Government of Madras.

EDUCATIONAL DEPARTMENT.

Recd. } 1915. Enclosures

Regd. Spare copies

G.O. No. 123-A, 9th February 1915.

School and College hygiene.

Informing the Government of India of the action taken by the Government of Madras in regard to the investigation of a number of specific questions connected with —.

Government of Madras.

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GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

Read—the following paper:—

Endorsement of the Government of India, Department of Education (Education), dated Delhi, the 4th December 1914, No. 1818.

A copy of the undermentioned papers is forwarded to the Government of Madras for information.

(By Order.)

H. Sharp,
Joint Secretary to the Govt. of India.

Enclosures.

1. Letter from the Government of Bombay, No. 2697, dated 20th September 1913, with enclosures.
2. Letter from the Government of Burma, No. 855 M./Edn., dated 6th May 1914, with enclosures.
3. Letter from the Honourable the Chief Commissioner of Assam, No. 3908-E., dated 15th August 1914, with enclosures.
4. Letter from the Honourable the Chief Commissioner and Agent to the Governor-General, North-West Frontier Province, No. 1682-G., dated 22nd October 1913, with enclosure.

Order—No. 123-A, Educational, dated the 9th February 1915.

The Government of India will be addressed.

(True Extract.)

P. Rajagopala Achariyar,
Secretary to Government.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

No. 124.

From

The Hon'ble Diwan Bahadur
P. RAJAGOPALA ACHARIYAR Avargal, C.I.E.,
Secretary to the Government of Madras,
Educational Department,

To

The SECRETARY to the GOVERNMENT of INDIA,
Department of Education,

Dated Fort St. George, the 9th February 1915.

Sir,

I am directed to refer to your letter No. 1137, dated the 24th June 1913, in which the attention of this Government is drawn to the recommendation made in paragraph 7 of the Resolution of the Government of India in the Department of Education, No. 301/C.-D., dated the 21st February 1913, to the effect that a small committee of medical and educational experts should be appointed by each Local Government for the investigation of a number of specific questions connected with school and college hygiene, and the Government of India express their desire to see the report of the committee formed for the above purpose.

2. I am to state, in reply, that the idea of a general committee was, after careful consideration, given up, as it was felt that a single small committee of experts could not make a satisfactory inquiry into all the subjects referred to. The Governor in Council preferred to deal with the various subjects separately, and I am to indicate briefly the action till now taken on the several suggestions made in the resolution.

3. The provision of recreation grounds, gardens, gymnasia, etc., was first taken up. A provision of six lakhs of rupees was made in the budget estimate for the current year for play grounds for educational institutions, five lakhs for the Madras City and one lakh for the mufassal, and a committee was appointed to work out details for the city. The report of this committee has been received and those of its recommendations as were ripe for immediate action, involving an outlay of about two lakhs, have been approved by the Government. The distribution of the one lakh for institutions in the mufassal has also been sanctioned.

With a view to improve the physical training given in European schools, an instructor in physical training on a salary of Rs. 200 per mensem has been temporarily engaged for a period of five years. In accordance with the suggestion made in your letter under reply, the Governor in Council has arranged to pay to the Young Men's Christian Association, for a period not exceeding five years and a half, an annual

grant of Rs. 2,760 or one-third of the salary, whichever may be less, towards the cost of employment of a Physical Director for imparting instruction on the subject of physical training.

The Government have also subsidized local boards and municipal councils to the extent of Rs. 30,000 to enable them to provide gardens for elementary schools.

4. The next question to engage attention was the medical inspection of schools and their pupils, and as a beginning the Governor in Council decided to try the experiment within the limits of the Madras City and approved certain proposals to institute under competent supervision a medical inspection of the elementary schools recently opened by the Madras Corporation and of the pupils in them. Proposals have also been formulated for the systematic medical inspection and supervision of European schools. Further steps in this direction will be deferred till the results of the above experiments are known.

5. The question of the professional examination of building plans is under current administrative observation.

6. In respect of the introduction of a simple and more practical course of hygiene, etc., I am to state that "hygiene and sanitary science" and "health and house management" have been included as subjects of study in elementary schools for boys and girls. Lectures are being given from time to time at conferences and meetings of teachers' associations, by competent authorities on hygiene, sanitation and the prevention of disease; and catechisms regarding diseases have been prepared and vernacular translations distributed for the use of teachers in elementary schools. An important step under the latter head is the introduction of the health primer, entitled "Life, Light and Cleanliness", printed and published for the Punjab Text-book Committee by Rai Sahib M. Gulab Singh & Sons, Lahore, which has also been translated into the vernaculars of this Presidency for use in elementary schools It is proposed to prescribe this book for the Secondary School Leaving Certificate examination. The question of the adoption of the books mentioned in the list appended to your letter No. 1734, dated the 20th November 1914, is also being considered.

7. The Governor in Council has reserved for separate examination the question of the length of the school day, home studies and the effect of formal examinations upon health.

8. Proposals for strengthening the inspecting agency are under consideration, and the Government of India will, in due course, be addressed on the subject.

I have the honour to be,

Sir,

Your most obedient servant,

P. RAJAGOPALA ACHARIYAR,

Secretary to Government.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O. Nos. 123-A, 124, EDUCATIONAL, DATED 9TH FEBRUARY 1915.

[SUBJECT.—*School and college hygiene.*]

Previous papers:

G.O. No.	28,	*Educational, dated*	16*th January*	1912.
,, ,,	48	,, ,,	19*th* ,,	,,
,, ,,	226	,, ,,	12*th March*	,,
,, ,,	43	,, ,,	15*th January*	1913.
,, ,,	45	,, ,,	16*th* ,,	,,
,, ,,	143	,, ,,	17*th February*	,,
,, ,,	264	,, ,,	27*th March*	,,
,, ,,	394	,, ,,	1*st May*	,,
,, ,,	899 *M.*	,,	2*nd* ,,	,,
,, ,,	632, *Educational,*	,,	7*th July*	,,
,, ,,	706	,,	31*st* ,,	,,
,, ,,	1107	,, ,,	25*th November*	,,
,, ,,	1169	,, ,,	9*th December*	,,
,, ,,	1209	,, ,,	18*th* ,,	,,
,, ,,	302	,, ,,	18*th March*	1914.
,, ,,	759	,, ,,	30*th June*	,,
,, ,,	1104	,, ,,	22*nd September*	,,
,, ,,	1222	,, ,,	2*nd November*	,,
,, ,,	1426	,, ,,	14*th December*	,,
,, ,,	1448	,, ,,	18*th* ,,	,,
,, ,,	47	,, ,,	15*th January*	1915.
,, ,,	110	,, ,,	5*th February*	,,

From the Director of Public Instruction, dated 1st April 1914, R.O.C. No. 6652/13.

Attention is solicited to paragraph 7 of the Resolution of the Government of India on their Educational policy—G.O. No. 899 M., dated 2nd May 1913, communicated to the Director of Public Instruction with Endorsement No. 1669-1, Educational, dated 7th June 1913, and G.O. No. 632, Educational, dated 7th June 1913.

Page 4 of G.O. No. 394, Educational, dated 1st May 1913.

In his letter No. 41, dated 28th July 1913, the Director of Public Instruction submitted to Government proposals for the appointment of a committee to enquire into school and college hygiene as desired by the Government of India. His Excellency directed on 15th August 1913 that those proposals might await further communication from the Director. In the meanwhile another committee was appointed to enquire into the provision of play-grounds, etc., for Madras City; and in that connection the Secretery noted that the committee proposed by the Director in connection with school and college hygiene would not presumably be wanted. The main file regarding the constitution of a committee was then submitted for orders and it was ordered that the papers might be recorded.

Pages 1 to 5 of G.O. No. 1169, Educational, dated 9th December 1913.

His Excellency's note, dated 15th August 1913, on page 10 of G.O. No. 1169, Educational, dated 9th December 1913.

G.O. No. 1107, Educational, dated 25th November 1913.

Paragraph 2 of Secretary's note, dated 20th November 1913, on page 2 of the notes with G.O. No. 1107, Educational, dated 25th November 1913; please *cf.* also office-note on page 10 of G.O. No. 1169, Educational, dated 9th December 1913.

3. The Director of Public Instruction now returns to the subject and enquires what action should be taken in the absence of a committee contemplated by the Government of India. In a separate communication the Director of Public Instruction has stated that he has under his consideration a proposal to arrange for the medical inspection of the boys in *European* schools. As the Director of Public Instruction himself apparently wants a committee to help him in considering the general questions of school hygiene it is for consideration whether the proposals in G.O. No. 1169, Educational, dated 9th December 1913, should be re-opened.

E. A. VENKATESWARA AYYAR—23-4-14.

C. RAMANUJACHARI—27-4-14.

His Excellency will remember the reasons for which he directed that no further action need be taken to constitute the committee which was proposed in the papers in G.O. No 1169, Educational, dated 9th December 1913.

2. It does not seem that the Director of Public Instruction is anxious to have a committee. He writes up only because under G.O. No. 632, Educational, dated 7th July 1913, a report from him, in consultation with a committee, is due and there *is* no committee.

He might be told that he need not send in that report.

3. *But* India's letter in that G.O. No. 632, Educational, orders for a report (paragraph 5) and says that this school hygiene is a matter "on which they lay the greatest emphasis" (paragraph 2). So sooner or later India will ask what we have done about it all.

4. India's ideas as to the subjects which might engage the attention of such a committee are set out in paragraph 7 of their letter on page 4 of G.O. No. 394, Educational, dated 1st May 1913, which was supplemented by the further letter in G.O. No. 632 already above referred to.

5. We could say in reply that we (1) have had a committee on Madras City playing fields and put a lakh for up-country playing-fields in the 1914–15 budget;

(2) have arranged for the medical inspection of European schools; and

(3) have paid one-third of the salary of the Young Men's Christian Association Physical Instructor on condition that he assists us as Dr. Gray (paragraph 4 of letter in G.O. No. 632) has assisted in Bengal.

G.O. No. 759, Educational, dated 30th June 1914.

(These last two proposals are at the moment under consideration).

We have also got an instructor of physical training.

G.O. No. 43, Educational, dated 15th January 1913, and No. 706, Educational, dated 31st July 1913.

6. Perhaps the Director of Public Instruction might now also be asked what had better be done about suggestion (iii) in paragraph 7 on page 4 of G.O. No. 394, dated 1st May 1913. Something might be done there.

7. For the rest, orders are solicited whether, if India make enquiries, they may be told that this Government did not think the appointment of a committee altogether desirable, but have taken action as above.

W. FRANCIS—28-4-14.

To the Private Secretary to His Excellency the Governor.

OFFICE OF THE PRIVATE SECRETARY TO HIS EXCELLENCY THE GOVERNOR.

His Excellency thinks this matter may be allowed to rest for the time.

C. B. COTTERELL—1-5-14.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

To the Director of Public Instruction for perusal and return.

W. FRANCIS—4-5-14.

To the Director of Public Instruction.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Noted.

J. H. STONE—8-5-14.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Lie over.

W. FRANCIS—8-5-14.

From the Government of India, dated the 20th November 1914, *No.* 1734.

The Government of India have now forwarded a list of books which have been published by the Indian Council of the St. John Ambulance Association. For orders whether this list may be forwarded to the Director of Public Instruction in continuation of G.O. No. 632, Educational, dated the 7th July 1913.

Yes.

P. RAJAGOPALA ACHARIYAR—1-12-14.

2. Orders are also solicited whether the file may now be re-submitted to His Excellency the Governor for orders on the notes on pages 2 to 3 *supra*. Attention is solicited to His Excellency's note, dated the 17th September 1914, on page 5 of notes with G.O. No. 1104, Educational, dated the 22nd September 1914. Perhaps the Director of Public Instruction may now be definitely informed that he must get on without a committee.

S. ANANTANARAYANAN—27-11-14.

C. RAMANUJACHARI—30-11-14.

I would take this in person to His Excellency after His Excellency is back.

P. RAJAGOPALA ACHARIYAR—1-12-14.

From the Government of India, dated 4th December 1914, *No.* 1818.

The Government of India have since forwarded to this Government for information copies of the opinions of the Governments of Bombay, Burma, Assam and the North-West Frontier Province on the introduction of school and college hygiene and other allied subjects, referred to in paragraph 7 of the resolution of the Government of India on educational policy. In view mainly of the action already taken by them in some of the matters referred to, the Government of Bombay are not in favour of the immediate appointment of a committee to inquire into the "question." They, however, state that as soon as the provincial branch of the St. John's Ambulance Association has come into being, it is under contemplation to appoint a special committee for the object, indicated by the Government of India, of securing for the Educational Department the co-operation and advice of the association in regard to the matters under reference. The other Governments referred to have appointed committees and their opinion is based on the committee's recommendations. For facility of reference the opinions of the Governments on the various points are briefly summarized in the tabular statement attached

Page 4 of G.O No. 394, Educational, dated 1st May 1913.

S. ANANTANARAYANAN—14-12-14.

C. RAMANUJACHARI—16-12-14.

Paragraph of the Government of India resolution, dated 21st February 1913.	Points upon which opinions are required.	Opinion of the Government of			
		Bombay.	Burma.	Assam.	North-West Frontier Province.
7 (i)	Conditions of school houses, hostels and other places where pupils reside, from the point of view of sanitation.	Every inspection report on a Government or aided school contains a reference to the state of the buildings, which it is the regular duty of inspecting officers to notice. Appointment of special officers for the purpose seems unnecessary. The Government would rely on the regular directing and inspecting agencies acting in free consultation with expert medical opinion.	Opinion of the sub-committee appointed for the purpose not yet received.	The arrangements already made as regards the construction of vernacular schools and the type plans which are either in existence or under preparation for high and middle English schools and for hostels are, from a sanitary point of view, satisfactory. The most imperative need is the grant of funds sufficient to allow of the provision of proper buildings for secondary schools and of extension of hostel accommodation.	The Government have decided to appoint for the inspection of Anglo-Vernacular schools two specially trained officers of the sub-assistant surgeon grade.
7 (ii)	Professional examination of building plans from a hygienic point of view.	Orders have already been issued that in future the plans of all new buildings in connection with Government or aided educational institutions should, in the first instance, be scrutinized by the Sanitary Engineer and the Sanitary Commissioner.	Opinion of the sub-committee appointed for the purpose not yet received.	Orders are being issued that the type plans for new educational buildings should in all cases be examined and approved by the sanitary authority.	The Chief Commissioner proposes to make it a part of the duty of the Deputy Sanitary Commissioner to examine all secondary schools and hostel plans to ensure their construction in accordance with hygienic principles.
7 (iii)	Introduction of a simple and more practical course of hygiene.	The question has already been fully dealt with and action taken. For primary schools it is proposed to translate a Marathi text-book into the other vernaculars. The Government have also in contemplation the distribution among Deputy Educational Inspectors of magic lanterns and slides for exhibition in primary schools with a view among other objects to the propagation of sanitary knowledge in rural areas.	Hygiene should be taught in standards III, IV and V through the vernacular when competent teachers have been trained for the purpose.	Although the teaching of sanitation in primary schools cannot be expected to have a considerable evangelising influence, it should be persevered in, special attention being paid to the practicability of the course and its reference to such sanitary measures as the Government attempt to introduce through the medium of village organisations or by other means. The necessity for the organisation and administration of the movement by officers who are experts in sanitation and who also understand educational conditions, has been admitted.	Special steps should be taken for imparting instruction in hygiene to *teachers*. The present course of hygiene in vernacular schools (where it is taught in connection with nature study under the name of sanitation) only needs a little amplification to make it fully capable of satisfying the requirements of village life.
	Whether it should be a compulsory subject in the various schemes of school-leaving certificates.	The subject of hygiene is now included in the science curriculum of secondary schools recently sanctioned by the Government (in 1912.)	Hygiene should be made a compulsory optional in the High School Final Examination. Ordinarily instruction should be given in Standards VIII and IX to all pupils in both the Matriculation and in the Anglo-Vernacular high school final classes. A text-book should be prepared dealing specially with conditions as they are in Burma; meanwhile Banke's book may be used.	Sanitary instruction should form part of the course in secondary schools and should be a subject for examination up to the degree.	In each Anglo-Vernacular school a teacher should deliver annually a course of magic lantern lectures. A definite course of study, based on a text-book, should be prescribed for the two senior classes of high schools. But hygiene should not be a compulsory subject of examination for the school-leaving certificate.
	Whether it should be recommended to Universities as part of their Matriculation examination.	Under the revised regulations for the Matriculation examination there is no University examination in science, the candidate being merely required to produce a certificate from the headmaster of a registered school showing that he possesses a satisfactory knowledge of the subject. The question of recommending to the latter body the inclusion of hygiene as part of the Matriculation examination does not arise.	Hygiene need not be a compulsory subject in the University Matriculation examination	....	Hygiene should not be a compulsory subject of examination for the Matriculation.

Paragraph of the Government of India resolution, dated 21st February 1913.	Points upon which opinions are required.	Opinion of the Government of			
		Bombay.	Burma.	Assam.	North-West Frontier Province.
7 (iv)	Inspection, where possible, of male scholars with special reference to infectious diseases, eyesight and malaria.	[Separate communication has been addressed to the Government of India on the subject.] The proposals have since been sanctioned. *Boys* in certain classes of Government, Municipal, local board and aided schools are to be medically inspected by five doctors on Rs. 500–50—800 per mensem each—*vide* correspondence in G.O. No. 1222, Educational, dated 2nd November 1914.	The Government have already taken steps for the inspection of schools (in 1912). The inspection was to be the rule in Government, and optional in aided schools. It was to embrace an examination of the general health and physique of the pupils as well as of the sanitary condition of the schools. Inspecting officers will in future be particularly enjoined to pay attention to the question of eyesight.	It has been decided to initiate experimentally the medical examination of boys at certain schools at which this can conveniently be effected by the existing medical staff.	No special agency need be appointed at present for the medical inspection of vernacular schools in villages, as it is likely to arouse suspicion and resentment; but Civil Surgeons have been instructed to inspect them as opportunities occur. It has been decided to appoint as soon as possible two specially trained officers of the Sub-Assistant Surgeon grade to undertake the inspection of Anglo-Vernacular schools (including the buildings and hostel, etc.)
7 (v)	Length of the school-day, home studies and the effect upon the health of the present system of working for formal examinations.	The Director of Public Instruction has been asked to consult medical and educational expert opinion on the subject and to submit his views as to the necessity for introducing any reforms in the present system.	The length of the school day should not exceed five hours. It should consist of two sessions with an interval of at least one hour between each and a break of a quarter of an hour in the middle of the longer session. There should be no home work in standards I and II. The maximum period in the case of standards III to IX may range from one hour to three hours.	As laid down in the syallabus of instruction, the length of the school day varies from 24 hours a week in the lower classes of a vernacular school to 30 hours a week in the top classes of a high school. This is not excessive. The length of home studies varies. The present system of working for formal examinations does not affect the health of the boys seriously. No change is advocated.	The present hours of class work are not such as to affect seriously the health of the scholars. But in secondary schools the principle of allowing reasonable intervals should be enforced, home-work should not exceed two to two and a half hours and formal examination (excluding public examinations) be reduced from three to two a year, the hours of examination per day being limited to four.
		The working up for two tests a year should not be too great a strain for an average boy but three tests appear rather much. The Ophthalmic Surgeon is drawing up notes on the subject of hints to teachers to prevent pupils from dimming their eyes by careless habits.			
7 (vi)	Requirements in the way of recreation grounds, gardens, gymnasia, reading rooms, common rooms, etc.	The Government are fully alive to the importance of this item and adjuncts are, wherever possible, being provided so far as Government and local board schools are concerned. The Director of Public Instruction is arranging with the Young Men's Christian Association to allow the Physical Director to give the department occasional benefit of his expert advice. Mr. P. Wren of the Indian Educational Service is on special duty for the preparation of a manual of physical exercises and instruction at a suitable centre of selected schoolmasters. The desirability of extending the system, already in existence in a very limited number of schools, of having on the teaching staff regular "games masters" will continue to receive the attention of the Government.	All boarding schools and country schools where land is cheap should have playing fields not smaller than a standard foot-ball ground. Purely day schools should have a pucca play-ground and a large playing field may, if necessary, be shared by two or three or four schools. Gardens are not usually suited to town schools, but need not be prohibited. A building for physical exercises or at least a covered shed should be provided for each school. There should be a reading room for boys of standard VII and above, masters' common rooms, a lavatory, etc.	Whilst fully appreciating the necessity for recreation grounds, etc., the Chief Commissioner thinks that no general steps can be taken in the matter until the more immediate needs of the schools in the way of a sufficiency of suitable class rooms have been provided for. All country schools should have gardens close to them.	Every high and middle school should have its own playing field and every high school should be fully equipped with gymnastic apparatus and provided with a reading room. These will be given effect to if funds are available. Further provision will be made for an improvement in the physical training of scholars in rural schools by increasing the number of itinerant drill instructors in each district.

Opinion of the Government of

Paragraph of the Government of India resolution, dated 21st February 1918.	Points upon which opinions are required.	Bombay.	Burma.	Assam.	North-West Frontier Province.
7 (vii)	The inspecting and administrating agency required, the possibility of co-operation with existing organisations and the provision of funds.	The question has been separately dealt with along with paragraph 7 (iv).	It is proposed to appoint a special medical officer to be attached to the Provincial Educational department on a pay of Rs. 800–100–1,300, with the assistance of the Government of India. There is a possibility of co-operation with the Rangoon branch of the Young Men's Christian Association.	The appointment of a Physical Training Inspector and a Medical Inspector, who would investigate the requirements of their respective departments and prepare schemes of organisation, is suggested.	Appointment of two sub-assistant surgeons and certain drill instructors has already been recommended—*vide* notes against paragraph 7 (i) and (vi). Assistance must chiefly be looked for from the St. John Ambulance Association in two directions— (i) by giving advice as regards the course of lectures, and (ii) by providing through the award of medallions a stimulus to teachers to make themselves proficient in the subject.

Please draft letter to India briefly indicating action taken in Madras till now.

P. RAJAGOPALA ACHARIYAR—22-1-15.

A draft order and a draft letter to India indicating action taken in Madras till now are submitted for approval.

2. The letter to India follows mainly His Excellency's note, dated the 17th September 1914, on pages 4 and 5 of notes with G.O. No. 1104, Educational, dated the 22nd September 1914, and Mr. Francis' note on pages 2 to 3 *supra*. It is proposed, subject to approval, to inform India that the question of "the length of the school day, home studies and the effect of formal examinations upon health" has been reserved for separate examination.

Item (v) in paragraph 7 on page 4 of G.O. No. 394, Educational, dated 1st May 1913.

Yes.

P. RAJAGOPALA ACHARIYAR.

3. In regard to the introduction of a "more practical course of hygiene, etc.," reference is made, subject to approval, to the facts in the Director's letter on pages 2 and 3 of G.O. No. 143, Educational, dated 17th February 1913, and in the notes on page 2 of the notes therewith and to the translation into the vernaculars for use in the elementary schools in this Presidency of the health primer entitled "Life, Light and cleanliness" published for the Punjab Text-Book Committee—*vide* G.O. No. 226, Educational, dated the 12th March 1912, and to the Director's proposal to prescribe this book for the secondary school-leaving certificate examination—please see Director of Public Instruction's letter in G.O. No. 1426, Educational, dated the 14th December 1914. The Director will have, however, to be consulted on the question whether the course of hygiene should be recommended to Universities as part of their Matriculation examination. It is also proposed to inform India that the question of the adoption of the books mentioned in the list appended to their letter of the 20th November last will be considered.

Item (iii) in paragraph 7 on page 4 of G.O. No. 394, Educational, dated 1st May 1913.

Alright.

P. RAJAGOPALA ACHARIYAR—30-1-15.

Item (iii) in paragraph 7 on page 4 of G.O. No. 394, Educational, dated 1st May 1913.

Is it absolutely necessary?

P. RAJAGOPALA ACHARIYAR—30-1-15.

Paragraph 6 of Mr. Francis' note on page 3 above.

Alright.

P. RAJAGOPALA ACHARIYAR—30-1-15.

S. ANANTANARAYANAN—25-1-15.

C. RAMANUJACHARI—28-1-15.

I have boiled down the letter to India. Please let me have a clean copy.

P. RAJAGOPALA ACHARIYAR—30-1-15.

A clean copy of the draft is submitted.

2. With reference to the Secretary's note at **A** on the margin above it is submitted that the Government of India have specifically asked whether a course of hygiene should be recommended to Universities as part of their *Matriculation* examination, along with the query about the school-leaving certificate examination. As the draft replies about the latter, viz., the secondary school-leaving certificates, it would seem better to finish the topic by examining the other part of the question also. It appears therefore necessary to consult the Director of Public Instruction on this point and his reply, when received, may be communicated to India later on. If this course is approved, a separate memorandum may issue to the Director of Public Instruction.

Paragraph 7 (iii), page 4 of G.O. No. 394, Educational, dated 1st May 1913.

Yes.

P. RAJAGOPALA ACHARIYAR—5-2-15.

3. The Secretary's remarks on the draft order and letter to the Government of India are answered below.

Remark on the draft order "*Why not leave this** alone".—Submitted that in the letter to India, it is proposed to inform that Government that the question of the adoption of the books mentioned in the list appended to their letter of the 20th November last will also be considered—please see also the concluding portion of the office-note on the previous page which has been accepted by the Secretary. It may therefore be desirable to call for a report on this question from the Director of Public Instruction.

*Selection of books from the Government of India's list for use in schools here.

Alright. Issue.†
P. RAJAGOPALA ACHARIYAR—5-2-15.

† Issued as G.O. No. 110, Educational, dated 5th February 1915.

Remarks on the draft letter—Paragraph 3 "*Cannot the expenditure* ‡*be given here*".—The total expenditure till now incurred on the payment of subsidies to local bodies towards the provision of gardens for elementary schools, viz., Rs. 30,000 has now been entered.

‡On provision of school gardens.

S. ANANTANARAYANAN—2-2-15.

C. RAMANUJACHARI—2-2-15.

Submitted to His Excellency draft letter to India for approval.

P. RAJAGOPALA ACHARIYAR—5-2-15.

P[ENTLAND]—6-2-15.

Issue.

P. RAJAGOPALA ACHARIYAR—7-2-15.

[Letter No. 124, Educational, dated 9th February 1915.]

A draft memorandum with reference to paragraph 2 of office-note above is submitted for approval.

S.A.—11-2-15.

C.R.—11-2-15.

P. RAJAGOPALA ACHARIYAR—13-2-15.

[G.O. Nos. 123-A, 124, Educational, 9th February 1915.]

DEPARTMENT OF EDUCATION
29 SEP 1913

No. 2697.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 20th September 1913.

FROM

J. L. RIEU, ESQ., I.C.S.,
Secretary to Government;

TO

THE JOINT SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF EDUCATION (EDUCATION).

SIR,

I am directed to refer to your letter No. 1138, dated the 24th June 1913, in which attention is called to the recommendation made in paragraph 7 of the Resolution of the Government of India in the Department of Education (Education) No. 301-C.D., dated the 21st February 1913, to the effect that a small committee of medical and educational experts should be appointed by each Local Government for the investigation of a number of specific questions connected with school and college hygiene. In paragraph 5 of the letter the Government of India indicate their assumption that a committee is being formed in this Presidency, and express the hope that they will shortly receive the report of that body together with the recommendations of the Bombay Government thereon.

2. In reply I am to state that, of the seven questions enumerated in paragraph 7 of the Resolution as suitable for investigation by the proposed committees, question (iii) regarding the introduction of a simple and more practical course of hygiene has already been fully dealt with in this Presidency. The subject of hygiene is now included in the science curriculum of secondary schools recently sanctioned by Government (*vide* Government Resolution No. 3207, dated the 9th December 1912, copy enclosed), and as, under the revised regulations for the matriculation examination of the Bombay University, there is no university examination in science, the candidate being merely required to produce a certificate from the head master of a registered school showing that he possesses a satisfactory knowledge of the subject, the question of recommending to the latter body the inclusion of hygiene as part of the matriculation examination does not arise. As regards primary schools a Marathi text-book on the subject of sanitation has been published and sanctioned, and it is proposed to translate it into the other vernaculars of the Presidency. Government also have in contemplation the distribution among Deputy Educational Inspectors of magic lanterns and slides for exhibition in primary schools with a view, among other objects, to the propagation of sanitary knowledge in rural areas.

3. The question of the medical inspection of school children (question iv), in conjunction with that of the inspecting and administrating agency required in connection therewith (question vii), has been the subject of consultation between the respective heads of the educational and medical departments of this Government. The scheme which has in consequence been formulated is at present under the consideration of the Governor in Council, and will form the subject of a separate communication which will be addressed to the Government of India simultaneously with this letter (*vide* my letter No. 2699 of this day's date). As regards the provision of spacious, well-ventilated, and generally hygienic school buildings, which was one of the principal measures recommended in connection with the campaign against the spread of tuberculosis, the Director of Public Instruction has already been informed that Government desire that the whole or a large portion of the allotment of Rs. 12½ lakhs made by the Government of India in the current year for the erection and equipment of elementary

schools should be devoted to the payment of *free* building and equipment grants not only to local boards, but also to such municipalities as are in urgent need of suitable school buildings but whose financial circumstances do not admit of their undertaking the construction of such buildings on the terms laid down in the ordinary grant-in-aid rules. His Excellency in Council is fully alive to the extreme importance of equipping schools with play-grounds, school gardens and gymnasia (question vi), and these adjuncts are, wherever possible, being provided so far as Government and local board schools are concerned, as will be seen by reference to the marginally noted papers, copies of which are herewith enclosed.

Paragraph 1 of Mr. Robertson's letter to the Government of India, No. 2541, dated the 21st August 1911;
Government Resolution No. 3211, dated the 22nd November 1911; and
Government letter to Miss Forbes, No. 2103, dated the 16th August 1912, and the Director of Public Instruction's report underlying it.

4. With reference to question (ii) regarding the professional examination of building plans from the hygienic point of view, I am to state that orders have already been issued that in future the plans of all new buildings in connection with Government or aided educational institutions should in the first instance be scrutinized by the Sanitary Engineer and the Sanitary Commissioner, while as regards question (v) (length of school-day, home-studies, etc.), which was incidentally the subject of inquiry last year at the instance of a non-official member of the Legislative Council who raised the question of the suitability of the school hours at present observed in this Presidency, the Director of Public Instruction has been asked to consult medical and educational expert opinion on the subject and to submit his views as to the necessity for introducing any reforms in the present system. This subject was accordingly included in the agenda for a conference of educational officers which was held at Poona last month.

5. There remain question (i) (the examination of the condition of school houses, hostels, etc., from the sanitary point of view), the matters included in questions (vi) and (vii) in so far as they have not already been dealt with or are not already under the final consideration of Government, and the further matters referred to in the letter under reply, which are likely to involve recurring expenditure and for which the Government of India intend to make recurring allotments. With regard to the inspection of school houses and hostels, every inspection report on a Government or aided school contains a reference to the state of the buildings, which it is the regular duty of inspecting officers to notice. The educational inspecting officers are not experts in questions of sanitation, but they may be expected to have a fairly practical idea of what constitutes a hygienic building for educational purposes. If a more scientific opinion is required it will be necessary to engage special officers for the purpose, who will conduct a detailed and systematic survey of all the educational buildings in this Presidency, a step which, for reasons which will be explained hereafter, does not commend itself to the Governor in Council. The training of teachers so as to enable them to impart practical instruction in hygiene will receive greater attention when the new text-books are ready, while the subject of "First Aid" has been included in the science course for high schools referred to in paragraph 2 above, and is being roughly dealt with in the current year by the help of ambulance books and with the assistance of local medical officers and practitioners. When the text-book on the subject is available and experience has been gained, the teaching of the subject will be systematized. Steps will also be taken, as suggested by the Government of India, to obtain the assistance and co-operation of the St. John's Ambulance Association in the matter.

6. As regards the direction of instruction in drill and physical exercises I am to state that the Director of Public Instruction is arranging with the Young Men's Christian Association of Bombay to allow the Association's Physical Director, who is expected to arrive this month, to give the Department the occasional benefit of his expert advice. Moreover, the Governor in Council has deputed Mr. P. Wren of the Indian Educational Service, who has devoted considerable attention to the question of physical education, to be on special duty for the preparation of a manual of physical exercises and the instruction at a suitable centre in such exercises of a class composed of selected school masters deputed from the several Government high and middle schools of the Presidency. The desirability of extending the system, already in existence in a very limited number of schools, of having on the teaching staff regular "games masters" will continue to receive the attention of this Government.

7. From the foregoing paragraphs it will be seen that the Educational Department of this Presidency has already achieved very substantial progress in respect of the majority of the questions referred to by the Government of India in their present letter, and is taking active steps for the consideration, in consultation where necessary with outside expert opinion, of those of the suggestions in regard to which a definite line of advance has not as yet been projected. In this state of affairs His Excellency the Governor in Council doubts whether a committee of the nature suggested would be able to deal more effectively with the proposed subjects of enquiry. The particular questions which would be referable to such a body are those under (i), (vi) and (vii). If the first two of these are to be systematically investigated it must, as has been indicated in paragraph 5 above, be through the agency of a whole-time peripatetic committee capable of undertaking a detailed survey of the school buildings and educational arrangements of this Presidency during a period which would probably extend over some years, while the last-named question would in due course be considered on the data thus collected. But, in the first place, there would be considerable difficulty in finding both the medical and the educational officers able to serve on such a committee. The Government of India are aware of the difficulty which this Government is already experiencing in filling, from the ranks of their educational officers, the proposed post of Deputy Director of Public Instruction, an appointment which, it may incidentally be observed, will almost certainly have to be made permanent and the creation of which, as indicated in this Government's letter No. 2181, dated the 26th July 1913, presenting the proposal, is calculated to place the Director of Public Instruction in a better position to concentrate his attention on the systematic consideration of the various questions of educational development, including those of school and college hygiene, which are now to the fore. And, in the second place, there is the objection that the work of the committee would consist largely, so far at least as Government institutions are concerned, in pointing out defects and shortcomings the existence of which is already known and admitted but which for good reasons cannot be remedied. Although its investigations would no doubt serve a useful purpose in drawing public attention to the state of many municipal and aided schools, little practical good would result from its labours unless almost boundless funds were forthcoming for the purpose of correcting the evils thus exposed to view. After a careful consideration of the subject His Excellency the Governor in Council is of opinion that the constitution of a committee of the nature suggested might have the effect of retarding rather than of accelerating progress, and he would prefer to rely, for the further consideration of the several questions affecting school and college hygiene referred to by the Government of India, on the regular directing and inspecting agencies acting, as already indicated, in free consultation with expert medical opinion, both central and local.

8. In conclusion I am to state that although, for the reasons explained above, the Governor in Council would prefer not to appoint a general committee of enquiry such as has been suggested, he has it in contemplation, as soon as the provincial branch of the St. John's Ambulance Association—now in process of organization—has come into being, to constitute a special committee for the object, indicated by the Government of India, of securing for the Educational Department the co-operation and advice of the Association in regard to the matters under reference.

I have the honour to be,

Sir,

Your most obedient servant,

J. L. RIEU,

Secretary to Government.

Secondary Education.—

Syllabus in science for secondary schools in the Bombay Presidency.

No. 3207.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 9th December 1912.

Letter from Messrs Longmans, Green and Company, Bombay, no. A-3381, dated the 12th March 1912:—

"We enclose a copy of our letter to the Hon'ble Mr. W. H. Sharp, no. A.-4065 of the 9th October 1911, with reference to the proposed series of science readers for schools in the Bombay Presidency. In reply, Mr. Sharp wrote to us on October 11th, 1911, that when the science scheme had been approved by Government, he would be happy to take our proposal into consideration.

"We understand that the science scheme has now been approved by Government, and we have the honour to ask that our request to be permitted to prepare and publish the books may be considered. We have secured the services, as author and editor of the series, of a member of the Indian Educational Service, thoroughly conversant with the requirements of the schools; we shall spare no effort in the preparation of the books—paper, print and illustrations—to make them excellent in all respects; and each book would be submitted in proof to such authority as overnment may direct to inspect it, so as to ensure its being in every way what is required"

Letter from Messrs Longmans, Green and Company, Bombay, to the Director of Public Instruction, no. A.-4065, dated the 9th October 1911:—

"We hear that a series of science readers for the upper standards of schools in this Presidency is likely to be required at an early date.

"We have the honour to express to you our desire to be permitted to prepare and publish this series. We should have the books written according to your requirements, by an author experienced in teaching in this Presidency, we should submit the manuscript to you before printing so as to ensure that it is in all ways just what you want, and we should have the book well illustrated—submitting the illustrations also for your approval."

Government letter to Messrs Longmans, Green and Company, Bombay, no. 716 dated the 15th March 1912.

Letter from Messrs Longmans, Green and Company, Bombay, no. 539, dated the 16th March 1912.

Government memorandum no. 949, dated the 12th April 1912—

Forwarding the above letter no. A.-3381, dated the 12th March 1912, from Messrs. Longmans, Green and Company, Bombay, to the Director of Public Instruction for report, with reference to paragraph 15 of his letter no. 12466, dated the 7th February 1911, printed in Government Resolution no. 836, dated the 26th April 1911, and Government Resolution no. 357, dated the 5th February 1912.

Letter from the Director of Public Instruction, no. 1015, dated the 25th April 1912:—

"With reference to Government memorandum no. 949, dated 12th April 1912, forwarding for report copy of letter no. A.-3381, dated 12th March 1912, addressed to you by Messrs Longmans, Green and Company, 8, Hornby Road, Bombay, regarding the preparation and publication of the series of science readers for secondary schools in this Presidency, I have the honour to state that Messrs Longmans, Green and Company might be informed that Government have not yet sanctioned the scheme. When this is done proposals will be submitted to Government for the giving of the publishing contract."

Government letter to Messrs Longmans, Green and Company, Bombay, no. 1179, dated the 11th May 1912:—

"With reference to your letter no. A.-3381, dated the 12th March 1912, submitting for the consideration of Government certain proposals for the preparation of a series of science readers for secondary schools in this Presidency, I am directed to inform you that

no scheme for a syllabus in science for secondary schools has yet been sanctioned by Government."

Government memorandum no. 1180, dated the 11th May 1912:—

"Copy forwarded to the Director of Public Instruction for information, with reference to the correspondence ending with his letter no. 1015, dated the 25th April 1912. The Director is requested to state when the draft syllabus may be expected."

Letter from Messrs Longmans, Green and Company, Bombay, no. A.-3539, dated the 22nd May 1912.

"With reference to your letters no 716, of the 15th March 1912 and no. 1179 of the 11th May 1912, we have the honour to ask that the proposals contained in our letter no. A-3381 of the 12th March 1912, for the preparation of a series of science readers for secondary schools in this Presidency, may be laid before Government when the scheme for the syllabus in science for secondary schools has received the sanction of Government."

Government memorandum no. 1415, dated the 7th June 1912—

Forwarding copy of the above letter to the Director of Public Instruction, with reference to the correspondence ending with Government memorandum no. 1180, dated the 11th May 1912.

Letter from the Director of Public Instruction, no. 2534, dated the 4th June 1912.

Letter from the Director of Public Instruction, no. 4417, dated the 17th July 1912:—

"In continuation of this office no. 2534 of 4th June 1912 and with reference to Government Educational Department, no. 1415 of 7th June 1912, I have the honour to state that I have just received a letter from the Registrar, University of Bombay, forwarding a copy of the syllabus in science which the Syndicate have resolved to recommend to the Senate for their acceptance. On comparing the syllabuses, I find that there is a great difference between this and the one proposed by Mr. Sharp, and, consequently, I am asking Mr. Covernton, Principal, Elphinstone College, to point out to the Senate that the two schemes are irreconcilable (and would double the work of the boys who take both examinations), and that the syllabus proposed by Mr. Sharp is the more practical, useful, educational and inexpensive. The decision of the Senate will in due course be communicated to Government."

Government letter to the Director of Public Instruction, no. 2268, dated the 6th September 1912:—

"I am directed to refer to your letter no 1015, dated the 25th April 1912, regarding the preparation and publication of a series of science readers for secondary schools.

"2. I am now to forward a copy of a letter from Mr. E. V. Rieu of the Oxford University Press, dated the 9th January 1912, stating that the Press has decided to open a publishing branch in Bombay, and offering to produce suitable readers in scientific subjects for the use of secondary schools in this Presidency. I am to request that this application may be taken into consideration with other similar applications at the time of framing the proposals mentioned at the end of your letter above referred to."

Letter from the Director of Public Instruction, no. 7719, dated the 10th October 1912:—

"In continuation of this office no. 4417, dated 17th July 1912, I have the honour to state that the syllabus in question (see first column of statement* enclosed, standard by standard) was submitted to the Syndicate of the University, which in turn evolved a scheme for standards VII and VI (copy enclosed in the second column), which seemed to me to make too much in the direction of undiluted science: the Syndicate at the same time objected to the order in which certain subjects were treated in the lower standards.

"2. I considered their scheme in consultation with Drs. Allen and Fox and submitted to a Committee of the Syndicate a revised set of proposals making in the direction of their proposals, but retaining in amended order all that appeared to me most valuable in our own original proposals. At their invitation Drs. Allen, Fox and myself discussed these revised proposals with the Committee who, though they did not altogether approve of them, admitted that they are a fair compromise, and I think it is likely that the Syndicate will adopt them. There is now no time for further discussion. With a few alterations made by Dr. Allen under standards VI and V, I submit this scheme (in the third column) for the provisional approval of Government, and solicit the favour of early orders, as the school year begins after the Diwali holidays. I think it meets very fairly Mr. Sharp's views, as expressed in paragraph 18 (5) of this office no. 2269, dated 31st May 1910, printed in the preamble to Government Resolution, Educational Department, no. 1711, dated 19th September 1910.

"3. I should perhaps explain that the reason which has led me to do my best to bring the two schemes—Departmental and University—into close correspondence is that

* Printed as an accompaniment to this Resolution.

otherwise head masters will have two science courses to arrange for simultaneously, and it is pretty certain that if that is so, one or both of them will be scamped and the difficulty would be felt most severely in our Government high schools, which are bound to prepare boys both for the School Final and Matriculation Examinations.

"4. Mr. Sharp left a suggestion that Mr. Wren should be asked to write the book required for the use of pupils and masters, if the original syllabus were accepted. It seems to me that both that syllabus and even more so the revised syllabus submitted herewith would call for a considerable degree of expert knowledge on the part of the compiler or compilers, and I would suggest that the question of the provision of these manuals should be held over till Mr. Sharp's return."

RESOLUTION.—The revised curriculum* given in column 3 of the statement forwarded by the Director of Public Instruction is approved provisionally and should be published in the *Bombay Government Gazette*, with reference to Government Notification No. 839, dated the 26th April 1911.

2. The Director of Public Instruction should be informed that the curriculum should come into effect in November 1914 except the portion under Standard VII which should come into force at once. Proposals for the preparation of science readers based on the syllabus should be submitted to Government after Mr. Sharp's return from leave.

J. L. RIEU,

Secretary to Government.

To

The Commissioner in Sind,

The Commissioner, N. D.,

The Commissioner, C. D.,

The Commissioner, S. D.,

The Director of Public Instruction,

All Collectors, including the Collectors in Sind and the Deputy Commissioner,

Upper Sind Frontier,

The Superintendent, Government Central Press,

The Government of India,
The Government of Madras. } By letter.

* Printed as an accompaniment to this Resolution.

No. of 1912.

Copy forwarded for information and guidance to

Accompaniment to Government Resolution, Educational Department, No. 3207, dated the 9th December 1914.

Original departmental proposals for school science course as submitted to the University.	University proposals.	Revised departmental proposals.
STANDARD I. *A.—Matter.* (1) The use of the five senses in acquisition of knowledge about matter (hardness, shape, transparency, porosity, pliability, solubility, malleability, elasticity, combustibility, etc.) (2) Solids, liquids and gases. The three forms of water and their properties. Very elementry ideas about cohesion and repulsion. *B.—Life.* (1) Observation and identification of the leaves, flowers, fruit and seeds of the common local trees. (2) Life history of common local plant grown under observation. (3) Life history of a common local insect kept under observation (*e.g.*, silk worm or butterfly from egg to mature insect).		STANDARD I. *I.—Matter.* (1) The use of the five senses in learning about matter. (2) The properties and uses of brick, stone, clay, sand, earth, mortar, salt, glass, wood, charcoal. *II.—Life.* (1) Observation and identification of the leaves, flowers fruit and seeds of the common local trees. (2) Life history of common local plant grown under observation. (3) Life History of a common local insect kept under observation (*e.g.*, silk worm or butterfly from egg to mature insect).
STANDARD II. *A.—Matter.* (1) Effects of heat on matter— (*a*) Expansion of solids, liquids and gases. (*b*) Conduction of heat. (*c*) Liquefaction of solids. (*d*) Vaporisation of liquids. Distillation. (*e*) Steam, clouds, rain. Use of the rain-gauge. (2) Measurement and record of heat. Use of clinical ther mometer. *B.—Life.* (1) The life history of the common domestic animals. (2) Life history of common reptile kept under observation (*e.g.*, snake).		STANDARD II. *I.—Matter.* The properties and uses of iron, steel, lead, copper, zinc, aluminium, brass, India-rubber, earthenware, coal, oil, ice, water, steam, air. (The boys should be taken to visit the blacksmith's, carpenter's, potter's, and weaver's shops and any other available industries, *e.g.*, the salt pans.) *II.—Life.* (1) The life history of the common domestic animals. (2) Some knowledge of local trees, plants, flowers, fruits and crops. (3) Life history of lower vertebrate (*e.g.*, snake) or insect pest (*e.g.*, mosquito) kept under observation.

Original departmental proposals for school science course as submitted to the University.	University proposals.	Revised departmental proposals.

STANARD III.

A.—Matter.

(1) Mass, weight, and the laws of gravitation.
(2) Density, sinking and floating, specific gravity.
(3) Molecules, metals and non-metals.
Crystals and crystallization.
Soluble and insoluble solids, liquids and gases.
(4) Very elementary ideas of the lever, inclined plane, wheel and axle, pulley, cogwheel and screw.

B.—Life.

(1) Some knowledge of local trees, plants, flowers, fruits and corps.
(2) Life history of some insect pest kept under observation (*e.g.*, mosquito).

STANDARD IV.

A.—Matter.

(1) The composition of the atmosphere. Pressure.
(2) The barometer, pump and bellows.
(3) Oxygen. Breathing, burning and rusting.
(4) Nitrogen.
(5) Carbonic acid gas. (Plants.)
(6) Vacuum and its properties.

B.—Life.

(1) Local nature study.
Natural phenomena.
Why a dry or wet place. Soils.
Common birds and beasts.
(2) Formation and study of aquarium and museum by boys.

STANDARD V.

Human Physiology.

(1) The skeleton. Bones as supports and protection. Joints.
(2) The bones, muscles and joints as levers, powers and fulcra.
(3) Nervous system as a telegraphic system. Brain, spinal cord and nerves.
(4) The circulation, heart, blood-vessels and blood.
(5) Respiration, lungs and diaphragm. Voice.
(6) Digestion. Teeth, tongue, saliva, gullet, stomach, liver, pancreas, intestines.
(7) Excretion. Kidneys, bladder, and skin.
(8) Sense organs. Eye, ear, nose, tongue.

STANDARD III.

I.—Human Physiology.

(1) Bones as supports and protection. Joints.
(2) The mechanical relation between the biceps muscle and the arm bones.
(3) Broad facts with regard to digestion, circulation, respiration.

II.—Life.

(1) Local nature study. Common birds and beasts.
(2) Formation and study of aquarium and museum by boys.
(3) Natural phenomena.
(4) Why a dry or wet place. Soils.

STANDARD IV.

I.—Human Physiology.

(1) The skeleton.
(2) Nervous system as a telegraphic system. Brain, spinal cord and nerves.
(3) The circulation, heart, blood-vessels and blood.
(4) Respiration, lungs and diaphragm. Voice.
(5) Digestion, teeth, tongue, saliva, gullet, stomach, liver, pancreas, intestines.
(6) Excretion. Kidneys, bladder and skin.
(7) Sense organs. Eye, ear, nose, tongue.

II.—Hygiene.

(1) Air, oxygen, corbonic acid gas. Ventilation, light, germs.
(2) Food. Values and quantities. Vegetarianism.
(3) Exercise. Effect on respiration, blood, digestion, skin, perspiration. Games.
(4) Clothing. Temperature of body. Chills.
(5) Cleanliness. Person, clothing, bedding, house, surroundings. Vermin.

STANDARD V.

I.—Physics.

(1) Practical—
(*a*) Measurement of length in inches and in centimeters, with scale and dividers and with caliipers.
(*b*) Volume of regular solids.
(*c*) Use of measuring glasses; volume of liquids.
(*d*) Weight of solids. (This can be obtained with a spring balance, if no better means are available.)
(*e*) Apparent weight in a liquid. Specific gravity.
(*f*) Proportion immersed when a light solid floats. Specific gravity.
(*g*) Observation of the chief physical properties of a few typical metals and non-metals.
(*h*) Solution and crystallization.
(*i*) Observations with a spring balance on the force required to set in motion, and to stop, a massive door, or a small cart with different loads, on a level floor, illustrating the law that mass is proportional to weight.
(*j*) Simple experiments on the equilibrium of two or more forces acting in the same straight line, carried out with spring balances, weights and, if possible, letter scales.
(*k*) Friction. Force required to drag blocks of wood on horizontal boards, measured with a spring balance. Measurements to be made with rough and polished surfaces, and with blocks and boards coated with cloth and paper. (Great care should be taken to impress that, when the speed is constant, the pull on the block is exactly equal to the friction, and that the resultant moving force is zero—Newton's first law in motion.)
(*l*) Measurement of work done against friction, and against gravity, when moving various bodies, with uniform velocity, horizontally and vertically.
(*m*) Experiments with levers.
(*n*) Experiments with pulleys.
(2) Theoretical—
The elementary principles involved in the experiments of the practical course, should be properly explained. Pupils should be made to apply the knowledge

Original departmental proposals for school science course as submitted to the University.	University proposals.	Revised departmental proposals.
		obtained to the simple contrivances of everyday life, *e.g.*, the well and "mote", the crowbar, the wheel and the plough. *II.—Hygiene.* (1) Water: Boiling and filtering. Wells: pollution and purification. (2) Sleep. Rest and recreation. Study. Interdependence of mind and body. (3) Domestic hygiene. Rubbish, smells, cleaning, whitewashing. Disinfectants. (4) Good and bad habits. Temperance.
STANDARD VI. *Hygiene.* (1) Air. Oxygen, carbonic acid gas; ventilation; light. Germs. (2) Food. Values and quantities, digestibility, vegetarianism. (3) Exercise. Effect on respiration, blood, digestion, skin, perspiration. Games. (4) Clothing. Temperature of body; chills. (5) Cleanliness. Person, clothing, bedding, house, surroundings. Vermin. (6) Water. Boiling and filtering. Wells: pollution and purification. (7) Sleep. Rest and recreation. Study. Interdependence of mind and body. (8) Domestic hygiene. Rubbish, smells, cleaning, whitewashing, disinfectants. (9) Good and bad habits. Temperance.	STANDARD VI. (1) Practical— Measurement of length, area, volume and weight of solids. Use of scale, dividers and callipers. Use of measuring glasses and flasks; exercises on measuring the volume of liquids. Use of the balance. Use of Fahrenheit and Centigrade thermometers. Use of the rain-gauge. Keeping a record of rainfall. Easy experiments in the simple mechanical powers. Exercises in bending glass tubes, boring cork, fitting up a wash-bottle. Filtration, evaporation and crystallisation. Oxidation of body in a closed volume of air to notice the change produced. Examination of respired air. Manipulation of gases—preparing and examining oxygen. (2) Theoretical— General properties of matter. The three states of matter and the effect of heat on these.	STANDARD VI. *I.—Physics.* (1) Practical— (*a*) Simple experiments showing the expansion of solids, liquids, and gases when heated. (*b*) Observation of the barometer. (*c*) Effect of increased pressure on the volume of a gas. (This may be done with a piston and cylinder) (*d*) Production of a vacuum with an air pump. (*e*) Comparison of the conductivities of solids. (*f*) Observation of the melting point of ice or wax. (*g*) Observation of the boiling point of water. (*h*) Measurement and record of air temperature. Use of clinical thermometer. (*i*) Use of rain-gauge. (*j*) The inclined plane as a machine for doing work in raising weights. (*k*) The pulley and its combinations as machines; force and energy relations. (*l*) Wheel and axle; as (*k*). (*m*) Cogwheels; as (*k*). (*n*) Screw and nut; as (*k*). (*o*) Observation of the motion of a pendulum. Calculation of the potential energy at different points of its path. (*p*) Observation of a ball rolling down an inclined plane, to obtain some idea of the acceleration produced
STANDARD VII. Physiology, Hygiene, and First Aid— (1) Revision of physiology and hygiene. (2) The great Indian diseases. Etiology, prevention and cure. Pests and germs,— (*a*) Plague. Rats and fleas. Germs. Inoculation. (*b*) Malaria. The mosquito. Quinine. (*c*) Consumption. Expectoration. Fresh air cure. (*d*) Cholera. Pollution of wells. Fruit. Diarrhœa. (*e*) Small-pox. Infection. Vaccination. (3) Inoculation and vaccination. (4) First Aid in cases of— (*a*) Bleeding. Arteries and veins. Ligatures and tourniquets. (*b*) Broken bones. Simple and compound. Splints. (*c*) Snake-bite. Incision and cauterisation. Permanganate. (*d*) Poisoning. Corrosive and non-corrosive. Emetics. (*e*) Drowning. Artificial respiration. (*f*) Burning. Dressing.	Water in the three states in nature. Vapour in the atmosphere. Formationd of dew, rain and snow Bodies suspende in water. Subsidence and filtration. Bodies dissolved in water. Hard and soft waters. Organic impurities in water. Air. The composition of air. Pure and impure air. Ventilation. Effect of heating bodies in air. Oxidation. Chemical and physical change. Study of oxygen, hydrogen, nitrogen, and carbon. STANDARD VII. (1) Practical— Easy exercises in weighing in air and in water. Use of burettes and pipettes. Use of maximum and minimum thermometers. Keeping records of temperature and rainfall. Graphic recording. Easy exercises in measuring the solubilities of common substances at different temperatures. Determining the amount of nitrogen in a certain volume of air. Manipulation of gases—preparing and examining nitrogen, carbonic acid gas, and determining the volume of oxygen evolved from a given weight of potassium chlorate. Easy exercises on the interaction of acids and alkalis. (2) Theoretical— Water. The chemical composition of water by analysis and synthesis. Air. Effect of heat and pressure on gases. The air pump, the barometer. The winds, temperature and pressure of the atmosphere. Combustion and flame.	by the action of force on a mass and of the transformation of potential into kinetic energy. (*q*) Experimental verification of the law of the parallelogram of forces. (*r*) Production of heat from mechanical work. (*s*) Careful study of the parts of a small model steam-engine. (2) Theoretical— The elementary principles involved in the experiments of the practical course should be properly explained, and particularly the law of the conservation of energy, as governing the relation between heat and mechanical work. Illustrations in mechanics to be drawn from games, and if possible, the railway yard or siding. II.—Revision of Physiology and Hygiene. STANDARD VII. *I.—Chemistry.* (1) Practical— Exercises dealling with practical important substances requiring only the simplest apparatus— (*a*) Differences between mixture and compounds. Separation of iron with a magnet from a mixture of iron and sulphur powders. Preparation of iron sulphide, comparison of its properties with those of the mixture by observing the action of dilute H_2SO_4, lead acetate paper, etc. (*b*) The changes which occur when common substances are heated in the air, *e.g.*, iron, zinc copper, lead, magnesium, carbon, sulphur. Reduction of lead oxide with carbon and blow-pipe and identification of the lead. (*c*) Preparation of oxygen from potassium chlorate and examination of its properties. (*d*) Preparation of carbonic acid and examination of its properties. Action of lime water. Preparation of calcium chloride crystals, or better, magnesium sulphate as a by product.

Original departmental proposals for school science course as submitted to the University.	University proposals.	Revised departmental proposals.
	Study of phosphorus, sulphur, chlorine, hydrochloric acid, sulphuric acid, nitric acid and silica. Metals. An elementary study of Fe, Al, Cu, Sn, Pb, Na, K, Ca, Mg, Hg, Ag and Au.	(*e*) Preparation of zinc sulphate crystals from zinc and sulphuric acid (the hydrogen to be noticed but *not* collected). (*f*) The interaction of acids on alkalies and the formation of salts therefrom, *e.g.*, NaCl. Its identification by crystallization and taste. (2) Theoretical— Students are to be instructed not only in the carrying out of the above experiments, but also in the simple theory necessary to understand the experiments performed. *II.*—First Aid in cases of— (*a*) Bleeding. Arteries and veins. Ligatures and tourniquets. (*b*) Broken bones. Simple and compound fractures. Splints. (*c*) Snake-bite. Incision and cauterisation. Permanganate. (*d*) Poisoning. Corrosive and non-corrosive poisons. Emetics. (*e*) Drowning. Artificial respiration. (*f*) Burning. Dressing.

NOTIFICATION.

EDUCATIONAL DEPARTMENT.

Bombay Castle, the 9th December 1914.

No. 3210.—With reference to Government Notification* no. 839, dated the 26th April 1911, the following curriculum in science for secondary schools in the Bombay Presidency is provisionally approved and published for general information. It will come into force in November 1914, except the portion under Standard VII which should come into force at once :—

* Published at pages 670 = 677 of the *Bombay Government Gazette*, dated the 4th May, 1911, Part I.

STANDARD I.

I.—*Matter.*

(1) The use of the five senses in learning about matter.

(2) The properties and uses of brick, stone, clay, sand, earth, mortar, salt, glass, wood, charcoal.

II.—*Life.*

(1) Observation and identification of the leaves, flowers, fruit and seeds of the common local trees.

(2) Life history of common local plant grown under observation.

(3) Life history of a common local insect kept under observation (*e.g.*, silk worm or butterfly from egg to mature insect).

STANDARD II.

I.—*Matter.*

The properties and uses of iron, steel, lead, copper, zinc, aluminium, brass, India-rubber, earthenware, coal, oil, ice, water, steam, air.

(The boys should be taken to visit the blacksmith's, carpenter's, potter's and weaver's shops and any other available industries, *e.g.*, the salt pans.)

II.—*Life.*

(1) The life history of the common domestic animals.

(2) Some knowledge of local trees, plants, flowers, fruits and crops.

(3) Life history of lower vertebrate (*e.g.*, snake) or insect pest (*e.g.*, mosquito) kept under observation.

STANDARD III.

I.—*Human Physiology.*

(1) Bones as supports and protection. Joints.

(2) The mechanical relation between the biceps muscle and the arm bones.

(3) Broad facts with regard to digestion, circulation, respiration.

II.—*Life.*

(1) Local nature study. Common birds and beasts.

(2) Formation and study of aquarium and museum by boys.

(3) Natural phenomena.

(4) Why a dry or wet place. Soils.

STANDARD IV.

I.—*Human Physiology.*

(1) The skeleton.
(2) Nervous system as a telegraphic system. Brain, spinal cord and nerves.
(3) The circulation, heart, blood-vessels and blood.
(4) Respiration, lungs and diaphragm. Voice.
(5) Digestion, teeth, tongue, saliva, gullet, stomach, liver, pancreas, intestines.
(6) Excretion. Kidneys, bladder and skin.
(7) Sense organs. Eye, ear, nose, tongue.

II.—*Hygiene.*

(1) Air, oxygen, carbonic acid gas. Ventilation, light, germs.
(2) Food. Values and quantities. Vegetarianism.
(3) Exercise. Effect on respiration, blood, digestion, skin, perspiration. Games.
(4) Clothing. Temperature of body. Chills.
(5) Cleanliness. Person, clothing, bedding, house, surroundings ; vermin.

STANDARD V.

I.—*Physics.*

(1) Practical—

(*a*) Measurement of length in inches and in centimeters, with scale and dividers and with callipers.
(*b*) Volume of regular solids.
(*c*) Use of measuring glasses ; volume of liquids.
(*d*) Weight of solids. (This can be obtained with a spring balance, if no better means are available)
(*e*) Apparent weight in a liquid. Specific gravity.
(*f*) Proportion immersed when a light solid floats. Specific gravity.
(*g*) Observation of the chief physical properties of a few typical metals and non-metals.
(*h*) Solution and crystalization.
(*i*) Observations with a spring balance on the force required to set in motion, and to stop, a massive door, or a small cart with different loads, on a level floor, illustrating the law that mass is proportional to weight.
(*j*) Simple experiments on the equilibrium of two or more forces acting in the same straight line, carried out with spring balances, weights and, if possible, letter scales.
(*k*) Friction. Force required to drag blocks of wood on horizontal boards, measured with a spring balance. Measurements to be made with rough and polished surfaces, and with blocks and boards coated with cloth and paper. (Great care should be taken to impress that, when the speed is constant the pull on the block is exactly equal to the friction, and that the resultant moving force is zero—Newton's first law in motion)
(*l*) Measurement of work done against friction, and against gravity, when moving various bodies, with uniform velocity, horizontally and vertically.
(*m*) Experiments with levers.
(*n*) Experiments with pulleys.

(2) Theoretical—

The elementary principles involved in the experiments of the practical course should be properly explained. Pupils should be made to apply the knowledge obtained to the simple contrivances of everyday life, *e.g.*, the well and "mote," the crowbar, the wheel and the plough.

II.—*Hygiene.*

(1) Water. Boiling and filtering. Wells : pollution and purification.
(2) Sleep. Rest and recreation. Study. Interdependence of mind and body.
(3) Domestic hygiene. Rubbish, smells, cleaning, whitewashing. Disinfectants.
(4) Good and bad habits. Temperance.

STANDARD VI.

I.—*Physics.*

(1) Practical—

(*a*) Simple experiments showing the expansion of solids, liquids and gases when heated.
(*b*) Observation of the barometer.
(*c*) Effect of increased pressure on the volume of a gas. (This may be done with a piston and cylinder.)
(*d*) Production of a vacuum with an air pump.
(*e*) Comparison of the conductivities of solids.
(*f*) Observation of the melting point of ice or wax.
(*g*) Observation of the boiling point of water.
(*h*) Measurement and record of air temperature. Use of clinical thermometer.
(*i*) Use of rain-gauge.
(*j*) The inclined plane as a machine for doing work in raising weights.
(*k*) The pulley and its combinations as machines ; force and energy relations.
(*l*) Wheel and axle ; as (*k*).
(*m*) Cogwheels ; as (*k*).
(*n*) Screw and nut ; as (*k*).
(*o*) Observation of the motion of a pendulum. Calculation of the potential energy at different points of its path.
(*p*) Observation of a ball rolling down an inclined plane, to obtain some idea of the acceleration produced by the action of force on a mass and of the transformation of potential into kinetic energy.
(*q*) Experimental verification of the law of the parallelogram of forces.
(*r*) Production of heat from mechanical work.
(*s*) Careful study of the parts of a small model steam-engine.

(2) Theoretical—

The elementary principles involved in the experiments of the practical course should be properly explained and particularly the law of the conservation of energy, as governing the relation between heat and mechanical work. Illustrations in mechanics to be drawn from games, and if possible, the railway yard or siding.

II.—Revision of Physiology and Hygiene.

STANDARD VII.

I.—*Chemistry.*

(1) Practical—

Exercises dealing with practical important substances requiring only the simplest apparatus—

(*a*) Differences between mixture and compounds. Separation of iron with a magnet from a mixture of iron and sulphur powders. Preparation of iron sulphide, comparison of its properties with those of the mixture by observing the action of dilute H_2SO_4, lead acetate paper, etc.
(*b*) The changes which occur when common substances are heated in the air, *e.g.*, iron, zinc, copper, lead, magnesium, carbon, sulphur. Reduction of lead oxide with carbon and blow-pipe and identification of the lead.
(*c*) Preparation of oxygen from potassium chlorate and examination of its properties.
(*d*) Preparation of carbonic acid and examination of its properties. Action of lime water. Preparation of calcium chloride crystals, or better, magnesium sulphate as a by-product.

(*e*) Preparation of zinc sulphate crystals from zinc and sulphuric acid (the hydrogen to be noticed but *not* collected).

(*f*) The interaction of acids on alkalies and the formation of salts therefrom, *e.g.*, NaCl. Its identification by crystallization and taste.

(2) Theoretical—

Students are to be instructed not only in the carrying out of the above experiments, but also in the simple theory necessary to understand the experiments performed.

II.—First Aid in cases of—

(*a*) Bleeding. Arteries and veins. Ligatures and tourniquets.

(*b*) Broken bones. Simple and compound fractures. Splints.

(*c*) Snake bite. Incision and cauterisation. Permanganate.

(*d*) Poisoning. Corrosive and non-corrosive poisons. Emetics.

(*e*) Drowning. Artificial respiration.

(*f*) Burning. Dressing.

By order of His Excellency the Honourable the Governor in Council.

J. L. RIEU,

Secretary to Government.

Play-grounds.—

Provision of Rs. 28,180 in next year's budget on account of—for certain Government high schools.

Educational Department.

No. 3211. Bombay Castle,

22nd November 1911.

Letter from the Director of Public Instruction, no. 4533, dated the 4th August 1911 :—

"With reference to Government memorandum, Educational Department, no. 209, dated the 1st February 1908, and to paragraph 9 (v)-C. of my no. 1586, dated the 19th May 1911, regarding improvements in secondary education, I have the honour to report how matters now stand with respect to the play-grounds of Government secondary schools :—

(1) *Elphinstone high school.*—The ground requires some levelling: estimated cost Rs. 300.

(2) *Elphinstone middle school.*—A proposal is before Government (*vide* correspondence ending with Government memorandum no. 2177, Educational Department, of 6th July 1911).

(3) *Poona high school.*—The boys rent a piece of ground near the Lakdi Pul. The question of acquiring land adjoining the present building is to be reported on by the Collector.

(4) *Poona camp school.*—The boys use a piece of military ground, and are also indebted for assistance to the Parsi gymkhana ; a sum of Rs. 200 is wanted for levelling and for matting.

(5) *Satara high school.*—Two convenient plots of ground are available and are offered for Rs. 500, to which Rs. 700 may be added for levelling. They belong, however, to Mahomedans, one of whom is a minor, and the claims of succession among Mahomedans, are very complicated. It is suggested, therefore, that they should be acquired through the Collector.

(6) *Sholapur high school.*—This school has a large play-ground, but very rocky and uneven, so that the levelling of it has proved a troublesome task. The headmaster asks for Rs. 330 for covering newly levelled ground with soft murum, and Rs. 700 for improving and draining the rest.

(7) *Nasik high school.*—There is a fine piece of ground, but Rs. 1,023 are required for levelling and fencing it. The boys also require some kind of pavilion in which to keep their kit—an object for which former members of the school might very suitably subscribe, but unfortunately in this country 'old boys' can very seldom be induced to do anything of the kind.

(8) *Dhulia high school*—The boys use a piece of Government waste land, which the Collector says they may use until it is wanted for some other purpose ; but if it were taken away, no other site would be available. It is estimated that Rs 4,000 are required for levelling and fencing so as keep carts off it.

(9) *Bijapur high school.*—There is a good piece of ground, but Rs. 450 are wanted for levelling.

(10) *Belgaum high school.*—Their is a good grouud, but Rs. 3,000 are wanted for levelling and fencing it.

(11) *Karwar high school.*—The old police parade ground is to be handed over to the school, and Rs. 500 are wanted for levelling it.

(12) *Ratnagiri high school.*—My predecessor wrote that a play-ground might be acquired near the present school for Rs. 12,000, but that a new school ought to be built on the beautiful ground where the hostel is. I quite concur. The headmaster reports that about 5 acres can be bought near the hostel for Rs. 1,000, but it seems necessary to settle first whether the school is to be moved or not, as the hostel is a mile away.

(13) *Dharwar high school.*—The boys use part of a maidan which is a military camping-ground ; by Government Resolution, Revenue Department, no. 11139 of 7th December 1910 they were permitted to level and fence it under certain conditions, and it is estimated that Rs. 1,800 will be required for this purpose. On the other hand, the area is hardly sufficient and the boys are liable to be evicted by the military. The students of the training college which is close to the high school are without any play-ground at all. The Educational Inspector has therefore proposed that we should acquire part of the land belonging to the bungalow referred to in my predecessor's letter printed in the preamble of Government memorandum no. 209 referred to above. He says that the owner will part with as much of the land as we want, and that 20 acres might be bought for about Rs. 10,000, thus providing for both the high school and the training college, which between them have a population of nearly 700.

(14) *Thana high school.*—The boys have the partial use of a plot which is not very good, but there is no other within convenient distance.

(15) *Surat high school.*—The present ground is very small, but more room will be available when a site is acquired for the hostel.

(16) *Surat middle school.*—A small plot will be available in the compound of the new building ; and as the neighbourhood is thickly populated, no more can be expected.

(17) *Broach high school.*—A ground will be made available in connection with the new hostel.

(18) *Nadiad high school.*—The school has a ground and has had a grant for levelling it.

(19) *Ahmedabad high school.*—The same may be said here.

(20) *Ahmedabad middle school.*—The boys use a municipal plot which is said to be more like a road than a field ; but there is no ground in the neighbourhood to be purchased.

(21) *Godhra high school.*—This is perhaps the only Government school in which games have been made compulsory. More space is needed which with levelling and fencing is expected to cost Rs. 7,000.

(22) *Karachi high school.*—The space available is rather small but cannot be extended. For improving the surface and providing better pitches Rs. 2,000 are required.

(23) *Hyderabad high school.*—The boys have a plot of ground and a grant was given for levelling it.

(24) *Shikarpur high school.*—A plot of ground is lent by the Collector and no better one is available.

"2. I need not spend words in arguing the value of a decent play-ground to a school. The following are the definite proposals made, and I hope that Government will be pleased

to make such provision as may be possible under this head in the next budget. All the charges are non-recurring :—

	Rs.
Elphinstone high school	300
Poona camp school	200
Satara high school	1,200
Northcote high school, Sholapur	1,030
Nasik high school	1,023
Garud high school, Dhulia	4,000
Bijapur high school	450
Sardars' high school, Belgaum	3,000
Karwar high school	500
Dhawar high school and training college	10,000
Telang high school, Godhra ...	7,000
Narayan Jagganath high school, Karachi ...	2,000
Total ...	30,703 "

Memorandum from the Commissioner in Sind, no. E.-385, dated the 15th August 1911—

Submitting the above.

Government memoranda Nos. 2668 and 2669, dated the 6th September 1911 :—

" Forwarded to the Commissioner, S. D. / Commissioner, N. D. for favour of report on the necessity for such heavy expenditure of Rs. 10,000 / Rs. 7,000 at Dharwar / Godhra. The Commissioner is requested to state whether adequate arrangements could not be made for much less."

Government memorandum No. 2670, dated the 6th September 1911 :—

" The undersigned presents complements to the Director of Public Instruction and with reference to his letter no. 4533, dated the 4th August 1911, on the subject of play-grounds for Government secondary schools, is directed to inquire whether the proposed new high school at Nasik is to be built on part of play-ground at Nasik, and, if so, whether it would not be better to wait till the school is built."

Letter from the Director of Public Instruction, no. 5776, dated the 14th September 1911 :—

" In reply to Government memorandum no. 2670, Educational Department, dated 6th September 1911, I have the honour to state that I kept the Nasik proposal back at first for the reason suggested by Government ; but that in sending in a consolidated statement on the subject of play-grounds I thought it better to include it, so that it might not be overlooked hereafter. The estimate for Rs. 1,023 provides only for filling up certain holes, destroying some cactus, and planting some euphorbia hedging ; and most of this might be carried out independently of the proposed buildings, which will occupy one end only of the ground. But there is no particular objection to the levelling and enclosing being postponed for the present, and carried out as part of the building project."

Memorandum from the Commissioner, N. D., no. 4264, dated the 19th October 1911—

Submitting, with reference to Government memorandum no. 2669, dated the 6th September 1911, the following memorandum from the Collector of Panch Mahals, no. R.-3512, dated the 18th October 1911 :—

" Returned with compliments.

" 2. The headmaster of the Telang high school whom the undersigned has consulted states that the land required for the play-ground is survey no. 202 measuring 4 acres and 35 gunthas. It is Devasthan Inam land and is admirably suited for the purpose. That the high school ought to have a good play-ground cannot be disputed. Any other land in the neighbourhood of the school is not available for this purpose. It will have to be acquired under the Act. Mr. Mehta, the headmaster, further states that the plot cannot be considered too large for a play-ground for 250 boys, but that if it proves costly, its area may be reduced by one acre. The value of the land is estimated at Rs. 1,500 per acre, and if the headmaster's proposal be accepted, the total price of 3 acres and 35 gunthas would come to Rs. 5,812-8 0. This amount is perhaps capable of further reduction when actually acquired unde the Act. The land in question is level and no expenditure is required to be incurred on it."

Memorandum from the Director of Public Instruction, no. 7580, dated the 31st October 1911—

Submitting the above correspondence.

Memorandum from the Commissioner, N. D., no. 4437, dated the 31st October 1911.

RESOLUTION.—The Governor in Council is of opinion that the work of levelling the play-ground for the Nasik high school should be carried out as part of the building programme and that a plot of 3 acres and 35 gunthas, which could be acquired at a cost of about Rs. 5,500 would suffice for a play-ground for the Telang high school, Godhra. The Director of Public Instruction's estimate would thus be reduced to Rs. 28,180 and there may be a further reduction when the reply of the Commissioner, S. D., to Government memorandum no. 2668, dated the 6th September 1911, regarding the play-ground at Dharwar is received. On this point the Commissioner's reply will be awaited. Meanwhile a provision of Rs. 28,180 should be made on account of the play-grounds in the next year's budget subject to the orders that may be issued on receipt of the Commissioner's reply.

2. The provision should be regarded as optional and should be subject to reconsideration when the budget is settled.

J. L. RIEU,

Secretary to Government.

To

The Commissioner in Sind,

The Commissioner, N. D.,

The Commissioner, C. D.,

The Commissioner, S. D.,

The Director of Public Instruction,

The Collector of Panch Mahals,

The Collector of Dharwar,

The Accountant General,

The Financial Department.

No. of 1911.

Copy forwarded for information and guidance to

405DE

School Gardens and Open air Schools: Suggestion of Miss L. F. Forbes for—.

Missionary Settlement:
1, Procter Road, Girgaum, Bombay,
15th February 1912.

Miss M. L. Forbes respectfully begs to submit the enclosed suggestion written by her for the *Pioneer* to the Government of Bombay for their consideration. She has had experience of home gardening in India, and would undertake such instruction.

(Sd.) M. L. FORBES.

School Gardens and Open-air Schools.

While more weighty matters are agitating the minds of the educational world in India, the school garden has become a very important factor for promoting physical development in the life of the schools of the west. The school garden is not unknown in our own country, but we seem to have hardly understood its intention, and there has been no great effort made to establish its upkeep as part of the school system for all-round development. That it has this value is evident from the importance attached to it in the schools of Canada, the United States and Europe. In Philadelphia alone, about 40,000 children are being trained in elementary agriculture by means of the little school gardens, and there are 35,000 home gardens kept up by the day scholars and interest of the teachers. Italy to-day refuses to accept a building for a school unless it has room around it for school gardens as well as school sports; and France and Germany and Belgium have thousands of these pleasant and useful aids to education. Sweden took up the idea as far back as 1869 with wonderful results.

Owing to many causes not necessary to go into here, it is not easy to make innovations in any direction in India without exciting suspicion and dislike, but the school garden worked systematically and carefully should not be difficult to introduce and make popular in our Anglo-Indian schools, and indeed in all others. Gardening is a universal delight, and nowhere more so than in India, and an horticultural show in the school grounds to which parents and friends would be invited to inspect the produce and see prizes awarded to the best exhibits (both flower and vegetable) would not fail to become a popular event in the school and create real enthusiasm for this useful and delightful work.

Writing of out-of-door matters brings to mind another of the long strides towards ideal education for the young that Germany is making through her open-air schools. The open-air school is not an expensive one, a mere roof to keep off the sun and rain, but that is all it needs. We have not, even at home, attempted to adopt this simple and inexpensive plan, but I hope the time is not distant when we shall realise its advantages. What a treat for the children they would be here in India, and what a change from the colourless white-washed room that furnishes no ideas, soothes no tired nerves and from which the eye shrinks with pain when the walls reflect the glare from without. With what satisfaction would the little ones settle down to work surrounded by the happier influences of nature, the song of birds, the scent of the pines, and the alluring chirp of insect life in the grass. The open-air shool would have to be in the hills of course. This was the kindergarten dreamed of by Froebel; the real child's garden, where the child nature expanding like a flower would grow like other forms in nature into a full and perfect fitness, with the whole of the beautiful mysteries.

India unfortunately has many drawbacks and opposes too many prejudices to idealities for an innovation of this kind to be introduced right away, but

could not the Government try the experiment with some one school and see how it works? Our hill stations afford every facility for such an enterprise in the dry season before and after the rains, and our hill schools might easily become open-air ones, for the kingergarten, that is, the benefit to the children would be enormous.

(Sd.) M. L. FORBES.

No. 492, dated the 20th February 1912.

From—J. L. RIEU, Esq., I.C.S., Secretary to the Government, Educational Department,

To—The Director of Public Instruction.

Forwarded to the Director of Public Instruction for favour of any remarks he may have to offer.

No. 4912, dated the 29th July 1912.

From—The HON'BLE MR. R. D. PRIOR, M.A., Acting Director of Public Instruction,

To—The Secretary to the Government of India, Educational Department.

With reference to Government memorandum, Educational Department no. 492, dated the 20th February 1912, I have the honour to return the papers herewith.

2. A very analogous question was raised in 1903 with regard to the inauguration of an "arbour day" similar to that observed in America: please see Educational Inspector, Central Division's no. 8230 of 23rd November 1903 and this office no. 8353, dated 15th January 1904, copies of which are appended.

3. The Department has long been aware of the educational value of school gardens and many are in actual existence, *e.g.*, at the men's and women's training colleges at all the divisional quarters, at some high schools especially in Sind and at hundreds of local board schools at which a "garden" grant is often awarded.

4. There are, however, often insurmountable difficulties especially in the shape of scarcity of water (except in the rainy season and often even then) which makes the expense prohibitive.

5. Another difficulty is the deep-rooted caste prejudice on the part of parents and children against doing what is considered to be the menial duty of another caste: this is almost insuperable in the case of girls, though Miss Newland reports good results in the rains and cold weather at Dharwar. There is also the fact that while schools are so often lacking in space and in equipment beyond the merest necessaries, such luxuries cannot be afforded.

6. The question of open-air schools is outside practicability in the climatic conditions prevailing in this Presidency.

7. As I have satisfied myself that all the responsible officers are perfectly alive to the value of school gardens where practicable, I do not think the question should be carried further at present.

No. C.B.-8230, dated the 23rd November 1903.

From—R. D. PRIOR, Esq, M.A., Educational Inspector, C.D.,

To—The Director of Public Instruction.

In reply to your letter no. 2798 of 1903-04, dated 2nd July 1903, I have the honour to report that I have consulted several of my subordinates, and

the general idea appears to be that the idea of an "arbour day" is impracticable in Indian schools.

2. I am myself also of this opinion and think that the most, which can really be achieved, is that in the comparatively rare cases where school gardens with water handy are available, masters and boys should be encouraged to take interest in the rearing of saplings in the manner suggested by the Deputy Educational Inspector, Sholapur, copy of whose sensible letter on the subject is appended as in my opinion representing all there is to be said on the subject.

No. 8353, dated the 5th January 1904.

From—E. GILES, Esq., M.A., Director of Public Instruction,

To—
- The Educational Inspector, C. D.
- The Educational Inspector, N. D.
- The Educational Inspector, S. D.
- The Educational Inspector in Sind.

With reference to this office no. 2798, dated 2nd July 1903, I have the honour to state that I have consulted all the Inspectors, and that the general opinion given is strongly against anything like an "arbour day" and against any general system of tree planting by the agency of the village schools.

2. I concur in the general opinion, and I think that we cannot do more in this direction than encourage masters to maintain, where practicable, a school garden. This has been done for years in this Presidency, and we used to give small rewards for gardens, but through lack of funds this was generally discontinued. You can consider whether, with larger funds available, you can give small rewards again, but, if this is not feasible, the present practice may continue and masters' work in this direction be noted in their favour.

No. 2103 of 1912.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 16th August 1912.

From

J. L. RIEU, Esq., I.C.S.,

Secretary to Government;

To

MISS M. L. FORBES,

Missionary Settlement, 1, Procter Road, Girgaum, Bombay.

Madam,

I am directed to refer to you letter, dated the 15th February last, on the subject of school gardens and open-air schools.

2. In reply I am to thank you for your suggestions and to state that all responsible educational officers are already being kept alive to the educational value of school gardens and that such gardens are being provided wherever practicable.

I have the honour to be,

Madam,

Your most obedient servant,

J. L. RIEU

Secretary to Government.

No. 2104 of 1912.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 16th August 1912.

Copy forwarded to the Director of Public Instruction for information with reference to the correspondence ending with his letter No. 4912, dated the 29th July 1912.

J. L. RIEU,

Secretary to Government.

405DE—40—23-10-14—GCBP Simla

No. 855M.—Edn.

GOVERNMENT OF BURMA.

EDUCATION DEPARTMENT.

FROM

G. B. H. FELL, ESQ., C.I.E., I.C.S.,

Officiating Secretary to the Government of Burma.

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,

DEPARTMENT OF EDUCATION.

Maymyo, the 6th May 1914.

SIR,

I am directed to reply to your letter No. 1142, dated the 24th June 1913, in which you ask for the Lieutenant-Governor's recommendations on the report of a committee of experts, appointed to enquire into certain questions of school and college hygiene on the lines laid down in paragraph 7 of the Government of India's Education Department Resolution No. 301—C.D., dated February 21st, 1913. This committee, with the Director of Public Instruction in the chair, was formed in August last; it included the Sanitary Commissioner, the Sanitary Engineer and the Consulting Architect to this Government; the Ophthalmic Surgeon of the Rangoon General Hospital, and a private medical practitioner; and a number of educational experts, official and non-official. Four sub-committees were appointed to consider in detail the special items mentioned in paragraph 7 of the Government of India Resoluton above cited; of these, the first sub-committee undertook to deal with items (i) and (ii); the second with item (iii); the third with items (iv), (v) and (vi), and the fourth with item (vii). The reports of the three last-mentioned sub-committees are submitted as enclosures 1, 2 and 3 to this letter. The Sanitary Commissioner, who was Convener of the first sub-committee, represents that he is as yet unable to submit a report; and in view of the fact that in paragraph 5 of your letter under reply the Government of India requested an early answer thereto, His Honour is unwilling further to delay the submission of his views. The Sanitary Commissioner has been pressed to expedite his report, which will be submitted when received for the information of the Government of India, together with the Lieutenant-Governor's recommendations thereon.

2. I am to submit the following remarks on the recommendations of the sub-committees whose reports have been received. The report of the second, which deals with the introduction of a simple and more practical course of hygiene and

connected matters, was accepted as it stood by the full committee. Sir Harvey Adamson concurs with the views set forth, to which effect will be given as soon as possible.

3. With regard to item (iv), the sub-committee concerned recommend that a well-qualified English doctor should be appointed as a full-time officer under the Education Department, solely with a view to the systematic inspection of male pupils. His Honour is not disposed to agree with this proposal. The question of appointing a special Educational Health Officer will be discussed later; I am, however, to observe that, if such an officer were appointed, it would be out of the question for him to undertake the inspection of scholars throughout the province. Before the receipt of Government of India Resolution No. 301—C.D. of February 21st, 1913, this Government had already taken steps to provide for the inspection of schools by means of the existing machinery of the Sanitary Department. This inspection was to be the rule in Government, and optional in aided, schools. It was to embrace an examination of the general health and physique of the pupils as well as of the sanitary condition of the school. The system was only introduced in 1912, and His Honour considers that, if it is energetically carried out, the inspection made under these orders will be sufficient for the purpose. Inspecting officers will in future be particularly enjoined to pay attention to the question of eyesight, but Sir Harvey Adamson does not propose further to elaborate the existing system of inspection until experience suggests such amplification.

4. With regard to item (v), the sub-committee's recommendations were accepted by the full committee, who, while of opinion that no useful circular could be issued which would assist teachers in determining the signs of fatigue, considered that useful hints could be given to prevent pupils from dimming their eyes by careless habits. The Ophthalmic Surgeon has consented to draw up some notes on the subject for the guidance of teachers. The Lieutenant-Governor accepts the committee's recommendations, and action will now be taken by this Government to carry them into effect.

5. His Honour has nothing to add to the report of the sub-committee with regard to item (vi). This report was also accepted, with a slight verbal modification, by the full committee, and Sir Harvey Adamson agrees in principle. An effort will be made to carry out the committee's recommendations as funds permit.

6. With regard to item (vii), the sub-committee recommend that a special medical officer should be attached to the Education Department of this province; the duties which it is proposed to entrust to this officer are set forth in paragraph 9 of Enclosure 3. As explained in paragraph 3 above, His Honour does not consider practicable the suggestion that he should undertake the task of inspecting scholars throughout the province. The committee have endorsed the recommendation of the sub-committee. The Director of Public Instruction, an extract from whose letter on the subject (paragraphs 12—14) is submitted (Enclosure 4), is of opinion that the special medical officer, if appointed, should devote his attention in the first instance to Rangoon, and in addition, if time permits, should control the arrangements for the teaching of hygiene in other parts of the province. He recommends that, if an Indian Medical Service officer be entertained, he should receive an allowance in addition to the pay of his rank: otherwise he suggests the appointment of a private practitioner on a pay of Rs. 800—100—1,300, with exchange compensation allowance. The Inspector-General of Civil Hospitals states that it would be impossible to second an Indian Medical Service officer for the purpose unless an addition were made to the provincial cadre. He agrees, however, that a special whole-time medical officer should be appointed for this work, and anticipates that his time will be fully occupied; he considers the rate of pay proposed by the Director of Public Instruction for a medical practitioner to be suitable. Sir Harvey Adamson supports these proposals in the main. He is convinced that, if any real progress is to be made in school hygiene, it will be necessary to have a special medical officer, with functions similar to those outlined in the sub-committee's report. Commissioned medical officers, especially in Rangoon, are far too heavily worked to undertake this extra duty, which demands a technical knowledge such

as cannot be expected of educational officers. I am accordingly to solicit that the Government of India may be pleased to sanction the appointment of a special medical officer, to be attached to the provincial Educational Department, on a pay of Rs. 800—100—1,300, but without exchange compensation allowance or Burma allowance, as shown in the accompanying proposition statement (Enclosure 5). In view of the reference in paragraph 3 of your letter under reply to the allotment of recurring funds in connexion with the general question of school and college hygiene, His Honour trusts that the Government of India will assist this Government in meeting the cost of this appointment.

7. On the matter of co-operation with existing institutions in the interests of improved hygiene, I am to say that there is a possibility of co-operation with the Rangoon branch of the Young Men's Christian Association by utilizing in part the services of a qualified physical director, such as Dr. Gray, whom the Association contemplate engaging for work in Burma and who would organize inter-school games and gymnastic competitions. The question is for the time being in abeyance, owing to the absence of the Organizing Secretary of the Association on leave in England, and it is therefore impossible at present to give the Government of India fuller information on the subject. His Honour agrees with the sub-committee that the training of teachers could not conveniently be entrusted to the St. John's Ambulance Association.

I have the honour to be,

SIR,

Your most obedient servant,

G. B. H. FELL,

Offg. Secretary to the Government of Burma.

[ENCLOSURE 1.]

REPORT OF THE SUB-COMMITTEE OF THE HYGIENE CONFERENCE APPOINTED TO CONSIDER THE FOLLOWING POINTS.

(ITEM III.)

1. The introduction of a simpler and more practical course of Hygiene.

2. Whether it should be a compulsory subject in the various schemes of leaving certificates, and

3. Whether it should be recommended to the Universities as part of the Matriculation Examination.

The Sub-Committee met on Friday the 29th August 1913, and the following members were present at the meeting :—

The Rev. Dr. Kelly,
J. T. Best, Esq., and
M. Hunter, Esq. (Convener).

The recommendations and the syllabuses attached were decided on at the meeting and were circulated to S. W. Cocks, Esq., and Dr. Pedley—the other members of the Sub-Committee who were unfortunately unable to attend. Both have expressed their approval.

PRIMARY AND MIDDLE SCHOOL.

Recommendations of the Sub-Committee.

(1) Hygiene should be taught in Standards III, IV and V and the teaching should be entirely through the Vernacular.

(2) That the subject should not be introduced until competent teachers are available as harm rather than good will be the result of bad teaching.

(3) That classes for teachers should be introduced as early as possible and that the services of a competent medical man should be obtained as a teacher.

(4) That if possible a very simple course of First Aid should be introduced in Standard VI.

The Sub-Committee is of opinion that the work already compulsory in Standard VII renders the introduction of a new subject impracticable.

The following syllabus based on the one at present in use is recommended. The teaching should be of the simplest and most elementary character with the illustrations taken whenever practicable from the daily life of the pupils.

STANDARD III.

A. Personal cleanliness, care of teeth, hair and nails, change of clothes.

B. *Water.*—Sources of water, such as rain, wells, springs, tanks and rivers. Drinking water, characters of good water, common forms of pollution, purification by boiling and filtering.

C. *Air.*—Impurities due to respiration and combustion, dangers of foul air, simple means of ventilation, *i.e.*, open doors and windows.

D. Dangers of cigarette-smoking.

STANDARD IV.

A. *House and Surroundings.*—Choice of site, clearing jungle, etc., filling up stagnant pools, avoidance of insanitary acts near the house, sweeping and washing the walls and floors of the house.

B. Simple ideas on the different kinds of foods and their uses, over-feeding and under-feeding.

Beverages.—Milk, tea, coffee, cocoa, and ærated waters.

Stimulants.—Alcohol and its dangers, betel, tobacco, opium.

C. Value of exercise, hours of sleep, dangers of sleeping on the ground and in crowded rooms.

Standard V.

A. *Village Sanitation.*—Causes of insanitary conditions of a village and their influence on the prevalence of diseases, such as malaria, cholera, etc., dangers of rank jungle, filthy tanks, surface water, bad drinking water, bad drainage. Positions for latrines, stables, cow-sheds, etc. Disposal of refuse and night-soil, methods of improved sanitation.

B. Malaria, cholera, small-pox, plague, phthisis, causes and prevention of each disinfection.

C. Articles of food in common use in Burma—meat, cereals, pulses, vegetables, spices, *ngapi* and very simple ideas on the uses of each; regularity of meals, cooking and cleanliness of cooking utensils.

D. A more extended course on the dangers of stimulants and drugs, such as alcohol, tobacco, opium.

E. Retain for girls the additional subjects in the present syllabus.

High School.

The Sub-Committee does not recommend that hygiene should be a compulsory subject in the University Matriculation Examination, but it should be made a compulsory optional in the High School Final Examination (for those who are not taking this examination as an entrance to a University Course). Ordinarily instruction should be given in Standards VIII and IX to all pupils in both the Matriculation and in the Anglo-Vernacular High School Final Classes.

A text-book should be prepared dealing specifically with conditions as they are in Burma, meanwhile Bankes' book which is written for India may be used.

Syllabus.

The Sub-Committee recommends the following syllabus based largely upon the one now in force:—

1. *Anatomy and Physiology.*—A very simple treatment of these subjects so as to show the general structure of the different organs of the body and their functions such as the skeleton, the muscular system, the nervous system, the circulatory system, the skin, teeth, etc.

2. *Water, Importance of Purity.*—Sources, rain, rivers, tanks, springs and wells—characters of each. Origin of pollution and prevention of it. Purification by boiling and by filtering on a large scale as well as on a small one.

Diseases arising from polluted water.

3. *Air.*—Composition, impurities and their origin, ventilation. Respiration and the changes which occur in the respiratory system.

4. *Diet.*—Different kinds of food, such as proteids, fats, carbohydrates, salts—functions of each. Vegetable and animal food and their composition. Mixed diet. Principles of diet. Cooking and the preparation of food. Over-feeding and under-feeding—Condiments—Beverages—tea, coffee, ærated waters, beer, alcohol.

Digestion and absorption of food.

5. *Removal of Waste and Impurities.*—Various systems of the removal of night-soil and other refuse with particular attention to local conditions. Advantages and disadvantages of each system.

6. *Diseases.*—Contagion—Epidemic and endemic diseases with elementary ideas on the modern theories as to their origin. Origin and prevention of cholera, small-pox, plague, malaria, phthisis, etc., segregation and disinfection.

7. *Personal Hygiene.*—Cleanliness, clothing, exercise, rest, sleep, good habits, effects of excess and intemperance in alcohol, opium, tobacco, and other drugs and stimulants.

8. Simple treatment for wounds, burns, scalds, fainting, etc.

9. For girls (in addition to the above), feeding of infants, diet for invalids, sick-room and its care.

Vernacular Schools.

The course may be the same as for Anglo-Vernacular schools, except that of course all the teaching must be in the vernacular.

European Schools.

The syllabus may be the same as for Anglo-Vernacular schools, all the teaching of course to be in English.

M. HUNTER,

18th September 1913. *Principal, Rangoon College.*

[ENCLOSURE 2.]

REPORT OF THE SUB-COMMITTEE DEALING WITH ITEMS IV, V AND VI OF GOVERNMENT OF INDIA'S LETTER NO. 301-C.D.

IV.

IV. (*a*) As inspection is of no value without facilities for carrying out its recommendations, inspection should only be attempted where local treatment is possible, *i.e.*, in the towns furnished with hospitals or competent surgeries.

(*b*) The natural inspecting authority would appear to be the Civil Surgeons, but in view of the many claims on their time, perhaps it would be better that some well-qualified English doctor (with a knowledge of tropical disease) be appointed as a full-time officer by the Education Department. For pay, etc., he should rank as an Educational Imperial Service officer. His staff of assistants (Burman, Indian, etc.) could be appointed as his work extended from European and Anglo-Vernacular to Vernacular schools.

This extension would take a considerable period. It may be observed that attempts at notification of students suffering from infectious diseases are made by some Municipal Health Officers, but that nothing is done in connection with eye-sight and malaria. The Medical Inspector of Schools, if appointed, would, in addition to this work, be available to deal with II and to advise on III and VII. Much of this inspection as well as many of the practical reforms following, could be accomplished by heads of schools and Assistant Masters co-operating with the Medical inspecting branch. All reports, communications, etc., should go through the Inspector of Schools for the Circle, or through the Director of Public Instruction.

V.

V. (*a*) The length of the school day should not exceed five hours. It should consist of two sessions with an interval of at least one hour between each. There should be a break of a quarter of an hour in the middle of the longer session. Times for opening and closing should be left to be arranged to suit local conditions.

(*b*) Length of home studies.

There should be no home work in Standards I and II.

1 hour's work should be given in III and IV.

1½ hours should be given in V and VI.

2 hours should be given in VII and VIII.

3 hours (Mr. Hunter prefers 2½) should be given in IX and X.

These are maxima: there is considerable difficulty in laying down hard-and-fast rules as to times. If the average pupil is taken as the normal it is obvious that the duller boys will be crammed and overtaxed.

Any circular dealing with this point should leave the matter to the discretion of the actual teachers, who alone can know whether their pupils are doing too much or too little.

Home studies (a slight ambiguity in the wording renders it doubtful whether the Committee is asked to deal with home studies generally or simply with the length of home studies. The Committee accepted the former interpretation). Home studies should be the subject of a circular containing advice, but no definite instructions should be given.

Generally speaking, home study should not break new ground: although occasionally in the hands of a good master, a certain amount of original work like deductions in geometry—paraphrase—etc., can be done at home with advantage.

The objection that parents may help in this or other written work is not considered an objection: a discreet master will welcome the interest displayed by parents as an excellent educative force, and he will also learn to make due allowances for boys not favourably placed in this connection. Study should be devided between morning and evening. Morning study, if any, should follow a light meal. Appendix I shows the scheme of home preparation in the Government High School, Rangoon.

(*c*) Effect upon health of working formal examinations.

In Burma it may be taken for granted that few students seriously overwork themselves—those few cannot be touched by circulars or conferences.

If it be considered advisable, heads of schools and Assistant Masters could be furnished with a list of signs of fatigue, etc., and be requested to take heed of these danger signals in their pupils.

The working up for two tests a year should not be too great a strain on the average boy—but three tests appear rather much. There should be no formal external examinations for boys below the VIIth Standard.

In Burma the taking of Matriculation and High School Final Examinations in succeeding weeks has been an excessive task, but even here has not been attended by such ill-effeets as might have been expected.

With the abolition of Matriculation this trouble will disappear in the near future. All things considered, a formal examination is regarded as a fair test of morale and grit, as well as of intellectual ability. If the examinations encourage cramming, the fault lies with the examiners or the syllabus. The Committee would interpret Emerson's dictum "a life without examinations is worthless" fairly literally with regard to school life.

VI.

A. *Recreation Grounds.*—All boarding schools should have playing fields, and these should be not less in size than a standard football ground. This is a minimum; the larger, the better.

All country schools where land is cheap should be equally provided.

In cities the question of expense must be considered: here, if the schools have borders large playing fields are an absolute necessity; if the schools are purely day-schools, a pucca playground should be provided for each school, and a large playing field may be shared by two or three or four schools should funds not permit of anything better.

The special advantage of a pucca playground is that it provides some place other than the streets where pupils may play when school is closed. Access to this playground at all times should be allowed.

B. *Gardens.*—Gardens are not usually suited to town schools, but no prohibition should be made even here, if the head of the school is willing and competent to run a garden, and land can easily be obtained.

All country schools should have gardens: these should be close to the school and should be cultivated both for utility and beauty, not for one or the other exclusively.

C. *Gymnasia.*—A building for physical exercises (rather than the old gymnastics) is a necessity in every school. If funds permit of nothing better, a covered shed should be erected. This building should be separate from the rest of the school and joined to it by a covered way.

D. *Reading rooms, etc.*—There should be a students' reading room in every school provided with suitable English and Indian newspapers. The use of this room should be restricted to boys of Standard VII and upwards. Masters' Common Rooms are essential. A lavatory in a separate room should be attached and a convenience in another. It is advisable that the lavatory and convenience should not be combined.

Every Headmaster should have an office, and where there are clerks, he should have a private room in addition.

Marking room.—A separate room in which masters may mark the exercise books is highly desirable: it has been tried with excellent results at the Government High School, Rangoon.

Waiting room.—A waiting room for parents and others visiting the school to obtain leave or audience is necessary in all schools with more than 500 pupils.

Cloak rooms, etc., for studeuts.—Cloak rooms and washing rooms if water is laid on should be inside the building, conveniently near entrances, are desirable.

A covered shed, provided with benches, for vendors of refreshments where day students may collect during the lunch hour for food and conversation at some distance from the school buildings is desirable.

A. C. J. BALDWIN,

Principal, Rangoon Government High School.

15*th September* 1913.

Parents should as far as possible be led to take an interest in the home preparation.

General Notes on "Home Preparation."

The general scheme of Home Preparation below Standard VIII remains practically unchanged.

Such alterations as there are substitute a written exercise for such things as English conversation, Geography (*i.e.*, the reading of a number of pages in a book) and Poetry.

I note on these points that (1) English conversation, if it is to be of the slightest value, will only be learned by oral practice, (2) the excessive reading of text-books in Geography will disappear, and in its stead boys will revise the notes given them by their master, copy the last map done and prepare a map or maps (outline only with scale) for the next lesson, and (3) Poetry will in future be learned in class only.

Although the hours set aside for home preparation appear rather long for the smaller boys, the system will in this respect remain for the present.

Standard VII home work has been slightly extended. Masters of classes from Standard IV to Standard VIII are desired to read for guidance and information the Principal's notes on Upper School Home Preparation.

Correction of Home Preparation.

Home work must, so far as possible, be corrected during the day following: all masters have intervals free in which I think this can be done.

On Monday the Friday home work will fall heavily as regards correction: masters are desired in this case to take the home work books home on Monday evening if they cannot get them corrected during the day.

Each exercise in writing will receive a mark 10, 9, 8, 7, etc. (with 10 as maximum).

Appendix I.

Home Preparation.

Upper School.

VIII A.	IX A.	X A.
VIII B.	IX B.	X B.
VIII C.	IX C.	X C.

Pâli, Geography (fresh sketch map and revise last), English, Mathematics (morning).

Mathematics can get 1½ hours, English 1 hour, Geography and Pâli half hour daily. (Of course these times are only approximate and considerable care will have to be taken by masters in dealing with dull, slow boys.)

1. English home work can be preparatory for next lesson, revision of last, the finishing of an essay, the writing of a complete letter, paraphrase of very easy unseens, paraphrase of prepared harder pieces. (Some definite procedure must be followed—this will depend upon the way in which masters work their syllabus.)

2. Pâli, I imagine, can best be worked on similar lines. (1½ hours daily).

3. Mathematics home work can consist in revision of old propositions, the working of easy deductions, the further study of new propositions previously studied in class, the writing of these propositions (using XBr 8 or 989) in Geometry: the working, when new rules or modifications of new rules have been taken in class, of further exercises—a minimum of work being set, but brighter boys being encouraged to work as many examples as possible—in Algebra and Arithmetic.

4. Geography home work, in addition to the preparation of a new sketch map (or more) for each lesson and the revision of that previously done, can also consist in the writing of answers in essay form to questions based on the maps, diagrams and facts which boys will find in their note-books. These essays will be found necessary and useful to connect knowledge and maps.

There will be 3½ hours' preparation on Monday, Tuesday, Wednesday and Thursday evenings; on Friday a couple or more hours' work may be set in X and IX, in VIII one additional hour or so.

Extra Friday Home Preparation.

In X and IX,	an English Essay	1 hour.
	a short paper in Mathematics ...	½ hour.
	a short paper in Geography ...	½ hour.
	Burmese Essay can be set in addition ...	½ hour.
In VIII,	a piece of paraphrase in English ...	1 hour.
	or a short letter in English... ...	1 hour.
	Burmese Essay	½ hour.

It will be noted that much of the home preparation is to be written work.

The advantage of written preparation is that it is definite and can easily be scanned; boys have not done a sufficient amount of written English in the past, and their Mathematics has not been sufficiently pushed—the latter in particular requires speeding up throughout the school.

There is no objection to boys getting help at home, but of course masters will use their discretion in the giving of praise, and be careful that the student who gets no help at home receives extra attention and encouragement in school.

	VII "A."	VII "B."	VII "C."	VI "A." VI "B."	IV "A." IV "B."	V "A." V "B."	III.	II.
Monday ...	Geography, Letter Writing, Grammar, Arithmetic, Algebra, 2½ hours.	English Grammar and Composition, Algebra, Geography, 2½ hours.	Arithmetic, Algebra, Geography Translation, 2½ hours.	Arithmetic, Algebra, Geography, English Text, 2½ hours. / Arithmetic, Algebra, Geography, English Grammar, 2½ hours.	Burmese Grammar, Geography, Arithmetic, Translation, Conversation, 2 hours. / Arithmetic, Geography, Burmese Grammar, English Text, 2 hours.	Arithmetic, Burmese Grammar, Geography, 2 hours. / Arithmetic, English Text, ½ hour.	Arithmetic, Burmese Copy, Geography, 1 hour.	Arithmetic, Burmese Transcription, Geography, 1 hour.
Tuesday ...	Arithmetic, Geometry, Composition, Translation, 2½ hours.	Translation, Arithmetic, English Composition, 2½ hours.	Arithmetic, Geometry, Geography, Essay Writing, 2½ hours.	Geometry, Burmese Grammar, Algebra, Grammar and Composition, 2½ hours. / Geometry, Burmese Grammar, Composition, Translation, 2½ hours.	Burmese Composition, Geography, Arithmetic, Translation, 2 hours. / Arithmetic, Geography, 2 hours.	Burmese Composition, Geography, Arithmetic, Translation, 2 hours. / Arithmetic, Geography, Composition, 1 hour.	Arithmetic, Burmese Copy, Geography, 1½ hours.	Arithmetic, Burmese Copy Writing,
Wednesday	Geography, Algebra, Essay Writing, Arithmetic, 2½ hours.	Geometry, Geography, Algebra, 2½ hours.	Algebra, Geometry, Geography, 2½ hours.	Arithmetic, Translation, Geography, Text (English), 2 hours. / Arithmetic, Geometry, Translation, Geography, 2½ hours.	Burmese Grammar, Arithmetic, Translation, General translations, 2 hours. / Arithmetic, Geography, 2 hours.	Burmese Grammar, Arithmetic, Grammar and Translation, 2 hours. / Arithmetic, Geography, Composition, 1 hour.	Arithmetic, Burmese Transcription, Geography, 1½ hours.	Arithmetic, Burmese Transcription, Burmese copy, 1 hour. / Arithmetic, Burmese Copy, 1 hour.
Thursday ...	Geometry, Algebra, Translation, Composition, 2½ hours.	Translation, Algebra, Essay (English), 2½ hours.	Translation, Arithmetic, Geography, Geometry, 2½ hours.	Geography, Burmese Grammar, Algebra, English Grammar, 2½ hours. / Burmese Composition, Algebra, Translation, 2 hours.	Geography, Burmese Composition. Arithmetic, Translation, Composition, 2 hours. / Arithmetic, Geography, 2 hours.	Geography, Burmese Composition. Arithmetic, Translation, Composition, 2 hours. / Arithmetic, Geography, Translation, and English Grammar, 2½ hours.	Arithmetic, Geography, Burmese Translation, Burmese Copy, 2½ hours.	Arithmetic, Burmese Transcription. 2½ hours.
Friday ...	Gegraphy, Arithmetic Geometry, Composition, 3½ hours.	Story Writing, Arithmetic, Geography, 3½ hours.	Composition, Algebra, Letter Writing, 3½ hours.	Arithmetic, Geometry, Translation, Burmese Composition, English Grammar and Composition, 3½ hours. / Geography, Geometry, Arithmetic, Algebra, Composition, 3½ hours.	Arithmetic, Geography, Translation, English Composition, 2½ hours. / Arithmetic, Geography, Burmese Grammar, Translation, English Grammar, 2 hours.	Geography, Burmese Composition. Arithmetic, Translation, Composition, 2 hours. / Arithmetic, Geography, Burmese Composition, 2½ hours.	Arithmetic, Geography, Burmese Translation, Burmese Copy, 2½ hours.	Arithmetic, Burmese Transcription, Geography, 1 hour.

[ENCLOSURE 3.]

REPORT OF THE SUB-COMMITTEE DEALING WITH ITEM VII.

The inspecting and administrating agency required (in connection with the teaching of hygiene in schools and the inspection of school premises, pupils, etc.) and the possibility of co-operation with existing organizations and the provision of funds. Section VII in Government of India's letter of 21st February 1913.

MEMBERS.

Dr. Ross—Convener. Revd. Brother Cyprian.
Revd. Dr. Kelly. Major Good, I.M.S.
Miss Langdon.

A full meeting of this Sub-Committee was held at Rangoon College on August 27th, 1913, at 7-30 a.m.

1. The Sub-Committee agreed that it was necessary to consider, not only the inspection of buildings and the inspection and teaching of school children, but the training (*a*) of those preparing to teach and (*b*) of the present teachers so as to enable them to teach Hygiene.

2. It was agreed that the examination of buildings, the inspection of pupils, etc., must be performed or at least controlled and organized by an officer attached to the Education Department, who must be a properly trained medical man with a diploma in Public Health and with experience of the country.

3. (1) The inspection of the teaching of hygiene to school children throughout the province must be controlled by such an officer as mentioned above.

(2) In the teaching of school children the co-operation of the St. John Ambulance Association was hardly to be expected. The only certificate of that Association which could be gained by a person below 16 years in age—the Junior Certificate in First Aid to the Injured—implied a course of study which was hardly the most suitable for giving a grounding in the principles of hygiene. The teaching of school children must be in the hands of properly trained teachers who would prepare a pupil for a departmental certificate.

4. (1) The Sub-Committee agreed that the qualification of school teachers might be the possession of the St. John Ambulance certificates *both* in (*a*) First Aid or as an alternative for girls' teachers Home nursing and (*b*) sanitation and hygiene, after a course of instruction organized by the department.

(2) But the course of study for these certificates should involve attendances for an hour, *i.e.*, 20 for each.

(3) For teachers in training, *i.e.*, Normal students, the course ought to extend to 20 weeks *as a minimum* (*i.e.*, involving 2 hours per week).

(4) For present teachers holiday courses should be instituted which should occupy 10 weeks *as a minimum*, but should then involve 40 hours' attendance on lectures with additional hours for demonstrations. To suit the convenience of teachers it might be split into two parts of five weeks each possibly with a year's interval. A certificate of attendance might be given at the end of the first period of 5 weeks and candidates would be examined for First Aid Certificates—at the same time—and for Sanitation and Hygiene certificates at the end of the second period.

5. It was agreed that the training of teachers must be in the hands of fully qualified medical men with a special knowledge of matters affecting public health.

(1) With a view to ascertaining the amount of teaching which the training of teachers would involve, it was laid down that the time of such a qualified teacher would be fully occupied by taking 4 ten weeks courses for classes of 30 students (the maximum number of class members allowed by the rules of the St. John Ambulance Association) *concurrently* or 8 courses of 20 weeks each.

(2) Thus such an officer could give about 20 courses in a year.

(3) Taking 600 as the number of European Anglo-Vernacular and Vernacular Lay Teachers in Rangoon, this would allow them all to be trained in one year, by such a full-time officer.

(4) The 1,200 European and Anglo-Vernacular teachers of Burma could be trained in two years conceivably.

(5) The 9,000 European Anglo-Vernacular and Vernacular Lay Teachers of Burma would require 15 years to train.

(6) The 300 or so teachers annually in training would require one officer's services annually for half a year.

6. It was agreed, however, that much of this tea ching might be distributed among Civil Surgeons and the qualified medical men throughout the province who ought to be paid Rs. 300 for a full course. If teaching was thus distributed annually equivalent to what might be undertaken by one full-time officer (800 hours annually) it would involve an annual outlay of Rs. 6,000.

7. The question whether such teaching might be organized by the St. John Ambulance Association was decided in the negative on the grounds—

(1) that the Association offering the same inducements had failed to do more than a quarter of the amount of work even in Rangoon where there were many medical practitioners and had almost wholly failed to organize work in the districts (with the exception of Maymyo);

(2) that such a distribution of lecturing would be best effected by direct arrangement between the Educational and Medical Departments;

(3) that even though the St. John Ambulance Association were given Rs. 6,000 annually to spend on fees for the training of teachers, it would have no means of controlling its lecturers and would have to set up a costly organization for which a fresh grant would be required. The whole organization of this scheme would be more economically kept within the present Medical and Educational Departments.

8. The question whether the examination for the St. John Ambulance Certificates should be in the hands of examiners employed by the Provincial Branch of the Association was also decided in the negative. The grounds were that—

(1) the Association has no control over its examiners and cannot secure uniformity of standard; and

(2) that the organization of examinations through the Provincial heads of the Association would be, as in the case of the teaching, awkward;

(3) the Headquarters of the St. John Ambulance Association will grant certificates if its rules are complied with, *viz.*, no more than 30 pupils in each class, a fixed number of lectures, a fixed form of examination and that no lecturer examines his own class.

9. The Sub-Committee recommended (*a*) the appointment of a Medical Officer with the Diploma of Public Health to be known as Medical Inspector for education on an initial salary of Rs. 1,000 per mensem rising to Rs. 1,500 to be attached to the Education Department. His duties would be—

(1) to inspect and organize the inspection of hygiene teaching in schools;

(2) to train and organize the training of teachers in the study of Hygiene (including both the teaching and the examination);

(3) eventually to inspect and organize the inspection of school buildings, plans, pupils, etc.

The Sanitary Commissioner also recommends the appointment of a Burman qualified medical man to assist, whose special province would be the training and inspection of the teaching of Vernacular Teachers.

Finally it was suggested that the Education Department should allot to Civil Surgeons and others throughout the province such work as these could not overtake in connection with (1) the training of teachers; (2) inspection of buildings. The expense of the scheme would thus hardly fall short of Rs. 30,000 annually, which ought to be supplied by Government.

[ENCLOSURE 4.]

Extract (paragraphs 12—14) from letter No. 16860—3G.-8, dated the 1st October 1913, from W. G. Wedderspoon, Esq., Officiating Director of Public Instruction, Burma, to G. B. H. Fell, Esq., C.I.E., I.C.S., Officiating Secretary to the Government of Burma.

* * * * *

12. With reference generally to the recommendations of the Sub-Committee I would offer the following remarks. The question of hygiene is one of the first importance in Burma and its adequate teaching is an urgent necessity. It is essentially a subject for an expert, just as much as the teaching of Pâli or Needlework or Slojd, and therefore should be supervised and organized by an expert. The subject in a general way is within the cognizance of the Inspector of the Circle, but the best work can only be done if it is placed under one specially trained for the work. When to the inspection the teaching of hygiene is added the medical examination of pupils and schools, and the instruction of present teachers and students in training, there is no question as to the need for appointment of a Medical Officer. The only question is whether there is need for any special officer attached to the Education Department, or whether the work can be carried on by the Medical Staff, official and private, which already exists. A consideration of the conditions in Rangoon will help to elucidate the question. There are in Rangoon 39 European and Anglo-Vernacular schools with 9,609 pupils. The medical inspection of these pupils alone is amply sufficient to occupy fully the time of a special officer. The Health Officer of the Municipality has not the time to attend to this, with the result that it is not done. If an epidemic of any kind breaks out in a school he is notified and takes steps to deal with it. He also attends annually to vaccination. He may be asked to report on the sanitation of the school if it is so imperfect as to be a nuisance to neighbours. Apart from special circumstances like these he takes no interest in schools or pupils. The most important function of school inspection is omitted, namely, the examination of school children for malaria, eyesight, etc., and the arresting in time of tendencies which, if allowed to develop, seriously affect the general health of pupils.

If the Health Officer of Rangoon cannot do this, I do not think that any private practitioner of standing could spare the necessary time.

13. In addition to the inspections of schools and pupils referred to above there is the teaching of hygiene in the Normal schools of Rangoon, of which there are five. There is also the arranging of special evening classes for training teachers now in schools. The latter would probably require only two years for their training, but the examination of pupils and Normal work would remain. It is obvious, I think, that in Rangoon there is a need for a special Medical Officer for educational work. If this is granted, he might control the arrangements for the teaching of hygiene in other parts of the province, *i.e.*, the training of Normal students in Mandalay, Moulmein, Toungoo, Thônzè, Akyab, and in elementary classes for teachers which are about to be established in various centres throughout the country, and with which a beginning has been made at Katha.

14. If an officer were appointed in the meantime for Rangoon only, he might find it possible to visit the larger towns for inspecting schools and pupils, and to deliver lectures to Normal students and to teachers there. Nothing can be said about this until the amount of work to be done in Rangoon has been ascertained by actual experience.

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[ENCLOSURE 5.]

STATEMENT OF PROPOSITION FOR REVISION OF ESTABLISHMENT.

Statement of Proposition for

ORDER SANCTIONING PRESENT ESTABLISHMENT. GOVERNMENT OF BURMA. EDUCATION DEPARTMENT.		Office to which the proposition refers.	NATURE OF PRESENT SCALE.					
			No.	Designation.	Pay.			Average cost.
No.	Date.				Minimum.	Increment.	Maximum.	
1	2	3	4	5	6	7	8	9
					Rs.	Rs.	Rs. A. P.	Rs. A. P.
		Education Department, Burma.	...	.....	...	...	.....	.....

Printed by order of the Government of Burma.

G. B P., Maymyo—Nos 2 & 4, Secy., 9(5), 9-5-1914—82—C. R. W.

Revision of Establishment.

CHARGE.						PROPOSITION.								ORDERS OF THE GOVERNMENT OF INDIA.		
		PROPOSED SCALE.				PERMANENT.		TEMPORARY.						HOME DEPARTMENT.	FINANCIAL DEPARTMENT.	
			Pay.			Increase per month.	Decrease per month.	Increase per month.		Decrease per month.		Grounds of proposition.	Local Government's recommendation.			
No.	Designation.	Minimum.	Increment.	Maximum.	Average cost.	Amount.	Amount.	Period.	Amount.	Period.	Amount.			Remarks.	Remarks.	Orders.
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs.	Rs.		Rs.				
1	Special Medical Officer	800	100	1,300	1,133 5 4	1,133 5 4	.....									

Offg. Secretary to the Government of Burma.

EDUCATION DEPARTMENT.

EDUCATION BRANCH.

No. E.

FROM

THE HON'BLE MR. A. W. BOTHAM, B.A., I.C.S.,
SECOND SECRETARY TO THE CHIEF COMMISSIONER OF ASSAM,

To

THE JOINT SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF EDUCATION.

Dated Shillong, the 15th *August* 1914.

SIR,

I AM directed to invite a reference to your letter No. 1145(Edn.), dated the 24th June 1913, on the subject of school and college hygiene, and to say that under the orders of the Chief Commissioner the various points suggested in paragraph 7 of the Government of India's Resolution No. 301C.D., dated the 21st February 1913, have been discussed by a committee consisting of the Inspector General of Civil Hospitals, the Director of Public Instruction and the Deputy Sanitary Commissioner.

2. The committee consider that the arrangements which have been made in this province as regards the construction of vernacular schools, and the type-plans which are either in existence or under preparation for high and middle English schools and for hostels, are from a sanitary point of view satisfactory. I am to say that the Officiating Chief Commissioner entirely agrees with the opinion expressed by the committee, that the most imperative need from a sanitary point of view is the grant of funds sufficient to allow of the provision of buildings for secondary schools with a sufficiency of commodious, well-lit and well-ventilated class rooms, and of the considerable extension of the hostel accommodation at high and middle schools.

3 The committee consider that type-plans for new educational buildings should in all cases be examined and approved by the sanitary authority. This recommendation has been accepted by the Chief Commissioner and the necessary orders are being issued by this Administration.

4. The Chief Commissioner agrees with the opinion expressed by the Director of Public Instruction, and accepted by the committee, that although the teaching of sanitation in primary schools cannot be expected to have a considerable evangelising influence, it should be persevered in, special attention being paid to the practicability of the course and its reference to such sanitary measures as the Government attempts to introduce through the medium of village organisations or by other means. The Chief Commissioner also agrees that sanitary instruction should form part of the course in secondary schools, and that it should be a subject for examination up to the degree. He further agrees as to the necessity for the organisation and administration of the movement by officers who are expert in sanitation, and who also understand educational conditions.

5. Lieutenant-Colonel Gurdon has decided to initiate experimentally the medical examination of boys at certain schools at which this can conveniently be effected by the existing medical staff.

6. The Chief Commissioner accepts the conclusion of the committee that the present system of work and of examinations has no injurious effect on the health of school boys.

7. Whilst fully appreciating the necessity for recreation grounds, gymnasia, etc., Lieutenant-Colonel Gurdon agrees with the committee that no general steps can be taken in the matter until the more immediate needs of the schools in the way of a sufficiency of suitable class rooms have been provided for.

8. As regards the inspecting and administrative staff required, the Director of Public Instruction suggests the appointment of a Physical Training Inspector and a Medical Inspector, who would investigate the requirements of their respective departments and prepare schemes of organisation. The Inspector General of Civil Hospitals, on the other hand, prefers a scheme on the lines of one which has been proposed for the Central Provinces, which provides at once for the medical inspection by special officers of all Anglo-Vernacular schools and Normal schools. Neither scheme could be financed from funds which this Administration is likely to be able to make available in the near future. Colonel Gurdon prefers the Director of Public Instruction's proposal which would ensure the examination of the problem by a first-class man thoroughly acquainted with the work done in this connection in England.

9. I am to add that experiments are now being undertaken by the St. John Ambulance Association in connection with First Aid Classes at certain educational centres, and that their results will be carefully watched by the Chief Commissioner.

I have the honour to be,

SIR,

Your most obedient Servant,

A. W. BOTHAM,

Second Secretary to the Chief Commissioner of Assam.

MEMO. NO. E.

Dated Shillong, the August 1914.

COPY forwarded to the Director of Public Instruction, Assam, for information, with reference to his letter No. 259, dated the 30th June 1914.

2. The type-plans for new educational buildings should in all cases be examined and approved by the Sanitary Commissioner.

3. Proposals regarding the medical examination of boys should be submitted for the orders of this Administration in consultation with the Inspector General of Civil Hospitals.

By order of the Chief Commissioner of Assam,

A. W. BOTHAM,

Second Secretary to the Chief Commissioner of Assam.

MEMO. NO. E.

Dated Shillong, the August 1914.

COPY, with the above memorandum, is forwarded to the Inspector General of Civil Hospitals, Assam, for information.

By order of the Chief Commissioner of Assam,

N. E. PARRY,

Under-Secretary to the Chief Commissioner of Assam.

MEMO. NO. E.

Dated Shillong, the August 1914.

COPY, with the above memoranda, is forwarded to the Secretary to the Chief Commissioner of Assam in the Public Works Department for information.

By order of the Chief Commissioner of Assam,

N. E. PARRY,

Under-Secretary to the Chief Commissioner of Assam.

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PROCEEDINGS OF A MEETING HELD IN THE OFFICE OF THE INSPECTOR GENERAL OF CIVIL HOSPITALS, ASSAM, 19TH JUNE 1914.

PRESENT:

The Hon'ble Colonel H. E. Banatvala, I.M.S., Inspector General of Civil Hospitals, Assam.
Major T. C. McCombie Young, I.M.S., Deputy Sanitary Commissioner, Assam.
The Hon'ble Mr. J. R. Cunningham, M.A., Director of Public Instruction, Assam.

Following upon the orders communicated in the Secretariat memorandum No. 3349E., dated the 8th July 1913, a committee constituted as above proceeded to discuss the various questions of school and college hygiene which were recommended for enquiry in the Government of India Resolution on Educational Policy (1913) and referred to in letter No. 1145, dated the 24th June 1913, from the Government of India in the Department of Education to Local Governments and Administrations.

Prior to the meeting the Director of Public Instruction had submitted for the consideration of the committee a note traversing the field of enquiry. It was agreed that discussion should follow the course of this note and that the note should be embodied in the proceedings. A copy is appended.

I.—Conditions of school houses, hostels and other places where pupils reside, from the point of view of sanitation.—It was considered that the instructions which had been issued in regard to vernacular school buildings, and which Mr. Cunningham reported, were generally observed by school managers, secured the construction of buildings which were at least reasonably sanitary. The new type-plan for buildings of an improved class was examined and approved. The advantage of increasing the number of buildings of this type was recognized. This was merely a matter of funds. No recommendation therefore was required from a sanitary point of view.

With regard to the middle English and high school buildings, it was reported that the existing buildings were generally badly designed and insufficiently commodious. The arrangements made in regard to new type-plans as recorded in Mr. Cunningham's note were considered and approved.

The type-plans for hostels were also examined and approved after explanation by the Director of Public Instruction.

The meeting agreed that the most imperative need from a sanitary point of view was the grant of funds in greatly increased measure (1) to allow of the provision of buildings for the existing secondary schools with a sufficiency of decently commodious, well-lit and well-ventilated class rooms, and (2) to enable the Administration to extend the hostel accommodation both of high and of middle schools.

II.—The Professional examination of building plans from a hygienic point of view.—The conclusions expressed in the Director's note were accepted, the meeting desiring to emphasize the conclusion that type-plans for new buildings should in all cases be examined and approved by sanitary authority.

III.—The introduction of a simple and more practical course of hygiene, whether it should be a compulsory subject in the various schemes of school-leaving certificates and whether it should be recommended to Universities as part of their Matriculation Examination.—The note of the Director of Public Instruction on this point was generally accepted, subject to the following remarks.

It was pointed out that an attempt was about to be made in connection with the unions which were to be formed in Assam under the Local Self-Government Bill when it passed into Statute to issue a number of sanitary suggestions for the guidance of village unions in the attempt to effect some sort of village sanitary organization. It was considered that endeavour might in due course be made to co-ordinate the work in the schools with the work actually proceeding in the villages.

So far as the larger stations were concerned it was considered that something might be done to organize courses of lectures with lantern slides in those municipalities in which a Sanitary Inspector was to be appointed. Action would, however, have to await the appointment of the Sanitary Inspectors.

IV.—Inspection where possible of male scholars with special reference to infectious diseases, eyesight and malaria.—The Hon'ble Colonel Banatvala advised that no general attempt at medical inspection could be made with the present staff. But it would nevertheless be possible to make a beginning with the work. In places where there was a dispensary, the Medical Officer in charge might be instructed to visit the local schools with regard to the points specified in the heading as also in regard to the sanitation of the schools. The visit might be monthly; and while it would not be possible to elaborate the work on a systematic basis, some good might be done by preventing the attendance in school of children with infectious diseases, by encouraging the use of quinine in cases of malaria, and by drawing the attention of parents and school authorities to cases of defective eyesight.

In larger centres in many of which there were as many as 1,500 boys at school the work would be much too heavy for a single man. In these places however there was generally more than a single Government Medical Officer and something might be done on the same lines by selecting the schools to be dealt with and limiting the examination to special classes of children, *e.g.*, entrants and leavers or children of or about a certain age.

The elaboration of proposals to give effect to these suggestions would be taken up by the Medical Department.

On the general question as to whether it would be possible to organize medical inspection in India on the same lines as medical inspection at home, it was urged that conditions in the two countries were very widely different. What was proving a very formidable undertaking in an enlightened and prosperous country with a medical organization adequate to all its requirements would be

quite impracticable on the same scale in a country where qualified physicians were few and far between and poverty and the inertia of ignorance had to be reckoned with at every step. Major Young while agreeing as to the advantages of medical inspection from a theoretical point of view doubted whether it would be of much value in practice. Inspection without treatment would be useless and the organization of a medical supply to provide for treatment as well as inspection, on any considerable scale, would involve the Administration in expenditure widely in excess of what he thought it probable they would be able to afford. It was decided in this connection to emphasize the point that the cost of any scheme for practical work in connection with the medical examination of school children would involve expenditure many times in excess of the first declaration and that it would be useless to incur the initial expenditure declared unless the Administration were prepared with funds to go much further.

V.—The length of the school day, home studies, and the effect upon health of the present system of working for formal examinations.—The meeting adopted the remarks in the Director of Public Instruction's note.

VI.—The requirements in the way of recreation grounds, gardens, gymnasia, reading rooms, common rooms, etc.—The meeting adopted the remarks in the Director of Public Instruction's note and desired to emphasize the conclusion that the first requirement was a sufficiency of commodious, well-lit and well-ventilated class rooms.

VII.—The inspecting and administrative agency required, the possibility of co-operation with existing organizations and the provision of funds.—The meeting compared the recommendations quoted in the Director of Public Instruction's note with those which had been made by the Medical and Educational Committee in the Central Provinces, of which the Hon'ble Colonel Banatvala had been a member. The recommendations of the Central Provinces Committee are set forth below :—

It would be impossible save at enormous expense to extend a system of medical inspection to all schools of all classes. For village schools and town schools, in places where there are dispensaries, the present system may be held to suffice. But a beginning should be made in carrying out such inspection as is described under paragraph 4 (2) in such area as is practicable. The area to which it could be extended appears to be—

(1) All boys' Anglo-Vernacular schools, high and middle.

(2) All Normal schools for men.

This would mean the periodic examination of about 16,000 pupils according to present figures. For the purposes of computation we take 15 minutes as the time required for the thorough physical examination of each individual and making the necessary entries and records of the same. This gives 4 cases per hour. We allow 4 hours' work each school day. More would put too great a strain on the inspecting officer, especially when the amount of office work he would have to do is considered—the compilation of records and statistics and correspondence with school authorities, parents, etc. Five working days per week can be allowed, the schools being closed on Sundays and time being required for touring. The school year is roughly 40 weeks. These figures give

$$\frac{16{,}000}{4 \times 4 \times 5 \times 40} = 5$$

The result shews that one man could examine each pupil once in 5 years. We consider that the individual should be examined as nearly as possible once each year. The requirement therefore for the province is 5 inspecting officers.

6. These officers must be men of special qualifications. Neither Sub-Assistant nor Assistant Surgeons are capable of the kind of work involved. Fully qualified men possessing a recognized medical diploma together with the Diploma of Public Health are necessary. The salary requisite for such men would have to be at least Rs. 500—50—800 non-pensionable. Travelling allowance for officers of the first class would have to be given to them. For this latter purpose Rs. 2,000 each may be taken as a rough estimate. Each officer would require one really efficient clerk on Rs. 70 and two peons. This gives

	Per annum. Rs.
5 Inspectors on Rs. 500–50–800	42,000
5 travelling allowance at Rs. 2,000	10,000
5 clerks on Rs. 70	4,200
5 travelling allowance for clerks at Rs. 400	2,000
10 peons on Rs. 7-8-9	960
10 travelling allowance at Rs. 60	600
Total ...	59,760

say Rs. 60,000 per annum.

7. So far only boys' schools and Normal schools have been dealt with. The inspection should however cover girls' schools of the same classes. In the case of these it is necessary that the work should be carried out by women. The numbers to be inspected would be at present about 400. Such a figure does not warrant the employment of a woman doctor. But qualified women doctors are to be found in practically all the places where these schools are situated and their services could be obtained for a remuneration. I would estimate at Rs. 600 for this purpose.

The Director of Public Instruction preferred that if a system of medical and sanitary inspection were to be organized, action should not be undertaken on a considerable scale until the problem had been investigated by an officer intimately acquainted with the work which had been done in this connection at home. This officer should be given facilities for gaining experience of actual conditions in

this country before attempting to frame a practical programme. Further action should proceed only on consideration of a scheme carefully thought out by such an officer and tested by criticism—a scheme which would attempt an indication not only of the present expenditure but also of the funds which would be involved in its successful development from year to year. In the event of such an officer being appointed (a first-rate man would be required) and on its being found, on his advice, that it was impracticable to proceed further with the work at the present stage, there would probably be no difficulty in finding other work for him to do under Government. There was therefore but little financial risk in the experiment. Major Young considered that in view of the terms offered in the Indian Medical Service the rate of pay proposed was excessive. It was considered however that it would be difficult to secure an officer with the particular qualifications and experience required if the terms were made less attractive.

Colonel Banatvala preferred a scheme on the lines of that which his committee had recommended in the Central Provinces. It was pointed out that a scheme of similar scope would on account of the larger number of pupils to be examined require twice as many Inspecting Officers in Assam. He pointed out however that it would be a simple matter to restrict the scope in such a way as to bring the scheme within practicable financial measure.

It was decided, as the committee were unable to agree, to state both points of view from the consideration of the Administration. In the event of its being decided to recommend a start on the lines recommended by Colonel Banatvala, he would work out his proposals in further detail in due course.

With regard to the St. John Ambulance Association, it was reported that the aid of the Association or its agents was being invoked in connection with experimental First Aid Classes for higher grade pupils and teachers under training in one or two of the larger centres. If these experiments were successful the work might be developed and extended.

Note, dated the 17th June 1914, by the Director of Public Instruction, Assam.

Inspector General of Civil Hospitals,

As you are aware from personal discussion, the Local Administration has asked me in their memorandum No. 3349E., dated the 8th July 1913, to submit proposals for the appointment of a committee to enquire into school and college hygiene after consulting you and the Divisional Commissioners. In consultation with the Second Secretary it has been arranged that for the present a small committee consisting of you as representing the Medical Department and me as representing the Education Department will suffice.

You have gone through the papers which are familiar to you in connection with a similar reference while you were in the Central Provinces and have indicated your readiness to discuss the question with me at any time convenient.

Before settling down to discuss the issues involved, it would probably be advantageous if I stated for your information such particulars as I can provide in regard to the present position in this province. I shall also take the liberty of adding comments of my own under certain of the more important heads.

The reference proceeds upon a letter No. 1145, dated the 24th June 1913, from the Government of India in the Department of Education to Local Governments and Administrations, in which the Government of India commend a thorough enquiry by a small committee of expert medical and educational officers into school and college hygiene and state that they have already briefly indicated the scope of the enquiry. The reference is to paragraph 7 of the Resolution on Indian Educational Policy, 1913.

I shall consider the various heads of enquiry in the order in which they are set forth in the Resolution referred to :—

I.—Conditions of school houses, hostels and other places where pupils reside, from the point of view of sanitation.

The question of school houses may be taken up first :—

(*a*) *Vernacular school houses.*—In this matter we are better off than the majority of the provinces in India inasmuch as our primary school buildings have long been brought under order and made to conform to type. The following quotation from the Assam School Manual will inform you of the instructions which have been issued to school managers :—

"13. The style in which village school houses should be constructed is that ordinarily adopted for houses of the better class in the locality. In some districts, for instance, the walls will be of split bamboos unplastered : in others they will be of plastered *ekra*. The people should be encouraged to build their school houses after a fashion more substantial and more durable than that of the ordinary cottage. The following are some of the essential points :—

(i) There should be a good earthen plinth well above flood-level.

(ii) If a verandah does not run round the house, the eaves should project well over the walls so as to protect them from rain.

(iii) The windows should be provided with flap shutters and should be large enough to admit sufficient light.

(iv) If there is no front verandah, the doorway should be protected by a porch.

"14. The following dimensions are suitable for schools of various sizes .—

Number of boys.	Height of ridge pole.	Area of school house.	Area of porch.	Doors.	Windows.	Remarks.
1	2	3	4	5	6	7
	Feet.	Feet. Feet.	Feet. Feet.	Feet. Feet.	Feet. Feet.	
30	12	18 × 12	8 × 8	6 × 3	7* each 2 × 2	* Three at back, one at each end and one on each side of door.
50	13	25 × 15	10 × 8	6 × 3	7* each 2 × 2	
75—100	16	32 × 25	16 × 12	7 × 3½	7* each 3 × 2	

These instructions I may say have been generally observed.

In connection with middle schools standard plans and specifications were prepared in Sir Bampfylde Fuller's time for school houses to accommodate different numbers of pupils from 200 to 75. Copies of these type-plans— they have been generally followed in this province—are appended. The plans are unsuitable inasmuch as although they allow sufficient space for the pupils they are not so designed as to allow of extension, and lighting and ventilation are not properly provided for. I have therefore thought it desirable to replace the instructions and the type-plans above communicated by a general plan for vernacular schools which is more suitably designed with a view to lighting and ventilation as also with a view to extension on sound lines when extension is required. The main features of the new type-plan are :—

(1) 10 square feet of floor space is allowed for each pupil.

(2) The buildings are so arranged that the lighting is from the north and comes in upon the left-hand of the pupils.

(3) Windows and doors are in a straight line so as to facilitate ventilation. The plan provides for gradual development from a single-roomed school to a school with 7 rooms.

When the design reaches more than 4 rooms, it has been found necessary on account of the difficulty of securing an extended southern frontage to locate the three final rooms at right-angles to the main line of the buildings so that the light shall come in from the east instead of from the north.

The building will be protected from the sun on the west and south.

A copy of the new type-plan is appended.

Middle English and High school buildings.

With regard to middle English and High school buildings, there is not much to be said. They are for the greater part inadequate and badly designed. It has, however, been part of my business on tour to frame schemes for their enlargement and improvement. I have also advised the Public Works Department in regard to the preparation of new type-plans. A copy of my note of advice with regard to the high school plans is appended. A number of experimental buildings are being constructed on the lines suggested, the intention being that advantage should be taken of experience before a type-plan is issued.

A type-plan for middle English schools proceeding on similar lines has been prepared, but has not yet been printed for issue.

Hostels, etc.

Type-plans of school hostels which were, I understand, framed in consultation with the medical authorities are appended. They allow of a minimum of 60 square feet floor space for each inmate. They are well-lit and ventilated and may on the whole, I think, be regarded as satisfactory.

It is however only a very small fraction of the number of pupils reading in the larger schools who can afford to stay in hostels or for whom the Administration is in a financial position to provide hostel accommodation. I need not concern myself with the case of pupils living with parents or guardians, as their accommodation from a sanitary point of view is on the same level with the general accommodation of the better class of people at headquarters stations in the country. It is unsatisfactory, but it is undoubtedly more satisfactory than that of the majority of boys who come into the headquarters station and the larger village centres from the outer areas. These boys put themselves up in what are called *bashas*, that is to say, little houses of bamboo and thatch (one for each boy) in which they live, move and have their being outside school hours. These *bashas* are without windows or other ventilation than is afforded by the looseness of the thatching and this allows not only for the entrance of the air but also for the entrance of sun and rain. The only sanitary point in their favour is that they are easily destructible and can be renewed without serious sacrifice.

In my view the most imperative need is for the grant of funds in greatly increased measure to allow of the provision in the first place of school buildings with decently commodious and well-lit and well-ventilated class rooms and in the second place to enable the Administration to extend the hostel accommodation both in high and in middle schools. The funds already communicated allow of a start being made, but very large grants are and will continue to be required, more particularly for secondary school buildings.

II.—The Professional examination of building plans from the hygienic point of view.—

At present large projects are as a rule submitted for examination to the Medical Department. High school plans for instance are generally countersigned by the Civil Surgeon of the district and, what is possibly more important, no considerable project can be undertaken before the site plans have been

passed by the Civil Surgeon. In the matter of sanitary structures, I understand that the present type-plans have been framed in consultation with the sanitary authorities. It is undoubtedly advisable that any unusually important proposals should be submitted in the rough project stage to the Medical Department for examination. With regard to ordinary projects, it should I think suffice that the type-plans have been examined and approved.

III.—The introduction of a simple and more practical course of hygiene, whether it should be a compulsory subject in the various schemes of school-leaving certificates and whether it should be recommended to Universities as part of their Matriculation Examination.

A reference to the syllabuses of instruction will show that an attempt is already being made in vernacular schools to teach the elementary principles of agricultural and rural sanitation and hygiene. Hygiene has been a subject of instruction in schools in Assam for the last twenty years. But circumstances are adverse : the general recommendations of sanitation in many respects counsel the impracticable, in many run directly counter to age-long habit. The result is insignificant. In part the difficulty of effective demonstration and experiment may be held responsible, in part, the fact that the child, who leaves school still a child, cannot be expected to exercise much influence in the home, and in large part, the ignorance and incredulity of the village teachers. So little do the Gurus believe in what they are called upon to teach that in one subdivision in which an informal enquiry was recently made, it was ascertained that although the text-books in use in primary schools insisted on the necessity of filtering water not a single teacher himself used a filter.

It may safely be conceded that hygiene is a subject which cannot be usefully taught by precept alone : it must be taught practically. To this end it is necessary :—

(1) That the teachers should be possessed of the main facts and principles of sanitary knowledge, that they should themselves realise the value of these facts and principles, and that they should carry them into practice in the school and in the conduct of their own routine.

(2) That the teachers should be able to present the facts and principles to the children in such a way as to carry conviction and leave a permanent impression.

(3) That the teachers should be in a position to insist on the observance in the school of such simple principles of health as cleanliness of clothes and person.

(4) That the lessons taught in the school should be such as the class of children taught can realise in practice outside the school.

It is useless for instance to teach the children that a mosquito net is indispensable when such a net is a luxury altogether beyond the means of their parents.

(5) That the instruction in the school should proceed *pari passu* with activity outside the school.

A new outlook on sanitation cannot be induced by the instruction of infants in primary schools. On the other hand, were the Sanitary Department busy in issuing or influencing the issue of sanitary bye-laws and regulations in village areas, it would probably be of advantage, as preparation for an easier course in the next decade or generation, to teach the children the elements of sanitation in the village schools.

None of these conditions is at present fulfilled. The teachers are ignorant, unpersuaded, and inexpert, negligent themselves of the elements of sanitary conduct and precaution, dependent for their income on a capitation grant which varies with the number of their pupils and unwilling therefore to exercise any disciplinary authority which would depress the enrolment; the sanitary instruction given is such as cannot, in large part, be realised by the children and is not realised by the teachers, and such activity as does exist in the schools has no counterpart or at least has not an adequate counterpart in executive activity outside.

In these circumstances I am of opinion that, while it would be a mistake to exclude instruction in sanitation altogether from our primary schools, it would be a much more serious mistake to trust to it largely as an evangelising influence.

An endeavour may be made in the lower primary stage to impress on pupils the rudiments of sanitary life and conduct in so far as they are, inside school and outside school, practicable of observance by little children. In the classes beyond this stage instruction may be carried further into principle and detail still with immediate reference to the practical and the achievable. In the training schools for teachers the instruction may be carried still further. The insistence upon sanitary life and conduct may be strongly impressed on the teachers under training as part of the discipline of a residential institution and the instruction in sanitary fact and principle may be broadened and deepened.

Throughout, the course would have to confine itself to the simplicities, would have to hold fast by the practicable, and would have to be observed in the school life and management depending for its observance less upon reason than upon regulation.

Finally, the course of sanitary instruction in schools would have to be brought under expert guidance and control. In the present ferment of innovation and endeavour, no special attention can be expected from an overworked inspectorate to any subsidiary department of the school work. There is much to be done. Inertia and opposition will be constant factors. If the movement is to have any meaning it will have to be organised and administered by special officers expert in sanitation and with a knowledge and understanding of educational conditions.

A series of public awards both to teachers and pupils would probably be of great advantage.

If sanitary instruction is to be part of the course in primary schools, it ought *a fortiori* to be part of the course in secondary schools. Here the difficulties, still serious, appear to be less formidable. And the individual influence of pupils who leave school later and occupy higher positions would be more considerable. As at present advised I am unable to see that, if a sanitary gospel is to be preached with force in the country and it is considered advisable to introduce the teaching of the subject in schools, that there

is any good reason for omitting the subject from any course of instruction which stops short of specialisation. I would therefore include it in the general school and college courses up to the Degree, and would examine at the close of each stage the vernacular school course, the Anglo-Vernacular school course, the Intermediate college course and the Degree.

In educational institutions of all classes, sanitary instruction would have to go hand in hand with practice and to be reinforced by sanitary regulations adapted and applied to the conditions of life and work in the institutions concerned.

Inspection where possible of male scholars with special reference to infectious diseases, eyesight and malaria.

This is a matter in regard to which I can express no opinion. The only point I would note here is that at home there is on an average one Medical Inspecting Officer for each 1,200 pupils; his work is merely that of an Inspecting Officer, treatment being provided for otherwise. In this country the same conditions do not prevail. Inspection would have—I take it—to be accompanied to some extent by provision for treatment.

The following round figures may be taken as indicative of the number of pupils and institutions :—

	No. of institutions.	No. of pupils.
1	2	3
Colleges	2	400
High schools	30	11,000
Middle English schools	100	14,000
Vernacular schools	4,000	160,000

Exact figures will be provided later as soon as the current year's returns have been completed.

V.—The length of the school day, home studies and the effect upon health of the present system of working for formal examination.

As laid down in the syllabus of instruction, the length of the school day varies from 24 hours a week in the lower classes of a vernacular school to 30 hours a week in the top classes of a high school. These hours are not in excess, or at least not seriously in excess of the school hours at similar stages of instruction at home. I need therefore say nothing about them. The length of the school day is not excessive. This remark does not apply to indigenous institutions, such as maktabs and madrassas where the school day extends to as many as 8 or even 9 hours.

In the matter of home studies there is no systematic provision. The length of the period devoted to home studies depends upon the pupils, their guardians, and domestic arrangements. Here as elsewhere the studious spend too much time on their work, the careless too little. The school boys have usually a period of recreation between the closing of the school and their settling down to work again in the evening. The more industrious will probably do a couple of hours work before their evening meal by the light in the cold weather months of a *pradip* or country lamp which is probably injurious to the eyesight. I do not think that the present system of working for formal examinations affects the health of school boys seriously. There is no doubt a tendency in India as elsewhere to overdo work immediately before the test. But the abolition of all public examinations except those at the close of the school course has reduced the danger of the strain from overwork on this account to a minimum.

VI.—The requirements in the way of recreation grounds, garden, gymnasia, reading rooms, common rooms, etc.

Under this head it is only necessary to consider the question of Anglo-Vernacular Schools. And for the present it will suffice to have in mind the needs of high schools. Middle English Schools are growing in number altogether out of pace with any possibility of proper control. It is more than the Department can achieve to insist upon adequate staff, buildings and equipment and nothing beyond this can be hoped for for the present or indeed in future unless a restrictive policy is decided upon. With regard to high schools the necessity for recreation grounds, etc., has been recognized and an endeavour is being made to provide all schools with an adequate playground. Gymnasia, reading rooms, common rooms, etc., are also being gradually provided, but no general steps can be taken in this matter until the more immediate and obvious needs of the schools have been provided for. The first sanitary requirement as already indicated is a sufficiency of commodious, well-lit and well-ventilated class rooms.

VII.—The inspecting and administrative agency required, the possibility of co-operation with existing organization and the provision of funds.

With regard to the inspecting and administrative agency I quote from my letter No. 491, dated the 7th December 1913, to the Local Administration proposing a general scheme for educational advance :—

"The non-recurring grants already communicated will be spent without difficulty during the period on the acquisition of playgrounds.

A committee has not yet been formed to deal with the general question. In anticipation, I suggest that the following are the immediate requirements :—

(1) The establishment of a Medical Inspectorate under the Education Department.

(2) The establishment of a Physical Training Inspectorate under the Education Department.

In each case all that can be done is to appoint a thoroughly well qualified Inspector—English, American or Continental—experienced in the work, and, when he is appointed, to set him work to organize his own department. The following preliminary scheme of expenditure may be regarded as indicative, in the event of its being found possible to bring out the two men required in October of next year :—

Medical Inspection.			Physical Training.		
	1914-15.	1915-16.		1914-15.	1915-16.
1	2	3	4	5	6
Inspector, Rs. 1,000—50—1,500 ...	5,000	12,250	Inspector, Rs. 500—50—1000 ...	2,500	2,250
Clerical staff, Rs. 125	625	1,500	Clerical staff, Rs. 125 ...	625	1,500
Services, contingencies, travelling allowance, etc., Rs. 250.	1,250	3,000	Services, contingencies, travelling allowance, etc., Rs. 250.	1,250	3,000
Total ...	6,875	16,750	Total ...	4,375	10,750
Non-recurring (say) ...	2,500	5,000	Non-recurring ...	5,000	10,000

The further development of the scheme will be outside the three years' period.

Expenditure has been entered at Rs. 1,97,500 capital and Rs. 38,750 recurring."

In their letter No. 1145, dated the 24th June 1913, the Government of India suggest that advantage should be taken of the Indian Branch of the St. John Ambulance Association. It is suggested in Mr. Sharp's letter No. 636, dated the 10th April 1913, to the Secretary of the Association, that if as appears possible it is found necessary to make the courses of hygienic instruction optional in secondary and higher institutions, it would be well "to introduce the influence of some external agency (the Association is referred) which by its reputation and rewards will be able to encourage private endeavour." This, it is advised, "would provide the initial stimulus and would appeal strongly both to teachers and taught." As instances of the work which might be done by the Association, the following are mentioned :—

(*a*) Useful literature and instruction in domestic hygiene might be supplied to schools.

(*b*) Instruction in first aid could be given wherever candidates offered themselves.

(*c*) Active workers in the Provincial branches of the Association might, in their capacity as representatives of the Association, give their assistance in the inspection of pupils, of school premises, and the practical instruction given.

I know nothing whatever of the St. John Ambulance Association or its work and shall be grateful for your advice as to whether advantage can usefully be taken of it in Assam.

The Government of India suggest the desirability of considering the appointment of a Director of Physical Training who might be perepatetic when whole-time men were not available or required. They hope further that arrangements can be made when this has not already been done for games masters and instructors of physical exercises for particular schools or groups of schools.

If action be taken as proposed in my letter No. 491 of 7th December 1913, no further general action will be required for the present.

17th June 1914.

J. R. CUNNINGHAM.

Note, dated the 28th September 1912, by the Director of Public Instruction, Assam.

Chief Engineer,

When we were discussing the other day the question of a suitable type-plan for high schools you said that it would be of service if I would send you a note stating the principles on which the design should proceed. I now set myself to do so.

The first point to note is that the building should consist of a central hall—if funds are free for the purpose—with a series of class rooms on each side so dimensioned as to provide accommodation for the maximum classes allowed at the various stages of instruction by the University of Calcutta. Office rooms would also have to be provided. I would not have the design directly dependent upon the total number of pupils in the school. The essential point is not the number of pupils but the number of classes.

The class rooms should be of oblong shape, the proportion of breadth to length being about ⅔rds or ¾ths— a certain latitude is permissible. The light should come in from the longest side, and where possible, from the north. The windows should be ample in size, ventilation should be very fully provided for, and doors and windows should be in a right line; in the case of a school which consists of two rows of class rooms separated by a central corridor, the doors and windows might be in a line from north to south through the building. Each room might where practicable have a double entrance, one for the master and one for the pupils.

In view of the regulations of the University of Calcutta which allow a maximum of 50 pupils in the first two classes, two at least of the class rooms should measure 500 square feet, and, if funds are free, it would be well that this number should be doubled. For the majority of the other classes the University prescribes a limit of 40 pupils. In these rooms there should be at least 400 square feet of accommodation.

Alternative dimensions for the two sizes of class rooms would be approximately—

(1) 25′ × 20′ and 24′ × 17′.
(2) 28′ × 18′ and 25′ × 16′.

Possibly the former type of room would be preferable.

I am aware that in modern school buildings it is the practice to design rooms with reference to the desks which they are to accommodate. But for the present at any rate, I fear, we must adopt a more rough and ready method. In the matter of school furnishing we are very far behind the times and it will be long before we have settled on any series of standard desks or—having settled—found money to refurnish our schools. Funds will not permit either now or in present prospect of the provision of single or dual desks—they imply a much larger unit of floor area per head than the ordinary desks with which we are familiar and would so involve us in heavily increased expenditure on buildings. In the matter even of bench-desks we are placed somewhat at a disadvantage by the very varied ages and statures of pupils in the same class. An experiment in the matter of furnishing has been ordered, but we cannot await its outcome.

The next requisite is a central hall. As it will not be in daily use for lecture or class purposes its proportions and lighting are not subject to the same conditions as apply in the case of class rooms, nor need any exact estimate of its dimensions be attempted with relation to the numbers in the schools. We could, I think, provide an adequate hall economically by means of a central block divided into 4 class rooms and a wall by means of sliding partitions or swing partitions with a double hinge. These class rooms would be by no means ideal, but they might very well be used for small optional classes, such as the classes into which the students preparing for Matriculation—split themselves in the last two years of their course, or the classes in alternative vernacular and classical languages.

The next requirement is for office and public rooms, *e.g.*, headmaster's room, headmaster's office, teacher's common room, and library. The shape of these rooms or the direction from which they are lit is unimportant. The first two might be small rooms of 200 to 300 square feet. The last two should measure not less than 400 square feet.

In view of the large number of class rooms required to accommodate a high school, of the advantage to be gained from having the rooms arranged in their length along the light, and of the objection in this part of the world on account of earthquakes, to double storied buildings, it will be found necessary in practically every case to have the class rooms built in a row on each side of a central corridor. The corridor should, I suggest, be not less than 7 feet in width. It should be well lit and ventilated from above.

The question of verandahs also requires consideration. The building should face south and the southern verandah should be not less than 8 feet in breadth. Unless the material of which the superstructure is composed renders this necessary for protection from the weather, there should be no verandah on the north. Wherever it is necessary it should be reduced to the lowest limit.

The next point which I have to take up is that of the number of class rooms that ought to be provided in addition to the central hall and common rooms already specified. I shall state the minimum. A single section high school consists of 8 classes. For this purpose 8 ordinary class rooms will be required. It should have in addition two rooms for optional subjects and at least one room for a classical language master, the pandit or maulvi, and one spare room. It should therefore have as a minimum 12 class rooms. Of these 4 can be provided by partitioning the hall—leaving 8 class rooms to be placed along the corridors.

For every new section of a class opened in the school and for every new teacher added to the staff additional class rooms will require to be provided. It would be necessary therefore to produce in the first place a minimum design and in the second place a maximum design which would grow from the minimum by gradual accretion. I append for your consideration rough sketches of such designs as would be suitable. I shall be grateful if you will have them worked out along with type-plans, specifications and estimates.

If this course is feasible I would suggest that the specifications and estimates might be of three, or at least two, classes according as funds are free or hard to get.

The 28th September 1912. J. R. CUNNINGHAM.

A. S. P. O. (J. & G.) No. 35—200+4—14-8-1914—B. C. S.

No. 1682-G., dated the 22nd October 1913.

From—The HON'BLE Mr. J. S. DONALD, C.S.I., C.I.E., Chief Commissioner, North-West Frontier Province,

To—The Joint Secretary to the Government of India, Department of Education.

I have the honour to refer to your letter no. 1147, dated the 24th June 1913, and to forward the report of the Committee appointed by me to consider the subjects relating to school hygiene which were suggested for enquiry in paragraph 7 of the Government of India, Department of Education, Resolution no. 301-C.D., dated the 21st February 1913. My recommendations, after consideration of the report of the Committee, are as follows:—

2. I deal first with the proposals for medical inspection contained in paragraph 2 of the report. While accepting the general principle underlying these proposals, I am of opinion that, at the present stage of educational development of this Province, any attempt to establish a health inquisition in the villages is calculated to arouse so much suspicion and resentment in the minds of the people that it would occasion more harm than good. I am not, therefore, prepared to appoint a special agency for the medical inspection of vernacular schools, but Civil Surgeons have been instructed to inspect them as opportunities occur. With regard to girls' schools, the difficulty of obtaining the services of competent lady doctors renders their inspection, for the present at any rates, impossible.

3. The problem of the medical inspection of Anglo-Vernacular schools and of the normal school is on a different footing. These schools are situated in towns or large villages in which progressive ideas have made a certain headway, and the small number of scholars (about 7,300) makes it possible to establish, at no great expense, a system of individual examination. I have decided to appoint as soon as possible two specially trained officers of the Sub-Assistant Surgeon grade to undertake the inspection of these schools.

4. These officers will be on the provincial cadre of the Medical Department and, like other officers of that Department, will be subject to the jurisdiction of the Chief Medical Officer. Their duties will be as follows:—

(*i*) They will inspect the health of each scholar with special reference to eyesight and the more obvious infectious diseases. They will not make an exhaustive physical examination except at the express request in writing of parents. The results of their inspection will be entered in a record kept for each scholar and carefully preserved till he leaves school. Cases requiring treatment will be sent by the Inspectors to the local dispensary.

(*ii*) They will examine school and hostel buildings from the sanitary point of view.

(*iii*) They will submit periodical reports to the Chief Medical Officer who will keep in constant touch with the Education Department and act as its medical adviser.

5. I concur with the suggestion of the Committee that the allowances of the medical attendants of the Government high schools (who are Assistant or Sub-Assistant Surgeons) should be raised, and, further, I propose to make annual contribution to the District Boards for the provision of allowances for medical attendants at Anglo-Vernacular middle and vernacular middle schools under their management.

6. With regard to the examination of building plans, I propose to make it a part of the duty of the Deputy Sanitary Commissioner to examine all secondary schools and hostel plans to ensure their construction in accordance with hygienic principles.

7. On the subject of instruction in hygiene, I am in general accord with the recommendations of the Committee, but I differ in one or two points of detail. The action, which I think should be taken, is the following:—

(*i*) In the absence of a training institution for secondary school teachers, a special class will be instituted for the instruction in hygiene of selected teachers of Anglo-Vernacular schools (high and middle)

and of the normal school and the Deputy Sanitary Commissioner will be appointed to deliver each year a course of lectures. At the completion of the course, an examination will be held by a Board consisting of the Chief Medical Officer, the Director of Public Instruction and a Civil Surgeon. Special allowances, according to the degree of proficiency which they obtain, will be granted to successful candidates.

(*ii*) A simple course of hygiene will be included in the curriculum of the normal school for vernacular teachers. This course will deal with the sanitary conditions of village life, and its prime object will be to equip the teachers with the requisite knowledge for conducting their school on hygienic lines and for giving practical advice to the students.

(*iii*) For the benefit of Vernacular teachers who are already employed, I propose to start a special class which will be placed under the head master of the normal school and held in the normal school vacation.

(*iv*) The present course of hygiene in vernacular schools (where it is taught in connection with nature study under the name of sanitation) only needs a little amplification to make it fully capable of satisfying the requirements of village life. In Anglo-vernacular schools, on the other hand, something more is required. What is needed in these schools is some method of arousing interest and imparting sound instruction in hygiene without making it a subject of cram for examination purposes. A combination of magic lantern lectures and a definite course of study will serve this purpose. In each school a teacher will be selected annually to deliver a course of magic lantern lectures. At the same time, in order to provide the solid instruction without which such lectures are apt to leave only fugitive impressions, a definite course of study, based on a text-book, will be prescribed for the two senior classes of high schools. But I am not in favour of making hygiene a compulsory subject of examination either for the school leaving certificate or for the Matriculation. I consider that its inclusion in the list of compulsory subjects would tend to destroy the value of the instruction by promoting unintelligent cram and would overweight the already heavy list of subjects which must find a place in any scheme of examination.

8. I agree with the recommendations of the Committee in the matter of recreation grounds, gymnastic, equipment and reading rooms, and, if funds are available, I propose to give practical effect to their suggestions in cases in which provision has not already been made for these requirements. Further provision will be made for an improvement in the physical training of scholars in rural schools by increasing the number of itinerant drill instructors in each district.

9. As to the possibility of utilizing the services of existing organisations in promoting the work of school hygiene, I am of opinion that assistance must chiefly be looked for from the St. John Ambulance Association on the lines suggested by the Committee. The patronage of that historic Association would do much to provoke interest and stimulate efficiency among the higher grades of teachers, and I should welcome whatever assistance the Association might be disposed to give in the way of organizing lectures and advising as to courses.

10. The cost of my proposals will amount to a recurring expenditure of about Rs. 7,500 and a capital expenditure of Rs. 1,500. These sums unless provided by the Government of India will be met from Provincial Revenues, and will be charged partly to the Medical and partly to the Education Budget of the province.

59

No. 516-H., dated the 5th September 1913.

From—C. E. W. JONES, Esq., M. A., Officiating Director of Public Instruction, North-West Frontier Province and Baluchistan,

To—The Secretary to the Chief Commissioner, North-West Frontier Province.

With reference to your letter no. 460-N., dated the 8th July 1913, I have the honour to state that the proposals regarding school hygiene which were made in paragraph 7 of the Government of India Resolution no. 301-C. D., dated the 21st February 1913, were considered by a Committee consisting of Lieutenant-Colonel Irvine, Chief Medical Officer, North-West Frontier Province, Nawab Sir Muhammad Aslam Khan, K.C.V.O., Rai Sahib Diwan Jaggan Nath, Secretary, Municipal Committee, Dera-Ismail Khan, and M. Abdul Qadir, Assistant Surgeon, Abbottabad, and myself. I give below the results of our conference.

2. The first question which we considered was the possibility of establishing a system of medical inspection which should have for its objects:—

(1) the examination of the health of the individual scholars, with a view to the treatment, where possible, of such cases as required it;

(2) the examination of school and hostel buildings from the point of view of sanitation. Having regard to the comparatively small number of schools in this province, we were of opinion that it would be possible to institute, at no great expense, an agency capable of carrying out this two-fold inspection in the case of all recognised schools. Our proposals may be summed up as follows:—

(*i*) Medical attendants of the Assistant Surgeon or Sub-Assistant Surgeon grade on the provincial cadre of the Medical Department are already appointed to attend the boarders of the six Government high schools, their services being rewarded by a small monthly allowance. The medical attendance of these officers should be extended to all the scholars, non-boarders as well as boarders, of the Government High schools and their allowances should be increased.

(*ii*) One Medical Officer should be appointed in each of the five districts to inspect all other recognised schools. These officers should be of the Sub-Assistant Surgeon grade, and like the medical attendants in (*i*), should be on the provincial cadre of the Medical Department.

(*iii*) The duties of these officers would be:—

(*a*) The inspection of the health of each scholar with special reference to eyesight, evidence of tuberculosis and infectious diseases, the results of the inspection being entered in a record kept for each scholar and carefully preserved till he left school.

(*b*) The treatment, where possible, of such cases as required it.

(*c*) The examination of school and hostel buildings from the sanitary point of view.

(*d*) The submission of the periodical reports to the Civil Surgeon of the District for transmission to the Chief Medical Officer and the Director of Public Instruction.

(*e*) The examination of the primary school building plans and sites from the hygienic point of view.

The examination of plans and sites for high and middle school buildings should be made by the Civil Surgeon of the District.

3. The Committee were of opinion that, in view of the paucity of girls' schools, it would be inadvisable to establish a special agency for their inspection, but that the services of lady doctors might be utilized for that purpose wherever it was possible.

4. The next point considered was the adoption of a simple and practical course of hygiene in schools, with special reference to the question whether it should be made a compulsory subject of examination in the school leaving certificate scheme, and be included in the list of subjects of examination for Matriculation.

We were of opinion that the first thing to do is to train the teachers who are at present totally unacquainted with the subject. We suggest the following scheme:—

(*i*) In the absence of training facilities for secondary (English) teachers, it suggested itself to us that advantage might be taken of the recent appointment of two highly qualified Public Health Officers at Peshawar and Dera Ismail Khan to institute courses of lectures in school hygiene for the benefit of selected teachers from Anglo-Vernacular schools and from the normal school. An examination should be held at the completion of the course, and the candidates who succeed in passing should be rewarded by small monthly allowances of Rs. 5 and Rs. 3, according to the class in which they were passed. We considered that a course of lectures extending over a period of about a month should be sufficient for the purpose of enabling the teachers to give simple instruction in hygiene.

(*ii*) After attendance at this course of lectures, the senior teachers of the normal school should be competent to give a simple course of hygiene to the stipendiaries who are intended for posts in the vernacular schools.

(*iii*) The course of hygiene in vernacular schools and the primary and middle departments of Anglo-Vernacular schools should be on the same lines as that which at present obtains. The subject under the name of sanitation is now treated in connection with nature study.

On the question whether hygiene should be a compulsory subject in the high departments of high schools and should be included in the list of compulsory subjects for the school leaving certificate examination, there was some difference of opinion. The conclusion at which we finally arrived was that it should be made compulsory, provided it were found possible to cut down the list of other subjects of examination.

5. With regard to the points raised in paragraph 7 (*v*) of the Government of India Resolution under reference, we considered that the present hours of class work were not such as to affect injuriously the health of the scholars, but that, in secondary schools, the principle of allowing reasonable intervals between lessons should be enforced, home (or preparation) work should not exceed two to two and-a-half hours, and formal examination (excluding public examinations) be reduced from three to two a year, the hours of examination per day being limited to four.

6. The Committee were agreed that every high and middle school should have its own playing field, and that every high school should be fully equipped with gymnastic apparatus and provided with a reading room.

7. The possibility of enlisting the services of the St. John Ambulance Association in the cause of school hygiene, as suggested in the letter of the Government of India, no. 1147, dated the 24th June 1913, was discussed, and it was agreed that the Association might render valuable assistance in two directions:—

(*i*) by giving advice as regards the courses of lectures, and

(*ii*) by providing through the award of medallions a stimulus to teachers to make themselves proficient in the subject.

405ED—30—13 10 14—GCBP Simla

Order P.S. No 123A, d. 9-2-1915
The Govt. of India will be addressed

Letter 124 Edl / 9.2.15

To

The Secretary to the Government of India, Department of Education.

Sir,

I am directed to refer to your letter No.1137, dated the 24th June 1913, in which the attention of this Government is drawn to the recommendation made in paragraph 7 of the Resolution of the Government of India in the Department of Education, No. 501 C-D., dated the 21st February 1913, to the effect that a small committee of medical and educational experts should be appointed by each Local Government for the investigation of a number of specific questions connected with school and college hygiene, and the Government of India express their desire to see the report of the committee formed for the above purpose.

2. I am to state, in reply, that the idea of a general committee was, after careful consideration, given up, as it

41 38

was felt that a single small committee of experts could not make a satisfactory inquiry into all the subjects referred to. The Governor in Council preferred to deal with the various subjects separately, and I am to indicate briefly the action till now taken on the several suggestions made in the resolution.

3. The provision of recreation -- grounds, gardens, gymnasia, etc, was first taken up. A provision of six lakhs of rupees was made in the budget estimate for the current year for play grounds for educational institutions, five lakhs for the Madras city and one lakh for the mufassal, and a committee was appointed to work out details for the city. The report of this committee has been received and those of its recommendations as were ripe for immediate action, involving an outlay of about two lakhs, have been approved by the Government. The distribution

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fo 47 Ed / 157/1/15 (O)

distribution of the one lakh for institutions in the mufassal has also been sanctioned.

With a view to improve the physical training given in European schools, an instructor in physical training on a salary of Rs.200 per mensem has been temporarily engaged for a period of five years. In accordance with the suggestion made in your letter under reply, the Governor in Council has arranged to pay to the Young Men's Christain Association, for a period not exceeding five years and a half, an annual grant of Rs.2,760 or one-third of the salary, whichever may be less, towards the cost of employment of a Physical Director for imparting instruction on the subject of physical training.

(Z) fo 435 Ed / 157/1/13 + (U) fo 706 Ed / 31.7.13

in fo 632 Ed / 7.7.13 (S)

fo 755 Ed / 30.6.14 (X)

The Government have also subsidized local boards and municipal councils to the extent of Rs.50,000 to enable them to provide gardens for elementary --- schools.

(N) fo 45 Ed / 16.1.13 + (Z²) fo 1209 Ed / 18.12.13

4. The next question engaged attention was the medical inspection of schools and their pupils, and as a beginning the Governor in Council -- decided to try the experiment within the limits of the Madras city and -- approved certain proposals to institute under competent supervision a medical inspection of the elementary schools recently opened by the Madras Corporation and of the pupils in them. Proposals have also been formulated for the systematic medical inspection and supervision of European schools. Further steps in this direction will be deferred till the results of the above experiments are known.

5. The question of the professional examination of building plans is under current administrative observation.

6. In respect of the introduction of a simple and more practical course of hygiene etc., I am to state that "hygiene and sanitary science" and

"health and house management" have been included as subjects of study in elementary schools for boys and girls. Lectures are being given from time to time at conferences and meetings of teachers' associations, by competent authorities on hygiene, sanitation and the prevention of disease; and catechisms regarding diseases have been prepared and vernacular translations distributed for the use of teachers in elementary schools. An important step under the latter head is the introduction of the health primer, entitled "Life, Light and Cleanliness", printed and published for the Punjab Text-Book Committee by Rai Sahib M.Gulab Singh & Sons, Lahore, which has also been translated into the vernaculars of this Presidency for use in elementary schools. It is proposed to prescribe this book for the Secondary School Leaving Certificate examination. The question of the adoption of the books mentioned in the

list

p. 3074

list appended to your letter No.1734, dated the 20th November 1914, is also being considered.

7. The Governor in Council has reserved for separate examination the question of the length of the school-day, home studies and the effect of formal examinations upon health.

8. Proposals for strengthening the inspecting agency are under consideration, and the Government of India will, in due course, be addressed on the subject.

I have etc.

Scott.-11-38—6,002—19-4-13.

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Educational Department.

Current No. ..... dated ..... 191 .

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Number of MS. pages sent (b) Correspondence 66 / Notes (b1) 13

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