, be representative of the whole country, should not in the Committee's opinion be under the direct control of Government. Since, however, it is not reasonable to anticipate that funds sufficient to make it self-supporting will be forthcoming from private benefactions, as in the case of the Association of Public Welfare Administration endowed by the Rockefeller Foundation, and that consequently it will have to depend at any rate in its early stages largely on assistance from Government funds, some public representation will be necessary.

Without wishing to define too rigidly the composition of the Central Council the Committee felt that it should contain a Chairman and 6 members (of whom at least 2 should be women) nominated by Government, one representative of each Province and 2 representatives of Universities nominated by the Inter-University Board. Provision might be made for the representation of those Indian States which are actively interested in this subject through the Government nominees. This would mean a council of about 20 and it was thought that provided the members were persons of influence, carefully selected for their interest in and practical experience of social problems, it should be large enough for its purpose.

9. The Central Research Institute, which would be managed by the Central Council and should be located in Delhi, should have three main departments devoted to the study of Economic, Public Health and Education problems respectively.

In view of the character of the work which it will undertake and in the interests of economic the staff of the Institute need not be a large one. Quality rather than quantity should be the determining factor. The Committee were in agreement that in order to reserve the vitality of the Institute, the Director and Heads of Departments should not be encouraged to remain there indefinitely. Their appointments should be on contract for such a period, *e.g.*, five or seven years, as would enable them to make their influence felt throughout the country as well as to complete any important piece of research which they might be required to undertake. The Institute would also need a Registrar and a Statistician: these might be permanent appointments. The Registrar would act as Secretary to the Council.

10. In conclusion the Committee have felt it desirable to put forward some estimate of the cost of their proposals together with suggestions as to the source or sources from which it might be met. As the success of the scheme will depend to a very great extent on the personality and ability of the Director of the proposed Central Research Institute the Committee consider it necessary to offer a salary that will attract the best men available. As the appointment is to be for a period of 5—7 years ann will not be pensionable. the Committee are of opinion that the salary should not be less than Rs. 1,500 per mensem.

It should be possible to obtain men of the requisite calibre as Heads of the three proposed departments for Rs. 500—700 each per mensem and Rs. 750 per mensem should cover the combined salaries of the Registrar and Statistician. Generous allowance should also be made for stipends in the case of research workers of outstanding ability who would otherwise be able to support themselves at the Institute. The Committee do not consider that in the beginning at any rate it would be necessary to incur any serious non-recurring expenditure in connection with this scheme as it should be possible to hire accommo-

dation in Delhi that would house adequately an Institution of the modest size contemplated. When the rent of premises and normal maintenance charges, including clerical staff, are added to the salaries suggested above it would appear that between Rs. 75,000 and Rs. 1 lakh would be needed to meet the annual recurring cost.

The Committee hope that if the scheme succeeds and by its success attracts increased attention to the importance of social welfare work in the interest of the community at large, it will in due course receive a growing measure of financial support both from public bodies and from private benefactors. They also take it for granted that the proposed All-India Council of Social Service and the staff of the Institute will make every effort to build up an endowment fund which will ultimately place the Institute on a self-supporting basis. At the start, however, they realise that the bulk if not the whole of the expenditure involved will have to be met from public funds and they regard the contribution which this project might make to the general well-being of India as so great that they have no hesitation in recommending the Central Government to accept the whole responsibility for an initial period of 5 years.

Main Conclusions and Recommendations.

I. (a) That there should be established in India, preferably at Delhi, a centre in which an impartial and thorough examination of the problems connected with the Social Services and Public Administration in its relation to the Social Services, could be carried out.

(b) That for this purpose a central body, to be called the All-India Council of Social Service, should be set up with an Institute for research under its control.

(c) In order that the institution might be at all times in close touch with practical problems and have some place where actual experiments could be carried out it would be extremely desirable that there should be closely associated with it, if not under the same direction, a training school for social workers.

II. That in each province and other large administrative area there should be at least one centre affiliated with the All-India Council the main object of which would be to stimulate and co-ordinate the work of social service agencies, voluntary and official, in the area and to arrange for the training of social workers of all grades.

III. That training in social work should be given to the official of public departments concerned with the social services as well as to the workers of voluntary bodies.

IV. That every University in India should have a department for extra-mural work in charge of an officer who has had a thorough training in Social Service.

V. That as most of India's population is in the rural areas, corresponding importance should be attached to training for service in rural areas persons with a real knowledge of and interest in country life.

VI. That the composition of the proposed All-India Council of Social Service and the staff of the proposed Central Institute and their remuneration should be as set out in paragraphs 11—14 of the report.

VII. That the annual recurring cost of the Central Institute estimated at between Rs. 75,000 and Rs. 1,00,000 should be borne by the Government of India for an initial period of 5 years.

VIII. That every effort should be made to build up an endowment fund which would make the Central Institute self-supporting within a reasonable period.

MAURICE GWYER (*Chairman*)
G. D. BARNE.
CLIFFORD MANASHARDT.*
R. P. MASANI.
R. C. MAZUMDAR.
A. F. RAHMAN.
JOHN SARGENT.
SHRI RAM.

NOTE OF DISSENT BY DR. CLIFFORD MANSHARDT.

I approve of the report except for the first paragraph in Section 13 on page 4. It is quite right that the Committee decided that the Research Institute should have three main departments devoted to the study of Economic, Public Health and Educational problems respectively. I personally, however, do not feel that this division represents in an adequate manner the functions of a Social Research Institute. I feel that the Institute could more profitably devote its attention to:—

(a) A study of the problems connnected with Family, and Child Welfare.

(b) Economic problems: Industrial and Agricultural.

(c) *Social Pathology*—problems arising out of maladjustments between the individual and the social structure, which covers the range of problems such as property, unemployment, ill-health, mental deficiency, crime, problems arising out of physical defects, etc.

*Subject to a note of dissent.

REPORT OF THE SCHOOL BUILDINGS COMMITTEE, 1941, TOGETHER WITH THE DECISIONS OF THE BOARD THEREON

At their meeting held at Hyderabad-Deccan on the 14th and 15th January 1942, the Central Advisory Board of Education considered, *inter alia*, the report of the Committee appointed by them at their meeting in January 1941, to examine what steps could be taken in the interests of efficiency and economy to improve the planning, construction and equipment of school buildings. The Board adopted the recommendations of the Committee and further decided that—

(i) The Educational Commissioner should be authorised to reproduce in book form the material contained in the report together with such further information including illustrations, plans, costings, and estimates as he may consider necessary.

(ii) The Educational Commissioner should be asked to prepare a detailed note on the question of financing substantial schemes of non-recurring educational expenditure out of loans, a general principle which has the Board's strong support.

(iii) The Educational Commissioner should be authorised to appoint an expert Committee to prescribe adequate standards for Indian schools in respect of lighting, heating and ventilation.

REPORT OF THE COMMITTTEE.

In opening the proceedings the Chairman welcomed the Members of the Committee and explained briefly the reasons which had led to its being set up. He stated that during the last ten years, a considerable amount of research work had been done in the western countries and in particular by the National Institute of Industrial Psychology, Great Britain in co-operation with Education Authorities with the object of determining the environmental conditions under which both teachers and children would, be capable of the maximum out-put without undue fatigue. They had been led to undertake this enquiry in view of the surprisingly successful results which had attended a similar investigation into factory conditions. The outcome of the enquiry had more than justified the labour and expense involved and had shown that there were scientific principles which if applied to the design and planning of schools would greatly improve their efficiency without necessarily increasing their cost. It had been conclusively shown that it was possible to prescribe and secure standards particularly in regard to lighting, heating and ventilation which eliminated unnecessary strain and fatigue and thereby increased output. The fact had of course to be recognised that a large number of schools in this country were housed in buildings that were never intended to be used as schools and that even in the case of new schools, financial considerations tended everywhere to determine construction. At the same time he felt that in India, where climatic conditions might simplify the building problem in some places and complicate it in others, any practical contribution towards the solution of the issue submitted to the Committee would be of immediate value to every authority responsible for the erection or provision of schools. In his opinion the function of the Committee was not to attempt to prescribe building standards for universal adoption but having due regard to essential educational requirements, climatic considerations and the need for economy to indicate possible alternatives in the way of school planning and construction for the guidance of all authorities concerned with these matters.

Scope of the Enquiry.—Although the terms of reference do not delimit in any way the extent of the enquiry, the Committee first considered whether it would be desirable and practicable to extend the investigation to cover educa-

tional institutions beyond the high school stage. It was felt that as the planning of technical and art institutions, university colleges and universities, and even training colleges and normal schools, would be largely determined by the particular nature of the work which they would be called upon to undertake and as this would vary from institution to institution to a greater or less degree, the prescribing of any schedule of accommodation, arrangement of buildings, etc., that would be generally applicable, would be an impossible task. It was, however, agreed that it might be feasible to lay down certain principles which might be observed in the design and planning of the buildings for such institutions (*Cf.* Section 13).

2. *Class room area per pupil.*—The Committee felt that as the principal unit in the types of school under consideration is and is likely to remain the ordinary class room, they should start by determining the superficial and cubic area which each pupil should be allotted in a room of this kind in order to secure for him or her reasonable space for movement and an adequate supply of fresh air. The standard prescribed by the Board of Education, England, is 10 sq. ft. for every pupil under 11 years of age and 12 sq. ft. for those over 11, with a minimum height of 11 ft. if the room has a flat ceiling. It was recognised that in England class rooms at all stages of education, would be provided with desks or with chairs and tables and that the presence of furniture involved a greater demand on floor space than the habit of sitting on the floor, which is prevalent throughout primary schools in India. On the other hand climatic conditions in many parts of India increase the importance as well as the difficulty of securing an adequate air supply for every pupil.

The Committee came to the conclusion that 10 sq. ft. should be recommended as the minimum floor area per pupil in Primary Schools and 12 sq. ft. in Middle and High Schools. The minimum height of class rooms should be 12 ft., but this should be interpreted as the average mean height where the roofs are not flat. It was agreed that this height might be reduced by 1 foot or possibly more when one or more sides of the class room are entirely open to the air. The height should in no case be reduced below the level necessary to secure both sufficient natural lighting and efficient heating (or cooling as the case may be).

The same floor and air space would be required for girls as for boys.

3. *Minimum sizes of rooms.*—(a) *Ordinary class rooms.*—Having set out what they regard as the minimum superficial and cubic space which is required for each pupil, the Committee with the object of deciding the size of an ordinary class room proceeded to consider the maximum number of pupils which it should be designed to accommodate. This they agreed should be fixed at 40 in Primary Schools and at 35 in Middle and High Schools, the standard to be the same both for boys and girls and for schools in urban and in rural areas. It would, however, obviously promote economic construction and facilitate the transfer of schools from one grade to another as required, if the class rooms in all types of schools in the same area could be of a uniform size. The adoption of what is known as the 'convertible unit' has proved of the utmost utility in schemes for educational reorganisation in Great Britain where a school planned for junior children might subsequently be required for seniors and *vice versa*. On the basis of 10 sq. ft. each for 40 pupils in a Primary School and 12 sq. ft. each for 35 in a Middle and High School as suggested in the previous chapter the minimum floor area for a class room would vary between 400—420 sq. ft. in the type of school now under consideration. The Committee, therefore came to the conclusion that a minimum floor area of 400 sq. ft., or a little over might safely be prescribed for the ordinary class room in any type of school, though where funds permit this might be extended up to 480 sq. ft. with advantage from the purely educational standpoint.

(b) *Special rooms.*—The Committee next considered the floor areas which should be provided for laboratories and practical rooms, *i.e.*, rooms for the teaching of various arts and crafts, in schools of different types. So far as Primary Schools are concerned, it was felt unnecessary to have any special provision for science teaching and for practical work since in neither case at this stage would the use of any but the simplest apparatus or equipment be involved and an ordinary class room of the size already prescribed should be large enough to satisfy normal requirements. In those schools, however, which provide specially for infants and nursery classes there should be rooms of 600 sq. ft. for these, since very small children need approximately 50 per cent more floor space for the free movement which is now accepted as an essential feature of kindergarten training. In Middle Schools which do not form part of High Schools and will in most cases serve rural areas, it is unlikely that science will be taught on lines which will involve much practical work requiring the use by students of anything beyond very simple apparatus. In most schools also it will be found necessary to divide classes for science so that the average size will not exceed 20. It was therefore felt that a room of the ordinary class room size *i.e.*, a 400 sq. ft. unit, would suffice. Where, however, it was found necessary or desirable that a whole class (*i.e.*, max. of 35—40) should take science together, it was suggested that two 400 sq. ft. class room units with a removable partition could be combined when required into a science laboratory of 800 sq. ft.

In High Schools it was agreed that both for science laboratories and for arts and crafts a room equivalent in area to two class room units, *viz.*, 800 sq. ft. would be needed for a half class.

4. *Minimum accommodation required in schools of various types.*—Having thus defined the floor area of the main types of room required in a school building by multiplying the number of pupils in a given class by the number of sq. ft. which each of them needs for reasonably comfortable and hygienic working, the Committee next considered what should be the minimum accommodation (including rooms both for teaching and non-teaching purposes) which ought to be provided for schools of different sizes at each of the three main stages of education with which they are concerned, *viz.*, Primary Schools, Middle Schools (which do not form part of High Schools), High Schools (including Middle sections). The Committee wish to make it clear that in drawing up a schedule of accommodation they have no intention of trying to lay down hard and fast rules. Their main object is to indicate in a fairly precise way the minimum accommodation which in their opinion will allow schools of varying sizes at the three different stages specified to work efficiently. In the interests of economy which is a consideration of paramount importance in most parts of India so far as school buildings are concerned, they have not suggested the provision of any rooms which, however, desirable cannot be regarded as essential. For instance there can be little question that a separate hall is extremely desirable for corporate activities in a large Primary or Middle School; similarly in a large High School a separate Hall and gymnasium and, when any considerable number of pupils take meals at school, a separate dining room will not only add enormously to the amenities of the school but will also greatly facilitate the task of organisation. Extra accommodation of this kind should certainly be provided when funds allow.

The schedules of accommodation set out below have been drawn up with due regard to the activities covered by the normal curriculum in schools of the type specified. The Committee recognise that whenever the curriculum departs from the normal, *e.g.*, in giving a much greater amount of time to handicrafts, more practical rooms and possibly less ordinary class rooms will be required. It is also not the intention of the Committee to suggest that the sizes of school chosen by them for the purpose of illustration are either those that commonly

exist or those that should be adopted for ideal organisation. The reasons which led to their selection will no doubt be sufficiently apparent. At the same time it is desirable to point out that in cases where the size of school need not be finally determined by the number of pupils available, there is an optimum size at each stage of education which enables the most economic use to be made of the accommodation and staff, and in particular of the special rooms and specialist teachers. For example, if there are 30 teaching periods in a school week and the average number of periods per week which each class or half-class devotes to a practical subject such as wood and metal work or spinning and weaving or domestic science is three, then a school with ten classes or half classes will enable the special room and teacher provided for each of these subjects to be fully employed. If there are fewer classes than ten, then expensive accommodation and equipment and a specialist teacher will be standing idle part of the time while if there are more, additional special rooms and teachers will be required and these again, will not be fully employed until the number of classes doubles the original figure. Classes however, cannot be multiplied indefinitely for there is fundamental educational consideration which ought always to limit size. When any school gets beyond a certain number—experience suggests about 500 pupils—it begins to lose certain characteristics which are essential to the conception of a good school, *e.g.*, the Head is no longer able to maintain contact with individual pupils and parents and the pupils themselves cease to be conscious of being members of a living corporate entity.

On the other hand a warning must be uttered against any assumption that the organisation of the school can or ought to be unduly simplified purely in the interest of economising space. Apart from the splitting of classes for science and practical subjects which is usual throughout the world, most schools in India are faced with a further cross-classification to provide for language teaching. The provision of a reasonable margin of accommodation particularly at the higher stages is consequently inevitably. The Committee have met this need by recommending the provision of a class-room for each class or class section in addition to laboratories and practical rooms. When the latter are used to anything like their full capacity, it must follow that there will always be some class rooms available for language groups.

Before drawing up a schedule the Committee examined the needs of schools of the three new types for teaching and non-teaching accommodation.

(a) *Primary Schools.*—There are certain needs common to all Primary Schools. The Committee are strongly of opinion that to secure the conditions necessary for effective teaching each teacher whether in charge of one or more classes or class sections should have a class room to himself.

The Committee also recognise the educational advantage of every school having some place where all the pupils can be assembled from time to time for school functions, religious exercises and other forms of corporate activity, and which in variable climates can be used for physical training, music, rhythmical exercises, dramatics, etc., which require more space than that afforded by the ordinary class-room. For reasons given earlier in this report they are unable to regard the provision of separate halls as an essential part of the accommodation of a Primary School. At the same time they think that other less expensive means might be found of providing the space required. The most obvious of these is to arrange that the partitions between class rooms should be capable of being removed and replaced, so that two or more class rooms can be thrown together when a larger room is required. The Committee do not favour the movable partition commonly used in schools in Europe partly owing to its cost and partly because it would be unlikely to stand up to Indian

climatic conditions. It was however, suggested that partitions might be made of bamboo or other light screens which could be easily lifted out and put back, though doubts were expressed as to whether partitions of this nature would be effective in excluding sound and possible disturbance from the adjoining class room. The most promising alternative appeared to lie in an extended use of verandahs. Various designs (which will be incorporated in the proposed book of school plans) were suggested for enlarging verandahs so that they might provide some at any rate of the facilities normally afforded by a school hall. Apart from their use in this particular capacity the Committee wished to emphasise the importance of verandahs in all types of school buildings and particularly in those for schools in rural areas. In many districts a verandah will be an essential protection against excessive heat or heavy rain. It can also be used for open air classes in suitable weather. To be of the greatest use in these connections it should not be less than 8 ft. in depth. Its position in the plan will naturally be determined by the orientation of the main building which should itself be influenced so far as possible by the climatic conditions prevailing in the area.

In addition to the rooms required for actual teaching purposes the Committee regard adequate storage accommodation as essential in even the smallest school, particularly in view of the increased amount of practical work which is now being introduced into the curriculum, and the desirability of preserving specimens of the hand work done by the children. The accumulation of litter in the class room must on all accounts be avoided and the sort of almirah usually provided tends to occupy far too much space. A separate store-room, the size of which will obviously vary with the size of the school, should therefore be provided wherever possible. The Committee do not regard the built-in cupboard, common in modern school buildings in western countries as a practicable alternative owing both to Indian climatic conditions and to the nature of the construction of most primary schools but they feel that where the type of construction allows, the possibility of providing recesses in the walls of class rooms in which almirahs can be placed so as to avoid encroaching on floor space should be explored.

The Committee also attach importance particularly in the larger primary schools to some place being provided where the staff can do such administrative work as falls to their lot, interview parents and enjoy reasonable privacy in the intervals between lessons. Improvements in primary education are bound up to no small extent with raising the status of the teacher in the eyes of the public and it is felt that the provision of reasonable amenities for teachers in the school premises will help towards this end.

In the light of the foregoing general considerations it is possible to suggest the minimum accommodation which should be provided for Primary Schools of different sizes. As has been already stated the sizes taken by the Committee are not to be regarded as ideal units. In any case the predominant factor in setting the size of a school must be the number of children available. Nevertheless it is hoped that the units selected will illustrate satisfactorily what the Committee have in mind and that there will be little difficulty in adding to or subtracting from the schedule of accommodation suggested to meet the needs of schools of different sizes. Sanitary arrangements will be dealt with separately under Sanitation (pp. 45—47) and the question of the area needed for playing space and physical training under Sites (pp. 51—54).

While the Committee hope that in the interest of efficiency the single teacher school with its obvious drawbacks will be progressively eliminated, they are bound to accept the fact that a very large proportion of primary schools particularly in rural areas will remain of the two teacher type. In view of their

large number and the very limited resources of the authorities usually responsible for creating and maintaining them, the Committee felt the paramount need of restricting the schedule to the very minimum *i.e.,* 2 class rooms of the minimum size already prescribed *viz.,* 400 sq. ft. with a verandah wherever possible and a small room for storage. Where the store room is large enough a portion of it should be partitioned off for the use of the teachers. The next size taken is the 5-teacher school which provides a separate class section for each of the five years normally covered by the Primary course. In addition to the five class room units it is suggested that an extra unit (400 sq. ft.) should be provided to be sub divided into a teachers' room and store room. In larger primary schools importance is attached to the provision in addition to ordinary class rooms and rooms for teachers and storage of an additional unit to be used as a reading room and library.

No special rooms are suggested for science and handicrafts in Primary Schools as at this stage these subjects, where they are taken, can be catered for in an ordinary class room. For the reasons given earlier the Committee are unable to recommend the provision of separate Assembly Halls for Primary Schools.

(b) *Middle Schools not forming part of High Schools.*—(*N. B.*—Where Middle Schools contain Primary departments the accommodation for the latter should be determined in accordance with the schedule prescribed for Primary Schools).

The middle stage normally covers 3 years and the Committee have assumed that self-contained middle schools will contain 3 classes or some multiple of 3 classes. Each class or class section will require a class room of the standard size. In a 3-class school one additional standard unit (400 sq. ft. approx.) should suffice for science and another for art and handicraft. Bigger schools may require 2 additional units for one or both of these subjects but this will be determined by the number or size of classes and the amount of time allotted to these subjects in the time table.

The reasons which have deterred the Committee from prescribing separate Assembly Halls in Primary Schools apply also in the case of Middle Schools. In all these schools however, there should be an additional unit or its equivalent in floor space for office and library and another for teachers and storage. Very large schools will require a separate unit for the library and two more for the other purposes specified.

(c) *High Schools (with Middle Sections).*—*N.B.*—When High Schools contain Primary as well as Middle sections the accommodation for the Primary department should be determined in accordance with the schedule prescribed for Primary Schools).

In most parts of India the High (including Middle) School course covers 5 years. It will therefore normally contain 5 classes or some multiple of 5 classes, though for reasons already given the Committee would regard a school with 20 classes as the largest which under any circumstances could be accepted as an efficient unit for educational purposes.

The five-class High School in addition to 5 class rooms of the standard sizes (400 sq. ft. unit) should also contain a Science Laboratory (2 units), an Art and Craft Room (2 units), a Practical room for handicrafts, including Domestic Science in the case of girls (2 units), a Library and Reading Room (1 unit). The Committee were strongly of the opinion that in view of the increasing importance attached to these subjects at this stage there should be special rooms of a larger size *e.g.,* 600 sq. ft. for History and Geography. These may be provided in place of 2 ordinary class room units but it was felt that where the need exists to make special provision for language teaching, the History and Geography rooms should be in addition to the normal class room

accommodation. Apart from the rooms required for teaching purposes there should be a Headmaster's (or Headmistress') room and office (1 unit), Staff room (1 unit), and a store room (½ unit), Extra-curricular activities should receive special encouragement at the High School stage and the Committee are of opinion that every High School should have accommodation for these including a room for Boy Scouts or Girl Guides (½ unit). There should also be a retiring room for girls, the size depending on the number of girls on the register. In the case of schools containing more than 5 classes the teaching accommodation should be increased proportionately though the additions required to the laboratories and practical rooms will obviously be determined in the light of the time devoted to the subjects concerned. There is a small but increasing number of High Schools which include classes XI and XII. In such cases an additional small laboratory (1 unit) would be necessary over and above extra class room provisions, where Science is taken.

The Committee regard the provision of an Assembly Hall and/or Gymnasium as extremely desirable in every large High School. The very high cost of such provision is the sole reason which has led them to exclude it from the minimum schedule of accommodation.

5. *Dimensions of Rooms.*—Apart from the question of the floor area, the actual dimensions of rooms used for teaching purposes deserve consideration.

Experience suggests that for convenient class arrangement and blackboard visibility a slightly rectangular room is better than a square one. The standard class room unit of approximately 400 sq. ft. should preferably be 22′ × 18′ rather than 20′ × 20′. Moreover when it may be necessary to combine two units to form a laboratory or practical room an area 22′ × 36′ has obvious advantages over one 20′ × 40′. The importance of having minimum dimensions for class rooms and particularly for laboratories and practical rooms has been stressed in recent pamphlets on school buildings issued by the Board of Education (England). The Committee, however, do not overlook the fact that adherence to a uniform square unit may simplify the question of planning and reduce the cost of construction. In a subsequent section of this report (*cf.* Section 12) they make suggestions which will allow laboratories and practical rooms to be of the requisite shape without affecting the economic planning of the main building. Special consideration, however, is required in the case of Assembly Halls and/or Gymnasia, where provided. The minimum dimensions of a Gymnasium or any room which it is intended to use for physical training should be 60′×30′. Assembly Halls should provide at least 4 sq. ft. per pupil or person to be accommodated and the proportion of length (including stage) to breadth should not be less than 5:3. A gallery is a cheap and effective method of adding to the holdinng capacity: it can also be designed to improve acoustics.

The Committee gave special consideration to the provision which should be made for those pupils who take meals at school. The requirements of hostels are dealt with separately (*cf.* Section 10). The Committee strongly deprecate the provision of separate dining rooms for different castes. It is essential to the conception of a school that pupils should take their food together, subject of course to both vegetarian and non-vegetarian food being provided were desired. The Committee recognise, however, that economic and other considerations must largely determine the nature of the arrangements made for school meals.

They contemplate that in some areas and particularly in schools attended by the children of the well-to-do it may be feasible to provide separate dining rooms in which pupils will take their meals seated at tables in western fashion. Another alternative is the standing buffet or milk bar where pupils will be

able to obtain meals or supplement food brought from home. Thirdly, there is the provision of a simple weather-proof shed with a clean floor where food may be taken in Indian fashion. In all cases, the Committee feel that the arrangements made should be as simple and inexpensive as is consistent with cleanliness and decency but they emphasise the fact that the value of the school meal as a means of inculcating hygienic habits and good manners can hardly be exaggerated. Where separate accommodation is provided for dining the size of the room must be determined in the light of the number of pupils likely to take meals at school. Care should be taken to see that kitchens, pantries, etc., while conveniently situated in relation to the dining room, are not so placed that the smell of cooking will permeate the class or other teaching rooms.

6. *Special requirements of Technical High Schools and Junior Technical Schools not accommodated in Senior Technical Institutions.*—Pupils in Schools of this type at any rate during the later years of the course will devote a much greater proportion of their time to practical work than those in the normal high schools. Increased provision of workshop, drawing and office accommodation will thus be required. Since provision of this kind will probably be available during the day time at any Technical College or Institute, the advantage of housing Technical High Schools and Junior Technical Schools in senior Technical Institutions, wherever possible, needs no emphasis.

Where however, senior technical institutionns are not available for this purpose special additional accommodation over and above that recommended for the ordinary High School will be required. A Technical High School containing 360—400 pupils should have 2 additional workshops and a drawing office. Each of these should have floor space equivalent to that of 2 standard units *viz.*, 2 × 400 sq. ft. = 800 sq. ft. and should be provided in addition with adequate storage and a small room for the instructor in charge. In view of the large amount of time which Technical High School pupils spend in laboratories and workshops, it may be practicable, even though it complicates organisation, to make some reduction in the number of ordinary class rooms provided. In no case, however, can a laboratory or craft room be treated as equivalent to more than half a class-room.

7. *Special accommodation needed in Schools for Physically or Mentally Defective Children.*—Consideration was next given to the question whether any special accommodation is needed in the case of schools for children suffering from physical or mental defects. So little attention has hitherto been paid in India to this particular problem, that the Committee were doubtful whether such practical experience as is available would be sufficient to enable them to make specific recommendations. They felt it desirable, however to record the opinion that although the average number in a class in the special schools for these children would be considerably smaller as a rule than that in an ordinary school, this should not be regarded as an adequate reason for reducing the size of any class room below that of the standard unit prescribed for normal children *viz.*, 400 sq. ft. Children with physical defects require more space for movement and often need special furniture. while in a mentally subnormal class freedom of movement, variety of practical occupations and personal supervision by the teacher all demand ample floor space. It is likely that much experiment will be necessary before the type of accommodation especially suited to Indian conditions can be discovered.

8. *Additional accommodation for schools likely to be used also for Adult Education.*—Considerations of economy alone make it inevitable that enterprises connected with Adult Education should have to share the buildings as well as the staffs belonging primarily to other branches of Education. This

fact, however, should not prevent some provision for adult classes being made in the planning of schools, particularly in rural areas. In all the larger schools of this type a separate full size room (*i.e.*, one unit) should be provided for the use of adults. It is not considered necessary however to prescribe additional accommodation for adult classes in urban areas as it is felt that these would usually contain a High School or schools with a variety of suitable rooms or even a technical institute which could be placed at the disposal of adult classes out of normal school hours. The desirability of providing cultural and recreational facilities for adults in all technical institutions is being increasingly recognised.

As Adults have to be attracted to attend classes, it is important that the conditions under which such classes are held should be reasonably comfortable. The creation of a club rather than a school atmosphere is highly desirable and the furnishing of schools, likely to be used for adult education should be considered from this point of view. A library and reading room is an essential requisite in every adult centre and wherever possible rooms suitable for music, dramatics, discussion groups, etc., should be made available.

9. *Lighting, Heating, Ventilation and Sanitation.*—The need for scientific standards in the case of lighting, heating, ventilation and sanitation was discussed next. The Committee were agreed as to the extreme importance of securing adequate standards in these respects in all schools. It was felt that even where genuine efforts are made to provide good buildings, too little attention is paid to determining what in fact constitutes the conditions under which both teachers and taught are likely to give of their best. Climatic conditions in many parts of India put a premium on the need for making certain that such factors as eye-strain, uncomfortable temperatures and inadequate ventilation are not subjecting the inhabitants of a school to unnecessary fatigue. It has been ascertained by scientific research in recent years in western countries that there is a mean between too much and too little light, too much and too little heat too much and too little draught, the attainment of which automatically reduces fatigue and increases output. It has also been found that these standards can be applied to school buildings without in any way increasing their cost. It is a question of design rather than of materials. The Committee feel that the ascertainment of such standrds for Indian schools is a matter of urgent importance which should be investigated without delay by an expert committee.

The Committee lay equal stress on the desirability of adopting adequate standards in connection with sanitary accommodation. Much has to be done in the way of improving personal and social hygiene in the schools, but habits of cleanliness cannot be inculcated and maintained so long as the washing facilities and other necessary conveniences remain hopelessly inadequately. Although hygienic standards in this country generally are rising, it must be admitted that facilities for sanitary arrangements even in schools for the well-to-do usually fall far below any reasonable standard.

Where there is a water-carriage system available every school should be compelled to make use of it. There should be a generous supply of water, soap and clean towels to serve the needs of pupils after exercise or other practical activities and wherever possible showers and wash basins should be provided. The Board of Education, England, prescribes a minimum of 12 basins for the first hundred children and 4 for each additional hundred. With the growing attention now being given to games and physical exercises it is highly desirable to have a changing room of adequate dimensions for the numbers involved. In connection with this showerbaths on the basis of at least one per 25 pupils should be provided. Sprays and circular washing fountains are

also recommended. In each washing room a small sink (about 14" by 9") for filling jugs and washing inkpots is desirable.

The Committee realise, however, that at the present time and for a long while to come the vast majority of schools will be situated in places not only where there is no water-carriage system but also where the supply of water itself is strictly limited. Even so they attach so much importance to a proper supply of water for school purposes that they have no hesitation in prescribing that every school should be provided with a sufficiently deep and pucca well. An area, not less than six feet in the width around the mouth of the well should be paved and made impervious, and the pavement sloped outward, should be at such a height as to allow the waste water to be carried through an open drain as far as the school garden. A cistern should be placed on a high platform for storing sufficient quantity of water for various sanitary purposes. The mouth of the well should be protected with a parapet of a sufficient height to prevent any water splashing back into the well, should anyone be washing or bathing nearby, as is the traditional custom in Indian villages. In areas where the subsoil water level is fairly high, tube wells should be provided if arrangement can be made for their being kept in proper order and in others an open dug-out tank suitably protected may serve for washing purposes.

Apart from water for washing an adequate supply of drinking water is essential in all schools. The best way of providing this where water is laid on is by drinking fountains of the bubble or spray type. There should be one drinking fountain for every hundred pupils with a minimum of two. The provision of a sink with water taps at convenient heights for filling jugs, etc. is desirable. In the absence of a water-carriage system, tanks with taps and securable lids, and with facilities for emptying and cleaning are recommended for drinking purposes. Jars with taps and a siphon system have also been found satisfactory.

In schools, where a water-carriage system exists, the W. Cs. and urinals may be placed adjacent to or even in the main building. If there are kept scrupulously clean, as they always should be, and if the children are trained in their proper use from their earliest years, there is no reason why this proximity should have any unpleasant effects, while from the point of view of convenience and discipline it will have obvious advantages. Wherever possible latrine accommodation should be within easy reach of the playgrounds and playing fields. Where this is not possible, some separate accommodation will have to be arranged. W. Cs. and urinals should be well-lighted and ventilated and so constructed that their cleaning is an easy matter. The following may be regarded as the minimum requirements where a water-carriage system is available:—

*Girls 6 W. Cs. for first 100 and 2 for each additional 100.

*Boys 3 W. Cs. for the first 100 and 2 for each additional 100.

Urinals where provided should be on the basis of 10 ft. run per 100 boys.

The size of the water closets should be about 2 ft. 6 inches by 4 ft. 6 inches. Doors should not be more than 6 ft. in overall height. In infants' W. Cs. the chains should be of a length wich can conveniently be used by small children. The walls should be finished by some smooth, hard surface upon which writing is impossible.

*The Board of Education recommendations are:—
Girls: 6 W. Cs. for first 100 and 4 W. Cs. for each additional 100.
Boys: 4 W. Cs. and 10 ft. run of urinals for first 100 3 W Cs. and 10 ft. run of urinals for each additional 100.

Where a water-supply is not available, the Committee considered with the advice of experts the respective advantages of the following systems:—

(1) Bore hole, (2) Septic tank, (3) Dry closet (as used in rural schools in England), and (4) Service latrine.

The Committee have placed these in what they would regard as their order of utility for India generally; they do not favour the service latrine when it can be avoided. They realise, however, that local conditions and customs will largely determine the choice. The point to which they attach chief importance is that whichever type is chosen, it should be used and maintained in the best possible way. The Committee have been able to obtain from experts detailed descriptions of each of these systems and it is proposed that these should be included in the book which the Committee have in mind

The Committee do not wish to conclude this section of their report without emphasising the extreme importance which ought everywhere to be attached to the maintenance of the highest possible hygienic standards in every type of school. The dangers likely to arise from inadequate drainage, the presence of avoidable litter and the insanitary practice of spitting are no doubt becoming better known but they are still far too often ignored in practice. Apart from the effect of clean and attractive surroundings on their physical well-being pupils will be found to react favourably in many other ways to a pleasant environment. Hygienic buildings have been proved by experience to be a strong inducement to the cultivation of hygienic habits by those who occupy them.

The Committee are aware that a very large proportion of the schools in this country are housed in rented buildings. While it may not be reasonable to require that all such buildings now in use should conform to the standards recommended in this report, the use of those which fall seriously short of them should be discontinued in the interest of the pupils' health at the earliest opportunity. Where it is necessary in future to have recourse to hired buildings, they should in all cases be inspected by a responsible officer of the Education Department in conjunction with an officer of the Public Health Department. Recognition should not be granted unless in respect of floor space, lighting, ventilation and sanitation they approximate closely to the requirements set out in this report.

10. *Hostels.*—In considering the nature and amount of the accommodation required for hostels, the Committee have taken as a convenient unit a hostel for 24 boarders, but the general requirements specified may be taken to apply with the necessary adjustments to smaller or larger units.

Sleeping arrangements may consist of open dormitories or partitioned cubicles or separate single rooms, but in the Committee's opinion, at any rate for boys and for girls up to the age of 16 or 17, an open dormitory is much to be preferred. It is more easily cleaned and aired, it is less dangerous in case of fire and it lends itself better to efficient supervision. A dormitory with 12 beds is a very desirable size. In girls school separate dormitories should be provided for all girls above 12.

A floor areas of not less than 50 to 55 sq. ft. should be provided for each occupant and the distance between beds should not be less than 3 ft. Where a dormitory is divided into cubicles each cubicle should have its own window. If dormitories or cubicles are not furnished with cupboards, a separate room or rooms should be provided for keeping clothes. In addition to dormitories a hostel should contain adequate living accommodation for use during out-of-school hours—*i.e.*, for study and recreation. A space of 20 sq. ft. per pupil is desirable in this respect. Proper quarters should also be provided for the person or persons in charge of the hostel and in High School hostels bed

sitting rooms 10′ × 8′ should be given to prefects. A separate room should also be provided for meals but as stated elsewhere the provision of separate rooms for different castes or communities should be strongly discouraged. The kitchen, which should be as close as possible to the dining room, should be spacious and airy. While the actual cooking arrangements will naturally conform to local custom, ample storage space is essential. Modern labour saving appliances should be installed wherever practicable.

Arrangements for washing and bathing may be provided within easy reach from the dormitories. At least one shower is needed for every 10 boarders and one closet for every 5. For boys, urinals may be in the same scale as in the day-schools. Separate sanitary arrangements should be made for staff and for servants.

In every hostel there should be one or two rooms according to the number of occupants which can be used in case of sickness and effectively isolated. In a two-storeyed building, a sick room is necessary on each floor. In large hostels, a separate buliding will be necessary for infectious diseases, which should be self-contained with its own kitchen, sanitary and other facilities. The Committee are of opinion that the following schedule would be adequate but in no way extravagant for a hostel to house 24 boarders:—

2 Dormitories, for 12 each (each 600—660 sq. ft.).
1 Common Room for recreation (480 sq. ft.).
1 Study Room (480 sq. ft.).
1 Supervisor's (Bed-sitting) room.
1 Dining room.
1 Kitchen.
1 Store room.
1 Box room (small).
1 Fuel room.
1 Sick Room.
(1 water room where there is no water carriage system).
Baths and closets as prescribed.
Servants quarters.

Veradahs in hostels will serve the same useful purposes as in schools.

11. *Furniture and Equipment.*—In considering what furniture and equipment should be recommended for ordinary class rooms in Primary and Middlle schools the Committee found themselves confronted by a more than usually sharp conflict between what is desiralbe educationally and what is practicable economically. In India at the present time the usual practice is for children in Primary schools to sit on the floor and for those in High schools to sit at desks or chairs and tables. In Western countries much importance is attached for health reasons to younger children in particular adopting a correct posture when at work and above all te proper support being provided for their backs during the period when the major bones are in process of hardening. Special care is taken to see that school desks and chairs are scientifically designed with this object in view.

In theory, therefore, at any rate the present Indian practice ought to be reversed. It was, however, suggested that sitting on the floor, provided that the floor is clean and dry, would not be detrimental to health if some simple means of affording back support could be devised. Before deciding to make any recommendations which would entail heavy expense on the authorities responsible for equipping Primary schools the Committee felt they should seek expert advice on the medical issue involved. They accordingly referred the question of the desirability of providing furniture at the Middle and Primary stages to the Committee set up by the Chairman of the Central Advisory Boards

of Education and Health in 1941, to consider what steps should be taken to improve the physical condition of school children. As will be seen from their report that Committee attach great importance to the effect of posture on a child's health and growth but consider that the matter requires special investigation by a body of experts. Without such an investigation it is not possible in their opinion to assess the ill-effects, if any, which the habit of squatting on the floor is having on the health of primary school children. Where, however, chairs or desks are supplied care should be taken to see that they are designed to give support in the right place. The Committee are of opinion that this is a matter which requires further investigation as suggested above.

Apart from this particular issue the problem of furnishing and equipping a primary school is a comapratively simple onoe. For obvious reasons such furniture as may be provided should be cheap and strong andd since in the primary schools the ordinary class room will have to be used for a diversity of purposes, any furniture it contains should be light and easily movable. This is specially important in special rooms for infant or nursery classes. Reference has already been made to the need for storage and for almirahs, where so used, to be disposed in a way that will occupy as little floor space as possible.

In Middle schools seating accommodation may or may not be provided, in High schools it probably will be. Since a child who is comfortable is more likely to pay attention and concentrate on his work than one who is not, it is important here also that the seat should be made to fit the child rather than the opposite. Small tables and chairs in place of desks will make an ordinary class room much more adapable for certain types of practical work, *e.g.*, needle work, book crafts etc., for which special rooms are not usually provided. Specially designed tables can be placed and where necessary clamped together to form work tables of a convenient size. Every class room in every school should be provided with a strip of 3-ply or other suitable wood 18" deep or with 3 pinrails 9" apart to which cuttings, charts and specimens of children's work can be easily affixed. The height of these should be roughly the child's eye-level.

The furniture and equipment for the various laboratories and practical rooms which the Committee have recommended in the case of Middle and High schools need careful consideration in the light of modern ideas with regard to science and handicraft teaching. The conventional type of laboratory equipment for instance is unnecessarily elaborate and expensive for all but the highest classes. A number of detailed suggestions for the furnishing of laboratories and of art and craft rooms which were discussed at the meeting of the Committee will be found in Annexure III.

The question of furnishing Halls, gymnasia, libraries, dining rooms and hostels is dealt with in Annexure IV.

12. *Arrangement of School buildings.*—Apart from the actual accommodation to be provided, the planning of a good school building demands that very careful attention should be paid to the way in which the various rooms are arranged in relation to one another. The Committee agree that in a matter of this kind finality is neither attainable nor desirable. Theory and practice in education are constantly changing and it is to be hoped that they will continue to do so. The ideal school building, therefore, will be one that can be readily adapted to new ideas, not one which will put obstacles in the way of their adoption. No school should be built with the object of lasting for generations. The plan must be flexible and the construction as simple and elastic as may be compatible with other essential requirements. As a general rule it may be laid down, that those parts of the buildings least likely to change

materially, *e.g.*, Hall, class rooms, teachers' and store rooms should be grouped together, while laboratories and practical rooms should be arranged in blocks separate from but reasonably close to the main building. For the same reason the former may if desired be built in more permanent construction than the latter. This will also facilities laboratories and practical rooms being of such dimensions as may be educationally desirable without unduly complicating the design or increasing the cost of the main building. A further advantage of such an arrangement is that rooms which tend to be noisy, *e.g.*, craft rooms, can be isolated from the others.

Certain other general considerations that should determine the planning of schools of all types are set out below:—

(a) Due regard should be had to aesthetic standards, *e.g.*, forms, designs and colour, in school building, in order that object lessons in good taste may be at all times before the eyes of the pupils.

(b) The question of easy movement, particularly in large schools on more than one storey, is important. Corridors should be wide enough and staircases should be so placed as to avoid congestion when classes change and above all in the event of fire.

(c) Similar considerations should apply to the siting of cloakrooms, changing rooms, bicycle sheds etc., where provided.

(d) Latrines, urinals and lavatories should from the point of convenience be as accessible as possible from all parts of the school, subject always to their being so placed as to create neither a nuisance nor an eyesore.

(e) The possibility of extension being required at some future date should always be borne in mind.

(f) Verandahs can be made a most useful adjunct to almost any school in India. The uses to which they can be put have been described on page 46.

(g) Kindergarten rooms and rooms for young children should always be on the ground floor.

(h) Where ample sites are available single storey buildings have certain advantages. They facilitate elastic grouping of rooms as well as the use of light forms of construction.

(i) The orientation of all class rooms and verandahs and of many practical rooms needs careful consideration. Local climatic conditions will largely determine this and sites should be chosen with this factor in mind.

(j) Provided that the arrangement is convenient and the design harmonious, the particular shape of the plan is of little importance. The quadrangular plan popular in Western countries twenty years ago has definite disadvantages, the most obvious being that it renders impossible the best orientation of many rooms. In rural areas there is much to be said both on grounds of economy and freedom from disturbance in favour of building class rooms as separate units appropriately disposed in the school compound, a method commonly adopted in the case of open-air schools for delicate children in Great Britain.

(k) Economy can be effected and planning facilitated by the adoption of a standard class room unit which can be multiplied if necessary where larger rooms are required. It would be an advantage if sound-proof adjustable partitions could be provided and where partition walls are provided they should be left free from carrying loads, so that they can be moved if, at some future date, it should be necessary to rearrange the rooms.

Some interesting modern suggestions with regard to the arrangement of school buildings for Primary schools are contained in the 'Design of Nursery and

Elementary Schools' published by the Architectural Press, London, 1938, Extracts from this book will be found in Annexure V.

13. *General principles applicable to the design and planning of educational buildings beyond the High School stage.*—Beyond the High School stage so many considerations affect the design and planning of educational buildings that as already stated the Committee feel no useful purpose would be served by their attempting to prescribing any principles of general applicability as regards schedules of accommodation, planning or types of construction. The Committee believe, however, that there are certain criteria which should be observed in the building of Universities, Colleges and Technical Institutions as well as at the lower stages of education.

The first of these is that the whole conception of the buildings should be dignified and harmonious. Students at this stage are not less susceptible than their juniors to aesthetic influences. The educational value of a beautiful environment can hardly be exaggerated. A beautiful building, however, does not mean one elaborately designed or constructed of expensive material. A Technical Institute can be as satisfying aesthetically as any Arts College, as long as its design is primarily determined by fitness for its purpose. Ships, motorcars, aeroplanes and many other forms of essentially utilitarian construction illustrate this truth. The second criterion is the grouping within a harmonious whole of rooms according to function, *i.e.*, the special needs and uses of halls, libraries, gymnasia, class rooms, laboratories, practical rooms should always determine their disposition in the plan. Noisy rooms should be isolated. Rooms where for educational reasons exceptional dimensions are required should never be deprived of these simply in order that they may conform to architectural considerations.

Practical rooms and particularly those containing heavy machinery should be so planned that plant and materials can easily be delivered and removed. This applies particularly to technical colleges and institutes, where there should be easy access for lorries to all workshops.

14. *Alternative types of construction.*—The Committee were strongly of the opinion that the possibility of adopting various forms of temporary or semi-permanent construction as an alternative to *pucca* buildinngs should be exhaustively explored, not only in the interest of economy but also with a view to facilitating the adaptation of school buildings to changing educational ideas. There are all over India various types of indigenous construction which suit local climatic conditions. Many of these could be made suitable for school requirements. In a country, like India, where there is so wide a difference in climatic conditions and materials available locally, it is not practicable to set up a common formula in regard to methods of construction. Subject to the general standards which they have prescribed being observed, the Committee feel that there is almost an unlimited field for experiment so far as the actual construction of schools and particularly of primary and middle schools in rural areas is concerned. Any of the following types again, subject to the consideration mentioned above, may be adopted to suit local requirements:—

(i) Buildings with frame work of bamboos, walling of split bamboos or reeds with or without mud plaster, roof covered with straw or grass thatch over bomboo framing, mud floor, doors and windows of bamboo. Wooden frame doors and windows may be introduced as an improvement on this type.

(ii) Buildings with mud walls replacing the bomboo frame or reed walling of the construction described above.

(iii) Buildings with mud walls and roof of burnt tiles or slates replacing straw or grass.

(iv) Buildings entirely of timber.

(v) Buildings of timber with roof of slates or corrugated sheets.

(vi) Buildings with mixed timber and mud walls or walls of sundried mud or bricks, and with burnt tiles, slates or corrugated roofing.

(vii) Buildings of unplastered brick, with thatched roofs or alternately slates or corrugated roofing, brick or concrete flooring and wooden doors and windows. Stone or concrete walls may take the place of brick walls where stone or concrete is cheaper or more easily obtainable than bricks.

The practice of roofing school buildings of this pattern in the tropical areas with corrugated iron sheets is not favoured. Other forms of corrugated sheeting are now coming on the market which are cheaper, lighter and more pleasant to the eye than corrugated iron. The Committee are strongly of opinion that provided the necessary standards in lighting, temperature and ventilation can be secured—and they see no reason why they should not be—the possibility of erecting satisfactory schools, particularly in rural areas by adopting any or all of these forms of constructions should be carefully explored.

Experience in Assam has shown that wood and bamboo structures properly seasoned, with thatched roof and mud floors make excellent village schools. It has been found that for a really good and stable building of this type of the cost is as low as Re. 1 per square foot. Such buildings, like other forms of light construction, must be maintained in a constant state of good repair; the floors require a weekly "leep" of mud and cowdung to keep free from dust, and the thatch has to be renewed every fourth year. For this nearly half of the old thatch can be used over again and as labour and materials are available locally at a very cheap rate the whole cost of maintenance is extremely small.

A similar cheap but efficient form of construction is also being used in the Central Provinces and Berar. The Committee were shown a model of this type of construction and were satisfied that this was a suitable type for rural schools.

In the United Provinces light forms of construction have also been used and have been found to give satisfactory results. In many parts of Madras schools are housed in a combination of *pucca* and temporary construction. The *pucca* building usually accommodates the library, office, science laboratory, store rooms, etc., whereas sheds are used for general class rooms.

While the Committee do not wish to prescribe any one form of light or temporary construction as superior to another, they are of opinion that both the need for economy and the desirability of making school buildings as flexible as possible point to the extreme importance of investigating and experimenting with the potentialities of materials other than brick and stone. They also anticipate that increasing use may be made of the many synthetic materials like Indianite which are now being placed on the market and may be expected to become cheaper as their use increases.

15. *Sites including Playgrounds and Playing Fields.*—The considerations which should in the Committee's opinion determine the sizes of school sites are as follows:—

(i) In selecting a site the total accommodation that is likely to be required ultimately rather than the needs of the moment should be the determining factor.

(ii) Sites for modern schools should be much larger than those previously thought adequate. Modern school design requires much more space for convenient grouping of rooms and for their proper lighting and ventilation. Apart from this the importance now attached to outdoor activities, *e.g.*, gardening and the organised games and physical training calls for additional space.

(iii) The responsible authorities should do their best to anticipate the need for new schools particularly in new centres of population and buy ample sites in good time.

(iv) A school building should be kept as far as possible from the noise and dust of busy roads.

(v) Sites should be reasonably level. There should be no undesirable surroundings and care should be taken to avoid land which is damp, made up or subject to floods.

(vi) In urban areas, school sites should be conveniently accessible by road but every effort should be made to avoid an excess of road frontage.

(vii) It is important that public services, *e.g.*, sewers, water and electricity should be available.

An area of one to two acres according to the design and method of construction adopted, should suffice for the actual buildings of any school, primary, middle or high, for not more than 500 pupils. Apart from the actual space required for the buildings, the site should also provide room for a playground for recreation or physical training, in the schools above the primary stage for a school garden and wherever possible for playing fields as well. The size of the playground will probably depend to a considerable extent on the size of the school and whether land in the locality is reasonably cheap and easy to obtain. It is unnecessary to prescribe any definite amount for any particular size or type of school but the following limiting factors may usefully be borne in mind. As the playground will be much used for physical training it should be roughly rectangular in shape and should have a minimum dimension of 60'. The surface should be smooth, dry, as free as possible of dust and capable of being drained.

The following may be regarded as minimum areas:—

For 160 Children	.. .. ..	1 acre.
For 320 Children	.. .. ..	1 acre.
For 480 Children	.. .. ..	1½ acres.

At the same time the importance which the Committee attach to all school buildings being as clean and tidy as possible extends also to the playground. No school will gain anything from the possession of a playground so large that it cannot be kept in good order. While the Committee do not advocate the provision of a school garden, by which they mean an area suitable for practical instruction in horticulture, in the case of primary schools they certainly do not wish to discourage the provision on primary school sites of flower beds or even small vegetable gardens provided these can be kept in proper order. Even very young children get pleasure and profit from learning about flowers and vegetables. Gardening or agriculture as a subject will not find a place in the curriculum of many middle and high schools in urban areas but it should do so in those in rural areas and adequate space should be available for practical work. The area required will depend on the syllabus to be taken and may vary from a minimum of one up to four or five acres.

Playing fields as distinct from playgrounds are not essential at the primary stage but should be regarded as necessary adjuncts to any middle or high schools whether for boys or girls. No educational development is more to be welcomed than the encouragement now given to organise games in the better girls' schools. If the time-table is properly arranged it will be found unnecesssary to provide playing fields large enough for the whole school to play at the same time. While allowance must be made for the varying amounts of wear which different types

of surface will stand, experience suggests that with good organisation and proper care the following areas will suffice for playing fields:—

For 160 Children	.. .. ..	2—3 acres.
For 320 Children	.. .. ..	4—5 acres.
For 480 Children	.. .. ..	6—7 acres.

Playing fields should be rectangular in shape to facilitate the economic siting of pitches, reasonably level and capable of being properly drained. Where the surface is grass, hockey and football goal areas should be frequently changed. Where they are at any considerable distance from the school itself changing and lavatory accommodation should be provided.

16. *Maintenance of School Buildings.*—The Committee are anxious to stress the fact that school buildings should always be kept in the best possible state of repair. They know of many instances where good buildings have been provided but owing to the fact that adequate provision has not been made for their maintenance, they have rapidly fallen into disrepair and apart from the adverse effect on their occupants their effective life has thus been materially shortened. The Committee strongly recommend that every educational budget should make adequate provision for the repair and upkeep of school buildings. There should be a regular rota for external and internal redecoration of schools, the period being determined by the nature of the construction and local climatic conditions. Temporary buildings, particularly when of wood, require frequent painting both inside and out and this is one of their obvious drawbacks. Another and probably the most important factor in maintaining school premises in the best possible order is the establishment of an efficient caretaking and cleaning service.

Particular attention has been paid to this in western countries and school caretaking cannot but be regarded as in effect a skilled trade. The Committee wish to endorse certain remarks by the Board of Education, England, in this connection which will be found below:—

"Schools should be planned so as to enable them to be well kept, with the minimum of trouble and expense. Attention to such details as the rounding off of all corners and the tiling of window sills, so as to facilitate the removal of dust, will produce buildings which are not only easier and cheaper to keep clean than the older schools, but also furnish an object lesson to the children in the importance of a bright and clean environment. Ample accommodation should be provided for the caretaker. His function has usually been underestimated in a school. It can, and should in fact, assume a great importance in the social training imparted by the school; dirty and ill-kept premises are a poor example for the teachers in their attempts to train the pupils in clean, tidy and healthy social habits. Apart from the paramount need for scrupulous cleanliness in the lavatories and offices, authorities and managers will be well advised to ensure that the floors, walls and windows of schools are kept clean. For this purpose it will be helpful to have at least one slop sink and water tap for the use of the caretaker, and where there is a considerable distance to walk from one end of the school to the other it may even be desirable to have such a sink attached to each set of lavatories. These sinks will be of considerable value also for such purposes as the cleaning of inkpots and the changing of water for flowers in the classrooms, both of which tasks are often performed in the ordinary wash basins with unfortunate results.

Provision should also be made for cupboards for the caretaker's necessities. Where the caretaker is employed full-time, but does not reside on the school premises, sanitary accommodation should be provided for him.

A covered space for dust-bins is necessary, so contrived that they are concealed from view."

The cleanliness of the school surroundings is not less important than that of the actual buildings and in both these respects the pupils should be trained to lighten the work of the caretaking staff. Bins for litter should be placed conveniently and failure to use them should be regarded as a matter for discipline. Finally Headteachers and Inspectors should be left in no doubt that the general cleanliness of the school buildings and grounds will be regarded as a very important factor in assessing its efficiency.

17. The Committee recognise, as they have stated earlier in this report, that the great majority of the buildings at present used for school purposes in this country will not comply even with the minimum conditions prescribed in this report. They feel strongly that immediately circumstances permit—and they trust this will be in the near future—active measures will be taken to replace unsatisfactory buildings. Over and above this they assume that the time is not far distant when the need for providing education for the vast numbers of children not at present attending school will also receive recognition. To do this will mean in every part of India a building programme of vast dimensions. If this is to be made possible financially, a departure from the present system by which non-recurring expenditure is included in the annual budget becomes inevitable. The Committee understand that in Great Britain the financing of school construction out of revenue except where the amount involved is comparatively small is sttrongly discouraged by Government. Sites are purchased schools built and furniture purchases out of loans spread over periods varying between 15 years in the case of temporary buildings, 30 to 40 in the case of permanent ones and 60 in the case of sites. By this means it is possible to embark on a heavy building programme without placing an intolerable burden on the budgets of one or two years. The Committee strongly recommend that all expenditure on school sites, buildings and equipment exceeding Rs. 5,000 for any one item should be met from loan.

18. *General conclusions.*—The Committee realise that in the ordinary way it is convenient to summarise the conclusions and recommendations of a report. They feel, however, that the enquiry upon which they have been engaged covers so wide a field and necessarily involves so many matters of detail that any summary to be comprehensive would have to be intolerably long. Moreover, as they have tried to indicate from time to time, their object has not been to prescribe one particular type of building as pre-eminently suitable for each grade of school. They have endeavoured to lay down with sufficient precision certain conditions which must be observed in any building before it can be regarded to be fit for use as a school, but subject to the observance of these they feel that in a country as large as India where climatic conditions, local customs, available materials, resources and other factors determining construction vary so greatly the best sevice they can render is to supply the authorities responsible for building and maintaining schools with a number of suggestions to guide them in the planning of their buildings and variety of actual plans among which they may make their choice. The main recommendation which the Committee wish to make is that if this report is approved generally by the Central Advisory Board, the material it contains, supplemented by plans and estimates which in many cases are already available, should be reproduced in book form. The Committee believe that a book on the design and construction of school buildings, revised from time to time in the light of up-to-date research and experiment, would be of real value and is precisely the form of practical assistance which the Board is in a position to render to Provincial Governments, Local Administra-

tions, Indian States and all other bodies responsible for building and maintaining schools.

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ANNEXURE I.

NOTE ON PISE SYSTEM PREPARED BY MR. SHEIKH AHMAD, LAHORE

The art of building is one of the three fundamental needs of society for it provides shelter from the elements. Although in many schools students are taught to satisfy two of the three dominant needs, that is food and clothing, it is a pity that not enough emphasis is given to the art of living, with the consequence that the people of India are quite unaware of the fact that nice homes, beautiful school buildings and healthy surroundings will affect the future health and happiness of their children. It is generally recognised that the first impression created upon the mind of a child and his environments, are the two factors which influence his outlook on life. It is for this reason that equipment and building of schools along with well trained and efficient teachers are receiving more attention all over the world. In a place like India which has been for centuries the home of the finest of crafts and of industries, the present deficiency of new ideas and designs in the industrial produce of the country, can be ascribed to the lack of proper home and school environment which have gradually cramped the growth of artistic and aesthetic appreciation of the people.

In London a test was carried out to prove the authenticity of the idea that bad surroundings have a bad effect upon the mind of a child. It showed that the children bred in the slums were dull in matters of art, for their background and environment made no appeal to their aesthetic sensibility. It is for this reason I feel that along with reading, writing and arithmetic, the new generation of India and especially of her villages should be given instruction to build simple, cheap, appropriate and charming houses which will satisfy the growing needs of the educated class of people. Otherwise, the dissatisfaction of being in ugly surroundings will drive them out of their homes and they will not be of any service or value for the future development of the countryside.

To carry out this work to a successful issue we should commence with the building of schools, for it is here that the new generation will spend most of its time. The experience of beautifully designed, well ventilated tastefully decorated, cool, or easily heated, school buildings will automatically affect the home life of the people in general and their industries in particular. Where new school

buildings are not necessary, the students can carry out repairs in the existing buildings in accordance with the scheme. The teachers and the students may be trained to look after the repair of the buildings and apart from saving a considerable amount of money for the Department of Education, they will learn a most useful craft. Some of them may later take up the study of architecture seriously and become architects and town planners, and continue to work as good architects in harmony with the natural beauty of each locality throughout India.

Using local labour and materials.—The following school building project may appear difficult on paper but in reality it is very practical and comparatively quite simple, because of the following facts:—

1. In building schools or houses, the local materials such as wood, stone or bricks and earth are employed to their best advantage. Earth is a material which is identified with the neighbourhood and when used properly will not only be cheap but very durable, growing in strength day by day. The defect in the present method of building with mud or other types of earth, carried out in some part of India, is that it has neither the durability nor the beauty of *Pise* work. This is because of the inherent faulty system in choice, treatment of earth and construction. This includes the foundation, actual building of the walls and their waterproof coating and plastering.

2. The equipment needed for *Pise* work is not only very small but very inexpensive. Hardly a dozen tools are needed for ramming the earth and a few types of shuttering and few shapes of moulds for making *Pise* blocks.

3. In the beginning average students and teachers under the guidance of a mistri or two, can build beautiful and airy school buildings in a very short time when the design is supplied by the Department of Education under whose expert advice the entire work will be carried out. After a short training the teacher himself can take over charge of the constuction. For the durability of *Pise* building, it is essential that it should have a pucca foundation which can be constructed either from the local stone or bricks. In contrast to an entire brick building, *Pise* building needs only a nine inch foundation which obviously saves time, labour and expense.

4. Similarly the construction of *Pise* walls is a very quick process and it is possible to build a structure in about one-third of the usual time.

5. The strength of *pise* structure depends upon the choice of the earth and the special method of ramming, whereby all the air is driven from the material and the whole building becomes a homogenous unit which strengthens as the years go by. I remember in America seeing a farmer trying to break an old *Pise* wall for which he was using a pick-axe as one would for a cement building.

6. Another beauty of *Pise* building is that it is comparatively cool in summer and warm in winter. The upkeep of these buildings is negligible. The usual colour of the building is light ochre but it is also possible to give it any other colour along with the waterproof coating.

7. It is desirable to evolve new and suitable designs for the various climates of the country. In cold climates the arrangement of the class rooms should be such that four rooms should be heated at once with one fire place which means a saving in the building and heating expense as well as leaving more space for the classes. For the warm climates cross ventilation, wide varandahs and the use of longer windows instead of too many doors is very essential.

The furniture of the future school buildinngs should be in harmony with the simplicity of the building. The designer should take into consideration the fact that it should be beautiful, useful and comfortable, for it is only when utility is combined with beauty that perfection is reached.

ANNEXURE II.

NOTE ON PRIMARY SCHOOL BUILDINGS IN RURAL AREAS BY THE DIRECTOR OF PUBLIC INSTRUCTION, CENTRAL PROVINCES AND BERAR.

The various types of buildings have all the common defect that they admit insufficient light, while most of them are insufficiently ventilated. This is largely due to the obsession prevalent both among school authorities and among the villagers themselves that a school building should approximate to a village house, quite forgetting that the village house is not used for reading or writing but only for cooking and sleeping and therefore does not require the same degree of lighting. It is also due to the familiarity of the school authorities with the old standard pattern of a four-walled brick building. In every type of building, then, whether the roof has rested on the walls or not, walls have always been built, right up to the roof either of solid mud, in cases where the walls were built to support the roof, or thin Sindhi walls of bamboo coated in mud and plaster, where the walls were intended merely for lateral protection against the wind and rain. But in every case the effect was the same. The day light was completely blotted out, except to the extent that it might enter through the diminutive windows high up in the wall, or through the single door, usually kept closed. The reasons usually given for building these Sindhi walls right up to the roof are two:—one for protection against rain and the other for protection against thieves. Neither are valid. Lateral protection against rain, except on the wind-ward side, would be afforded equally well by half-walls stopping short of the height of the exterior edge of the eaves: the intervening space between the half-wall and the roof could either be opened or filled with bamboo lattice work. As regards protection against thieves, it is well-known that school masters place no credence in the power of the flimsy Sindhi walls to keep off thieves who, in any case, could make their entry through the thatched or tiled roof with the greatest of ease. And so as a matter of fact, village Headmasters never leave anything or value in the school premises, but usually make a habit of removing daily the school registers and the Time-Piece. (I have heard of only one case of theft from the village school, *viz.*, the Time-Piece, and this only in a single instance).

2. It must, however, be admitted that the need for protection against rain is a very real need, and no Sindhi wall or even solid mud-wall will stand up to a monsoon if not given lateral as well as vertical protection from the rain. A solid brick wall requires, of course, only vertical protection: but few villages know how to make burnt bricks; and the cost of importing bricks is prohibitive. Lateral protection to mud and Sindhi walls is sought to be given in many cases by placing Tattis made of grass against the wall. This is to a certain extent effective, but tends even further to diminish the scanty allotment of day-light, and in the monsoon the class rooms become darker than ever. There is no doubt that the staggering statistics of defective eye sight in high schools and colleges revealed by Medical Inspection is mainly, if not entirely, due to reading and writing in deficient day-light in our primary schools.

3. It is clear, therefore, that a new type of school must be designed for rural areas and a design, which it is believed will meet all requirements, is submitted herewith. The following points should be noticed:—

(i) Instead of the usual marquee-tent-shaped roof, a shed-shape has been substituted. This will permit of indefinite extension as fresh class rooms are required.

(ii) The school is to be orientated in such manner that the shorter side of the oblong faces the prevailing monsoon wind.

(iii) On this side a wall of weather-boards is designed reaching from the ground right up to the apex of the roof, thus affording complete lateral protection from rain.

(iv) No brick is employed at all in the building, the plinth consisting of mud overlaid with cow-dung.

(v) The roof projects 3½ft. on the wind-ward side, thus screening the weather-board wall from roof drippings: it also projects 3 ft. on the lateral side sufficiently to cover the verandahs and afford protection from the wet to the mud half-walls that enclose the class rooms on the lateral sides.

(vi) The bamboo lattice work which reaches from the mud half-wall to the roof supplies adequate ventilation and lighting for the class room, and at the same time permits of the lowering of rolled matting in the event of excessive wind, dust or glare. Naturally the matting will only be let down on one side at a time, which will ensure adequate ventilation and lighting from the opposite side.

(vii) The interior accommodation, 16 × 24 ft. is designed to suit a single class of 40 pupils, allowing 8 sq. ft., per pupil and a further frontage of 4×16 ft. for the master and the black board. In the event of small-enrolment, which is inevitable in rural circumstances where it not infrequently happens that the male population of school-going age of the centre and the feeder villages combined does not exceed 40, it will be possible to hold, 2, 3 or even 4 classes in this single room without undue congestion; and according to the demands of classes or the distribution of light at different times of the day, classes can be held facing in any of the four directions. As the school expands with the growing popularity of education and, it is to be hoped, the gradually increasing attendance of girl pupils, the class room space can be easily extended by prolonging the roof in the direction away from the wind-ward side and prolong the lateral half walls to the same extent.

(viii) Since adequate light and ventilation are provided by the lattice work it is not necessary to provide them through the class room entrance, whirh has therefore been confined in the plan to a single entrance on one of the lateral sides only at the end of the class room farthest from the wind-ward side. ,

(ix) All the materials employed in the construction, with the exception of the weather-broads are such as are available to the villagers free of cost, or can be so made available by the Malguzar or the Forest Department; and the labour required for their utilisation in the erection of school buildings is such as the villagers themselves can supply. Even nails (except for fixing the weather-boards) are not necessary, as jointures can be effected by the simple method of creeper lashings, as the villagers use in the construction of their own dwellings.

(x) As regards the weather-boards, at present in many villages of the Central Provinces and Berar there is no carpenter. The only implement the villager uses in dressing his wood is the axe. Consequently it is not to be expected that the villagers will be able to fashion their own weather-boards. Here again, nails would be required to fasten the weather-boards to the *ballis* (vertical wooden posts) and these the villagers will not be able to supply. It will therefore be incumbent on the school authority or the Government to supply the weather-boards and the requisite nails. It should not be unduly optimistic to hope that the Forest Department will supply the necessary weather-boards and that the school authority will supply the necessary nails, until such time as the introduction of Manual Training into the Primary School Curriculum will secure in each village an adequate knowledge of the use of the carpenter's plane, the saw and the hammer.

(xi) It is estimated that the cost of erecting a single class room, 16 × 24 ft. on the plan submitted will not exceed Rs. 18 (the cost to the Forest Department and the school authoritty for weather-boards and nails) assuming that the other materials are provided by the villagers, that the Forest Department or the Malguzar makes no charge for the cutting of the timber and bamboos necessary, and that the villagers, as they have already done in many instances, volunteer their labour. However, even if this is not the case and the school is erected by a contractor it is estimated that the total cost should not exceed Rs. 162.

4. In cities and municipalities where the population is relatively constant and the demand for primary schools permanent, we may continue to build solid buildings of brick or stone. But in rural areas the population is far more fluctuating; villages become deserted, schools have to be closed and re-opened at new centres: and this is an additional reason for urging the adoption of primary school buildings of the type set forth in the plan (placed on the table). Such a building, with annual repairs to its roof and annual renewals of its cow-dung floor covering and annual plastering of its half-mud walls, should last for at least 30 years, which is looking sufficiently far ahead in the case of village schools. And if at the end of that time the village still remains and the school-going population is sufficient to justify a continuance of the school, it can be rebuilt for the same infinitesimal cost.

5. The building of such schools is of course without prejudice to the desirability of holding classes in the open under the shade of a big tree when weather conditions are favourable.

ANNEXURE III.

Furniture and Equipment.

Rooms for Nursery and Infants Classes.—Expensive and elaborate equipment is not necessary. Simple well-designed toys will do much to stimulate a child's imagination and some educationists consider that scientifically designed play-material covering the progressive stages from 2 to 7 is essential. Where this is provided, special storage will be required.

The following articles may be found useful in equipping a Kindergarten room:—Swing, Climbing Rope, Rings, Slide, Balancing Board. Black-boards should either extend continuously along three sides of the room or should be in frames 4 to 6 feet long, fixed low on the wall so that children can draw on them easily. As furniture in these rooms should be easily movable, nesting tables and chairs are recommended. Chairs should be designed as to ensure good posture: a number of different sizes should be available.

Science laboratories.—There should be three suspension beams running the full length of the laboratory for demonstration purposes. These should be 3 inches wide, 9 inches deep below the ceiling and firm enough to support the head of a ladder. Ordinary plaster walls are not suitable for laboratories. Walls should be surfaced with some form of internal facing bricks or with plastic paint over a skim coat of plaster. For the lower 4½ ft. of the wall, wherever possible, erosion-proof panels should be provided. Ceilings should be painted to avoid absorption of moisture and gases.

Up to and including the normal High School stage there is no need for heavy or elaborate furniture. A Demonstration bench about 8 ft. by 2 ft. to 2½ ft., provided with a flap at one to increase its length to 10 ft. and with a sink at the other end is recommended. Drawers and cupboards should be fitted on the teacher's side and the teacher's platform should be raised by 6 inches. A

blackboard approximately 12 ft. by 4 ft. should be fixed to the wall behind the teacher's desk. Where a lantern or epidiascope is used, it should be projected from one end of the teacher's bench and part of the opposite wall should be left free and suitable treated for use as a screen.

The old type of bench is no longer regarded as necessary; ordinary firm tables with drawers and seasoned teak tops are quite adequate. Whether these should be double, *i.e.*, broad enough for pupils to work on two sides or single is a question which will have to be settled in relation to the dimensions of the laboratory and the maximum number likely to use it at any time. The usual dimension of double benches are 5 ft. long, $3\frac{1}{2}$ ft. wide, $2\frac{3}{4}$ ft. high. A wood and metal work bench should be provided for the repair of equipment. Two sinks, in addition to the one in the demonstration bench should also be provided. Gas and electric points at intervals are a great asset. Fume cupboards are only necessary when advanced work is done.

Practical Rooms—Middle and High Schools.—Practical instruction is being increasingly recognised as a desirable feature of the curriculums even in schools without any effective industrial bias. Schools of the modern type usually provide practical rooms or sheds where wood work, metal work, spinning, weaving lino-cutting, needle-work, leather work and other crafts may be taught. Large schools may be able to afford a separate practical room for each craft, but in small schools each room will almost certainly be used for several purposes and must be equipped and furnished accordingly. Ample storage preferably in the form of a separate room is essential for every practical room and the dimensions of the store-room should be determined by the nature of the material to be stored, *e.g.*, wood stores should be long enough to take the lengths of timber normally used. Store-rooms should also be easily accessible from the practical rooms. Cupboards, if provided in the practical room itself, should not be allowed to project too far from the walls or to encroach unduly on floor space.

If a water supply exists, one or two sinks should be provided in every practical room. Electric or gas points are also most useful but it is realised that in a great many cases the necessary supplies will not be available. One long fixed bench which may be combined with built-in cupboards should be placed under the main windows.

(a) *Wood work.*—The most convenient size for a wood work bench for 2 boys about 5 ft. by 2 ft. 6 inches. There should be clearance between benches of 3 ft. to 3 ft. 6 inches in each direction. In determining the height of benches regard should be had to the size of boy likely to use them; 27″ for boys between and 14, and 30″ for boys over 14, may be taken as rough guides, except in those areas where average stature varies considerably from the normal. An additional bench along one side of the room will also be useful. The floor of the wood work room should be non-resonant and of a material which will not blunt tools if they are dropped on it. There should be plenty of blank wall-space and sufficient wall blackboards. A small first aid cupboard is desirable.

(b) *Metal Work.*—Equipment for light metal work may be provided at a moderate cost. Most of the work can be done with vices and benches round the room or down the centre but a solid floor must be provided for forges, muffles etc. Additional equipment in the shape of lathes or drilling and grinding machines will be needed for the senior classes in Technical High Schools. An adequate course in Wood and Metal Work can be provided in Middle and High Schools without the use of any power-driven machinery.

(c) *Spinning and Weaving.*—No special furnishing is required for spinning. For weaving, the furnishing will vary according to the size and pattern of the looms. The type of loom in which the leg space is dug out of the floor, is most

suitable for the drier parts of the country. In placing the looms roughly the same clearances will be needed as in the case of wood work benches.

(d) *Art rooms.*—The walls and ceilings should be treated, in light, neutral tints in order not to confuse colour judgment. Free wall space is valuable for hanging children's work and exhibiting collections of drawings and paintings.

Furnishing may be of two main types, either in Western or in the traditional Indian style. Furniture in either case, should be light and easily movable, so that grouping may be varied as required. In the Indian style, the child sits on the floor on a piece of matting or board and works at a desk with a bat top. An alternative arrangement is to furnish the Art room with chairs with sloping backs and light trestles. Tables with adjustable tops are, however, sometimes preferred, particularly where light crafts are done in the Art room. The following equipment is also recommended:—

1. One long bench with teak top under the high windows of one wall.
2. Cupboards under the bench for uncompleted work.
3. Two sinks not less than 2 ft. by 1 ft. 6 inches.
4. A small blackboard for demonstration.
5. Shelves for display of models and pinrails for drawings.

There should be a store, not less than 90 sq. ft. in area, preferably with a window at one end and fitted with a large sink and draining board and shelves of varying heights. In addition, there should be built-in cupboards along one wall preferably fitted with sliding doors.

(e) *Domestic Science—Cookery and Laundry.*—Floors should be of a material which allows them to be kept scrupulously clean with the minimum labour. Many suitable types of patent flooring material are on the market. Walls should be lined with tiles or with mosaic to a height of 2 ft. above the sinks, cookers and work tables, so that splashes can be readily cleaned off. The cooking and laundry equipment provided should be similar to that which the girls will be varying heights. In addition, there should be built-in cupboards along one wall are already or are likely to become available in the near future, there is much be said for teaching the use of gas and electric stoves, irons, etc. In such cases the placing of the points needs careful consideration. Other equipment should be the sinks with draining boards. 3 ft. by 1 ft. by 10 inches, one floor sink in another part of the room and a refrigerator, wherever possible.

For laundry work in addition to an adequate provision of sinks,—there should be at least two ironing tables with flaps. Other tables of a movable type, at least 5 ft. 6 inches by 2 ft. 6 inches, with working spaces on either side may be provided. They should be fitted with drawers to take utensils. Stools of the nesting type are to be preferred. A blackboard of 6 ft. by 3 ft. in two parts hinged to form cupboard doors should also be provided.

Science Store and Dark Room.—Ample storage should be provided behind the teacher's demonstration bench. Cupboards 1 ft. deep should be planned under the blackboard with a cupboard at least 2 ft. 6 inches deep at one side, for storing bell jars, bottles, etc. The store room, should run the full width of the Science room and should be directly accessible from it. One end may be partitioned off as a dark room so that the store room can still be available when the dark room is in use. These rooms should not have windows but should be carefully ventilated. Adequate shelves for materials and equipment must be provided and there should be a sink with hot and cold water in the dark room. In schools where Botany and Biology are taken, facilities for studying plant and animal life should be available. A greenhouse or Wardian cases for growing botanical specimens are essential and arrangements for housing live animals are desirable.

ANNEXURE IV.

Furniture and Equipment.

Halls.—Nesting chairs or wood folding chairs of varying sizes should be provided, so that the floor can be easily cleared for such purposes as physical training, rhythmical exercises, etc. The provision of a stage with a prosenium is recommended. Storage can be conveniently arranged under the stage. Sectional or removable platforms are not recommended. The sections are not easy to store when not in use and such platforms are much less useful for dramatics.

Gymnasia.—The gymnasium floor is of great importance in view of the wear it receives. An open grained timber is to be preferred, soft woods tend to splinter and hard woods become slippery. The placing both of fixed and movable equipment must be carefully considered in the planning and construction of a gymnasium. The main apparatus will consist of wall bars, beams, climbing ropes, and window ladders. This apparatus should be obtained from and fixed by a specialist. The strengthening of the walls and ceiling both to support appartus and to resist the effect of constant vibration is of course a matter for the architect.

Libraries.—Book shelves should be at right angles to the longer walls and there should be a window to each of the alcoves so formed. Metal shelves are to be preferred to wooden ones but where metal is not available some hard wood impervious to weather and insects should be used. Two important considerations in planning a library are that the books should be as accessible as possible and that the lighting, natural or artificial, should be adequate.

Dining rooms.—The desirabilitiy of arranging for pupils to take a meal or meals at school has been generally accepted. Where a cooked meal is provided, the dining room and the kitchen will have to be on a more elaborate scale than where milk and light meals only are served from a buffet. The equipment of the kitchen will depend on the nature of the meals to be provided and local requirements.

The floor of the dining hall should be capable of being easily washed and cleaned. Wooden chairs with rubber tips to avoid noise may be provided for children to sit and if tables are provided, the top may be of teak or of 'patent stone' or marble slabs wherever such materials are cheap. Where cooked meals in Indian style are served, table tops of patent stone or some metal are preferable as they are not susceptible to staining and are easily cleaned. Separate tables for no more than 10 children each should be provided. Suitable cupboard space should be provided for storing plates, cups and glasses.

Hostels.—With regard to the articles of furniture in the hostels, the following suggestions are made:—

Beds should be constructed in such a way (either of metal or wood) as to afford little scope for harbouring bugs and other vermin. For each bed there should be one small bed-side table, one chair, a mirror fixed to the wall at a suitable height, a shelf for books and a deep cupboard built into the wall or an almirah.

The reading room and the common room may be furnished in the same way as they are in the ordinary day schools. Kitchen and dining rooms may also be similarly furnished.

ANNEXURE V.

School Planning.

(The following suggestions are extracted from "The Design of Nursery and Elementary Schools, Architectural Press, London, S. W. 1, 1938.")

Classrooms.—There are many opposing ideas about the planning and disposition of classsrooms. At present ideas are in an experimental stage and many experiments are still on paper.

In describing the possible disposition of classrooms, arguments are given for and against each type, based on information collected from recently built schools. As a general principal, classrooms should be grouped together as a separate unit of the plan: assembly hall, library, classrooms, science rooms, practical rooms, domestic rooms, workshop—these are distinct departments and should be planned so that they can be appreciated as such. And for all types there are two warning signals: firstly, the ultimate objective is not merely to provide the maximum sunlight and air, but to give every child the maximum opportunity for health and interest in his work. Secondly, in the enthusiasm for "freer planniing" it must be remembered, that the most free plan is not necessarily the most attenuated, but rather the one which functions most easily and pleasantly, having coherence in all its parts.

A. Courtyard.—The grouping of classrooms round a courtyard became a habit as a result of confined sites allotted to schools in built-up areas. Though entirely unnecessary on generous sites, the habit still persists. Financial stringency is usually the first cause of this type.

Advantages.—Compactness of circulation. Economy.

Disadvantages.—Impossible for all classrooms (and practical rooms) to be given good orientation. Over-shadowing of rooms facing courtyard, particularly if building has two or more storeys. Cumbersome effect, shut-in feeling. Difficulties of adequate sound separation. Inflexibility.

B. Single Series.—This is becoming of most common type for schools built on adequate sites. It is most successful when planned as a single floor with not more than eight classrooms. With more than eight classrooms the continuous corridor becomes tedious. When there is only one floor, supplementary lighting and cross ventilation can be provided by forming a continuous range of windows above the corridor roof level but when there are two or more storeys supplementary lighting to lower floors can only be provided by means of windows on both sides of the corridor, cross-ventilation by means of ducts below floors of upper corridors. Walls between classrooms can be made sufficiently sound proof by planning cupboards part of the way up the wall and using insulation board as lining for the remainder. Most sound leakage is likely to bethrough open windows. A glass sound-baffle, projecting about four feet between windows of classrooms, will deflect a considerable amount of sound, and windows themselves, if made to open in the right direction, provide a certain amount of deflection. Low shrubs also help to absorb sound and at the same time form visual shields for outdoor teaching spaces.

Advantages.—Simplicity, easy circulation economical construction.

Disadvantages.—Difficulties of overcoming sound leakage. Only one full window-wall.

C. Separated Single Series.—This type is only suitable for single-storey buildings. It provides outdoor teaching spaces between classrooms. A variation is to have two classrooms sharing one outdoor teaching space.

D. Double Series.—Planning with central corridors is noticeable in some recent "model" schemes. It is only possible in single-storey buildings, the corridor roof being kept low in order to get light and ventilation in the upper parts of inner walls. Domestic service rooms, art and needle-work rooms are usually given the less sunny aspect. Corridors can be lighted and ventilated by the familiar dome method.

Advantages.—Reduced length of corridor. Reduced cost of construction. Variety of outlook.

Disadvantages.—Increased width of corridor (to cope with greater congestion). Sense of confinement in corridor (in spite of increased width). Wrong orientataion for some classrooms.

E. Separated Double Series.—This type covers the same length as type B while providing the intermediate outdoor teaching spaces of type C. It works best when classrooms are orientated with window-walls facing east and west.

Advantages.—Sound separation. Sheltered and shielded outdoor teaching spaces. Adequate lighting and ventilation. Variety of outlook.

Disadvantages.—Reduced sunlight in half of classrooms. Occasional west sun in teachers' eyes. Expensive.

F. Parallel Series.—An arrangement which has been successfully used in several American Schools. It is particularly suitable where a large number of classrooms have to be planned on one floor. If the spaces between each series are wide enough, an attractively planted playlawn can be provided for every four or five classrooms. It is reasonable to make the main corridor a covered way, or, if attached to a covered play space, screened by windows on one side only.

Advantages.—Easy and pleasant circulation. Opportunity for planning covered way, cloakrooms and lavatories along side main corridor without taking away light and outlook. Good orientation and variety of outlook for all classrooms. Avoidance of monotony. Double window wall in end classrooms. Easy to add additional classrooms.

Disadvantages.—Difficulties of overcoming sound leakage. Only one full window wall in most classrooms. Additional lengths of corridor. Expensive.

G. *Elbow Access, Square.*—Its object is to get two parallel window-walls in each classroom. The planning becomes more feasible if minor corridors are widened out and used as locker rooms for each pair of classrooms.

Advantages.—Adequate light and ventilation on both sides of class-rooms, whether planned on one or two floors. Extension of class outdoors in either direction. Classes undisturbed by circulation in corridor.

Disadvantages.—Sound leakage through windows likely to be exaggerated in small courts, particularly if two storeys high. Small courts difficult to keep attractive. Disturbance of main circulation by constant elbow bends. Extra lengths of corridor. Additional expense, including cleaning and upkeep.

H. Elbow Access, Diagonal.—Not so suitable for two-planning as type G. Another variation of this type is to have classrooms in the same formation but directly connected with main corridor the triangular space forming a bay for lockers. This cuts out the second window-wall but eases circulation considerably.

Advantages.—Same as type G *plus* good insulation between classrooms and between outdoor teaching spaces.

Disadvantages.—Even smaller courts than in type G, awkward in shape and difficult to keep attractive. Breaking up of main circulation, extra lengths of corridor, additional expenses.

REPORT OF THE JOINT COMMITTEE APPOINTED BY THE CENTRAL ADVISORY BOARD OF HEALTH AND THE CENTRAL ADVISORY BOARD OF EDUCATION TO INVESTIGATE AND REPORT ON THE DUAL QUESTION OF THE MEDICAL INSPECTION OF SCHOOL CHILDREN AND OF THE TEACHING OF HYGIENE IN SCHOOLS.

(The decisions of the Committee were adopted by the Boards subject to the modification indicated at the bottom of page 98.)

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CHAPTER I.—INTRODUCTION.

The agenda for the third meeting of the Central Advisory Board of Health in July 1940 included the consideration of a memorandum from the Government of the Punjab on the teaching of hygiene in schools, two memoranda from the Governments of Madras and the Punjab on the medical inspection of school children and a combined memorandum on the two subjects by the Educational Commissioner with the Governmeent of India.

The Board considered that, owing to the magnitude and importance of the questions, they required fuller consideration and in a resolution asked the Chairma to appoint a committee to report on the subject. The resolution of the Board is as follows:—

"The Board, having considered the memoranda submitted by the Governments of the Punjab and Madras and by the Educational Commissioner with the Government of India, on 'the teaching of hygiene in schools' and on 'medical inspection of children in schools', considers that the two subjects are closely related. Systematic attention to the health of children is an essential preliminary to any really remunerative system of instruction, whether it be on hygiene or other subjects in the curriculum. Where the physical cindition of the child is unsatisfactory the money spent on educating him is largely wasted. The foregoing involves regular medical examination of school children, the treatment of illness and physical defects and the provision for undernourished children of such food as may be necessary to raise them to an average physical standard. Teaching is not likely to be a success if the general school environment does not conform to reasonable hygiene standards. Information is necessary as to what extent these requirements are met in the different Provinces and how best existing defects may be remedied at the least possible cost.

The Board therefore recommends that the Chairman should appoint a special committee to report on the dual question of the teaching of hygiene in schools, primary as well as secondary, rural as well as urban and of the medical inspection of school children and their treatment and, in the primary stage, also their nutrition."

At their meeting in January 1941 the Central Advisory Board of Education were informed of the decision of the Central Advisory Board of Health, and they passed the following resolution:—

"The Board considered the memorandum submitted on behalf of the Central Advisory Board of Health as the outcome of the discussion at its third meeting held in Poona in July 1940. The Board noted with satisfaction that their Chairman, who is also the Chairman of the Central Advisore Board of Health, proposed to appoint a Joint Committee to consider the steps which might be taken to improve the physical condition of school children. The Board decided to leave to the Chairman the selection of the educationists to serve on the proposed Joint Committee."

As a result the Hon'ble Member for Education, Health and Lands, appointed the following Committee:—

1. Major-General Sir Gordon Jolly, K.C.I.E., K.H.P., I.M.S., Director-General, Indian Medical Service.

2. Lieut.-Colonel E. Cotter, I.M.S., Public Health Commissioner with the Government of India.

3. Major-General W. C. Paton, K.H.P., I.M.S., Surgeon-General with the Government of Bengal.

4. Rai Bahadur Dr. A. C. Banerjee, Director of Public Health, United Provinces.

5. Lieut.-Colonel C. M. Ganapathy, C.I.E., I.M.S., late Director of Public Health, Madras.

6. John Sargent, Esq., C.I.E., Educational Commissioner with the Government of India.

7. S. N. Moos, Esq., I.E.S., Director of Public Instruction, Bombay.

8. Dr. W. A. Jenkins, I.E.S., Special Officer in the office of the Director of Public Instruction, Bengal.

9. Pandit Lakshmi Kanta Maitra, M.L.A.

The Committee met in New Delhi on the 3rd and 4th November, 1941 under the Chairmanship of the Director-General, Indian Medical Service. All were able to attend with the exception of Pandit Lakshmi Kanta Maitra who was unavoidably prevented from doing so.

Before starting their deliberations the Committee decided to co-opt Dr. Jean Orkney, W.M.S., Director, Maternity and Child Welfare Bureau, Indian Red Cross Society, as a member.

The terms of reference to the Committee were sufficiently wide to include the examination of all those factors which have a bearing on the health of the school child. As health is to be interpreted in a wider sense that of freedom from disease, the main points for consideration appeared to the Committee to be (1) the medical inspection of school children, (2) the treatment of the defects discovered, (3) the improvement of the nutrition of the pupils, (4) the provision of a reasonable standard of environmental hygiene, (5) the teaching, theoretical and practical of the principles of the hygienic living, (6) physical education and (7) the development of healthy habits through the medium of corporate activities such as school camps and scout organisations.

In order to obtain information about the extent to which provision now exists in the Provinces and States for these activities, a questionnaire was sent by the Secretary of the Central Advisory Board of Health to Directors of Public Health asking that it should be completed in consultation with Administrative Medical Officers and Directors of Public Instruction. The information received in reply to the questionnaire was available for the members of the Committee before and during their discussions.

Historical.

As the movement to develop a school medical service in India has been largely influenced by the corresponding work done in England it will not be out of place to give a short account of the development of this service in that country. The foundations of the school health service in England were laid towards the end of the last century by a few local authorities to whom the high mortality rates during childhood had become a matter of concern and uneasiness. The schemes were at first local in nature and limited in scope. Impetus was given to the movement by the outbreak of the South African war. The medical examination of recruits disclosed a high incidence of defects

sufficiently serious to necesssitate the rejection of a large number of men as unfit for active service. The publicity given to these findings quickened public consciousness to the necessity for improving the physical fitness of the nation's manhood.

A Royal Commission was appointed in Scotland to consider the question of physical training in schools. The Commission took a wide view of their duties and reported not only on the physical training and physique of the children but also on the unsuitability of many school buildings, the defective hygiene in schools and poor nourishment of the children.

The publication of this report greatly stirred the public mind and resulted in the appointment in England of an Inter-departmental Committee on Physical Dterioration which was soon followed by another Inter-departmental Committee on Medical Inspection and Feeding of Children attending Public Elementary Schools. The recommendations of the latter were published in 1905 and they formed the real starting point for the legislation directed Physical Deterioration which was soon followed by another Inter-department-since then towards the improvement of the health and life of the school child.

A big stride forward was taken in 1907 when the Education (Administrative Provision) Act was passed making a system of medical inspection of children in public elementary schools a statutory obligation on every local education authority. In this way a new branch of the national health service was brought into existence. That year also saw the appointment of Sir George Newman as Chief Medical Officer of the Board of Education. He lost no time in drawing up rules for the conduct of medical inspection and these rules were later issued as a memorandum. He also began the publication of reports which were the forerunners of the long series of admirable reports on the health of the school child published anually by the Board of Education. Sir George Newman undoubtedly gave to medical inspection its breadth of outlook and its conception of the essential unity of the home and school life of the child, and he laid the foundations which have given the school medical services in England the high position which they hold to-day.

The Education Act of 1921 went a step further and made it compulsory for all authorities to make adequate arrangements for the treatment of children attending public elementary schools. It required the Education Committees of Counties and County Boroughs to extend the arrangements for medical inspection of boys and girls up to the age of 18 years attending municipal schools and gave powers to provide for their treatment.

The development of public health services in India has been of more recent origin and Provincial Governments have been largely concerned with the urgent problems of providing medical relief and of controlling the incidence of epidemic diseases which occur on a wide scale.

In the next paragraph a brief account is given of the development of school medical service in the Provinces and in certain States.

In the *N.-W. F. Province* a scheme for the medical inspection of school boys in Peshawar City was started in 1927 and in the succeeding ten years was extended to five other towns. In 1937 the medical inspection of school girls began in Peshawar City and later was extended to certain rural areas. In 1941 owing to the large number of doctors joining up from the Province for service in the Army the scheme has been temporarily discontinued except for school girls in Peshawar City. In the *Punjab* the medical inspection of school children and the inspection of school premises started in 1915 and was at first confined to secondary schools. No arrangements were made for treatment. In 1925 a revised scheme was introduced in five districts, medical

inspection and treatment being provided for primary schools and colleges within a radius of three miles from a hospital or dispensary. The inspection was carried out by the hospital staff and the inspection of buildings and premises by the local health officers. In this way the work was divided between the medical and public health departments of the Province. The dual control was found to work unsatisfactorily and the whole scheme was transferred to the Medical Department in 1933. In 1937, there was another change of policy. In the towns in which wholetime health officers were employed the work was handed over to them. In the rural areas it continued to be under the spervision of the Medical Department. All the schemes applied only to school boys; the medical inspection of school girls has been carried out since November 1932 in certain areas under the auspices of the Junior Red Cross. In *Delhi Province* the medical inspection of school boys and girls was started in 1927 with wholetime inspecting staff for the urban, and part-time staff for the rural areas. The partt-time services of an oculist and a dentist for New Delhi and the Notified Area were secured in 1937. The scheme is still limited to a certain number of schools in the Province and includes 16 girls schools in urban areas. In the *United Provinces* a scheme was started in 1919 with the part-time employment of private practitioners and dispensary doctors to do medical inspection. In 1926 the Education Department appointed ten wholetime school medical officers for ten of the larger towns. At the same time municipal and district health officers were being appointed in different areas under the Public Health Department so that in 1930 there were three separate agencies for school health work, namely (a) local school committees, (b) the Education Department and (c) the Public Health Department. In 1931 the control of the service was brought under the Public Health Departmental and at present wholetime school medical officers are employed in 13 large towns. The municipal health officers do the work in 21 smaller towns and in 27 still smaller towns the district health officer is the school medical officer. In *Bihar* medical inspection started in 1929 and a school medical officer with an assistant school medical officer was appointed for each division in the Province. A woman doctor was appointed for the whole province. At first the school medical officers were under the Inspectors of Schools, but in 1931 were brought under the control of the Public Health Department and this organisation exists up to now. Medical inspection is limited to high and middle schools in places where high schools already exist. *Orissa* follows the same lines as Bihar from which it was separated and has one school medical officer with an assistant medical officer and they work in high and middle schools. In rural areas the part-time services of dispensary doctors are utilised for the medical inspection of middle schools. A limited amount of medical inspection of school girls is done in three towns by women doctors. In *Bengal* a school hygiene branch of the Public Health Department was created in 1920 and inspections were carried out in municipalities where a health officer was employed. In 1928 a scheme for Calcutta came into force and three doctors were employed on a part-time basis with the voluntary services of an oculist and a dentist. In 1932, owing to retrenchment, the scheme was drastically reduced. In 1940, additional doctors were sanctioned and the school medical service was placed under the Director of Public Health. In *Bombay* a scheme was started in 1921 but was abandoned in 1922 as a measure of retrenchment. In 1938 the Government introduced physical education as a compulsory subject and required that satisfactory arrangements should be made to examine all pupils at the beginning of each year in order to determine their physical fitness. It is stated that in Government schools medical inspection is carried out by Government medical officers and secondary schools under non-official agencies make their own arrangements while

local authorities have been asked to provide for medical inspection in primary schools through private practitioners or Government doctors. In *Madras* a scheme applicable only to recognised secondary schools was introduced in 1925 and was extended in 1928 to colleges and to elementary schools for boys in those areas in which compulsory education was in force. The scheme was suspended in 1932 owing to financial stringency and has not yet been revived and medical inspection is now confined to schools in the city of Madras and in the Poonamallee Health Unit. In *Hyderabad* medical inspection was started in 1935 in middle and high schools and was sextended in 1937 to the primary sections of such schools. In *Baroda* medical inspection of school children in the city was started as far back as 1909 and has continued up-to-date on a limited scale. In 1925 medical inspection was extended to other places in the State with hospitals and dispensaries. In *Mysore* a scheme for medical inspection of school children was sanctioned in 1926 for Bangalore City. The scheme was confined to Government high and middle schools and was extended in 1927 to primary schools. In 1928 all the boys' schools in the State were brought within the scope of the scheme wherever medical men were available to undertake the work. At present (medical inspection is carried out in the two cities of Bangalore and Mysore, in the headquarters towns of five districts, in 80 per cent. of taluk headquarters and in a few villages.

From this brief summary of the development of school medical service in the different Provinces and States it will be seen that the area covered by the service varies widely as well as the types of schools in which medical inspection is done. Medical inspection in girls' schools is limited The schemes seem to cater more for middle and high schools than for primary schools.

The Committee wish to draw special attention to the frequency with which a system of medical inspection has been started in a Province, only to be abandoned after a short while as a measure of economy. There have also been a number of instances of change in policy which seem to indicate that there has not been clear appreciation of the fundamental necessity for and the essential characteristics of a school medical scheme calculated to promote the health of the school child. The Committee emphasise that satisfactory arrangements for school medical inspection and treatment form an essential part of any efficient system of public education.

CHAPTER II.—Aims and objects of a School Medical Service.

In his annual report for 1926 Sir George Newman, Chief Medical Officer of the Board of Education, England and Wales, summarised the functions of a School Medical Service as follows:—

1. To fit the child to receive the education provided for it by the State. But this must also mean to adapt educational methods to the natural physiological capacity and powers of the child. This involves a study and understanding of the sphere and compass of a child's physiology.

2. To detect any departures from the normal physiological health and growth, any impairments, aberrations, defects, or disease (physical or mental), and advise the remedy or amelioration of them (at the school or otherwise) lest worse befall.

3. To seek the causes and conditions (external and internal to the body of the child) of such defect and disease, and, as far as may be, prevent them.

4. To teach and practise personal hygiene in every school, so that a habit of hygiene may be contracted by the children, and the way of physiological life may be followed by each coming generation.

Newman further stated that the purpose of a school health service is "to prepare the child for education and for citizenship". To carry out this purpose a system has been devised in England by which a specially appointed doctor visits each elementary school at least once a year and examines every child at least three times during his school career, namely, as early as possible after joining the school, at eight years of age and lastly at twelve. This medical officer also examines all children referred to him for special examinations during the intervals by teachers and parents. Provision has been made, on a wide scale, for the treatment of the defects discovered during medical examination. The essential unity of the child's life in his home and in the school has been recognised and the school health organisation seeks to remedy or ameliorate as far as possible, the environmental and other factors which militate in the home and in the school against the child's attaining the full measure of his mental and physical development. The physical education of the child, an improvement of his nutrition, the inculcation of healthy habits by proper health training and the securing of the active cooperation of the parents by educational work among them are being pursued as an integral part of the campaign for improved school health.

The Committee are of opinion that the aims and objects of a School Medical Service as defined by Sir George Newman are applicable to India and consider it absolutely essential that in this country steps should be taken at any rate to ensure that those children who are attending school are healthy and kept healthy. This is essential not only from the medical point of view but from the educational point of view.

From the brief survey of the development of the school health services in India given in the last chapter it will be realised that they are rudimentary in type. During reorganisation and expansion, the rate of progress in India cannot be the same as in England for various reasons which will be briefly indicated, and the organisation of a fully developed school health service for the country as a whole is a matter which cannot be completed in the near future. Nevertheless, it is justifiable to hold that, while the problem in this country may require for its solution a slower advance and, what is equally important, experimentation in the methods of administration and organisation suited to Indian conditions, the time has arrived for taking stock of the position and for making a determined effort to mobilise the available resources, particularly in the large towns and cities, for developing as complete a school health service as circumstances permit.

One of the biggest difficulties to be overcome in India is the inadequate number of qualified doctors and nurses. In this country with its population of nearly 400 millions, the total number of doctors is only 40,000 or one doctor for an average population of 10,000. In England the proportion of doctors to the population is about 10 to 12 times greater. In England the school nurse plays a large part in the programme of treatment, health education and improving the environmental conditions of the child's home but in India the total number of registered nurses is only about 5,000. It will obviously take a considerable time to remedy these deficiencies and in the meantime alternative methods will have to be considered for meeting our requirements. Suggestions for alternative methods are made in the later sections of this report.

The majority of doctors in India are concentrated in the urban areas while nearly 90 per cent. of the population live in the villages. The development of a school health service can therefore be carried out more easily in the larger urban

centres. Apart from the higher proportion of medical men, the concentration of the school population with narrower limits in towns and cities, better facilities for transport and for treatment and the existence of a public health organisation are other advantages which can be fully utilised in developing school health work in urban areas. In fact, in some of the large cities in India the available resources appear to be such as to make it possible to organise school health work on as wide a basis as has been done in the West.

CHAPTER III.—Medical Inspection.

The replies to the questionnaire show that the percentage of children with one or more defects discovered during medical inspection in 1940 varies from 20 per cent in Jodhpur to 87 per cent. in Coorg. The conclusion which the Committee feel justified in drawing from the figures before them is that probably fifty per cent. of the children attending school would be found to require medical attention or medical observation.

Age of admission to school.—That the provision for the care of the child in the pre-school period is far from adequate was shown in the report of the Maternity and Child Welfare Committee presented to the Central Advisory Board of Health at its second meeting. Even in those areas where maternity and child welfare centres are functioning, it is rarely that children after the age of three receive any special attention and at this period of their lives they are easily liable to develop defects. For this reason it is important that the gap between maternity and child welfare work and the school medical service should be narrowed as much as possible. Where maternity and child welfare work does not exist, the need for bringing the children under an inspection scheme at the earliest possible age becomes even more urgent.

The Committee consider that too much weight cannot be given to health considerations in determining the age at which children should be admitted to school. The Committee are of the opinion that the age of school entry which will enable a child to come under medical inspection should be not more than six and preferably five.

Number and nature of examinations.—Three types of medical inspection are required in a scheme, namely, (1) the full routine medical inspection at specified ages, (2) the re-inspection of children found defective at such routine inspections and (3) the special inspections of children selected by the parent or the teacher for examination by the doctor in the intervals between the routine inspections. The extent of these special inspections will depend on the ability of the parents, and still more so of the teacher, to recognise those children who are failing to develop satisfactorily either physically, mentally or socially. The basis of medical inspection of school children in England is their routine examination as early as possible after joining the school, at eight years of age and again at twelve. In that country there has been considerable discussion as to the most desirable number of such routine examinations. Some critics argue that they are a waste of a doctor's time because they involve the examination of large numbers of children who are found quite normal, in order to select a minority suffering from defects. The critics urge that the defects discovered are generally of such a nature that they can be detected by an observant parent or teacher and brought to the notice of the doctor. However, even the most enthusiastic protagonists for reducing the frequency of school medical inspections in England seem to regard two examinations as the minimum; one at the beginning and one at the end of the school career. In India the frequency of routine examinations has varied considderably from as often as every three months to three times in the school career. The Committee consider that many routine examinations now carried out in different parts of India are unnecessary and recommend that the routine examinations of a child should take place (a) on

entry into a primary school at approximately its 6th year, (b) at the 11th year and (c) the 14th year. For children in high schools when leaving at the age of 17 a final examination is desirable. Children who go from a private school where they have not been under a medical inspection scheme to a secondary school should be given a routine examination as soon as possible after admission.

The Committee realise that, with the routine inspections in a child's school career limited to three, responsibility is thrown on the parent and the teacher for bringing the defects in a child to the notice of the doctor in the period intervening between these examinations.

Rate at which routine examinations can be carried out.—The Committee had before them figures showing the numer of routine examinations which are carried out in different parts of India in relation to the full time staff employed. These figures varied somewhat and the consensus of opinion of the Committee eventually was that 28 routine examinations a day is a suitable number for a wholetime doctor who is also responsible for treatment. Taking the number of workinng days per annum in schools at 175, twenty-eight inspections per day will give a total of approximately 5,000 inspections in the year to be performed by a wholetime doctor. Taking a population of primary school children of 25,000 spread over a period of five years between the ages of 6 and 11, there would each year be 5,000 entrants and 5,000 at 11 years of age for examination, making 10,000 routine examinations. In all probability a total of 10,000 re-examinations and special examinations would be required in the year for the 25,000 school population. Such examinations are likely to occupy about half the time of a corresponding number of routine examinations. The total time required for medical inspection in a scheme covering 25,000 school children would therefore correspond to that of 15,000 routine examinations. With one doctor for 5,000 examinations, three doctors are considered necessary for the school population. These calculations are however of a general nature and the number of doctors required will depend on local conditions, especially on the proportion of re-examinations and special examinations which will have to be done.

Frequency of a doctor's visit to a school.—A doctor should maintain touch with the staff and children in each school throughout the year and his return visits for special inspection should enable him to do this. It is desirable that routine inspections should be timed so as to cause a minimum of interference with the routine working of the classes.

Medical Record.—A medical record will have to be maintained for each child. The schedules used in the various Provinces for recording the results of medical inspection were placed before the Committee. The Committe consider that it would be advisable to have a standard record and a suggested schedule for the purpose is given as an appendix to this Report.

The Committee consider that it is most important for the guidance of the new head master in a secondary school that a child should bring with him from the primary school an up-to-date medical record; similarly, in the case of a child going from one school to another. It is understood that in the United Provinces the transfer certificate, which a child receives on leaving one school for another, is accompanied, where medical inspection exists, by the medical record of the child. The head master of the school which the child is leaving should be made responsible for transferring this record.

In the maintenance of records, to avoid the doctor's time being taken up with clerical work, the headmaster should cooperate in filling the cards and he would of course be responsible for their safe custody in the school.

The Committee consider that the height and weight figures recorded at the routine examinations are not likely to prove a valuable index to a child's progress and that they will be of much greater value if height and weight are taken at regular intervals of not less than twice a year and recorded preferably in the form of graphs. This work should be done by the teacher. Any child showing material variation from the normal progress should be brought to the notice of the doctor. In view of their recommendation that routine examinations should be limited to three, the Committee desire to stress the value and importance of the regular maintenance of these height and weight records.

Qualifications of inspecting staff.—Medical inspection should only be carried out by a qualified doctor and by this the Committee imply a registered practitioner of modern scientific medicine. He will require some special training, especially in eye refraction tests and in the detection of the early signs of malnutrition and also in ear, nose and throat conditions. In view of the increasing part which physical education is playing in the life of the school child, it is considered essential that he should be well acquainted with the physiological basis of modern physical education.

Place of inspection.—Medical inspection should be carried out on the school premises during school hours. It is very desirable that if possible a parent should be present at the time of inspection. The doctor should always go through the inspection results with the head teacher and if necessary with the class teacher also before he leaves the school. In those schools which have a physical instructor it is also desirable that he should as far as possible be available during the inspection. In this way the three persons who are intimately connected with the child, *viz.*, the teacher, the parent and physical instructor will have the opportunity of hearing the doctor's view regarding the child and of obtaining any special instructions regarding the child's health.

Statement showing percentages of children found suffering from specific defects at medical examination during 1940

Name of the Province or State	Defective vision.	External eye conditions.	Enlarged tonsils and adenoids	Dental caries and pyorrheoa.	Ear diseases and defects of hearing.	Enlarged spleen.	Skin diseases.	Malnutrition.
Bengal (Calcutta) ...	25.9	Not available	10.7	8.7	1.0	0.6	1.6	6.9
Delhi Province ...	9.0	17.0	10.9	11.9	1.2	1.1	3.1	6.9
Punjab (Boys) ...	10.0	Not available	26.6	Not available	Not available	2.4	Not available	18.8
N.W.F. Province* ...	0.9	7.0	0.9	1.1	0.6*	*Nil*	0.3	Not available
Madras — Entrants — Boys	0.3	3.5§	13.0	6.8‖	2.7	Not available	8.8	13.7
Madras — Entrants — Girls	0.2	2.2§	17.3	3.4‖	0.9	Not avaulable	6.6	0.8
Madras — Regulars — Boys...	0.6	3.7§	23.5	14.8‖	2.4	Not available	18.0	11.0
Madras — Regulars — Girls...	0.3	3.2§	21.2	36.7‖	1.4	Not available	8.1	1.3
Baroda City ...	5.3	4.3	18.9	33.8	23.9	2.1	1.8	15.1
Hyderadab (City) — Boys	6.5	Not available	11.2	15.0	5.1	0.7	6.2	10.6
Hyderadab (City) — Girls	5.8	Not available	8.0	5.5	0.3	0.7	1.0	4.1
Ajmer-Merwara ...	No figures are given; enlargement of tonsils, defective vision, trachoma and anaemia are said to be the principal defects.							
Baluchistan ...	No figures are given; the principal defects are stated to be diseases of the eye, malaria, avitaminosis, tonsilitis and splenomegaly.							
United Provinces — Urban	7.5	6.6	16.4	16.1	Not available	0.5	2.7	14.0
United Provinces — Rural	0.9	4.8	4.5	10.8	Not available	1.5	2.3	6.0
Bihar (Boys) ...	13.2	0.1	11.9	4.2	Not available	Not available	Not available	13.8
Orissa	7.3	5.4	10.7	11.2	Not available	12.0	6.6‡	19.5

*The figures relate to Peshawar for the first quarter of the year July 1939—June 1940.
†The figures include diseases of the ear, nose and throat.
§Eye diseases.
‖Only dental caries.
‡Figures are for scabies only.

CHAPTER IV.—Treatment and Follow up of Defects.

The Committee cannot emphasise too strongly that a scheme for medical inspection without provision for treatment and follow up is of little or no use.

The table facing this page shows the nature and incidence of the principal defects found at medical inspection in certain Provinces and States. While the divergencies in the figures suggest that the examinationns have not been carried out on a uniform basis, the disabilities from which the school child mainly suffers appear to be enlarged tonsils and adenoids, dental caries and pyorrhoea, malnutrition and defective vision.

Since malnutrition affects a considerble percentage of children, schemes for treatment will have to include provision for supplementary nourishment for such children. Special arrangements will be necessary for the treatment of dental defects, for the enucleation of tonsils and adenoids and for the correction of more serious defects of vision and hearing. Simple errors of refraction can be dealt with by the school doctor as can diseases of the nose and throat which do not require operation.

The table does not provide any complete picture of the extent to which children suffer from passing ailments of the eyes and skin or other shortlived departures from normal health. The season of maximum incidence of conjunctivitis, for instance, may or may not coincide with the routine inspection of the school children. The vast bulk of these temporary defects can be treated in the school. Many of them are of such a nature that they can and should be effectively treated by a careful parent with domestic remedies. At present, however, owing to the indifference and ignorance of many parents provision for treatment must be made by the school authorities in the interests of the child. The important thing is that the child should receive treatment; treatment which will not only cure the defect in the shortest time and with least interference with his school attendance, but will also aim at preventing recurrence.

Replies to the questionnaire show that not only is the provision for treatment inadesuate in most areas but that the facilities available are unlikely to fulfil the requirements set out in the previous paragraph. Exceptions are the N.-W. F. Province, United Provinnces and Delhi, where school clinics or dispensaries have been established. In the N.-W. F. Province 89.3 per cent. of the 14,401 children found with defects were treated. In Bihar 59.9 per cent of 7,086 children with defects are said to have received treatment at hospitals and dispensaries. Most provinces gave no figure from which the percentage of defective children who actually received treatment can be calculated.

Generally speaknig the child in order to obtain treatment has to to take his chance at the out-patient department of the general hospital or dispensary which is usually overcrowded and where his minor ailments seem a matter of small moment to the doctor overworked in dealing with serious illness. There is small chance that any attempt will be made to explain to the child or his parents the circumstances and agencies through which the defect arose and how they can be modified to prevent recurrence. There may be no time even to do more than prescribe treatment to be carried out at home by unskilled and ignorant parents, a method which experience has shown does not give sucessful results.

The Committee are of opinion that the solution to the problem of providing the *right kind of treatment* in urban areas lies in the establishment of school clinics. The clinic should be conveniently placed to serve a number of schools. In many towns buildings suitable for the purpose already exist, for example maternity and child welfare centres, and in organising a scheme of treatment advantage should be taken of these. Similarly in the planning of new buildings for health activities the advisability of grouping welfare centres, school clinics, etc., should be borne in mind.

The Committee consider that, whenever his duties will permit, the teacher should be present at the clinic with the children to see what is being done and to receive any instructions for treatment which is to be carried out in the school in order to relieve pressure on the school clinic. Failing the establishment of special school clinics staffed by the school health service, the next best plan will be to arrange a special session for school children daily at the local hospital or dispensary. This may have to be arranged in the afternoons when the doctor has got to attend other patients in the mornings.

Whatever may be the arrangements for providing treatment by a doctor for the child, a large amount of minor elementary treatment of children can and will have to be done at the school. Much of this work in other countries is done by the school nurse, but conditions in India at present make it essential that the duty to a large extent should fall on the teacher. It is recognised that the average primary school teacher cannot be regarded as the ideal person to carry out the daily treatment of a number of minor ailments. But until the necessary number of school nurses is available this is the obvious alternative. The teacher should be told by the school doctor the type of cases he may treat and what treatment should be given and he should be made to recognise the dangers of undertaking treatment beyond his scope. Given such training, a teacher who is interested and endowed with a fair degree of commonsense can do much for the health of his pupils. He will of course require the necessary dressings and drugs.

Follow up work.—It is important to keep in mind that treatment should be directed towards the care of the child as a whole and not merely of the particular defect discovered. The susceptibility of the child to disease is largely determined by his nutrition, his personal cleanliness and the hygienic condition of his environment.

The school itself where it is insanitary or overcrowded, or where the curriculum is not in conformity with the physiological capacity of the child, plays a large part in causing disease. In spite of this it remains true that a preponderant role is played by the home environment, and the campaign for the reduction and prevention of disease must therefore be carried into the home if any sound progress is to be achieved.

The most efficient agent for this purpose is the health visitor who is already in touch with the parents through the maternity and child welfare services. She is in the best position to win the confidence of the mother and to make her receptive to new ideas. Traditional customs and habits, particularly the observance of purdah, militate to a large extent against the attendance at medical inspection of the mother who is after all the chief determining factor in the home environment. Wherever a maternity and child welfare service exists every effort should be made to secure the interest and co-operation of the health visitors in following up the defective school children in their homes. However, as the number of health visitors is inadequate, any large scale employment of health visitors for the work though desirable is not practicable and therefore alternative methods of influencing the parents must be tried out.

Attention has already been directed to the value of having the parents present at medical inspection to hear first hand the doctor's advice regarding the health of the child. In the absence of the parents the teacher is once more the agent on whom the onus will fall of trying to improve home conditions. At present very few teachers even in high schools have ever been inside the homes of the pupils. The lack of contact in every type of school between teachers and parents is a regrettable feature of school life in India which the Committee feel should be remedied as soon as possible. Teachers ought to

realise that it is their duty to know the parents of their pupils and to become welcome friends in the home of the children.

The Committee recognise that it is difficult to create any real interest in many teachers for the welfare of the children so long as their status, salaries and prospects remain at their present low levels. Even under existing circumstances a good deal can be done to secure increased assistance from teachers, but the desired end can only be achieved when the conditions of service of all teachers are such as to command their allegiance and co-operation. As the teacher is the solution to so many of the problems of school health, the Committee urge the vital importance of removing the sources of discontent and of making the conditions of employment more attractive to the right type of man and woman.

CHAPTER V.—NUTRITION.

In the majority of the Provinces and States schemes for supplementing the nutrition of school children are stated to be in force, although their working in many cases is restricted to particular types of schools and to certain localities. Further evidence of the recognition by provincial authorities of the value of a midday meal for the school children is available from the fact that in certain Provinces, of the total budget allotment for the school health service a high proportion is for school meals. Examples are Madras city with a provision of Rs. 67,000 for supplementary food and an allotment of Rs. 12,000 for the school medical staff, and Bengal with a provision of Rs. 45,000 for food and Rs. 7,800 for medical inspection and treatment.

Certain details of the Bengal scheme were described to the Committee. The scheme has been in operation since 1934 by which a midday meal is given to the children of all aided high schools at a cost of four annas a month per child. This meal, although it is not substantial, is stated to have a marked effect in improving the working capacity of the children in the afternoons. In the initial stages the cost of the scheme was borne on half and half basis by Government and the parents. The scheme is now more extensively adopted and the division of cost is as follows:—

Parents where they can afford to do so pay the whole 4 annas per month. The headmaster is allowed to give free tiffin to 10 per cent. of the poorest children and the cost of this 10 per cent. is defrayed from the Government grant.

The small amount of four annas per child per month fully covers the cost of the food and its preparation in the school.

The Central Advisory Board of Health in appointing this Committee drew particular attention to the problem of nutrition in primary school children. The replies from the Provinces and States show that the children of primary schools are not generally included in the schemes for midday meals. One reason for this is that the primary school population is much larger and that the financial problem of providing supplementary food for them is therefore more difficult. The Committee were informed that in Bengal there were five million primary school children and that the cost of giving them supplementary food would be about Rs. 1½ crores. On the other hand, the effects of malnutrition on primary school children are not less serious than on children of higher ages.

In many parts of India it is the custom for children to have a meal before they leave for school and have no more food until they return home in the late afternoon. Such children cannot be expected to have the necessary energy to devote themselves to their school tasks. It is essential, both from the point of view of education and of health, that all the children should be given a midday meal, whether it is brought by the children from their homes or provided at the

school by the authorities. Where food is provided by the authorities, parents who are able to pay should contribute their share to the cost of the schemes and in the case of children whose parents are too poor to pay no charge should be made. There is increasing recognition of the necessity for extending the facilities for primary education and for making it compulsory as far as possible but it is not sufficiently recognised that much of the value of such education will be lost if the children are not adequately nourished.

The main problem therefore is that of providing a satisfactory school meal at as low a cost as possible. No uniform scheme can be devised to meet the requirements of all. Various methods must be attempted for securing for the children of different economic levels some extra nourishment, and suggestions in this connection are now put forward.

The value of milk in promoting the growth of children and increasing their general sense of well-being has been definitely proved by large scale experiments in India and abroad. But whole milk is too costly an article of food to be widely used in this country. Researches by the Nutrition Research Laboratories, Coonoor, show that skimmed milk possesses considerable food value, It has now been made easily available for educational institutions by the removal of the import duty on it. Even so this food may be beyond the reach of poor primary schools.

Other experiments carried out by the Coonoor Laboratories have shown that much of the value of whole and skimmed milk is contained in calcium lactate, an important constituent of both. The administration of one gramme of calcium lactate per day has been shown to be of definite benefit to the child and costs only about one anna per child per month. Calcium lactate should therefore be within the reach of a wide section of the population.

Germinating grains have been found to be of considerable value in warding off food deficiency diseases and is a very desirable supplementary food for children. Germinating grain can be prepared easily and costs little.

Much more might be done to develop school gardens which could provide vegetables to supplement the children's midday meal. The lack of vegetables is a common deficiency in Indian diets and the development of school gardens in addition to providing nourishment for the children will have a desirable educative influence.

The Committee desire to draw the attention of health and education authorities in the Provinces to these facts, in the hope that use will be made of them in improving the nutrition of the school population.

The teacher can nand should play an important part in teaching the principles of nutrition to school children and in educating the parents with regard to the methods of improving the diet of the children within the means available to them. Sound instruction of the teachers and children in nutrition requires that simple text-books embodying the fundamental principles of the subject should be made available in the different Indian languages. The Committee were informed that the preparation of such a text-book is engaging the attention of the Nutrition Advisory Committee of the Indian Research Fund Association. This text-book, when published, and the Health Bulletin entitled "The Nutritive Value of Indian Foods and the Planning of Satisfactory Diets", should be translated by Provincial Governments into the principal Indian languages and made available to the school authorities.

CHAPTER VI.—Personal and Environmental Hygiene.

The practice of personal hygiene by the school children depends on many factors, not the least important being the example set by the teacher. Not only must the teacher's personal cleanliness be of a high standard but his physique and general health must also be good. To ensure this no teacher should be appointed without passing a medical examination of fitness approved by the Government of the Province or State.

Considerable hardship may result from the application of this recommendation unless at the same time a medical examination of all candidates for admission to training schools and colleges is instituted and the Committee therefore recommend that this should be done. At an earlier stage the school doctor and the teacher can do much to discourage pupils of poor physique or handicapped by special defects from choosing teaching as a profession.

During training and on subsequent employment it is no less important that a careful watch should be kept on the teacher's health. Periodical examinations of the teachers by the school doctor should present no serious difficulty. The object is as much to protect the teacher's own health as to eliminate any danger to the school population. If the medical examination brings to light any disease or defect every effort must be made to help the teacher to a complete recovery. Treatment may not be the only means necessary, the conditions of work and the amenities provided for the teacher's comfort also deserve attention.

The teaching and practice of personal hygiene in school are dealt with in a subsequent chapter and it is only necessary here to draw attention to the need for encouraging personal cleanliness amongst the school children and for providing the facilities required for the attainment of a high degree of personal cleanliness.

In a number of Provinces and States cleanliness parades are held by the teacher. In some schools the parades take place daily, in others weekly or biweekly, in others a cleanliness parade is held only at the time of the school doctor's visit. Parade inspection is most suitable for the younger classes. A daily parade of the school children before the school starts gives the teacher an opportunity of judging the cleanliness standards of the children and of supervising the practice of cleanliness. The scope of the parade should not, however, be limited an inspection of cleanliness; minor ailments, fatigue, malnutrition and other departures from health can and should be detected and suitable advice given or treatment initiated when necessary.

The detection of dirty children has no value unless arrangements are made for remedying the conditions. Facilities for washing are particularly important and in towns with a pipe water supply this should present no difficulty. In rural areas the construction of a soakpit and the supply of water of reasonable purity are the minimum requirements. In areas where facilities for bathing are limited schools baths are an invaluable asset to any scheme for promoting the health of the school child.

The beneficial results of membership of the Junior Red Cross on the personal hygiene of the pupils is mentioned elsewhere in the report.

The question of environmental hygiene was not extensively discussed since the School Buildings Committee appointed by the Central Advisory Board of Education are already dealing with this subject.

The replies received from Provinces and States to the questionnaire state that, generally speaking, the lighting, ventilation and construction of Government schools are satisfactory. On the other hand, schools under private management are often housed in buildings not originally designed for the use

of schools and fall short of reasonable hygienic standards. The selection of a house for use as a school is frequently left to a Sub-Inspector of the Education Department who usually takes no account of the health requirements. Where it is necessary to use ordinary buildings as schools the responsible education authorities should obtain the advice of the local health officer as to their suitability.

Little scientific data on the lighting, ventilation and heating of schools are available with regard to tropical conditions. The School Buildings Committee of the Central Advisory Board of Education have recommended the appointment of a body of experts to investigate and report on suitable standards for Indian conditions. This recommendation is supported.

The necessity for providing a safe water supply in schools requires special emphasis. The Committee recommend that, whatever the source of supply, there should be provided in each school some type of container in which wholesome water, kept under lock and key, is made available to the children by being drawn off through a tap.

As regards the provision of latrines the Committee are of opinion that, for schools in rural and suburban areas, the bored-hole type of latrine offers a satisfactory solution in most areas. It is cheap to construct, costs practically nothing to maintain and should prove satisfactory in every way for preventing soil pollution in and around the school premises. The possibility of surface wells becoming polluted by infection travelling through the subsoil water from bored-hole latrines has been used as an argument against the wider use of this type of latrine. This danger seems to have been exaggerated. If preliminary investigations are made to determine the direction of the flow of subsoil water the location of bored-hole latrines can be decided on with safety.

The questionnaire asked for information on the extent to which suitable school furniture is provided but the details given were scanty. In India desks are in use in the higher classes but the children of primary schools are after made to sit on the floor with no support for the back. The effect of posture on the child's health and growth, with special reference to the use of desks and seats, is a matter of great importance and requires special investigation by an expert bodyy. The Committee consider that, without such an investigation, it is not possible to assess the ill-effects, if any, that the habit of squatting on the floor is producing on the health of primary school children.

The attention now devoted by school authorities to environmental hygiene is not sufficient. The Committee therefore consider that all officers inspecting schools, whether they belong to the Education, Medical or Public Health Departments, should report on the sanitary condition of the premises and the surroundings and bring to the notice of the educationn authorities such defects as they discover.

But no permanent improvement of the environment can be expected until the school children and their teachers begin to take an active interest in keeping the school premises clean. Co-operative effort among the children for the cleaning up of the school and its surrounding areas should be encouraged. The children can also take part in other forms of communal health activity. Recent work in the rural area around Delhi has shown that one of the most useful methods of preventing malaria is by the use of insecticides to kill adult mosquitoes in houses. The children in these Delhi areas have been trained to do this work. In India malaria is the most important health problem and has a crippling effect on the lives of an enormous number of school children in the areas where the disease is prevalent. The control of the disease by the eradication of mosquito breeding places is often too costly, as it involves expensive engineering works, but in the destruction of adult mosquitoes with insecticides

an effective method has become available for reducing the infection of school children. The method is not expensive, and, it is hoped, will become cheaper. A progressive teacher can encourage the children to help in the filling or draining of shallow depressions where water collects and the malaria mosquito breeds. These are simple measures which require only the initiative and inspiration of the teacher for their success. A passive attitude regarding the prevalence of malaria has been allowed to continue too long.

CHAPTER VII.—Teaching of Hygiene in Schools and in Training Schools and Colleges.

Replies to the questionnaire show that on paper at least the importance of training the teacher and the children in a healthy way of life is realised by the Education authorities since hygiene is included in the syllabus of every Training College and nearly every Training School in the Provinces and States from which replies were received. Similarly with one or two exceptions hygiene is stated to be a subject of study in all primary and secondary schools. In the latter hygiene is not infrequently an optional subject. This seems reasonable in the senior classes if hygiene has been well taught at an earlier stage in the school curriculum.

While the general situation on paper sounds satisfactory the low standards of personal and environmental hygiene met with in many schools are such as to forbid an easy acceptance that all is well. These low standards lead to the conclusion that something is wrong with the content of the syllabus and the methods of teaching hygiene both in training institutions for teachers and in schools for children.

Put shortly, the successful inculcation of healthy habits in school children will depend primarily on the standards set by the teacher in his personal hygiene and on his knowledge of and outlook on health questions. The teacher must be the model to be followed by the child with regard to health and healthy ways of life. If any progress is to be made, the health consciousness of the teacher must be stimulated by better teaching of hygiene in the training schools and colleges.

As a first step towards securing the fitness of the teacher for the teaching of hygiene, the Committee wish to affirm their view that practical hygiene should be a compulsory subject in all courses for the training of teachers, and that particular attention should be paid to the subject in training schools for teachers, in primary and vernacular schools.

The syllabus in use in many of the training schools and colleges requires revision, if the new demands which will be made on the knowledge and resourcefulness of the teacher as a part of the school medical service, are to be met. In only one or two Provinces has an effort been made to prepare and publish a text-book on hygiene in the vernacular for use in training schools. In training colleges the text-books prescribed are those in use in the United Kingdom. As the personal, communal and environmental aspects of hygiene in India differ widely from those obtaining in a temperate climate text-books dealing with Indian conditions are indispensable. Apart from text-books, a handbook on health education for use by school teachers would be a valuable addition to the equipment of the teacher.

Replies to the question "Is hygiene included in refresher courses for teachers?" were in the negative in the majority of Provinces and States. In order to ensure that the knowledge and interest of teachers in the subject are kept alive and in order to keep them acquainted with new developments, the attention of educational authorities is drawn to the great desirability of providing facilities for refresher courses in the subject.

The Provincial educational and health authorities should collaborate in drawing up a syllabus for each type of training institution. The preparation and publication of text-books for use in training colleges and schools and of handbooks for the guidance of teachers responsible for health education are a necessary corollary to the revision of the syllabuses.

In the recommendations of the Committee regarding the organisation of medical inspection the teacher is called upon to play a very important part. On account of the ignorance of parents and the limited number of doctors of will largely fall on the teacher to detect early departures from normal in a child, to assist in treatment, to make contact with the home in order to influence the parents and to keep the teaching and practice of hygiene alive in the school. For these reasons the Committee consider that practical demonstrations should form an important part of the course of training. The teacher should be taught by practice how to recognise defects in children and to do elementary treatment as it is only by his learning to do that it will be possible to establish a school medical service on a reasonably wide scale.

Certain parts of the training course will require to be taught if possible, by a doctor, preferably by a member of the regular school medical service, the establishment of which is recommended by this Committee.

In regard to the teaching of hygiene to children the instruction now given in primary schools in several Provinces is inappropriate to the age of the child. The training of the child in health habits does not begin sufficiently early and the approach to the subject is through disease rather than through a study of the requirements for health. The Committee consider that instruction in hygiene should begin at the earliest age possible. At the beginning the instruction should be wholly on practical lines and devoted mainly to personal hygiene, while at a later age the child's interest can be directed to environmental hygiene and the health of the community. The Committee wish to emphasise that unless greater attention is given by the responsible authorities to the planning of school buildings and to the provision of equipment which will make the practice of healthy habits possible, progress will be difficult. It is futile to try to awaken in the child an interest in and a sense of responsibility for his own health and for the sanitary condition of his surroundings so long as the schools themselves fall short of reasonable hygiene standards. As the teacher should be the model for the child to follow in personal standards, the school should be the model for the home in regard to environmental cleanliness.

The replies from the Provinces show that the active and willing co-operation of the children in health matters is best secured in schools where a movement such as the Junior Red Cross is alive. In such schools, it is stated, a notable improvement has been made in the personal cleanliness and healthy habits of the children. The Committee are of opinion that the Junior Red Cross Health Game is an appropriate and valuable means of laying the foundations of a healthy life during the primary school years. At a later stage with fuller instruction in hygiene, and particularly in the environmental aspects of the subject, the child should become an asset to the school authorities for the care and orderliness of the school buildings and compound. Later his activities can be extended beyond the school boundaries to the community where he can take part in antimalaria campaigns and other measures for the control of disease and for general raising of the standard of life in the community. In the senior classes the children can also assist the teacher in the recording of heights and weights and in the treatment of minor ailments under the direct supervision of the teacher. In this connection the Mackenzie school course of First Aid, Hygiene and Sanitation should prove to be of great value to the pupils.

For girls in the upper classes a training in mother-craft should prove invaluable and in order to make the training practical they should be given opportunities of visiting child welfare centres as far as this is feasible.

CHAPTER VIII.—Physical Education.

The information received from the Provinces and States shows that in a general way physical education has received more attention in secondary than in primary schools. The physical education of girls has received much less attention than that of boys.

The employment of trained physical instructors is practically limited to secondary schools, while in primary schools the teaching of the subject is entrusted to ordinary teachers who may or may not have had training in physical education.

Colleges for physical training exist in Madras, Bombay, Hyderabad, Calcutta, Lucknow and Lahore. In many of the other places, facilities for physical training are provided in the training schools for primary and secondary school teachers.

The time devoted to formal physical exercises is usually part of the school hours while games are played after school has finished. The period set apart for physical exercises varies in the Provinces and States, from about 20 minutes each day to two periods of 30—45 minutes per week.

The types of physical exercises adopted in schools include games, gymnastics, drill, boxing and indigenous types of recreation such as folk dances. The Committee were informed that a lot of old fashioned drill goes on in schools which obviously does the children no good; far from benefitting them, it merely tires them. Many schools have physical drill at the end of the day, a time which should be avoided, if possible.

Physical education is everywhere stated to be compulsory for boys in secondary schools. An important question in this connection is that of ensuring that the nature and extent of the exercises that individual children are made to take do not go beyond their physiological lapacity. The questionnaire asked whether the school doctos presrribed the type and extent of physical exercise to be taken by pupils suffering from physical disabilities and what other provision existed for this purpose in schools without a doctor. The replies state that where the services of a school doctor are available, his advice is followed; otherwise the physical instructor, the headmaster or the class teacher determines the class of exercise.

The Committee having considered the information available regarding the existing provisions in the country for the physical education of school children make the following recommendations:

Organisation for the supervision of physical education.—In each Province and State, the Educational Department should have at headquarters an experienced and well qualified officer to organise the scheme for physical instruction in the colleges and schools. Under him there should be a District Inspector of Physical Education for each district. In every secondary school a fully trained physical instructor should be on the staff and the appointment of such an instructor should be a condition for a grant-in-aid. The number of primary schools is so large that the provision of wholetime trained instructors in all such schools is not practicable. However, the necessity for some skilled supervision of physical exercises in elementary schools is urgent. District Inspectors of physical ehucation should therefore organise training camps, lasting for about a month, for primary school teachers. The neglect of physical education for school girls up to now should be remembered when a Provincial scheme is

being drawn up, and a special effort should be made to accelerate the rate of progress of physical education in girls' schools.

Physical Instructors.—Physical education is intended to assist in promoting normal physiological development and to correct physical defects in so far as they can be remedied by such training. The physical instructor should therefore have had training in the elementary principles of physiology, of the hygienic mode of life and of nutrition. He should be trained to detect early signs of fatigue in the child and to regulate (under the guidance of a doctor in certain cases) the nature and amount of exercise for individual pupils. The Committee have, earlier in this report, drawn attention to the desirability of the physical instructor being present during the medical examination of the children. He should be allowed a period or periods within the time-table when he can give remedial exercises in cases recommended by the school medical officer.

The physical instructor should also help the child to become socially minded. Participation in games, especially team games, teaches the child to subordinate his desire for personal success to the interest of the team as a whole. It has been stated that an efficient system of physical education "should encourage the concurrent development of healthy physique, alert intelligence and sound character"*. Participation by the children in games and in the varied corporate activities of the school, such as the Scout and Junior Red Cross movements, is essential for the attainment of these objects. The physical instructor who is concerned with providing for the child a wide and varied experience in healthful living, should therefore be fitted to guide all these activities in the school.

It will thus be seen that the training of the physical instructor will require to be of a comprehensive nature. The old concept of a drill-master or a weight lifting expert is now effete. The Committee had before them details of the training given to students in some modern colleges for physical training. Health education finds a prominent place in the programme of study, the aim being to develop in teachers the incentive and the ability to train children to practise healthful living, and to enable teachers to co-operate intelligently in medical inspection. The Committee agree with these aims and commend them to those responsible for the training of physical instructors in different parts of the country.

The Committee consider that physical instructors, when they reach the age of 40, should be absorbed into the normal teaching work. It is not uncommon to find men carrying on the duties of physical instructors at 50 and 55 years of age. This is undesirable. To prevent this, physical training instructors should also be qualified to teach other subjects and should be required to devote a certain amount of time to doing this throughout their career.

Physical exercise.—The Committee consider that some period every day should be devoted to oorganised physical activity but that undue emphasis on drill is undesirable. Organised games should form an important part of the curriculum for physical education. Games should be played within the school hours since by postponing them to the end of the day, many children living at a distance are prevented from taking part. In view of the difficulty of securing playing fields in towns provision for small area games should, as far as possible, be encouraged in the schools in urban areas.

An essential part of any town-planning scheme is the provision of adequate open areas for school games.

*Syllabus of physical training for schools issued by the Board of Education, England and Wales, 1933.

Medical care of the children undergoing physical training.—The Committee consider that, wherever a school medical service exists, the school medical officer should note on the child's card any modification which he considers necessary regarding the child's physical education.

It is desirable that Provincial Health and Education authorities should together draw up a code on physical education and that this code should include advice on the medical aspects of this subject. The formulation of a system of graduated physical exercises to suit the requirements of different types of children is also desirable.

CHAPTER IX.—Corporate Activities.

The organisations for corporate activity which usually exist in schools are the Junior Red Cross, Boy Scouts and Girl Guides, the Hindustan Scouts and the Bengal Bratachari movement. All these organisations have a common aim, to aid the evolution of healthy and socially useful citizens. A certain amount of overlapping and duplication is inevitable in the activities of organisations which have a common objective, but while the objective may be the same, the lines of approach may vary. The same methods will not necessarily appeal to every child, nor to the same child at different ages, and it is therefore advantageous to have a variety of organisations even in one school. Fortunately the interests of the teachers will not be uniform and some account must be taken of their preferences and enthusiasms. Any corporate activity under an enthusiastic teacher will secure the willing and whole-hearted support of the children. The outlook and interests of the teacher are perhaps more important in determining the value of the activity on the character of the child than the actual organisation to which the child belongs.

At the same time there are differences in the programmes of the various organisations. The value of the Junior Red Cross in developing the health consciousness of the child has already been discussed. No other organisation lays quite the same emphasis on the practice of personal hygiene, and as an auxiliary to the school health services an active Junior Red Cross group can be a great help. The activities of the Junior Red Cross should be definitely correlated as closely as possible with the general health work of the school. From the point of view of health the Committee recognise the value of the Junior Red Cross and recommend that the Education Department should be strongly represented on the Provincial Junior Red Cross Committees in order that the potential benefits of this important movement may become more widespread throughout the schools in India. Other organisations which emphasise physical fitness, social service, nature study, crafts, camp life and other forms of healthful activity are equally important. The overlapping of activities can be in a large measure avoided by selecting the best features of each movement and by concentrating the activities of the group on the selected features, while leaving the members free to join up with other groups for the complementary activities.

The Committee recommended that the curriculum of the school should be arranged to provide at least one period a week for some corporate activity in addition to physical training and organised games.

Many agencies must work together to make secure the child's right to health and happiness. But of all those agencies, the parents are the most important as their is the longest and strongest influence in the child's life. No scheme for the school health services can be considered complete which does not arouse in the parents an interest in and a sense of responsibility for the care of their children. The advantages of having the parents present at medical inspection have already been stressed and attention has been drawn to the need for greater opportunities for individual parents and teachers to meet both in the school and

in the home, but this is not enough. A sustained campaign to interest the parents in the school activities and to increase the opportunities of contact between the parents and the school authorities must be undertaken. Broadcasts and cinematograph films may have a place in certain areas, and school journeys or excursions can be a valuable experience alike to children and parents. Social functions such as prize distributions, school concerts, sports and parents day celebrations are another method of reaching the parents. They should be encouraged to witness and appreciate the school and community health activities and by this means their cooperation can be secured towards introducing new ideas into the homes.

The limitations that poverty imposes on what the parents can do to improve their home environment are fully recognised, but the sanitary state of the home and the environment is largely due to ignorance and traditional custom. Much can be done through education to improve existing conditions and the simultaneous education of the child and his parents is an important part of the corporate activities of the school.

CHAPTER X.—ADMINISTRATION.

Provincial and District Headquarters.—The Education, Medical and Public Health Departments in the Provinces are all intimately concerned with the successful working of the school medical service. Any scheme proposed for the administrative control of the service must take note of this fact. During discussion in committee it was urged that as the full cooperation of the teachers would be essential the Education Department should be given the administrative control of the service. The teachers would have to be brought into the scheme very largely to assist the school medical officers, and the fullest cooperation would be secured if both the medical officer and the teacher are under the same administrative authority. The Committee felt at the same time that the school medical services in the Provinces will have to work in the closest cooperation with the existing health services, and must derive the fullest advantage from the facilities and knowledge already available in the Medical and Public Health Departments. Coordination at provincial headquarters is therefore of the greatest importance.

In view of the above considerations the Committee came to the conclusion that school medical services should be created in the Provinces and that the administrative control of these, including the necessary budget provision, should be under the Education Department. In each major Province there should be a Chief School Medical Officer to administer the school medical service which should contain a sufficient number of doctors for the administrative and executive duties of medical inspection and treatment of school children. They also consider that in order to promote coordination in regard to school medical work between the Education Department and the Medical and Public Health Departments, a coordination committee of the Director of Public Instruction, Surgeon General or Inspector General of Civil Hospitals and the Director of Public Health should be set up in major Provinces.

In making the recommendation for the appointment of a Chief School Medical Officer the Committee do not regard it as necessarily involving the appointment of a third administrative medical officer at Provincial Headquarters. They are of opinion that, in order to secure as much coordination as possible and to facilitate the economic use of doctors already in the employment of the Provincial Government, it may be found convenient for the Surgeon General or the Inspector General of Civil Hospitals, as the case may be, or the Director of Public Health to act as Chief School Medical Officer under the Minister for Education. Whether one of these officers acts as Chief School Medical Officer or a separate appointment is made is obviously a matter for each Provincial Government to decide.

Co-ordination of effort among the officers of the three Departments should also be extended to the districts. The District Medical Officer is in charge of medical administration while the control of public health work is divided between Municipal Health Officers, wherever they exist, and the district Health Officer who is responsible for the rural areas. It is recommended that there should be a District School Medical Officer for the organisation and supervision of the schemes in urban and rural areas. This Officer should work in close cooperation with the District Medical Officer and the Municipal and District Health Officers.

The school medical services in individual local areas are the statutory responsibility of Municipal Committees and District Boards. In India as in England, Government control over the efficiency of local health administration is exercised through the judicious distribution of grants-in-aid to the responsible local bodies. The same principle should apply in the case of local school medical services. The Committee consider that Government's grant-in-aid should be at least 50 per cent. of the cost, and that necessary safeguards should be incorporated in the conditions governing the distribution of such grants. In this way the Provincial Government will be able to ensure that only considerations of efficiency will determine the recruitment of personnel and the standard of administration to be maintained by the local authority.

The expenditure on the supervising staff maintained at Provincial and District headquarters should be a charge on the Provincial funds. A Provincial cadre of school Medical Officers will attract suitable men to the service. They should be capable of directing the work in the local areas both from the administrative and technical points of view and will therefore require special qualifications and experience. Some doctors after a period of service in school medical work may desire to take up some other branch of medicine. This situation might be met by the deputation to the school medical service of officers from the Medical and Public Health Departments, and it will be an early task of the Co-ordination Committee at Provincial Headquarters to formulate a practical scheme for the appointment and deputation of such officers. Continuity in the school medical work is however vital and the period of deputation of a doctor for this work should be at least four to five years.

Urban Schemes.—The provision of medical facilities, the number of school children, the proportion of well-to-do parents and the facilities for transport vary widely among urban areas. It is therefore useful to divide these areas into two broad groups, one including the cities and large towns and the other the remaining urban centres of population. In regard to the first it has already been pointed out that the available resources, may, in many cases, be such that there should be no great difficulty in attempting to develop a school health service on as broad a basis as has been done in Western countries. With respect to the latter group, a less ambitious programme is in keeping with the prevailing conditions.

In the larger towns the Committee consider that for efficient service the employment of wholetime school medical officers is essential. Such officers should not be permitted to engage in private practice. A scheme should include primary and secondary schools and it should be a condition of recognition and grant-in-aid that each school should either take advantage of the local school medical scheme or have approved medical arrangements of its own. The Committee consider that no child should be deprived of necessary treatment on account of the poverty of its parents. Medical inspection and treatment should therefore be provided free for the children of all primary schools and of the primary departments of secondary schools. Treatment should include admission to the free wards of Government hospitals and operation treatment

if required. In secondary schools where fees are charged for tuition, it is reasonable that an additional fee should be levied to cover the cost of medical inspection and treatment at the school clinic.* Where no school fees are charged it is not advisable to introduce a special fee for the school medical service.

In the smaller towns it will be necessary to utilise the services of part-time doctors. They may come from Government or local body hospitals and dispensaries or may be health officers. Others may be private practitioners. The Committee realise that with a part-time doctor there may be certain difficulties. The demands of private practice on his time may make it difficult for him to devote the necessary time to his school duties. It has been stated that some part-time school doctors have utilised the contacts which school work offers to extend their private practice. Strict supervision is required to prevent such abuses. The Committee recommend that the amount paid to a part-time private practitioner should bear the same relation to the salary of a full-time officer as that between the respective number of hours spent by each on the work. The duties to be performed by part-time doctors should be carefully defined and should include inspection and treatment.

Rural Schemes.—Rural areas present more difficulties than towns and cities. The extent to which medical relief and other health services have been developed in rural areas differs widely in the provinces and sometimes in different areas in one province. In some provinces subsidised rural practitioners have been established and in some others no such service has been provided. Again the number of medical men in general practice in rural areas varies greatly.

Certain facts relating to Bengal were described to the Committee. The average population in a district is approximately two millions of which the number of school children is estimated at 200,000. No subsidised practitioner service exists in the province. As regards facilities for travel, conditions differ widely in Eastern Bengal with its water transport system and in Western Bengal which is drier and has more rapid communications.

Similar diversity of conditions may exist in other provinces and the Committee therefore came to the conclusion that before a school medical inspection scheme can be drawn up for rural areas it is necessary that a preliminary survey be made to determine the extent of the medical facilities that are available in such areas and to determine ways of supplementing them. The survey should take into account the strength of the school population in the area, the medical men employed by Government and local bodies, the number of private practitioners, the public health organisation that exists, the distribution of schools and means of communication between the different parts of the area.

Certain possible methods of securing medical men for inspection and treatment may be mentioned. The services of doctors in charge of Government or local body dispensaries or of private practitioners may be utilised on a part-time basis. It may be necessary to employ wholetime touring medical officers to carry out medical inspection but doubt was expressed regarding the value of this class of medical officer. Adequate supervision of their work is difficult. In very extensive and sparsely populated areas the employment of such an officer cannot perhaps be avoided. As in the case of urban schemes the part-time school medical officer should be paid a proportion of the wholetime medical officer's salary corresponding to the proportion of the wholetime work which he carries out.

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*In this connection please see the foot-note on page 98.

CHAPTER XI.—Summary and Recommendations.

1. *Introduction and Historical.*—The Committee wish to draw special attention to the frequency with which a system of medical inspection has been started in a Province only to be abandoned after a short while as a measure of economy. This indicates that there has not been a clear appreciation of the fundamental necessity for the essential characteristics of a school medical scheme. The Committee emphasise that satisfactory arrangements for school medical inspection and treatment form an essential part of any efficient system of public education. (Page 75).

2. *Aims and objects of a School Medical Service.*—The Committee consider that the aims and objects of a school medical service, as defined by Sir George Newman, are applicable to India and that it is absolutely essential that steps be taken to ensure that children attending school are healthy and kept healthy. This is necessary not only from the medical but also from the educational point of view. (Page 75).

3. In developing a school medical service in India big difficulty is the inadequate number of qualified doctors and nurses. However, in some of the large cities it should be possible to organise school health work on as wide a basis as in of West. (Page 77).

4. *Medical Inspection.*—Probably fifty per cent. of the children attending school would be found to require medical attention or medical observation. (Page 77).

5. Too much weight cannot be given to health considerations in determining the age at which children should be admitted to school. The age of school entry should be not more than siix and preferably five. (Page 77).

6. Many routine examinations of school children in some parts of India are unnecessary. The routine examinations should be (a) on entry into a primary school at approximately its sixth year. (b) at the 11th year and (c) at the 14th year. For children in high schools when leaving at the age of 17 a final examination is desirable. Children going from a private school without a medical inspection scheme to a secondary school should be given a routine examination as soon as possible after admission. (Page 78).

7. A wholetime doctor may reasonably be expected to carry out 5,000 routine inspections in a year. (Page 78).

8. A medical record will have to be maintained for each child which will go with the child when he goes from one school to another. (Page 78).

9. Height and weight records should be taken not less than twice a year. This work should be done by the teacher. (Page 79).

10. Medical inspection should only be carried out by a qualified doctor with special training for the work. (Page 79).

11. Medical inspection should take place in the school during school hours and if possible the parents should be present. In schools with a physical instructor he should as far as possible be available during the inspection. The doctor should go through the inspection results with the teacher. (Page 79).

12. *Treatment and Follow up.*—A scheme for medical inspection without provision for treatment and follow up is of little or no use. Schemes for treatment must include provision for supplementary nourishment. Special arrangements will be necessary for treating dental defects, tonsils and adenoids and for correcting the more serious defects of vision and hearing. (Page 81).

13. In urban areas accommodation for school clinics should be provided at convenient centres. In many towns, buildings suitable for the purpose already

exist, such as maternity and child welfare centres. Where it is not possible to provide special school clinics the next best plan is a special session for school children at the local hospital or dispensary. (Pages 81-82).

14. Much of the minor elementary treatment can be done by the teacher provided he has received the requisite instruction. (Page 82).

15. Any campaign for the reduction and prevention of disease amongst school children must be carried into the home if sound progress is to be achieved (Page 82).

16. Every effort should be made to secure the interest and co-operation of health visitors in following up the defective school children in their homes. (Page 82).

17. The lack of contact in every type of school between teachers and parents is a regrettable feature of school life in India which the Committee feel should be remedied as soon as possible. (Page 82.)

18. As the teacher is the solution of so many of the problems of school health, the Committee urge the vital importance of making the conditions of employment more attractive to the right type of man and woman. (Page 83).

19. *Nutrition.*—The children of primary schools are not generally included in the schemes for midday meals. The effects of malnutrition on primary school children are not less serious than on children of higher ages. All the children should be given a midday meal, whether it is brought from their homes or provided at the school. Parents able to pay should contribute to the scheme. (Page 83.)

20. Simple text-books embodying the fundamental principles of nutrition should be made available in the different Indian languages. (Page 84).

21. *Personal and Environmental Hygiene.*—The practice of personal hygiene by the school children depends largely on the example set by the teacher. Not only must the teacher's personal cleanliness be of a high standard but his physique and general health must also be good. All candidates for admission to training colleges and schools should be medically examined. The teacher should be medically examined, at intervals as much to protect his own health as to eliminate any danger to the school population. (Page 85.)

22. A daily parade before the school starts gives an opportunity of judging cleanliness standards. It should be a health and cleanliness parade. (Page 85.)

23. Where it is necessary to use ordinary buildings as schools the responsible educational authority should obtain the advice of the local health officer as to their suitability. (Page 86.)

24. The appointment of a body of experts to report on suitable standards for lighting, ventilation and heating of schools is recommended. (Page 86.)

25. In each school some type of container should be provided in which wholesome water kept under lock and key is made available. (Page 86.)

26. Regarding the provision of latrines, the bored-hole latrine offers a satisfactory solution in most rural suburban areas. (Page 86.)

27. The effect of posture on the child's health and gowth with special reference to the use of desks and seats is a matter of great importance and requires special investigation by experts. (Page 86.)

28. Cooperative effort among the children for the cleaning up of the school and its surrounding areas should be encouraged and suggestions are made for carrying this out. (Page 86.)

29. *Teaching of hygiene in schools and in training schools and colleges.*—Instruction of school children in hygiene should begin at the earliest age possible and at the beginning should be made wholly on practical lines and devoted mainly to personal hygiene. (Page 88.)

30. The Junior Red Cross Health Game is an appropriate and valuable means of laying the foundations of a healthy life during the primary school years. (Page 88.)

31. Hygiene should be a compulsory subject in all courses for the training of teachers. (Page 87.)

32. Practical demonstrations should form an important part of the course of training in hygiene for teachers. They should be taught by practice to recognise defects and to do elementary treatment. (Page 88.)

33. Text-books on hygiene dealing with Indian conditions are indispensable. (Page 87.)

34. *Physical education.*—The Education Department headquarters staff should include a well qualified and experieneed officer to organise the scheme for physical instruction in colleges and schools. He should have an Inspector for each District. (Page 89.)

35. The physical instructor should have training in the elementary principles of physiology, of the hygienic mode of life and of nutrition. (Page 90.)

36. Health education should find a prominent place in the programme of study of the physical instructor, the aim being to develop in them the incentive and the ability to train children to practise healthful living and to enable them to co-operate intelligently in medical inspection. (Page 90.)

37. Every secondary school should have a fully trained physical instructor, and his appointment should be a condition for a grant-in-aid. (Page 89.)

38. District Inspectors should organise training camps for physical instruction, lasting about a month, for primary school teachers. (Page 89.)

39. A special effort should be made to accelerate the rate of progress of physical education in girls' schools. (Page 90.)

40. Some period every day during school hours should be devoted to organise physical activity but undue emphasis on drill is undesirable. Orgnised games should form an important part of the curriculum for physical education. (Page 90.)

41. *Corporate activities.*—The Education Department should be strongly represented on the Junior Red Cross Committees in order that the potential benefit of this important movement may become more widespread throughout the schools. (Page 91.)

42. The curriculum of the school should be arranged to provide at least one period a week for some corporate activity in addition to physical training and organised games. (Page 91.)

43. A sustained campaign to interest the parents in the school activities and to increase the opportunities of contact between the parents and the school authorities must be undertaken. (Page 92.)

44. Much can be done through education to improve existing health conditions, and the simultaneous education of the child and his parent is an important part of the corporate activities of the school. (Page 92.)

45. *Administration.*—School medical services should be created in the Provinces. (Page 92.)

46. The administrative control of these, including the necessary budget provision, should be under the Education Department. (Page 92.)

47. In each major Province there should be a Chief School Medical Officer to administer the school medical service which should contain a sufficient number of doctors for the administrative and executive duties of medical inspection and treatment of school children. (Page 92.)

48. In order to promote coordination regard to school medical work between the Education Department and the Medical and Public Health Departments, a coordination committee of the Director of Public Instruction, Surgeon General or Inspector General of Civil Hospitals and the Director of Public Health should be set up in major Provinces. (Page 92.)

49. In making the recommendation for the appointment of a Chief School Medical Officer the Committee do not regard it as necessarily involving the appointment of a third administrative medical officer at Provincial headquarters. They are of opinion that, in order to secure as much coordination as possible and to facilitate the economic use of dortors already in the employment of the Provincial Governments, it may be found convenient for the Surgeon General or the Inspector General of Civil Hospitals, as the case may be, or the Director of Public Health to act as Chief School Medical Officer under the Minister for Eduation. Whether one of these officers acts as Chief School Medical Officer or a separate appointment is made is obviously a matter for each Provincial Government to decide. (Page 92.)

50. Government control over the efficiency of local school medical inspection schemes should be exercised through the judicious distribution of grants-in-aid to the responsible local bodies. Government grants-in-aid should be at least 50 per cent. of the cost. (Page 93.)

51. The expenditure on the supervising staff maintained at Provincial and District headquarters should be a charge on the provincial funds. (Page 93.)

52. Continuity in school medical work is vital and the period of deputation of a doctor for this work should be at least four to five years. (Page 93.)

53. In the larger towns the employment of wholetime school medical officers is essential for efficient service and such officers should not be permitted to engage in private practice. A scheme should include primary and secondary schools and it should be a condition of recognition that each school takes part in the scheme. (Page 93.)

54. Medical inspection and treatment should be provided free for the children of all primary schools and of the primary departments of secondary schools. (Page 93.)

*55. In secondary schools where fees are charged for tuition an additional fee may be levied to cover the cost of medical inspection and treatment. (Page 94.)

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*The Central Advisory Board of Education at its meeting held on the 14th and 15th January, 1942, in accepting the Report,[1] suggested that this recommendation may be amended as follows:—

"In secondary schools, particularly in urban areas, the fee charged should include a contribution towards the cost of medical inspection and treatment".

This amendment was accepted by the Central Advisory Board of Health when adopting the Report at its meeting held on the 26th, 27th and 28th January, 1942.

56. Before a school medical inspection scheme can be drawn up for rural areas a preliminary survey should be made of the medical facilities available and of the ways of supplementing them. (Page 94.)

G. G. JOLLY. (*Chairman*).
A. C. BANERJEA.
E. COTTER.
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W. A. JENKINS.
S. N. MOOS.
JEAN M. ORKNEY.
W. C. PATON.
JOHN SARGENT.

APPENDIX

Schedule for Medical Inspection.

Name of Education Authority. *Primary and Secondary Education.*

I. Name of School .....District.....town-village .....

Name of the pupil. .....Name and address of parent or guardian .....

Date of birth.....1

		Year.	Year.	Year.	Year.
II.	Personal history—				
	Measles				
	Whooping cough				
	Diptheria				
	Chickenpox				
	Vaccination and date				
	Malaria				
	Smallpox				
	Typhoid				
	Dysentery				
	Other diseases 2				
	Family medical history (if exceptional) ...				
III.	Height 3				
	Weight 3				
	Age 4				
	Standard				
	Regularity of attendance				
	Mental capacity 5				
	Vision 6				
	Hearing 7				
		1st routine examination.	2nd routine examination.	3rd routine examination.	4th routine examination.
IV.	Date of M. I. Initials of M. O. ...				
	Parents present—				
	General conditions—				
	Nutrition 8				
	Clothing 9				
	Footwear 9				
	Cleanliness, body, hair and scalp ... 10				
	Chest measurement 11				
	Special conditions—				
	External eye disease 12				
	Vision 13				
	Speech 14				
	Teeth and gums 15				
	Ear disease 16				
	Hearing 17				
	Skin disease 18				
	Nose or throat 19				
	Tonsils 20				
	Adenoids				
	Glands, cervical and general ...				
	Mental condition 21				
	Disease or deformity—				
	Heart 22				
	Anaemia 23				
	Lungs				
	Nervous system... 24				
	Digestive system 25				
	Liver 26				
	Spleen 27				
	Tuberculosis 28				
	Rickets 29				
	Deformities (posture) 30				
	Acute infectious diseases				
	Other diseases or defects 31				

		1st routine examination.	2nd routine examination.	3rd routine examination.	4th routine examination.
V. Notification card	32				
Date of issue					
Date of return					
VI. Doctor's observations	33				
VII. Teacher's observations	34				
Special inspections and re-inspections ...	34				

The numbers relate to the attached notes.

Date.....Notes.....Place, duration and result of treatment.

NOTES ON THE SCHEDULE FOR MEDICAL INSPECTION.

It is suggested that the schedules for boys and girls should be of different colours or should be coloured differently at one of the four corners. The schedule makes provision for the four routine examinations a child is likely to undergo during his or her school career, namely, at approximately the 6th, 11th, 14th and 17th year of age.

Sections I, II, III and VII are to be filled in by the school teacher prior to medical inspection. Sections IV, V, and VI are to be filled in by the school doctor.

1. To be stated exactly, date of month and year.

2. Should include any other illness likely to have an effect direct or indirect on the health of the child in after life, *e.g.*, rheumatism, tonsillitis, tuberculosis, syphilis, fits, operations, etc.

3. Height and weight should be recorded by the teacher at least twice yearly and preferably once every term and record should be available at the time of medical inspection.

4. To be stated in years and months, *e.g.*, 112|12.

5. State the approximate number of years the child is educationally behind the average of the class.

6. To be tested as in Note 13. Failing this method the teacher should record as normal or defective on the presence or absence of such signs as headache, holding the book close, inability to see the blackboard, etc.

7. Record as normal or defective. Note the child's attitude during class, the repetition required during dictation lesson or when commands are given, etc.

8. Classify as good, normal, subnormal, poor. The alertness, vigour and expression of the child, the appearance of the skin and hair, the redness or pallor of the mucous membranes should be taken into consideration in determining the nutrition.

9. Note insufficiency, need of repair, cleanliness (good, average, bad) presence or absence of footwear.

10. Note the cleanliness of body and head separately as clean, slightly dirty, dirty, scurf, nits, vermin and sores as well as skin disease should be looked for; sores and skin diseases being noted under "Special Conditions, skin diseases."

11. The chest measurement should be taken at the level of the junction of the 4th costal cartilage and the sternum and should be recorded at full inspiration and expiration.

12. Including blepharitis, styes, conjunctivitis, trachoma, diseases of the cornea or lens, squints, nystagmus, etc.

13. To be tested by Snellen's Test Types at 6 metres (20 ft.) and recorded for each eye separately thus R. 6|6 and 6|12. Children under 6 years need not be tested by Snellen's types.

14. Including defects of articulation, *e.g.*, stammering, lisping, etc.

15. Note pyorrhoea, abscesses, number of carious teeth, cleanliness special features, *e.g.*, irregularity, Hutchinson's teeth, etc.

16. Including otorrhoea, wax etc.

17. Each ear to be tested separately by the forced whisper method. Numbers should be whispered and the child should be asked to repeat the numbers.

18. Includes contagious diseases, *e.g.*, ringworm, scabies, etc.

19. Note mouth breathing, nasal catarrh, deflected septum, enlarge turbinates, polypi. malformations of palate, etc.

20. Record as N. (normal) + (slight enlargement) + + (moderate and severe enlargement) and for each tonsil separately, *e.g.*, $R^{+}|L + +$.

21. Note as bright, average, dull, backward, mentally defective.

22. Functional or organic disease.

23. Normal (N) : slight+severe+ +.

24. Including paralysis, epilepsy, emotional or social instability.

25. Note indigestion, anorexia, diarrhoea, constipation etc.

26. Note in inches below costal margin.

27. (1) State whether the spleen is palpable or not.

(2) If the spleen is palpable, ascertain the position of the costal margin and feeling gently below it, ascertain whether the spleen is projecting below the costal margin. If it does, outline with a grease pencil that portion of the edge of the spleen which projects most freely (the 'apex' of the spleen) while the child is standing in a perfectly natural position, equally on both feet, and looking directly to his front. Using this mark as a guide measure in centimeters the distance between the apex mark and the costal margin. Record this as the size of the enlarged spleen for the child.

(3) To find the 'average enlarged spleen' of a group of children take the sum of these measurements and divide the sum by the number of children in whom splenic enlargement is recorded.

28. Glandular, osseous, pulmonary, or other forms and whether definite or suspected.

29. Note particular form of rickets, knock-knee, spinal curvature, etc.

30. Including deformities of the head, trunk, limbs, spinal curvature, bone disease, deformed chest, shortened limbs, club foot etc.

31. Any weakness or defect not noted above, *e.g.*, hernia, which may unfit a child for ordinary school routine including physical exercise.

Catamenia may be added to the schedule for girls' schools, if desired.

32. The notification card will be issued by the doctor through the teacher to the parents; the counterfoil should be returned to the teacher who will attach it to the schedule and enter the date of return of the counterfoil.

33. Includes a general summing up of the child's health and any peculiarities which may want watching. Includes also any special advice given to the parent or to the teacher regarding modification of school work, exercise, etc.

34. The teacher's remarks should include a general survey of the child's health including his special disabilities.

35. Special inspections should be entered in red ink. The findings at re-inspection and any notes of illnesses treated by the family doctor, dispensary hospital or at a school clinic or in school together with the dates of commencement and completion of the treatment should be entered in black ink.

The follow up of children with defects will be facilitated if a code is used to signify whether the child requires observation or treatment and nature of the treatment advised. Blue pencil may be used to mark the former class of defect for which treatment is unnecessary, but which must be kept under observation in case of unfavourable developments. For example if the child is suffering from slight enlargement of the tonsils which are causing no symptoms the symbol 'R.I.' (re-inspection) may be placed in blue pencil after the defect. Similarly a child wearing glasses for defective vision may need no immediate treatment but should be seen periodically and therefore marked with a blue 'R.I.' Red pencil may be used to mark defects requiring treatment and a red symbol used to indicate the nature of the treatment advised. For example, a red 'C.L.' may signify that the child has been advised to attend the school clinic, a red 'H' that the child has been referred to hospital or dispensary, and a red 'D' that he has been referred to a private practitioner. A circle round the symbol, *e.g.*, R.I. or H. may be used to indicate that a follow up visit to the home is desirable in order to explain to the parents the causes of the disability and the steps to be taken to ameliorate or cure defect. All cards marked in red or blue pencil will be seen by the doctor at the time of his visit.

REPORT OF THE COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION APPOINTED TO CONSIDER THE QUESTION OF THE RECRUITMENT OF EDUCATION OFFICERS, TOGETHER WITH THE DECISIONS OF THE BOARD THEREON.

At their Eighth Meeting held at Lucknow in January 1943, the Central Advisory Board of Education considered, *inter alia*, the report of the Committee appointed to consider the question of the recruitment of Education Officers. The Board adopted the recommendations of the Committee with the following observations :—

(i) They hoped that the Government of Madras would soon find it possible to institute a Class I Education Service to replace the Indian Educational Service;

(ii) though they agreed that a ageneral uniformity in the designations of the different grades of administrative service in education should be the ultimate objective, they felt it could only be achieved progressively.

REPORT OF THE COMMITTEE.

1. The appointment of the Committee was the outcome of a memorandum submitted by the Bengal Government which was considered by the Central Advisory Board of Education at their meeting in January, 1942. A copy of this memorandum will be found in Appendix 1(t) of the Proceedings of the Seventh Meeting of the Board. (Pages 111—114).

2. The discussion which took place at that meeting made it clear that the experience of Bengal was shared by practically all the other Provinces and that there was general agreement as to the urgent need of steps being taken to counteract the steady deterioration in the quality of the persons available for the senior posts particularly on the administrative side of the education service. The Committee are able to state at once that the results of their enquiry give them no reason to differ from the opinion set out above. From the information before them, they were satisfied that the drawbacks inherent in the present system, to which the Government of Bengal have called attention, are widespread and that the existing method of recruiting Education Officers, particularly on the administrative side, is not likely to produce men and women of the requisite calibre to enable an improved system of public education to be established and maintained. In view of the importance which ought to be attached to the education service, the attractions which it offers should be at least comparable with those offered by other major Government services. In actual fact, as will be seen from the examples given below, the financial attractions offered to young men and women of outstanding ability to enter the education service are distinctly inferior to those offered by other services. What, however, makes the position far more serious is the tendency to fill vacancies in the higher grades by promotion from the subordinate service and so to exclude the possibility of securing the services of first class graduates at the stage at which they are normally recruited into other branches of the Administration. The Committee wish to put no obstacle in the way of any officer of out standing ability making his or her way from the bottom to the top of the educational ladder but apart from other considerations they doubt whether the number of such people in any area would be sufficient to accord a reasonable field of selection for the highest posts. Moreover, since Education above all other public services should be put a premium on high academic attainment as well as personality and practical experience, it is clearly against the public interest to cut it off from any source of supply where such qualifications are likely to be found. The Committee are therefore convinced that the Education service must be put

in a position to recruit a substantial proportion of its senior personnel at stages and on terms approximating to those which obtain in other branches of Government service.

3. Before considering how far in order to achieve this object promotion from the subordinate service must be restricted and the inducements offered to entrants at a higher stage improved, the Committee thought it desirable to explore other possible means of making the service more attractive and thereby raising the general standard. It has been suggested that the experience of officers could be enlarged, their chances of promotion increased and the risks of a too narrow provincialism minimised if the educational service at any rate on its administrative side could be placed on an All-India basis somewhat on the lines of the Indian Educational Service which was abolished twenty years ago. While the Committee realise that the failure in many areas to replace the I. E. S. by a provincial service of equal calibre has exercised a very adverse effect on educational developments in recent years, they feel that so long as the present statutory position in regard to education remains in force, the difficulties in the way of operating an All-India Education Service are insuperable. Similar considerations, with the language difficulty added, also lead them to reject, albeit with reluctance, the possibility of comprehensive arrangements for the regular interchange of officers between one Provincial Service and another. Thee feel, however, that as the administrative staff of the Central Government develops, as they believe it must, the interchange of officers between the Central and Provincial Governments might be carried out with less difficulty than that between individual provinces and they recommend that this possibility should be further explored when the growth of the Central Education Department has proceeded sufficiently far.

4. Before proceeding to the main items of their enquiry, *viz.*, the minimum qualifications which should be regarded as essential for any Education Officer and the ways and means of securing an adequate supply of persons with these minimum qualifications, the Committee feel it desirable to define as accurately as may be necessary the meaning which for the purpose of this report they attach to the expression 'Education Officer'. They propose to regard the term as applying primarily to those members of the Education Service who are concerned more with administration than with teaching and within this category to those who hold positions of responsibility. It is realised that the heads of educational institutions have to a greater or less degree administrative duties and that in most services it will be expedient that they should be recruited from the education officer class and *vice versa*, but the Committee nevertheless feel that in the main their recruitment and conditions of service must be directly related to that of teachers rather than administrators and that this larger question falls outside their terms of reference. Education Officers, however, will themselves fall naturally into two distinct but interchangeable classes; the inside officer who deals with administration in the more restricted sense and the outside officer who is usually an inspector of schools of some kind. Since the Committee recognise the urgent need for improving both the quality and the quantity of the inspectorate if the great developments to which they look forward are to be properly supervised, they have dealt separately with this branch of the service. They wish however to emphasise the fact that in all essentials the inside and outside branches should be treated as complementary parts of the same service and that the advantage of officers designate for the most senior posts having had experience on both sides should never be overlooked. So far as the minimum qualifications for an Education Officer are concerned, the Committee are of opinion that such officers must possess high academic qualifications. While they do not desire to define these in terms of degrees or classes in view of the obvious difficulty of equating academic distinctions they hold that

any officer whose duty involves the supervision of teachers should possess an academic background which will command their respect. In view of probable educational development, they also think it necessary that an increasing proportion of Administrative Officers should possess special qualifications in technical, commercial and art subjects in order that they may be competent to supervise the work of such institutions, on the assumption of course that such institutions will before long be transferred to the control of Education Departments. They also attach importance for similar reasons to Education Officers having received the necessary training in the art of teaching.

5. The Committee are further of opinion that in view of the duties which they may be called upon to perform, Education Officers must have had practical experience of teaching and that, if possible, this experience should cover more than one type of educational institution. The Committee do not however think it necessary that the teaching experience should cover a very long period. Experience suggests that the teacher with too much experience does not usually make a good administrative officer since he tends to be set in his outlook and to require those under his control to adopt the methods which he himself found successful. Not less than three years' actual teaching experience should be prescribed and it is to be hoped that as conditions in the lower stages of education improve, the Education Officers with teaching experience elsewhere than in a university will become much more common.

6. The Committee attach the greatest importance to the personal qualities of the Education Officer. He perhaps more than any other class of public servant is called upon to deal with humanity and human problems and the success of his work both in the office and more especially in the schools must depend almost entirely on the tact and skill with which he handles those with whom his duties bring him into contact. His clients will be of all ages and drawn from all ranks of society. He must therefore possess in a high degree not only a sympathetic and liberal habit of mind but also those other attributes which are normally connoted by the word 'personality.'

7. Having indicated briefly that they hope with sufficient clarity the sort of qualifications which in their opinion an Education Officer ought to possess, the Committee pass on to consider what should be the main grades of Education Officers and what conditions of service, including salary, should be offered to ensure that they are filled with men and women of the requisite calibre. Since it is not uncommon either in India or in other countries to come across people who think there is something about Education which makes it unnecessary to pay its servants properly, the Committee think it desirable to record what might otherwise appear a truism, *viz.*, that if Education is to attract as good servants as other services it must offer comparable rewards. In Government service as in other walks of life pay and prestige tend to be closely related and the Committee are in entire agreement with the Bengal Government that it will always be difficult for the Education Officer to hold his own with officers of other services and particularly with district officers so long as they have reason to regard him as of inferior status. Salary is the determining factor and the Committee have felt it unnecesary to consider other conditions of services such as pension, leave, provident fund, etc., as they understand that in nearly all provinces these are covered by Fundamental and other rules which apply to Government servants generally.

8. The Committee anticipate, and indeed they think it desirable, that as a general rule the Education Officer, as they have defined him, will be engaged on inspection work during his earlier years of service. They therefore propose to designate as Inspectors the two lowest categories of Education Officers which they have in mind, even though in certain cases the officers concerned may be recruited direct into the headquarters office and may not be employed as

Inspectors at all. The lower category whom it is proposed to call Assistant Inspectors, will be recruited from colleges and schools of all types. Normally these will be Government institutions but the Committee see no reason why teachers of outstanding ability in non-Government schools should be debarred. The Committee have in mind that if the ordinary work of inspection is to be efficiently done a large number of officers, both men and women, will be required in this category., While opportunities should be provided for men and women of exceptional ability in this category to obtain promotion either to headships of schools or to higher grades in the administrative service, in the bulk of cases this will be the highest rank to which most people in this category will expect to attain. A fairly long scale is accordinly indicated and the following is suggested as a minimum both for men and women Rs. 150—10—250 (Efficiency Bar)—10—350 per mensem. The next category is one to which the Committee attach special importance for it is at this stage that a serious attempt should be made to recruit into the service men and women with qualifications comparable with those of the entrants to what are at present the more-attractive branches of Government service. Since the Committee have laid, it down that the full-fledged Education Officer must have had at least 3 years' teaching experience, it may be necessary in some areas in order to secure the right people at the right time to provide special facilities for officers in this category to obtain the necessary teaching experience after they have been recruited. The Committee hope, however, that as the existence of this category becomes known suitable persons will be induced to do the necessary amount of teaching with the object of securing admission to it. It is recommended that members of this category should be designated Deputy Inspectors, again whether actually employed on inspection or not, and that the minimum scale both for men and women should be Rs. 250—15—550 per mensem with a Selection Grade Rs. 550—20—750. The Committee appreciate the fact that this salary scale falls far short of those offered in other branches of Government service in certain Provinces. They point out, however, that the scale is a minimum one, that to prescribe salaries which some Provinces might regard as altogether beyond their capacity would serve no useful purpose and that in any case they attach more importance to equality of status and remuneration with other major services in the same area than to any particular figures.

9. The Committee feel that they should give some indication as to the size of this category in relation both to the category of Assistant Inspector and to the senior grades. Since the sizes and requirements of different Provinces vary greatly and since it is not contemplated that there will be anything but exceptional promotion from the Assistant Inspector to the Deputy Inspector category, there would appear to be no particular value in attempting to fix any numerical relationship between the two categories. Obviously the Deputy Inspectors will be much fewer in numbers. On the other hand inasmuch as the primary object of creating the Deputy Inspector class is to supply suitable material for subsequent promotion it is clear that the intake of Deputy Inspectors must to some extent be determined by the probable wastage in the higher ranks. The Committee feel that if the Deputy Inspector category is to hold out reasonably attractive prospects not less than 1/3 of its members should be able to look forward to promotion to the higher ranks and another 1/3 to reaching the selection grade. If this basis is accepted it should not be difficult to determine the approximate size of this category for each area.

10. Without attaching undue importance to any particular nomenclature the Committee recommend that the two categories of Assistant and Deputy Inspectors, as described above, should constitute the Junior Grade of Education Officers or Class II of the Education Administrative Service. Turning to the Senior

Grade the Committee contemplate that in all areas this will consist of a Class I and certain posts above Class I, *e.g.*, those of the Director of Public Instruction, Deputy Director of Public Instruction and the Chief Inspectors for male and female education. The number of these special posts as well as the number of officers in Class I will necessarily depend on the size of the area and the extent of its educational responsibilities. It is felt, however, that nowhere should the scale for Class I be less than Rs. 400—25—1,000. For the highest posts in the educational service, it is not feasible to suggest definite salaries again owing to the varying circumstances in different provinces. The Committee desire to suggest, however, that the existence of a few well paid posts at the top is a greater inducement to suitable young people with proper ambition to enter the service than a much larger number of posts offering only moderate remuneration. The Committtee also wish to call attention to the importance in their opinion, of the posts of Chief Inspector for male and female education respectively and they feel that such persons should certainly rank with the Deputy Director of Public Instruction and should be regarded as eligible for promotion to the post of Director of Public Instruction itself. They should in fact be the heads of the outside branch of the Education Service, the importance of which needs no emphasis. In view of the urgent need of attracting women with suitable qualifications into the Educational Services, the Committee did not think it desirable at the present stage to introduce any general differentiation of salary between men and women. If it is felt necessary to differentiate in any way in favour of men, such differentiation should only apply in the higher stages of the scales for the higher grades.

11. The Committee have discussed at the beginning of this report the possibility of arranging permanent or temporary exchanges between different areas with the object of enlarging the experience of administrative Officers. While they hope that in spite of the obvious difficulties to which they have called attention this question will not be permanently shelved, they feel that the important purpose they have in mind may be partially served if the principle of granting study leave to administrative officers is generally adopted. They feel it would do a great deal to keep officers fresh if at the discretion of Government and subject to the exigencies of the service they could be granted a period of study leave not exceeding twelve months as soon as possible after they have completed seven years' service. With the further object of counteracting the tendency to get into a groove, which is inevitable in cases where officers are confined for long periods to service in areas remote from centres of intellectual activity, all reasonable facilities should be granted to them to attend Conferences and meetings on educational subjects outside their areas. The Committee deplore the tendency in certain areas to restrict such facilities on the plea of economising in travelling allowances.

12. Apart from the normal graded administrative system which they have outlined above, the Committee recognise the importance in the interest of obtaining variety of experience and securing persons with practical experience of certain aspects of education, the development of which is at the moment in an embryonic stage in this country, of recruiting officers, from outside the particular areas concered and in certain cases from outside India altogether. They therefore have no objection to the practice of engaging officers on contract provided it is not done to an extent which would deprive other officers in full time service of a reasonable prospect of promotion to higher posts.

J. M. BOTTOMLEY (*Chairman*).
W. H. F. ARMSTRONG.
P. N. BANERJEA.
G. D. BARNE.
MAURICE GWYER.
JOHN SARGENT.

REPORT OF THE COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION APPOINTED TO CONSIDER THE QUESTION THE TRAINING, RECRUITMENT AND CONDITIONS OF SERVICE OF TEACHERS, TOGETHER WITH THE DECISIONS OF THE BOARD THEREON.

At their Eighth Meeting held at Lucknow in January 1943, the Central Advisory Board of Education considered, *inter alia*, the report of the Committee appointed to consider the question of the training, Recruitment and Conditions of Service of Teachers. The Board adopted the recommendations of the Committee and decided that the report be forwarded to Provinces, Local Administrations, the States and educational authorities concerned for their consideration.

REPORT OF THE COMMITTEE.

1. The Committee feel it desirable to make certain preliminary observations with regard to their report. It became apparent at an early stage in their deliberations that in the time at their disposal they would be unable to deal with the vast subject remitted to them in anything like a comprehensive fashion. They decided therefore that they must lighten their task by postponing for future consideration either by themselves or by some other Committee that part of their reference which concerns teachers in Universities or institutions of University rank, including the higher stages of Technical, Commercial and Art Education. In extenuation of this omission they can at least urge that the conditions of service of University teachers, while anything but satisfactory in many instances, compare much less unfavourably with those of other learned professions in this country or of the teaching profession in other countries than those which at present obtain in the lower stages of the education service. There are other reasons also which need not be specified here why in the Committee's opinion the training and recruitment as well as the conditions of service of Universitty teachers should receive separate consideration.

2. The second matter to which the Committee wish to call early attention is still more important. Both their own experience and the information which has been placed before them in the course of their enquiry have convinced them that the whole condition of the Teaching service in the lower stages of the educational system in this country is so unsatisfactory that no real progress can be looked for unless and until the position of the teacher is radically improved. For it is a truism which appears to be ignored in India, that the quality of the teacher is the one factor which must always determine the efficiency of any educational system. Unless a satisfactory supply of suitably qualified teachers is forthcoming, the money spent on education will be almost entirely wasted. It is often suggested in quarters, which are either unable or unwilling to face the financial implications of providing India with a proper system of public education, that the teacher should be attracted to his work by a sense of vocation or service to the community, rather than by any financial inducement. Ideally this may be true and it is to be hoped that an increasing number of men and women will be led to take up teaching by high motives of this kind but in actual fact it amounts to little more than wishful thinking. Common sense supported by experience leaves little doubt that if the teaching service is to secure an adequate supply of the right type of people, it must offer practical attractions comparable with those which other branches of the public service offer to their members. If the labourer is worthy of his hire, then of all labourers the good teacher is most worthy of his. Teaching if

properly done is exacting both on body and mind: the conditions under which teachers often have to live in a country like India isolate them from social amenities and from intellectual companionship; the raw material in which they work, the bodies and minds of children is not merely the most valuable asset of the community but once spoiled it can hardly ever be repaired. It might reasonably be assumed therefore that of all servants of the public the teacher would be the best rewarded and the most esteemed. Reference however, to Appendix II to "Education in India in 1938-39" will show that as things are, teachers, at any rate in the primary and middle stages on which the efficiency of the whole system must ultimately depend, are being paid at rates inferior to those which apply to most classes of menials. There is, therefore, a great gap between the position that now exists and the lowest standard which the Committee can accept as satisfying the essential criterion for the establishment of an efficient teaching service, *viz.*, that a teacher should approach his daily work free from the strain of domestic financial anxieties. There is only one way to ridge this gap and the Committee frankly recognise that the minimum recommendations, which would have any prospect of producing teachers of the requisite standard and putting the profession on a respectable basis, will involve financial commitments so vastly in excess of the present public funds devoted to education that most authorities will regard them, at first sight at any rate, as entirely impracticable. Since, however, the Committee believe that the problem of providing India with a reasonably satisfactory system of public education cannot be indefinitely shelved, they have felt the necessity of making such recommendations as in their opinion will achieve this purpose, even if they may involve a drastic reconsideration of educational finance, including the relations between the Central and Provincial Authorities. At the same time, however prohibitive from the financial point of view as the cumulative effect of their proposals may appear, the Committee wish to point out that their adoption would still leave teachers as a whole in an unfavourable financial condition compared with other persons who enjoy professional status and that a country which claims equality with other civilised nations can hardly remain satisfied for an indefinite time with a state of affairs where the teacher is worse off than the clerk or where his economic position generally *vis-a-vis* that of other, educated classes is substantially inferior to that of the teacher in other countries. The Committee therefore feel that the adoption of their recommendations, drastic as they may seem, must be regarded not as a final settlement of the question at issue but as constituting a practicable stage in the transition from what is to what ought to be.

3. *A. Training.*—The Committee have no hesitation in expressing the opinion that every teacher employed in any kind of school maintained or aided out of public funds or recognised by Government must be trained. Before very long they hope it will be possible to extend this requirement to every school which is allowed to exist at all. They believe that there is a technique or art of teaching which can be learnt and that if this is so, before any man or woman is allowed to operate on human material, he or she must be required to acquire the necessary mastering of this technique. In laying down this general principle, the Committee realise that it may not be practicable to apply it in the case of all existing teachers, though they urge that so far as training facilities permit, opportunities should be afforded to all existing teachers, who are not trained, to become trained. They regard it, however, as essential that steps should be taken without delay to provide the necessary training facilities in order that all entrants to the teaching profession after a given date, which should be in the reasonably near future, shall have received the minimum training hereinafter prescribed and they recommend that Povincial Governments should take such measures as may be necessary to compel local bodies to

comply with this requirement so far as any schools under their control are concerned. In order that concrete effect may be given to this proposal, it is further recommended that the responsible authorities should work out a progressive programme for ensuring that all teachers in their schools become trained within a specified period.

4. In addition, or rather as a necessary preliminary to the question of training, the Committee wish to lay it down that any person entering upon a course of training should have minimum educational background. They are satisfied that this minimum, even under existing conditions, can in no case be made lower than the possession of a Matriculation Certificate or its equivalent.

5. The Committee also considered whether it was desirable, in addition to this minimum educational qualification to prescribe a minimum age for entering upon a course of training. While they realise that such a step may be open to certain educational objections, they believe that these will be outweighed by the advantage of fixing a definite limit for the guidance of the responsible authorities and they accordingly suggest that no candidates shall be admitted to a course of training unless they are over the age of 16 or will reach that age during the calendar year in which they are admitted.

6. These general principles have to be applied to the training of teachers or schools of different types., Beginning with the primary school, which with the addition in due course of nursery and infant classes may be regarded as the basis upon which the whole educational system must be constructed, the Committee are opinion that while the fundamental requirements in regard to minimum educational background and training in the art of teaching should apply here as elsewhere, special arrangements may be needed during a transitional period to enable suitable candidates from rural areas, and particularly female candidates, to reach the educational standard prescribed for admission to a course of training. A scheme somewhat on the lines of the pupil teacher system formerly in operation in Great Britain might perhaps be adopted. This would allow suitable boys and girls from Middle Schools to be transferred to special centres or classes attached to high schools and given special tuition in order to bring them to the required educational standard. Whether during this period it will also be possible to test their probable suitability for future training, is a question which will require further consideration.

7. In the case of Nursery and Infant schools or classes, the Committee, while recognising that recruits should possess a special aptitude for this responsible task, see no reason to prescribe any educational background beyond that already laid down in the case of primary teachers. The Committee are convinced that teachers in schools of this type should invariably be women and they are further of the opinion that nearly all boys as well as girls under the age of eight benefit more from being under the instruction of women than of men.

8. With regard to Middle Schools, existing conditions compel the Committee to consider separately the Vernacular Middle School or as they would prefer to call it, the Senior Basic School, and the Anglo-Vernacular Middle School, whether the latter is a separate institution or forms part of a high school. The Committee look forward, however, to the time when schools of this type will be absorbed into the ordinary high school system. For teachers in all schools at the Middle stage the Committee accept Matriculation as the minimum educational background though they look forward to the time when teachers with intermediate and even graduate qualifications will enter this branch of the service in increasing numbers.

9. So far as high schools are concerned, *e.g.*, all classes above the middle stage, which has already been dealt with, the Committee are of opinion that

a degree or its equivalent should be laid down as the minimum educational qualifications and that it is unnecessary in this case to prescribe any minimum age for admission to the training course. A similar recommendation may also be made in the case of teachers of ordinary subjects in schools of the Technical High School type. What is required for teachers of specialised subjects in such institutions is dealt with later in this Report.

10. Consideration was also given to the minimum educational qualifications and the minimum age for admission to the appropriate course of training in the case of teachers in special schools for mentally or physically handicapped children. The Committee feel that generally the requirements should be the same as in the case of primary schools, though they realise that in selecting recruits for such schools special attention will have to be paid to personal characteristics and aptitudes, as in the case of Nursery and Infants teaching, and that the course of training will also have to be differentiated. Moreover, it may be desirable to establish a special All-India Institution for training teachers of the blind, deaf and dumb.

11. The Committee then turned to consider what would be the minimum length of training for the different categories of teachers in the various types of schools. In view of the demands on the technical skill of the teachers, which are implicit in that conception of Basic Education which has been approved by the Central Advisory Board of Education, and which it is hoped will increasingly determine the normal methods of instruction at the primary and middle stages, the Committee feel that the necessary technique cannot be acquired in any case in less than a period of two years. The minimum period may suffice so far as the teachers in primary schools are concerned, as well as for those in Nursery and Infant Schools, provided that special emphasis is laid in their case on training in crafts suitable for very young children. In the case of Middle Schools of the senior basic type, however, where special importance will be attached to craft training and where the skill required by the teacher both in the craft itself and in correlating other subjects of the curriculum with it will be of a higher standard, the course of training should normally occupy three years, though this may perhaps be reduced to $2\frac{1}{2}$ years where this fits in more conveniently with the local educational organisation.

12. In the case of Anglo-Vernacular Middle schools or middle classes in ordinary high schools, the Committee are of opinion that the training course may be limited to two years in view of the fact that in schools of this type the same demand for craft efficiency will not be made on the teachers.

13. In the case of teachers in the higher classes in high schools, for whom a degree or its equivalent has been prescribed as the minimum educational qualification, the Committee feel that the actual training in teaching might be completed in one year, although a minimum course of eighteen months is to be preferred. The same would also apply in the case of teachers of ordinary subjects in technical schools. The question of specialist teachers in such institutions will be dealt with separately. In the case of teachers in special schools the Committee are of opinion that while the minimum course of training should not be less than two years, it will probably be desirable, in view of the special requirements of such teachers and particularly of the importance of their fully appreciating the psychological aspect of their task, that the course should be extended to three years.

14. The next question for consideration is what should be regarded as the minimum content of a training course for the different categories of teachers and what proportion of the course should be devoted to practical training in teaching. It has been generally held that in the case of teachers of younger

children, the question of technique as compared with erudition is more important than it becomes at a later stage of education. Without entirely accepting this contention, the Committee are of opinion that the basic system of education rightly lays great stress on technique and that consequently both for the primary or junior basic stage and for the middle or senior basic stage, training course should be mainly devoted to giving students the necessary facility with a craft or crafts and teaching them how to correlate other subjects with the craft work in a rational way. So far as what may be called general subjects are concerned, the Committee hope that, given the minimum educational qualification which they have prescribed for entry, the amount of time which will need to be devoted during the actual training course to improving their general knowledge of the trainees should not be great. In fact it will be desirable to concentrate mainly on the best way of relating the principal aspects of the general subjects to local environment and cultivating, what may be called a more scientific habit of mind on the part of the teacher towards the world in which he and his pupils live. The village teacher above all should be equipped with the means of counteracting those tendencies which are hostile to educational development of the right kind.

15. In order to provide time and opportunity for giving effect to these general principles the Committee recommend that in the case of teachers for Primary or Junior Basic (including nursery and infant) schools, one-third of the course should be devoted to improving and enlarging the general educational background of the trainees with special emphasis on such subjects as nature study, local literature and history together with a second language, where such may be required. Of the remaining two-thirds of the course half should be devoted to the theory and method of teaching with special reference to handicrafts and the problem of correlation and the other half to practical teaching. With regard to teachers in Vernacular Middle or Senior Basic Schools, a similar proportion of time should be devoted to improving the general knowledge of the students as in primary schools, though in view of the fact that the course will as a rule cover three years the actual amount of time will be correspondingly greater. In view of the increasing importance of the craft side at this stage, the Committee suggest that the amount of time devoted to this aspect of training should be increased to 4|9th of the total time as compared with 1|3rd in the case of primary teachers. This means that the amount of time devoted to practical teaching will have to be reduced to 2|9th of the total, but since the course is longer, this will not mean that the Senior Basic intending teacher will spend less time in front of a class than his colleague in the primary school. So far as intending teachers for Anglo-Vernacular schools or the middle classes of high schools are concerned more importance must be devoted to improving their general knowledge in cases where they only possess the minimum qualification and it is suggested that half of the two years' course should be allocated for this purpose. As they will not be greatly concerned with handicrafts or the problem of correlation, less attention need be devoted to the theory and method of teaching and probably 1|6th of the total course should satisfy all reasonable requirements in this respect. Practical teaching should occupy 1|3rd of the total time as in the case of teachers for primary schools. In the case of teachers of the higher classes in high schools, as they will as a rule be graduates, their educational equipment may normally be regarded as adequate and the whole of their one year course should be equally divided between theory and method of teaching and practical teaching in front of a class.

16. The Committee in this connection gave consideration to the question whether for practical training in teaching the custom of providing model practising schools which is prevalent in many parts of India should be encouraged.

They came to the conclusion that while it may be necessary to continue such schools where facilities for practice in ordinary schools are not readily available conditions in the practising schools tend to be artificial in so far as they do not usually reproduce the conditions under which the student teacher will subsequently be required to teach, and that consequently, wherever possible, students should do their practical teaching in ordinary schools.

17. The next matter considered was whether it is desirable that teachers of special subjects, *e.g.*, Handicrafts, Domestic Science, Physical Training, Art, Music, etc., should be trained in special training institutions or whether facilities should be provided for specalised courses in these subjects in ordinary training schools and colleges, either during the normal course or during an additional period. So far as the primary (Junior Basic) schools are concerned it was felt that it should be possible in the ordinary course of two years to provide such training in these subjects as would equip the teacher to deal with them up to the requisite standard. At the Vernacular Middle (Senior Basic) stage it is reasonable to expect that in the course of three years students will be able to acquire the necessary skill in two main crafts or at any rate in one main craft and a subsidiary craft and that teachers of Art in the sense of design and practical craftsmanship related to their crafts should also obtain the necessary training without any extension of the course. In the case of teachers of Domestic Science and specialists in Physical Training (including health and welfare work) it may be necessary to add an extra year to the course in order that the full implication of these extremely important subjects may be studied. The training course especially that for women teachers should include special attention to personal and sex hygiene. In the case of any teachers in Anglo-Vernacular schools or the middle or higher classes in high schoools, who will be required to specialise in these subjects, it will be necessary for them to devote an extra year to such specialisation in view of the fact that their normal course only covers two years and in the case of graduates only one. The Committee are of opinion that Music will have to be treated separately and that training in this subject can probably best be arranged in a separate training school or college.

18. The Committee devoted special consideration to the question of the training of teachers, of technical and commercial subjects, for whom it is reasonable to expect there will be a largely increased demand in order to meet the anticipated development of schools of the technical high school type. It was felt that such teachers should not only have had practical experience in industry or commerce but should also be recruited as a rule from amongst students who have received their previous education in technical and commercial institutions. The Committee do not, however, feel that it is either possible or desirable to prescribe any minimum educational background for such teachers in view of the great variety of subjects involved, and of the equally great difference which may be expected in their preliminary education but they feel that in all cases where a person with whatever may be accepted as an adequate educational background desires to become a teacher of technical or commercial subjects, at least one year's training in the art of teaching will be required and this may reasonably be arranged in the way already suggested for teachers of the higher classes in high schools.

19. In addition to the initial training prescribed above, the Committee wish to emphasise in the case of all teachers the importance of providing refresher courses at reasonably frequent intervals. The teacher stands in need of periodical reconditioning more than any other professional class and this need becomes still more urgent in view of the isolation in which many teachers in this country necessarily spend their working lives. In addition to refresher courses and with the same object in view, the Committee recommend that facilities should be

provided for teachers to visit other districts or areas from time to time to observe work which is being done, in comparable schools or to study new experiments; in the higher stages of education they advocate the grant of study leave in order that teachers may bring their knowledge up-to-date in their particular subjects.

20. *Recruitment of Teachers.*—In the previous section of their report the Committtee have set out the minimum training which they regard as essential in order to secure properly equipped teachers in the various grades of schools in the educational system. They have felt it necessary to indicate with some precision the kind of finished article they have in mind and they now propose to explore ways and means of obtaining an adequate supply of the materials from which such articles can be produced. Since the process of manufacturing a trained teacher is an expensive one, the supply must obviously be related as closely as possible to the ascertainable annual intake in any given area. This intake will in turn be decided with reference both to the average wastage in the existing establishment and to the additional staffs which will be required for contemplated developments. Moreover, inasmuch as the training of a teacher occupies a considerable period, it is clear that the provision of accommodation in training institutions and the admissions thereto will have to be determined in the light of a long-term policy. It is particularly important that in the case of the teaching profession supply should be related to demand with the greatest care. Fortunately from this point of view there can be little doubt that if the educational requirements of India are to be satisfied within a reasonable period a vast increase in the number of teachers to be trained and consequently in the training institutions required will become inevitable. This applies with particular force in the case of women teachers, the present supply of whom is hopelessly inadequate. The problem will be to train enough teachers and for many years to come there should be little risk of any qualified teacher who is prepared to teach in schools below the university stage, failing to find employment.

21. The Committee have given careful consideration to the ways and means of stimulating the supply of suitable candidates for the teaching profession. There are two main causes which may induce young people to take up teaching, firstly a sense of vocation, secondly conditions of service which are reasonably attractive. There is nothing incompatible, between these but as they have already stated, the Committee are satisfied that the first of these without the second will never produce either the quantity or quality of the teachers required for a national system of education. The Committee hope that the recommendations which they will subsequently make in regard to the conditions of service of teachers, including the question of remuneration, will go some way towards fulfilling the second requirement.

22. While accepting indeed emphasising the general principles that teaching like other professions must depend on its inherent attractions, if it is to be assured of a regular and adequate supply of suitable recruits, the Committee feel bound at the moment to have regard to the particular circumstances of India as well as to the experience of other countries in connection with the building up of a national teaching service. The question to be decided is whether at any rate during the transitional stage it may ot be justifiable as well as expedient to offer special inducements in the form of scholarships and stipends to suitable boys and girls who will undertake while still at school to become intending teachers. In this connection it may be pointed out that it will be unwise for sometime time to count no obtaining enough recruits from high schools alone or to ignore the supply of promising material which may be available in schools of the Senior Basic or Anglo-Vernacular type. Consequently so long as the need remains, arrangements should be made for suitable boys and girls to be selected from such schools and transferred to special classes attached to high schools where by an intensive course they may be brought up in two or three

years to the Matriculation standard. During this period such intending teachers will require adequate stipends to cover the cost not merely of tuition but also of residence. Similar assistance should also be available for selected pupils in High Schools who would not otherwise be able to afford to complete the appropriate course.

23. When intending teachers have reached the standard prescribed as the minimum educational background, the question arises whether they should immediately enter upon training course, or whether before so doing, they will benefit in the end by spending a limited period in schools as untrained teachers. Experience in fact indicates that boys and girls who have had some practical experience of managing a class, as a rule derive more advantage from the actual training course than those who enter upon it direct from school. While the Committee feel that there is much to be said in favour of this system, they do not desire to prescribe it as universal procedure, since they realise that in many cases it may present administrative difficulties and that a considerable number of students are fitted to enter upon the necessary course of training without any preliminary testing or experience of this kind. They also wish to lay it down as a necessary safeguard that where untrained teachers are appointed, the period of this appointment must be strictly limited and should in no case exceed two years.

24. In view of the fact that the main objective in any form of recruitment is to secure the right type of people and these may be found in all classes of the community, it is of the utmost importance that at the training stage adequate financial assistance should be available for all students who need it. This assistance should not merely cover the actual cost of the training course but should also enable students to mix in the ordinary life of the community in order that their experience may be enlarged. The Committee do not regard it as necessary that the training course should be free for all provided that generous financial assistance is available for those who without it would not be able to enter upon or complete the course. Where, however, such a provision does not exist, it will probably be desirable in the interest of obtaining sufficient recruits to abolish any charges at this stage.

25. *C. Conditions of service.*—The Committee have already expressed the opinion that whatever inducements or facilities may be offered during the preliminary training, the primary requisite for the establishment and maintenance of an efficient teaching service is the provision of attractive conditions of service, including scales of pay. How far present conditions in this country are from fulfilling this requirement will be apparent to anyone who examines the figures given in Appendix II to Education in India in 1938-39. The Committee feel that they are using very mild language when they express the opinion that the conditions obtaining in this respect, and particularly in regard to the lower stages of education, are ludicrously inadequate and that nothing short of a drastic reconsideration of the whole matter can achieve the desired results. They fully appreciate that the cost of education at all stages is largely determined by the salaries of teachers, and that a comparatively small increase in the present expenditure under this head may well prove extremely embarrassing to existing educational budgets. As they have already pointed out, however, they believe that the financial issue can no longer be evaded and that if anything is to be done to place the teaching service on a proper basis, to secure the right kind of men and women for it and to give teachers the status which they ought to enjoy in the eyes of the community at large, a great improvement must be effected in their conditions of service, cost what it may. If India wants her children to be taught properly, she must be prepared to pay her teachers properly or face the alternative, which is permanent inferiority in the society of civilised nations.

26. Since the primary schools form the basis on which the national system must be erected and since the primary system in view of its magnitude will also be the determining factor financially and otherwise, the Committee are in no doubt that the most important problem before them is to determine the conditions of service of teachers in primary schools. With this object in view they have considered the practicability of prescribing a minimum national scale for both men and women in both urban and rural areas. They realise naturally that in a country as large as India the conditions in different areas will vary to an extent which will obviously have to be taken into consideration in any salary question but this issue can in their opinion be dealt with by increasing the minimum scales where necessary to meet the incidence of local costs. They do not, however, propose to take into consideration such special increases in the cost of living as may have arisen out of war circumstances and the scales, which they recommend are based on pre-war costs. With these and other factors in mind, the Committee recommend that the minimum national scale for teachers in primary schools (including Infants and Nursery schools should be Rs. 30—1—35—3 (biennially)—50 p.m.: the same scale is recommended both for men and women. The Committee regard it as essential that teachers of village schools should have free houses: where this is not possible 10 per cent. should be added to their salaries. This scale, which has been framed for what may be described as normal rural areas, may be increased up to 50 per cent. to meet the needs of areas where the cost of living or other factors necessitate a more generous scale, *e.g.*, in Delhi or one of the provincial capitals the initial salary for a primary teacher may be raised to Rs. 45 and the maximum to Rs. 75.

For teachers in Vernacular Middle or Senior Basic schools the minimum scale recommended is Rs. 40—2—80 p.m., with the same provision as in the case of primary teachers for increasing it to meet the needs of more expensive areas. Here also the Committee see no reason for differentiating between men and women.

The same scale with similar provisos is suggested for teachers in Anglo-Vernacular Schools and for non-graduate teachers in the middle classes of High Schools.

For graduate teachers in High Schools the Committee recommend a scale of Rs. 70—5—150 p.m., again with the same provisos as set out above.

27. The scales prescribed above are for ordinary assistant teachers in the different types of school. The Committee are aware that by themselves they will hardly achieve the object of making the teaching service attractive to really good people or placing it on a level of comparative equality with other professions. But the Committee believe that the inducements to the keen and ambitious to take up teaching can be increased if a reasonable number of the posts are available which carry salaries above the ordinary scales. Outstanding among these posts are those of Headmaster and Headmistress and much may be done to raise the status of teaching in the eyes of the public generally and of parents in particular by according special recognition to these posts. Apart, however, from what may be described as the propaganda aspect of this matter, the Committee are afraid that not only the administrative responsibilities of Heads in all but the smallest schools but what is much more important the influence which particularly in rural areas they should exercise on pupils, parents and the community at large, have been almost entirely ignored. The Head of even the smallest school ought to be a person of consequence in the district and this should be

reflected in his salary. The Committee accordingly recommend that Head Teachers in all grades of schools should be remunerated as set out below.

N.B.—As in the case of assistant teachers scales may be increased up to 50 per cent. in areas where cost of living by prewar standards is more expensive.

1. Primary Schools.

Grade.	*Size of School.*	*Salary scale p. m.*	*Remarks.*
A.	1 or 2 class sections ...	*Rs. 10 above scale for assistants.	Same scale for men and women. Where no house is provided 10% should be added to salary.
B.	3, 4 or 5 class sections ...	Rs. 50—4—70	
C.	5, or 6, 8 or 10 class sections.	Rs. 60—4—80	
D.	Above 8 or 10 class sections.	Rs. 80—4—100	

2. Middle schools (Vernacular and Anglo-Vernacular).

Grade.	*Size of School.*	*Salary scale p. m.*	*Remarks.*
A.	3 or 4 class sections ...	Rs. 80—4—100	Same scale for men and women Where no house is provided 10% should be added to salary.
B.	4, or 5 to 6 or 8 class sections.	Rs. 90—4—110	
C.	Over 6 or 8 class sections	Rs. 110—4—130	

3. High Schools.

Grade.	*Size of School.*	*Salary scale p. m.*	*Remarks.*
A.	Up to 250 pupils on roll	Rs. 175—10—255	Same scale for men and women.
B.	251—500 pupils on roll.	Rs. 250—10—350	
C.	Over 500 pupils on roll. ...	Rs. 350—15—500	

The Committee also favour the creation of posts of responsibility in all types of schools except the smallest ones. They feel that the existence of such posts will not only relieve head teachers of a certain amount of routine administrative responsibility and so free them for attention to their more important duties but will also act as a further incentive to the more ambitious type of teacher. The Committee recommend that posts of responsibility should be created on the following scales:—

Primary Schools.			
Grades A & B	None	Rs. 5 p. m. in addition to ordinary scale.	
Grade C	1		
Grade D	2		
Middle Schools.			
Grade A	None	Rs. 10 p. m. in addition to the ordinary scale.	
Grade B	1		
Grade C	2		
High Schools.			
Grade A	2	Rs. 20 p.m. in addition to the ordinary scale.	
Grade B	4		
Grade C	4		

The Committee are of the opinion that appointments to posts of special responsibility should be made for periods of three years, the teachers in question being eligible for re-appointment subject to satisfactory service.

28. The Committee considered the question of remuneration of specialist teachers and are of the opinion that these may be divided into two grades:—

(i) Teachers of special subjects in Vernacular Middle (Senior Basic) Schools, in Anglo-Vernacular Schools and in all the middle classes of high schools;

(ii) Graduates.

They feel that in the former case, they should be granted one year's seniority on the appropriate scale together with Rs. 2 p.m. as a personal allowance. In the case of graduates they are of the opinion that no additional remuneration is required.

*By class section is meant a unit under a separate teacher. In some parts of India there are 4 classes in full primary schools, in others 5 : similarly in Middle Schools there may be 3 or 4 classes.

29. The Committee are of the opinion that all recognised teaching service should ultimately become pensionable and that where no pension funds exist or can be expected to exist in the near future, contributory provident funds should be at once established on the basis of 50 per cent. contribution from the teacher and 50 per cent. from the employer.

30. The Committee recommend that where teachers are transferred from one school to another, either in the same area or in different areas, the period which they have spent in recognised service should be taken into account in determining their salaries in the new school or area.

31. The Committee recognise that apart from purely financial considerations such matters as sick leave, size of classes, hours of work, holidays, etc., have an important bearing on the attractiveness or otherwise of conditions of service. They feel, however, that to frame suggestions in regard to matters of this kind on an all-India basis is a matter of extreme difficulty in view of differences in local circumstances, and they suggest that if the Board think it desirable that these questions should be investigated further, they should either instruct the Committee to take them into consideration and present a further report or should appoint a special committee for the purpose. The Committee also attach importance to security of tenure for members of the teaching profession, and they are aware that the present unsatisfactory situation in this respect in many areas is one of the gravest factors which deters people from entering the profession. While they agree that every teacher may be required to serve for a year on probation, they are of the opinion, that once the probationary period has been satisfactorily completed, the teacher in question should be given a permanent appointment.

32. The Committee have already referred to the fact that the proposals they are now submitting, inadequate as they may be in some respects from the point of view of securing equality for teachers with other classes of Professional people, will still, if adopted, increase the cost of education to an extent which most Provincial Governments will find it extremely difficult to meet from their existing resources. The Committee share the view expressed by the Committee on Basic Education that if progress of any real and permanent kind is to be made in this all important connection, it will be necessary for the Central Government to come to the assistance of Provinces, and they recommend that the Central Government should contribute not less than 50 per cent. of the cost of the adoption by any Provincial Government of scales of salary for the different categories of teachers not less than those recommended in this report.

JOHN SARGENT, (*Chairman*).
J. M. BOTTOMLEY.
G. G. R. HUNTER.
A. S. KHAN,
RENUKA RAY.
SHAH ALAM KHAN.
P. F. S. WARREN.

REPORT OF THE TECHNICAL EDUCATION COMMITTEE OF THE CENTRAL ADVISORY BOARD OF EDUCATION, 1943.

(The report was adopted by the Board at their tenth meeting in January, 1944.)

1. The Committee had before them, among other documents, the Report on Vocational Education in India by Mr. A. Abbott, formerly H. M. Chief Inspector of Technical Schools, Board of Education, England, who visited India in company with Mr. S. H. Wood in 1936-37. His very valuable survey deals fully with the scope, content and duration of the courses which should be provided in the different types of technical institutions and the Committee regard it as unnecessary to cover the same ground again. They are of opinion, however that some of Mr. Abbott's conclusions must be reviewed in the light of the Report of the English Board of Education's Consultative Committee on Secondary Education with special reference to Grammar Schools and Technical High Schools (1939), hereinafter referred to as the "Spens Report", and more particularly in the light of the changes which the war has brought about in Indian industrial conditions generally. Special attention should be directed in their opinion to the culture and vocational value of the new type of secondary schools, called Technical High Schools, envisaged by the Spens Report. The success, which experimental schools of this kind have already achieved in England, in ensuring to Industry and Commerce a fair share of the best brains of the country, gives grounds for hope that they may satisfy in India also a need which is already urgent and is likely to become still more so in the postwar period, if present anticipations in regard to industrialisation are realised.

It impossible to forecast with precision at the moment to what extent the expansion of industry due to the war will be maintained or accelerated after the war or what form or forms it will take. This will largely depend on the plans adopted for post-war reconstruction and development. It is, however, safe to assume that there will be sufficient industrialisation to create an urgent and increasing need for facilities for technical education and that, given an adequate system of practical instruction, there is no reason why India should not be able before long to produce all the skilled artisans, technicians and research workers necessary for her full industrial development.

2. Hitherto the demand has been restricted partly by the limited number of openings which have been available in Industry and Commerce and partly by the practice of filling the more remunerative posts with imported technicians. The supply of suitable students has been adversely affected not only by the uncertainty of subsequent employment but also by the fact that young Indians of the middle and upper classes have not in the past taken readily to industrial occupations. The instruction itself has not escaped the over-academic atmosphere which characterises education generally in India nor has it been linked up closely enough with the actual conditions obtaining in works and factories. What it is fashionable to call a vicious circle has been described by Mr. Abbott in the following words:—

"No country can initiate and carry on industries on a large scale, unless it has an adequate supply of men specially trained for the direction and management of large industrial concerns as well as of others qualified for the minor but very important supervisory posts in them. On the other hand it cannot be expected that capable and ambitious men will devote themselves to acquiring this special knowledge and skill unless they see a reasonable prospect of exercising it and gaining a decent livelihood thereby".

The experience of the war, however, has already led to a number of salutary changes; it has compelled a large expansion of industry and created a greatly increased demand for technicians of all grades, while at the same time the urgent need for skilled and semi-skilled workers has led to almost every technical insti-

tution in the country becoming a centre for Technical Training Schemes. Many young men, who would not otherwise have embarked on a technical career, have been recruited under these schemes and the prejudice against industrial employment has been steadily breaking down. This process is likely to be accelerated when Technical High Schools become an established part of a selective High School system. The ground is, therefore, being rapidly prepared for developments on practical and up-to-date lines but before any attempt is made to forecast the nature and scope of these developments or the precise lines which they should follow, it is necessary to define in relation to the requirements of a modern community the function of technical instruction, including the cognate subjects of education in Commerce and in Art as applied to industrial and commercial needs.

3. Technical education, as a branch of education, has a special purpose of its own but it cannot too strongly be emphasised that it is after all an integral part of the general educational system and not merely a special training for industrial employment. "No definition of technical training", observed the Bryce-Commission,* "is possible that does not bring it under the head of secondary education, nor can secondary education be so defined as absolutely to exclude from it the idea of technical education".

4. The conception of the function of technical education, as regards both its aim and its content, has been considerably revised and enlarged in Western countries during recent years. Consequently it is important to emphasise from the outset that any scheme for the development of technical instruction as an integral part of a national system must have a two-fold character. It must both form a link between education and industry and it must at the same time receive quite separate consideration as a form of mental training which is especially suited to certain types of intelligence irrespective of their future occupations.

The primary function of technical instruction remains and is likely to remain that of satisfying the needs of industry and commerce for (a) skilled craftsmen, (b) intelligent foremen and executives, and (c) research workers. In Western countries, however, of late years the content of a technical curriculum has been steadily widening, due on the one hand to increased demands on the part of industry, created not only by accentuated competition but also by the emergence of entirely new industries, and on the other hand to a recognition perhaps rather belated, on the part of those responsible that technical education, if it is to be really fertile, should include the study of design and distribution as well as the actual processes of manufacture. The industrial product of today to command a market must do its work efficiently, must be attractive to the purchaser and must pass easily and cheaply from the maker to the consumer.

Moreover, the changes which are affecting the character of what is produced are also determining the training of those engaged in production. The ranks of the skilled craftsmen, depleted by the advent of the machine and mass production, are being reinforced by the makers and menders of machines and machine tools. Training in precision work has already acquired an importance out of all proportion to the number of men so employed. New problems, again both human and material, call for more sympathy, more imagination, and a deeper insight into the processes they control from those placed in positions of authority. In his turn the research worker has not merely to concern himself with improvements along established lines; it is also his business now-a-days to explore how a dying industry may be revived or a new one created. It has been assumed,

*Royal Commission on Secondary Education, 1895.

perhaps too readily during the last fifty years even by those who for social reasons deplore their extinction most keenly, that the small business and the cottage industry are bound to be eliminated by the large scale factory. Modern methods of distribution and marketing, however, now give grounds for hope that even in highly industrialised countries the small producer may survive and prosper alongside of his larger rival.

The obvious lesson implicit in these changes is that technical instruction today must be a wider and more liberal form of training than it has been in the past; it must comprehend the scientific principles underlying the process of manufacture as well as the processes themselves; it must link up the sciences of production and business organisation with the arts of design and salesmanship. It must take cognisance also of social science in relation to the effect of industrial development on the life of a previously non-industrial community and it cannot even neglect the provision of purely cultural and recreational facilities as an antedote against mental and moral stagnation for those workers who are destined to remain the semi-skilled servants of the machine.

5. At the same time contributing towards the same enlarged conception there is a secondary function of technical instruction the importance of which is being increasingly recognsied abroad and has received striking emphasis in the Spens Report. So-called technical subjects have been found to be capable of providing an all-round education or culture as distinct from a vocational training for the many people, not necessarily by any means the less intelligent, whose mental faculties are more actively stimulated and more fully satisfied by practical than by academic studies. In this sense the technical school or college has a valuable contribution to make towards the introduction of greater variety into education at its higher stages and towards satisfying the need of industry for a reasonable share of the best brains of the community, which under the influence of the conventional high school seek professional occupations, and too often find unemployment. Further, it may provide many people who were not suited for or were prevented by the economic exigencies of life from taking a university course of the ordinary type, with knowledge of the things necessary to the fuller discharge of their duties as citizens or the more profitable employment of their leisure.

6. While the general influences affecting the development of technical education, which have been outlined above, have been felt most strongly hitherto in countries remote from India in distance, in natural resources and in the social and economic conditions under which the great mass of their people live, their practical bearing on the future trend of development in this country can hardly be doubted. If the fillip which the war has given to industrial development is to be maintained and consolidated, it is difficult to think of any country where a real partnership between education and industry is more essential or where it is more important to help the small business of the cottage industry, to increase the supply of skilled craftsmen and competent executives, to convert abundant raw materials to the service of the country which produces them and above all to check the flow of potentially creative intelligence through academic channels in the slough of unemployment.

7. Considered from the point of view of the students, technical instruction will be either pre-employment or post-employment, that is, it will either be directed to giving young people not yet at work a preliminary training which will prepare them for entry into industrial or commercial occupations, or it will afford opportunities to those already in employment for increasing their skill as craftsmen, for fitting themselves to occupy positions of greater responsibility or for improving their all-round equipment as citizens as well as workers.

The size of the area to be served and the extent and nature of its industrial development will determine whether such instruction should be provided in one

institution or in several. If in several, then similar considerations will indicate whether these institutions should each serve one industry or group of industries or whether there should be a central institution at which the more advanced work in all branches should be concentrated, with ancillary schools, conveniently distributed, which will relieve it of the more elementary work and feed it in turn with suitably prepared students. The question of monotechnics versus polytechnics has been a controversial issue over a considerable period but the polytechnic, wherever practicable and subject to certain exceptions to be mentioned below, has a strong balance of educational, industrial and economic argument in its favour. It is indeed hardly necessary to elaborate the case for concentrating provision for technical instruction, and particularly the more advanced branches of it, under one roof. There is in the first place the factor of cost. Technical instruction is necessarily expensive, owing among other reasons to the large amount of practical work involved and the cost of the plant and apparatus required. Secondly, there is the importance of economising teaching power since competent instructors in many of the more advanced technical subjects are always difficult to obtain. A third argument for centralisation arises from the fact that many technological courses overlap to a certain extent and in a large institution the same workshop or laboratory may be used by students taking different courses. The last but by no means the least important consideration is the benefit students derive from being brought into contact with others engaged in different occupations and studying different subjects.

The monotechnic is to be preferred only where an industry is highly localised, or where its needs are so complicated or peculiar that it is difficult to satisfy them in the same building as those of other industries or where the material to be dealt with, as for instance in tanning, makes it an uncomfortable neighbour.

Accommodation should be provided in the polytechnic, whether it has ancillary institution or not, for (i) a full time day school (Technical High School) for boys and in course of time girls also of the normal high school age and type, whose training will be based on the assumption that they may rise ultimately to positions of responsibility, (ii) part-time classes in the day and in the evening both for younger employees (including apprentices) and for older workers, and (iii) classes, full-time, or part-time, for more advanced students and (iv) facilities for research workers. Finally there should be provision for adult education of a non-vocational kind.

8. The next step is to apply what has been said above about the general aim and content of technical (including commercial and art) instruction to the post-war conditions of India, so far as it is possible to forecast them. It is clear that the amount, type and location of facilities for technical education will largely be determined by the requirements of industry and commerce, but it is by no means clear at this stage what these requirements are going to be. It is true that wartime production has broken the vicious circle in which industrial development in India has been enclosed in the past. New industries are now being established and the nucleus of a supply of labour for them has been created.

The first task will be to recondition for absorption in civil industry the large number of technicians who have been through an intensive short course of training for war production. It is impossible to say how many of these by the end of the war will have reached the standard of skill and adaptability which will enable them to fit easily into the postwar system. This applies both to the men enlisted in the technical branches of the Fighting Services and those employed in civil factories. It is, however, satisfactory to know that the

Labour Department's Technical Training Centres will be kept going for 18 months after the war in order to complete the training of these workers, where required.

Though it is impossible to say how many technicians will be needed in each main employment category in industry and commerce, it is possible to prescribe the categories themselves and the sort of training their members will require. In the highest category there will be the chief executives as well as the research workers of the future. These will normally have their preliminary training in a Technical High School and will then pass to the Technological Department of a University or to a full-time course of the National Diploma type in a Technical Institution. This category will necessarily be a small one but in view of its importance admission to it should be the outcome of a very strict process of selection.

The next category will contain the minor executives, foremen, charge hands etc., a not less important class, if only in view of the difficulty which Western countries have experienced in recruiting the right kind of people. It is the main aim of the Technical High School to satisfy this need but the Technical High School pupil on completing the course there will need to continue his technical education either by taking a National Diploma or Certificate Course or by attending part-time classes of a fairly advanced description.

Mr. Abbott has emphasised again and again, and few will disagree with him, the need for concentrating on what may be called the supervisory grade. It is this grade, intermediate between the management and the operatives, "which ought to have sufficient knowledge and intelligence to understand the instructions of the former and sufficient powers of expression to communicate and interpret them to the latter. At the same time they should have sufficient practical skill to earn the respect and confidence of the operatives whose work they direct, control and supervise."

The third category will comprise the skilled craftsmen, most of whom will not aspire to executive positions. These may be recruited from ex-Technical High School pupils but as a rule after passing through the Senior Basic (Middle) Schools, where they will have mastered the rudiments of craft work, they will go on to Junior Technical, Trade or Industrial Schools for a further two or three years' full-time course.

Below these three categories will come the great mass of semi-skilled and unskilled labour. These will not as a rule receive any special technical training before entering employment apart from the craft work they will have done in the Senior Basic (Middle) School. It will, however, be very important to afford them facilities both for continuing their general education and for improving their skill, so that the best of them may ultimately ascend to the skilled class.

It should be made abundantly clear that the rough classification given above does not presuppose a rigidly horizontal organisation of post-war industry. If the necessary incentives are to be provided, promotion must remain open from the bottom to the top and this will be particularly important until the selective system of higher education has been firmly established. Nor must the needs of small business or rural industries be forgotten. For the latter separate departments in suitably located Technical Institutions should be provided, where local crafts can be taught and practised under appropriate conditions.

9. While the foregoing refers mainly to technical education, it also covers the general provision to be made for commercial and art students. In regard to commercial education it may be possible to reduce them to two main groups (a) those who will transact business on an important scale or perform profes-

sional functions such as banking, accountancy, etc. (b) those engaged in recording the transactions of group (a). According to Mr. Abbott, group (a) require mainly a training in imagination, initiative, administration and leadership, while group (b) need training in the ordinary office arts, e.g., shorthand, typing, book-keeping, commercial practice, etc., as well as in alertness, accuracy and a sense of responsibility. It is possible that Mr. Abbott somewhat underestimates the need for expert knowledge in those controlling the great processes of salesmanship and distribution. With regard to Art as applied to Industrial and Commercial requirements he gives voice to a well justified criticism when he says "Nothing has disappointed us more than the general neglect of the teaching of Art". Indian manufacturers will be well advised to devote far greater attention to the artistic qualities of the goods they produce. One of the great advantages of a Polytechnic is that it brings those engaged in manufacture into immediate contact with those studying design and distribution.

10. It has already been pointed out that the requisite training for future chief executives and research workers should be provided in some form of senior technical institution and it is desirable to determine the respective parts to be played in this connection by the technological departments of Universities and by Polytechnics and other senior technical institutes, which will not as a rule form part of Universities. The Committee fully realise the very important role which universities should in future play in the progress of technical education in general and in the training of the higest grades of workers in particular. It is often alleged that technical education, as it exists at present, is in its higher stages too academic in character and sufficiently in touch with the actual needs and conditions of industry. There is a good deal of truth in this criticism but the Committee believe that the grounds for it could be removed, if Universities would make their technological courses more practical and ensure that students are given first hand experience of industrial conditions throughout the course and not merely at the end of it. Even if this were done, however, there would still be much to be said for providing the highest forms of training in institutions of the Polytechnic type as well as in Universities. Of the many arguments which can be advanced in favour of this it is not necessary to mention more than two here. Firstly, it is most important that the future expert or executive should receive this training in a place where he can come into contact with the people with whom he shall have to deal and work later on; these will not usually be found in a University. Secondly, a technical institution for obvious reasons should be located as close as possible to the industry or industries which it is designed to serve; the location of universities of usually determined by quite different considerations though some, of course, are in or near industrial areas.

There is also the question of the future control of the highest stages of technical education. If the central body, which it is proposed elsewhere in the report should be set up, is to anticipate and provide for the needs of postwar industry, it should have under its control a comprehensive system of advanced technical instruction in all its branches. It is too much to expect that universities would be prepared to hand over to it forthwith the direction of their technological departments and in any case friendly rivalry within economic bounds may have its advantages during a period of transition and experiment. At a later stage it is possible that senior Technical Institutions, as in some Western countries will become increasingly recognised as the technological departments of Universities.

It is nevertheless necessary that in order to avoid overlapping and wastage there must from the beginning be some co-ordination of the work of Technolo-

gical Departments of universities and that of Senior Technical Institutions. This would be facilitated if there was also a Central Body directing University development, either as a whole or in the fields of technology and applied science.

11. Apart from the recommendations set out above which concern the provision of full-time instruction, it is reasonable to assume that as industrial development takes place, whether in the form of large scale or village industries an increasing number of workers will continue their technical education on a part-time basis by attending classes either in the day or the evening. The drawbacks to evening classes are well-known and owing to climatic and other conditions they may well be greater in India than in Western countries. Nevertheless, it is fair to record that many people, who today occupy positions of responsibility in Industry all over the world, owe their success to attending at evening classes. Those who give up part of their leisure after a day's work in order to improve their qualifications at any rate show signs of possessing the qualities of grit and determination that make for success in life. Part-time day classes, or the sandwich system, which is an extension of the same idea, on the other hand constitute a factor of great importance in any modern scheme for technical education. Their main advantages may be summarised as follows:—

(1) They minimise fatigue on the part of students.

(2) They bring the efficiency of the instruction under the criticism of students who have some first hand knowledge of the requirements of modern industry.

(3) They enlist the direct interest of employers, inasmuch as they are releasing and, it is to be hoped, paying thier employees to undergo instruction during their ordinary working hours and consequently expect to derive some practical benefit from the sacrifice they are making.

In spite of some initial opposition progressive employers in Great Britain have become convinced of the benefits of the part-time day system not only to their employees but also to themselves, and it is now the practice of many firms to release their younger employees to attend technical classes on two half days or one full day a week or even longer at the expense of the firm, which pays not merely the class fees but also the employees' wages during the time spent under instruction. The sandwhich system, which is most suitable for the higher grades of workers, means that the employee instead of attending classes for a day or two half days a week, divides the year between the works and attendance at a Technical Institution. The adoption of such a system would be of particular value in India, as it would help to counteract the present over-academic tendency of too many technical courses, whereby a student may spend several years under instruction without obtaining any first-hand experience of actual factory conditions. It is to be hoped that Indian employers will quickly recognise the value of the part-time day system; if not, it may be necessary to stimulate their interest by levying a special tax for the further education of their employees, as was done in France after the last war, on those employers who do not provide the necessary facilities themselves. The cost to them of such part-time instruction is not in any case likely to be prohibitive. Recently an industrialist in England carried out an enquiry in three factories and it was found that the cost of releasing all juvenile employees for a full half-week would amount to only about 2 per cent. of the total wages bill and 1 per cent. of the total cost of production.

12. In addition to the provision of facilities for training skilled artisans and the superior grades, an up-to-date, system of Technical Education must also cater for those in the lower grades who wish to improve their equipment as workers and as citizens. The conception of a modern Polytechnic as a People's Univresity has already been referred to and this idea is capable of very wide development in all thickly populated districts.

At this stage the sphere of Technical Education will overlap that of Adult Education, which will also be engaged in the provision of vocational classes. Some demarcation will arise from the fact that Technical Institutions, apart from Agricultural Institutions, which should really be regarded as a part of Technical Education, will normally be found only in urban or thickly populated districts, whereas Adult Education should cover the whole country. At the same time, as the Board's Adult Education Committee has pointed out, it is neither possible nor desirable especially in India, to draw too strict a line between the spheres of Technical and Adult Education. It will be the business of the responsible Administrative Authority to prevent unnecessary overlapping.

It is quite impossible to forecast the extent of the demand for part-time classes; the provision of such facilities in other countries has proved so remunerative in the widest sense that it is justifiable to lay down the general rule that where any reasonable demand arises, every effort should be made to satisfy it.

13. In view of the extent and nature of the technical instruction and training required for workers of different categories, from the managerial to the operative class, the following courses should be provided:

(i) A two-year full-time course in Trade (or Junior Technical or Industrial) Schools for those who are likely to enter industry immediately afterwards and to become skilled artisans. Pupils will be admitted to this course on leaving the Senior Basic (Middle) School at the age of about 14.

(ii) A six-year full-time course in Technical High Schools for those who aim at reaching ultimately the supervisory or managerial grades or becoming research workers. Only selected pupils will be admitted to Technical High Schools on completing the Junior Basic (Primary) stage at the age of about 11, though facilities will be provided for transfer up to the age of 14 from Senior Basic Schools or High Schools of the academic type. The first three years of the course will be devoted mainly to general or cultural subjects.

(iii) A three-year full-time Diploma course, to which students will be admitted after passing the final examination of a Technical High School or an equivalent examination.

(iv) A two-year full--time Advanced Diploma course in Senior Technical Institutions, for those who have obtained the first Diploma.

(v) A three-year part-time Certificate course for those already in employment. Here again the normal condition for entry will be a Technical High School Leaving Certificate or its equivalent.

(vi) A two-year part-time Advanced Certificate course for those who have obtained the first Certificate.

(vii) Courses of all kinds and all standards in individual arts, crafts and other subjects related to industry and commerce, for which there may be a sufficient demand.

14. While it is necessary that in Technical as in other branches of education there should be examinations of some kind, since prospective employers will require some certificate as to the standard which the would-be employee

has attained, it is particularly important that in an activity so closely related to constantly changing needs freedom to experiment as well as to modify both methods of teaching and the contents of courses should be at all costs preserved. It is not less important, particularly in the case of those senior students who will receive this training in Polytechnics rather than Universities, that the Diplomas and Certificates awarded to them on the successful completion of their courses should enjoy all-India recognition and should represent an approximately uniform standard. In the absence of any national institutions or recognised examining bodies capable of satisfying this need the Committee particularly welcome the recent formation of the Association of Principals of Technical Institutions (India). This Association has already done valuable work in the way of establishing national diploma and certificate courses etc. in the main branches of technical and commercial education and of framing syllabuses in connection therewith, and the Committee are of opinion that all the bodies responsible for administering technical education should not merely recognise this body and give it all the assistance in their power but should also look to it increasingly for help and guidance in all matters affecting the future development of technical instruction generally and the conduct of examinations in particular.

15. As in other branches of education, or perhaps even to a greater extent because it is still more or less a new field, the success of any system of technical education will call for the most careful selection of teachers. It is necessary in the case of all teachers that, apart from possessing the required pedagogic ability, they should be in sufficiently intimate contact with the current problems and realities of the world around them to be able to give their methods of teaching a practical character, to humanise instruction and to stimulate and train the emotional as well as the mental faculties of their pupils. The need for such a realistic and intelligent handling of the human material in their charge is even greater in the case of teachers in technical institutions. Such teachers will be of two main types, those for general or cultural subjects, and those for technical subjects. The technical subject teacher must be recruited direct from industry, so that he may be fully conversant not only with the principles underlying the processes of production but also with the practical application of those principles as well as with the actual conditions and problems of industry as a whole. For the general subject teacher it is not, of course, so important that he should have the same first-hand knowledge of industry, but some trade experience is certainly desirable, in order that he may undersand both the outlook and methods of industry, and the conditions under which his students have or will have to work and live.

While it is desirable that the teacher of general subjects should have had the normal professional training as well as industrial experience, in the case of teachers of technical subjects such pedagogical training as they may need should normally be provided in the technical institution itself. In the early stages in view of the dearth of qualified teachers, special arrangements will probably be necessary to give teachers of general subjects some experience of industry and commerce as well as to recruit skilled craftsmen into the teaching profession. Until, however, industrial development has proceeded sufficiently far in this country, it will also be necessary to recruit a large number of technical teachers, at least in the higher grades, from among those who have received their training abroad, or alternatively to send suitable Indian teachers abroad for training. For teachers concerned with the more highly specialised or complicated branches of industry depedence on foreign recruitment may remain for some time, though every effort should be made to provide the requisite training facilities in this country.

16. With regard to conditions of service, the Committee feel that there should be no undue differentiation between teachers of general subjects and those of technical subjects. They should be regarded as enjoying equal status as members of the teaching staff of the institution, though the qualifications of the two categories may vary widely. It is possible, for instance, that a teacher of a technical subject may have no paper qualification at all, but if he possesses the requisite ability and suitability, he should not only not be considered in any way inferior to the other teachers but should also have an equal chance of promotion.

Theoretically perhaps the salaries of all teachers in the same grade should be the same irrespective of the subject they teach. In practice, however, such unifomity cannot be enforced and the principle of higher remuneration for specialist teachers must be accepted for two main reasons. They will normally be recruited from industry and trade where they will have already spent several years acquiring practical experience and thus will enter a technical institution at a higher age than the general subject teachers. Secondly, since they will be drawn from industry and commerce, where the standard of remuneration for experts is higher than anything which the teaching profession normally offers, they must be afforded the necessary inducement to transfer.

The Committee, therefore, recommend the following scales of salaries which, it may be noted, are based on pre-war standards:

(a) Teachers of general subjects in Technical High Schools should receive the same grades of pay as teachers with comparable qualifications in ordinary High Schools. They may, however, be granted up to five increments for appropriate industrial or commercial experience after the age of 20.

(b) Teachers of technical subjects:

(i) Workshop or laboratory Assistants—Rs. 50—1—75 p.m. The initial salary should be fixed according to experience.

(ii) Teachers Class III—Rs. 75—5—150 p.m.

(iii) Teachers Class II—Rs. 175—10—325 p.m.

(iv) Teachers Class I—Rs. 400—25—1,000 p.m. (including Heads of Departments).

(v) Principals—Salary according to the nature and size of the institution.

Teachers in Technical Institutions below the grade of Heads of Departments may be given an allowance of upto 50 per cent. of their salary to meet the higher cost of living in certain areas or other special circumstances.

There should also be a limited number of posts of special responsibility carrying an allowance of Rs. 25 p.m. These posts will normally be confined to Teachers in Class II and Class III.

17. It is necessary not only that technical teachers should possess some trade experience at the time of their appointment but also that they should retain contact with the trades which they are called upon to teach, so that they may keep their own knowledge and methods up-to-date and at the same time remain familiar with the conditions in which their students will have to work. The Head of a technical institution should also maintain constant and intimate contact with industry, not merely because he is more than anyone else responsible for ensuring the realistic character of the instruction given in his institution but also because such contact alone can enable him to relate the output of his institution to the changing needs of the occupations it is designed to serve.

In order to encourage teachers to keep up-to-date in their own particular crafts permission should be given to them to undertake consulting practice or commission subject to specified conditions, which will ensure that such private work does not interfere with the efficient discharge of their duties as teachers.

18. In order that the right type of students may be encouraged to undergo technical instruction, which is necessarily more expensive than most other forms of education, care must be taken to see that those with the requisite aptitude are not debarred through inability to pay the prescribed fees.

Thoose taking part-time courses may perhaps be expected to pay a reasonable fee since they will usually be in employment. Of those selected for full-time courses some may be abe to pay fees but many are not likely to be in a position to do so. It will, therefore, be necessary to offer a liberal number of free-ships, scholarships, and maintenance allowances. The number and amount of these will vary in different places but it is reasonable to assume that at least half the students in technical institutions will need assistance in one form or another.

While technical institutions will be provided only in those areas where there is need for them, admission must obviously not be restricted to students belonging to those areas but must be open to every part of the country. It will therefore also be necessary to provide ample hostel accommodation in a larger number of institutions where such accommodation is likely to be required.

19. In view of what has already been said in regard to the need for relating technical instruction to the actual conditions and requirements of industries, it follows that technical institutions should be located as close as possible to the industries which they are designed to serve. On the one hand, the teachers and students of technical institutions must be able to study industrial organisation and developments at first hand; on the other, it is equally important that there should be opportunities for constant contact between the employers and the institutions which train their future employees and that technical institutions should be able to obtain readily the advice and criticism of industrial experts.

The need for locating technical institutions near industries necessarily means that certain areas will have abundant facilities for technical education while others will have few or none. If technical instruction, at any rate in the higher grades, continues to be a provincial responsibility, this will mean that while some areas will have to maintain and support a very large number of technical institutions, others will have an unduly light burden to bear. In view of past experience, there is also a considerable danger of opportunities for technical education being denied even to most suitable students who happen to belong to a non-industrial area. It is a common complaint today that admission to institutions providing professional or technological courses of an expensive kind is more or less restricted to residents of the province in which those institutions are situated. Apart from this, however, it may not be fair to expect some areas and not others to meet the whole cost of developments which are really for the benefit of the country generally.

The Committee are, therefore, strongly of opinion that technical education in its higher stages must be organised on an all-India basis. It is not proposed that technical institutions of all types should be brought into an all-India system. Technical High Schools and Trade (or Junior Technical or Industrial) Schools, which will properly be a part of the general system of secondary Education and which will to some extent cater for local needs, should remain under Provincial Governments. All higher technical education, however, except that in the Technological Departments of universities, should form part of an all-India organisation designed to serve the needs of the country as a whole.

If the Committee's recommendation is accepted by the authorities concerned, it will follow that the entire financial responsibility for such a system should be accepted by the Central Government. This will ensure a coherent and consistent policy in regard to developments in technical education and will also remove the injustices referred to earlier; it will throw open the doors of every senior technical institution to all suitable candidates, whatever their domicile, and it will relieve the provincial exchequers of an unfair burden.

20. "In nearly every great industrial country" Mr. Abbott pointed in his Report "technical education and general education are administered by the same Department of State, i.e., the Ministry of Education". In India, however, there has been no uniformity of practice in this respect and it is the exception rather than the rule to find technical education under the administrative control of the Education Department. The reason for this has probably been that the primary function of technical institutions has been considered to be the serving of particular trade needs, and it was, therefore, thought proper to entrust their administration to the Departments immediately concerned with industry and commerce. There is nowadays, however, a growing realisation of the value of technical instruction as a means of general education, and it is coming to be recognised that although technical education is a preparation for certain vocations, its primary funcion is educative; in other words, it is an integral part of the general educational system. The Committee have, therefore, no doubt that the administration of technical education should be entrusted to the educational authorities.

They feel, however, that since technical education is a highly specialised branch of education, its administration requires expert knowledge and practical experience, and they, therefore, recommend that every Education Department should have a special section dealing with technical education and that there should be a separate directional and inspectorial staff for this purpose.

Although technical education should be administered by the Education Department, there should be very close contact and co-operation between that Department and the other Departments concerned as well as with industry and commerce. While the need for such co-operation can hardly be overstressed, the Committee do not wish to lay down any rigid rules or exact procedure for ensuring it. It must obviously be based on a realisation of community of interest, and there is ample room for experiment in devising the best means of bringing together the many interests concerned.

21. The need for organising higher technical education on an all-India basis has already been emphasised. In view of probable post-war industrial development the nature of such an organisation will call for careful consideration. At present there is no machinery which can effectively stimulate and supervise a large development of technical education. The formation of the Association of Principals of Technical Institutions (India) has already been welcomed as an important step in the direction of co-ordinating technical instruction on an All-India basis, and the Committee feel that it should be given every encouragement in its work; but while this body can render very useful service in advising as to the lines which development should follow and particularly in undertaking the essential preliminary surveys, it is hardly suited to shoulder administrative responsibilities and the need for a controlling authority remains.

To ensure both comprehensive planning and the fullest co-operation and contact between the different Government Departments concerned and industry and commerce, the Committee are of opinion that there should be an all-India body in supreme charge of all higher technical education, except that provided in the Technological Departments of universities. This body should consist of representatives of all the Government Departments concerned, Central and

Provincial of industry and commerce, associations of employers or of employees, and of other interested bodies such as the Central Advisory Board of Education, the Universities and the Association of Principals of Technical Institutions (India). Effective liaison with universities will be essential.

This central body, which might be called the All-India Council for Technical Education, should concern itself not so much with the day-to-day administration of individual institutions, which should have their own governing, bodies as with prescribing policy generally and allocating government grants in such a way as to ensure that it can be carried out.

22. The following is a summary of the Committee's main conclusions and recommendations:—

(1) In view of the recent expansion of industry and the likelihood of further development after the war it is necessary to plan immediately a comprehensive system of technical education at all stages.

(2) The function of Technical education may be described as two-fold, (a) to meet the needs of industry and commerce for properly trained workers of all grades and (b) to provide a suitable form of education for those boys and girls whose natural abilities can best be developed by instruction on practical lines.

(3) Technical education should be regarded as an integral part of any educational system and as in no way inferior to education of the academic type.

(4) Education from the earliest stages should be given a more practical character, and the curriculum should aim at making boys and girls familiar with practical as well as academic subjects.

(5) Technical education must include commercial education and art in relation to industry.

(6) Agricultural education should be regarded as an essential branch of technical education and should be closely linked up with the other branches. Senior Basic or Middle as well as High Schools in rural areas should have an agricultural bias.

(7) In view of the great importance of agricultural education for this country a special committee of educational and agricultural experts should be set up to consider the subject fully.

(8) In order to provide suitable instruction and training for the different types of workers required there should be the following main types of technical institutions:—

(a) Junior Technical or Industrial or Trade Schools,

(b) Technical High Schools,

(c) Senior Technical Institutions.

(a) and (b) will normally provide full-time instruction preparatory to employment, while (c) will also provide part-time instruction for those already in employment.

(9) The type and duration of part-time instruction should be determined in consultation with employers and according to the needs of the locality. It is desirable that part-time classes should be held during the day rather than in the evening.

(10) Wherever circumstances permit polytechnics are to be preferred to monotechnics.

(11) The following courses of studied should be provided in technical institutions:—

(i) a two-year full-time course in Junior Technical or Industrial or Trade Schools to which pupils should be admitted on leaving the Senior Basic (or Middle) schools at the age of about 14

(ii) a six-year full-time course in Technical High Schools to which selected pupils will be admitted on completing the Primary Junior Basic stage at about the age of 11. The first three years of the course will be mainly devoted to general subjects,

(iii) a three-year full-time Diploma course to which students will be admitted after passing the final examination of a Technical High School or an equivalent examination,

(iv) a two-year full-time Advanced Diploma course for those who have passed the above examination,

(v) a three-year part-time Certificate course in Technical High Schools for students already in employment,

(vi) a two-year part-time Advanced Certificate course for those who have passed the above examination, and

(vii) classes in individual arts, crafts and other subjects related to Industry and Commerce for which there may be a sufficient demand.

12. There should be only one external examination at the end of a course. Other examinations should be enducted internally.

13. All teachers in technical institutions should have some first-hand experience of some branch of industry or commerce.

14. (a) Teachers of general subjects in Technical High Schools should receive the same grades of pay as teachers in ordinary High Schools. They may be granted up to five increments for appropriate industrial or commercial experience after the age of 20.

(b) Teachers of technical subjects should receive the following scales of salaries:—

(i) Workshop or Laboratory Assistants Rs. 50—1—75 p.m. The initial salary should be fixed according to experience.

(ii) Teachers Class III—Rs. 75—5—150 p.m.

(iii) Teachers Class II—Rs. 175—10—325 p.m.

(iv) Teachers Class I—Rs. 400—25—1,000 p.m.

(v) Principals—Salary according to the nature and size of the institution.

Teachers in Classes II and III may in certain areas be given an allowance of up to 50 per cent. to meet the high cost of living or other special circumstances. There should also be a limited number of posts of special responsibility carrying an allowance of Rs. 25 p.m. These will normally be limited to Teachers in Class II and Class III.

(15) All teachers of technical subjects should be encouraged to keep in touch with the appropriate branch of industry or commerce and, with this object in view, they should be permitted to undertake consulting practice or commissions, subject to approved conditions designed to prevent such private work interfering with the efficient discharge of their duties as teachers.

(16) There should be an adequate system of scholarships and maintenance allowances designed to ensure that no one having the necessary aptitude and ability should be prevented by lack of means from pursuing a course in technical institutions. Hostels should be provided wherever necessary.

(17) Technical institutions should be located in or near industrial and commercial areas, but students from other areas should have an equal opportunity of admission to those institutions. To ensure this it is necessary that technical education should be organised on an all-India basis.

(18) Technical High Schools and Junior Technical, Trade or Industrial Schools should be administered by Provincial Governments, but all technical education beyond this stage, except that conducted in the Technological Departments of Universities, should be placed under a central controlling body which would have on it representatives of all the interests concerned. This body should be set up as soon as possible.

(19) The formation of A. P. T. I. (I) is a most welcome step in the direction of co-ordinating technical instruction in the country. It should be given adequate representation on the central controlling body.

(20) It is essential that the administration of all technical education should be under the Education Department of the Central or Provincial Government or State, as the case may be. There should be a separate inspectorial staff for this purpose. The Education Department should maintain close contact with the other Departments concerned with Industry and Commerce.

(21) As a corollary to technical education in its higher stages being administered by a central body, the financial responsibility will have to be accepted by the Central Government.

JOHN SARGENT (*Chairman*).
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G. L. MEHTA.
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