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THE
 SYSTEM OF EDUCATION
 IN
 THE NORTH-WEST TERRITORIES OF THE
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APPENDIX A.

REPORT OF THE COMMISSIONERS ON PRIMARY
EDUCATION, 1897.

To His Excellency Sir Augustus William Lawson Hemming, Knight
Commander of the Most Distinguished Order of Saint Michael and Saint
George, Governor and Commander-in-Chief in and over the Colony of
British Guiana, Vice-Admiral and Ordinary of the same, &c

WE, the Commissioners appointed by Your Excellency to enquire into
certain matters in connection with Primary Education in this Colony, to
wit —The advisability or otherwise of retaining the present system of
Grants based on the results of Examinations, and the desirability or
otherwise of establishing a Board of Education as the Central Authority,
have the honour to report as follows —

We have held thirteen meetings, viz On the following days—31st
December, 1896; 4th, 12th, 22nd January, 12th, 15th, 22nd February,
1st, 8th, 15th, 22nd March; 27th April, and 9th July, 1897 The following
Witnesses were examined —

Mr William Blair, Inspector of Schools,
Mr J. F. Rose, Assistant Inspector of Schools,
Mr E. J. R. Wilcocks, Secretary, Poor Law Commissioners, and
Superintendent, Girls' Reformatory, and Secretary to the Old
Education Board,

Mr C. T. Cox, Assistant Government Secretary,
Mr. W. H. Hinds, Proprietor and Editor of the "Echo,"
The Lord Bishop of Guiana,
The Reverend D. J. Reynolds, Superintendent Wesleyan Missions.
The Reverend W. B. Ritchie, Moderator of the Presbytery,
The Reverend F. C. Glasgow,
The Ven. Archdeacon Gwyther,
The Reverend Father Rigby,
The Reverend J. B. Cropper,
The Reverend Father Barraud,
The Reverend J. Highwood.

Messrs C. T. Holder, Ivory Hart, D. V. Jacobs, E. D. Sharples,
H. E. Smith, W. A. Osborne, T. Y. Carrington, T. N. Durant,
S. Robertson, E. Joseph, E. Linton, D. N. Mitchell, P. Saunders

We have confined ourselves as strictly as possible to the objects named
in our Commission, but we have found it impossible to exclude some
cognate subjects from our consideration.

1 With regard to the payment of grants, we are of opinion that the
present system based on the results of examinations should be retained,
with such modifications as will admit of the grant being to some extent
dependent on the general proficiency of the whole school, and not as at
present solely on the individual excellence of the pupils.

2. As regards the establishment of a Board of Education as the central
authority, we consider that this is neither necessary nor desirable, but we
are of opinion that, in all important matters relating to primary education,
there should be an appeal to the Governor in Council.

3. The question of payment of teachers is one which has demanded and
which has received careful consideration. On the one hand, there is the
almost unanimous opinion on the part of the teachers, supported in some
considerable measure by the managers of schools, that there should be a
greater degree of fixity given to the emoluments of the teachers than is
possible under the present code. On the other hand, there is the danger

that if the teacher's income be made altogether independent of the results of his teaching in his school, one of the greatest inducements to the attainment of a high standard of efficiency will be removed. We have, therefore, come to the conclusion that the fixed salaries of the different classes of certificates should be increased, the per caput grant-in-aid being proportionately reduced so as to avoid any necessity for a larger appropriation than at present from public funds for the purposes of primary education

4 The present standards, we consider, may be retained. They certainly should not be lowered, if any alteration be made, it should be in the other direction

5 With regard to the number of attendances to qualify for examination, we are of opinion that the requirement should, as regards the town schools, remain as at present, *i e.*, at 200. As regards the country schools, we think that the minimum number might be fixed at 150

6. Under the present code the maximum age at which a pupil teacher may receive Government aid is 20 years, and no teacher under the age of 21 is allowed the sole charge of a school. The certificate salary is paid only to a teacher in charge. We recommend that while there should be no reduction in the minimum age at which a teacher can have sole charge of a school, there should be no hiatus between that minimum age and the maximum age at which a pupil teacher may receive Government aid as such. We attach much importance to this recommendation

7 With reference to the payment of bonuses to teachers for training pupil teachers, we are of opinion that the teachers should be required to furnish to the inspector of schools a monthly return, showing the hours of instruction given by them to the pupil teachers. The return to be countersigned by the manager, and payment of the bonus to be withheld if the return be not furnished as required

8. We have given careful consideration to the question of the tenure of office by teachers, and we have arrived at the conclusion that the present system under which a teacher can be arbitrarily dismissed by his manager should be modified. We accordingly recommend that the manager should be given the power to suspend a teacher, reporting at once such suspension, together with the reasons thereof, to the Inspector of Schools, who should have power to confirm or disallow the same. Both the manager and teacher to be given the right of appeal to the Governor-in-Council.

9 With regard to the supervision of the schools by the managers, there is before us abundant evidence to show that, in some cases at least, very little, if any, exists. It must be remembered that the managers of schools, as such, are the recipients of public money for disbursements in connection with their schools, and we are strongly of opinion that they should be required to pay more frequent visits of inspection to and generally to exercise greater supervision over, their schools than at present. In short, they should be managers in fact and not in name only.

10. As has already been said, managers of schools are the recipients for disbursement of public money, and we consider that they should be required like all other persons to furnish vouchers of such expenditure.

11. With regard to the question of fees, the evidence before us shows very clearly that the present system, under which the collection of fees is made compulsory, leads to falsification of returns and other underhand proceedings. We strongly recommend the repeal of the penal clauses in connection with the collection of fees.

12 We understand that in some of the popular schools the parents of the scholars readily pay fees at a higher rate than is required by the regulations. There does not appear to be any objection to this, but we think that in order that the financial returns may be as complete as possible the fees should be fixed at not less than two cents per caput per week; all fees, of whatever amount, to be accounted for.

13 The question of the support given to their schools by the different denominations has been considered by us, and we are of opinion that the denominations should be called upon to contribute (apart from school buildings) directly to the maintenance of their schools, and that the Government Grant in Aid should be paid only on the production of a certificate to the effect that the denominational contribution (which should bear some fixed proportion to the fees chargeable) had been duly collected. Mission schools, and schools in remote and sparsely populated localities, to be exempted from payment of the denominational contribution.

14. We would also recommend the continuance in the educational law of the principle of compulsory attendance at schools, but in doing so we are not unmindful of the present difficulties which underlie the carrying out of the law in its entirety

15. Although not strictly within the terms of our commission, we strongly advise that as soon as the state of the public exchequer will allow, a training school for teachers should be provided as the law now directs

In the meantime, and as a tentative measure, we would suggest that a certain number of schools, to be approved of by the Governor-in-Council, be selected at which pupil teachers may, after passing their examination as such, be trained in the art of teaching and receive practical lessons under the supervision of the principal teacher

16 We understand that there are at present certain teachers who, though uncertificated, have for years successfully conducted their schools To meet cases of this kind we would suggest that the Inspector of Schools should be given power to issue, with the approval of the Governor-in-Council, a certificate of competency to any uncertificated teacher who has to the knowledge of the Educational Department successfully conducted a school for a period of not less than ten years

17. With regard to the question referred to us in the letter from the Government Secretary of the 15th March 1897, we would recommend that the Inspector of Schools be given power to issue certificates of the 1st, 2nd, or 3rd class, as the case may be, to any person who has been trained in any recognised normal or training school, or who has taken a degree at any recognised university in any part of Her Majesty's dominions, and holds a certificate thereof

18 Our attention has been called to a scheme for providing pensions for deserving teachers propounded in the draft regulations of the Inspector of Schools, and we would recommend its adoption, the funds for the purpose could be obtained by the diversion of the Capitation Grant to that purpose

All of which is respectfully submitted

*Henry Kirke,
C. B. Hamilton,
B. Howell Jones,
D. M. Hutson,
E. C. Luard,
J. Thomson.*

J. Hampden King, Secretary.
29 July 1897

I dissent from Paragraph 12 I am of opinion that all the law can stipulate for is a minimum fee Anything paid voluntarily over that amount is a tribute to the teacher of a purely ultra-official nature No evidence as to the payment of a higher rate of fee was given before the Commission.

J. Thomson.

APPENDIX B.

CODE OF REGULATIONS FOR GRANT-IN-AID SCHOOLS 1900.

PRELIMINARY CHAPTER.

- Short title 1 These Regulations may be cited for all purposes as the Education Code, 1900
- Condition of grants-in-aid 2 The grants-in-aid to primary schools are dependent on the amount voted annually for that purpose by the Combined Court, and nothing in this code shall be regarded as constituting any vested right or interest to or in such grants.
- Administration of grants 3 The grants are administered by the Inspector of Schools, hereinafter called "the Inspector" subject to the control and direction of the Governor-in-Council.
- Mode and conditions of making grants 4 Aid to maintain a school on the list of aided schools is given by annual grants, payable by equal monthly instalments, conditional upon the attendance and proficiency of the scholars and the state of the school at the time of the annual examination and during the twelve months immediately following. The payment of any instalment or instalments may, with the previous sanction of the Governor-in-Council be wholly or in part withheld if any breach of these Regulations is committed.
- Inspectors and Assistant Inspectors 5 Officers are appointed and employed by the Government to verify the fulfilment of the conditions on which grants are made. These officers are called Inspectors and Assistant Inspectors.
- Power to visit School 6 The Inspector or an Assistant Inspector may visit any school at any time with or without notice
- Placing School on, &c, list of Aided Schools 7 No school shall be placed on the list of aided schools or be removed herefrom without the consent of the Governor-in-Council,
- Making of application for grant 8. Every application for a grant-in-aid must be made on a printed form which can be obtained at the office of the Education Department. The application must be sent to the inspector, who will submit the same, together with his report thereon, to the Governor-in-Council.
- General rules as to grants 9 No steps should be taken to establish a school with the expectation of obtaining aid from the Government. Grants cannot be claimed irrespective of the circumstances of the case and the limits of the sum placed at the disposal of the department. If a grant is refused, the reason for its refusal will be communicated to the applicant.
- Restriction on making of grants to new Schools 10 As a general rule, no application will be entertained for a grant to any new school if there already exists an efficient school of the same class having available accommodation within two miles.
- Notification of application for grant to new School. 11 —(1) Every application for a grant to a new school shall be notified in the Gazette, so as to enable managers of existing aided schools within two miles to state any objections which they may have to its being placed on the list of aided schools.
(2) A copy of the Gazette will be sent to all the managers interested in the application.
- Management of Schools, 12. Every school shall be under the control of one or more managers, who shall be responsible that the regulations subject to which aid is granted are conforming and enforced. If there are two or more managers, one of

their number must be appointed in writing to communicate with the department on all matters relating to the school, and he will receive the Government grant and be responsible to the department for its proper distribution.

13. No schoolmaster can be recognised as the manager of an aided school, nor can any person be recognised as the manager of an aided school if he derives any profit or emolument therefrom. Restrictions as to Managers.

14.—(1) No school shall be conducted for private profit or shall be farmed out by the manager to the teachers. Responsibility of Manager.

(2) The manager shall be responsible for the payment of the teachers' salaries and all other expenses of the school

15.—(1) Schools shall be classified as "A schools," "B schools," "C schools," and "D schools." Classifications of Schools

(2) Schools which fulfil all the conditions of Regulation 17 (2) to (8) inclusive of this code and whose daily average attendance for the six months before any examination is not less than 25 are called "A schools."

(3) Schools which do not fulfil all these conditions are called "B schools."

(4) Mission schools for Aboriginal Indians and schools in remote and sparsely populated localities are called "C schools"

(5) Industrial schools in which theoretical and practical instruction in agriculture, or in a trade or trades, or both, is given are called "D schools."

16 The schedules annexed to this Code shall form part of and have the same effect as the regulations of the Code Effect of Schedules to the Code

CHAPTER I.

ANNUAL GRANTS.

A and B Schools.

17. Before any school is placed on the list of Aided Schools the Governor-in-Council shall be satisfied— Requirements to be satisfied before School is placed on list of Aided Schools as A School

(1) That the average daily attendance for the six months before the date of the application was not less than 40,

(2) That the principal teacher is over 20 years of age, and is certificated,

(3) That the registers of admission and attendance, of the form and in the manner hereinafter described, are accurately kept, that the returns required by the Government or the Department are trustworthy, and that the school is conducted in accordance with an approved time-table (a copy of which signed by the Inspector shall be hung up in the schoolroom), and in an orderly and efficient manner,

(4) That adequate provision is made for the instruction of the girls in needlework,

(5) That the school buildings, including covered galleries, are in good repair; that they are well ventilated, and contain not less than 80 cubic feet (space) and 8 square feet (area) for each child in average attendance,

(6) That the school is provided with a sufficient number of benches of suitable heights to seat all the children without overcrowding, a sufficient number of desks of suitable heights to permit at least one-half of the children to be engaged in writing at the same time, reading books for each standard, copy books, slates, maps, blackboards, clock, log-book, account-book &c.

(7.) That the school is provided with separate latrines for the children of each sex ; and

(8.) That all reasonable care is taken in the ordinary management of the school to bring up the children in habits of punctuality, of good manners and language, of cleanliness and neatness, and also to impress upon the children the importance of cheerful obedience to duty, of consideration and respect for others and of honour and truthfulness in work and act.

B Schools.

18.—(1.) Any aided school, hereinafter called "school," the daily average attendance at which for the six months before any examination is less than 25, or which ceases to fulfil any of the conditions 2 to 8 (inclusive) of Regulation 17, shall be classed as a B school.

(2.) No school will be allowed to remain a B school for more than two consecutive years.

Subjects of examination.
First Schedule.

19. Scholars will be examined in the subjects prescribed in Part II. of the schedule to this code.

Computation of grant to A Schools.
Second Schedule.

20. The annual grant payable to A and B schools shall be computed according to Part III. of the schedule to this code.

Qualification of instruction and attendance for individual grants.

21. Subject to the proviso hereinafter contained, no grant will be allowed for any scholar who has been a pupil for less than six months during the 12 months immediately preceding the examination in the school in which he is examined, and who has made less than 150 attendances.

Provided always (1) that if the parents of any pupil remove from the locality in which his school is to another residence more than two miles distant from such school, and necessitating the attendance of the child at another school, the periods for which he has been a pupil and the attendances at both schools shall be taken into account ; (2) a grant may be allowed for any child not previously on the register of any school, or for any child who has been removed from any school for any reason approved at the time by the Inspector, and in respect of whom no grant is payable to any other school, provided in either case such child has made the requisite number of attendances.

Qualification of age for individual grants.

22.—(1.) No grant will be allowed for any scholar over 15 years of age on the day of examination.

(2.) No grant will be allowed for any scholar in Standard I. who is over 12 years of age on the day of examination.

Proof of age of scholar.

23. If in the opinion of the Inspector the ages of any scholars are incorrectly entered on the examination schedules he may call upon the manager to furnish him with the names of the parents of such scholars, the districts in which they were born, and refer the cases to the Registrar General, whose decision shall be final.

Examination in standards.

24.—(1.) At the first examination scholars may be grouped in any standard fixed by the manager, but scholars may not afterwards be presented for examination in the same standard as, or a lower standard than, that in which they have previously passed.

(2.) If scholars fail to pass in two of the subjects, reading, writing, and arithmetic, they will be considered to have failed altogether, and no grants will be allowed for them.

C Schools.

Definition of sparsely populated locality.

25. No school shall be considered to be in a sparsely populated locality if the population within a radius of two miles exceeds 200.

Number of C Schools.

26. The number of C schools shall not at any time exceed 25.

Qualification of average attendance for C Schools.

27. No school shall be accepted or retained on the list as a C school, unless the average daily attendance for the year is at least 12.

28 Subject to the proviso hereinafter contained, no grant will be allowed for any scholar who has been a pupil for less than six months in a C school during the 12 months immediately preceding the examination, and who has made less than 100 attendances, provided always that if the parents of any pupil remove from the locality in which his school is to another residence more than two miles distant from such school and necessitating the attendance of the child at another school, the periods for which he has been a pupil and the attendance at both schools shall be taken into account

Qualifications of instruction and attendance for individual grants

29 The annual grants to C schools shall be 50 per cent more than the amounts prescribed in Part III of the schedule to this Code in respect of reading, writing, and arithmetic, and needlework, and the same amounts in respect of all other subjects.

Grants to C Schools.

30 Regulations 17 (2) to (8) inclusive, 19, 22, 23, and 24 shall apply to C schools as well as to A and B schools.

D Schools.

31 The number of D schools shall not at any time exceed twelve

Number of D Schools

32.—(1) Before any school is placed on the list of aided schools as a D school Regulation 17 must be complied with, and in addition the Governor-in-Council be satisfied —

Conditions of grant to D Schools.

(a) That the school teaches a trade or trades approved by the Inspector, or gives more advanced theoretic and practical instruction in agriculture than is given in the ordinary Elementary Schools, or provides both such teaching and such instruction.

(b) That the school shall be sufficiently provided with appliances for elementary instruction in agriculture or in the trade or trades to which the school is devoted, and

(c) That the master or mistress appointed to teach agriculture or the trade or trades is duly qualified for that purpose, and has obtained such certificate (if any) as may be required by the Education Department

(2) Any D school which for two consecutive years fails to fulfil any of these conditions—(a), (b), and (c)—or of those prescribed for A schools, shall be removed from the list of aided schools.

33 The manager of a D school shall receive, in addition to the grants payable according to Part III. of the schedule to this Code, the sum of 7 50 dols. for each scholar, being over 12 and under 17 years of age, who may be certified to have been in attendance for not less than 100 days and to have received daily not less than two hours' instruction in agriculture or in the workshop, and who is able to work at his trade to the satisfaction of the Inspector. Provided that the grant to any one D school shall not exceed the sum of 250 dols. for one year

Special grant to D Schools.

34 Regulations 19 to 24 (both inclusive) shall apply to D schools, 17 years being substituted for 15 in Regulation 22 (1)

CHAPTER II

MANAGERS.

35 The manager shall be responsible to the Inspector of Schools for the conduct of the school, for the maintenance of its efficiency, and for the provision of suitable buildings, books, and apparatus.

General responsibility of Manager.

- School fees. 36. The manager may require every scholar attending the school who is over 12 years of age, or who has passed the Fourth Standard to pay a school fee not exceeding two cents per week, payable in advance.
- Appropriation of one-tenth of grant for school buildings, &c. 37. The manager may retain not more than one-tenth of the grant made to his school for the purpose of providing and maintaining suitable buildings, books, and apparatus for the school. He may also retain for this purpose any fees paid by the scholars and any local contributions entrusted to him.
- Appropriation of nine-tenths of grant for Teachers. 38. Not less than nine-tenths of the grant shall be divided between the principal teacher and the assistant teacher or teachers or sewing mistress (but not pupil teachers), in such proportions as may, after considering the recommendation of the manager on the subject, be decided by the Inspector. The decision of the Inspector shall be subject to an appeal to the Governor-in-Council.
- Furnishing of quarterly accounts of income and expenditure. 39. The manager shall furnish quarterly to the inspector a detailed account certified by him to be correct of the income and expenditure of the school, attaching thereto vouchers for the expenditure of the Government Grant, including certificate salaries and salaries of pupil teachers. The manager shall personally, if practicable, pay the salaries of all assistant teachers and of the sewing mistress and of pupil teachers, but in any event a receipt for each salary paid must be entered in the school account book and dated and signed by the recipient.
- Furnishing of returns. 40. The manager shall furnish all returns that may be required by the Government or the Inspector.
- Duty of Manager at annual examination. 41. (a) Due notice, not being less than 14 days, will be given of the annual examination, and the manager will be furnished with the examination forms given in Part V. of the schedule to the Code in duplicate, which, together with the declarations thereon, he must have ready for inspection, and duly signed by himself and the principal teacher on the morning of the day of the examination. He will also inform the Inspector at least five clear days before the examination of the probable number of children that will be examined in each standard and of the number to be examined in the extra subjects.
- (b) The manager will also be required to produce the School Registers, Log Book, and School Account Book at the annual examination.
- (c) The Account Book shall state the names of the principal teacher and all the assistant teachers, including sewing teachers and pupil teachers and the respective amounts of their salaries.
- Duty of Manager. Fourth Schedule. 42. Before the examination the manager shall sign the declaration set forth in Form (1) in Part V. of the schedule to this Code. If he is unable to do so, he shall state his reasons in writing for such inability, and the case will be dealt with in such manner as the Governor-in-Council may decide.
- Duty of Manager as to visiting Schools. 43. The manager shall personally visit the school at least once a month, examine and sign the registers, record the results of his visit in the log book, and forward a copy to the Inspector with his monthly school accounts; provided that it shall be sufficient if schools in remote districts, more than 10 miles from the manager's residence, are visited not less than once a quarter.
- Powers of Manager as to Teachers. 44. (1) The manager shall have the exclusive right of appointing and dismissing teachers and assistant teachers, and subject as in hereinafter provided, pupil teachers, but all changes in the teaching staff shall be notified by the manager to the Inspector. Any change, permanent or temporary, will be recognised only from the date on which the same is notified to the Inspector.
- (2) Every teacher who is dismissed by the manager of any school may within ten days thereafter appeal from the decision to any body of the

denomination to which such school belongs, appointed by the authorities of such denomination to hear such appeal and approved of by the Governor, and any such body shall hear and decide any such appeal within fourteen days after it is received, and either party may appeal from such decision to the Governor-in-Council. If there is no such body, or such body does not decide the appeal within the said fourteen days, the manager shall obtain the papers and forward them to the Governor-in-Council, who shall decide the appeal.

(3.) If the manager fails to comply with such final decision public aid may be withdrawn from the school.

CHAPTER III.

TEACHERS

46 Every teacher hereafter appointed to the charge of an Aided school shall be required to hold a certificate of competency, hereinafter called "a certificate," granted after due examination.

Requirement as to Certificate of Competency

47 (1) The Inspector shall have the power to issue a certificate of the second or third class to any person who—

Power to issue Second or Third Class Certificates to certain persons

(a) Holds a certificate from any recognised normal or training school, or

(b) Having been trained in any recognised normal or training school, holds a certificate from the Government of the country or colony in which such school is situated, or

(c.) Has taken a degree at any recognised university in any part of Her Majesty's dominions or in the United States of America, or has obtained an honour certificate at the Oxford or Cambridge Local Examination for seniors or a certificate in the First Division of the First Class at the College of Preceptors, provided that in any of the three preceding cases the Inspector may in any particular instance if there is, in his opinion, sufficient cause for so doing, refuse to issue such certificate, but in such case the applicant shall have a right of appeal against such refusal to the Governor-in-Council, whose decision shall be final.

(2) The Inspector may, with approval of the Governor-in-Council, issue a certificate of competency without an examination to any provisionally-certificated teacher who for ten consecutive years has successfully conducted a school to the knowledge of the Inspector of Schools. The holder of such certificate shall be entitled to the same salary as if he held a third-class certificate.

(3) The Inspector may issue a second-class certificate to any teacher who at the commencement of these Regulations is and has been for ten years previously rendering efficient service as a teacher, and who in 1877 held a second-class certificate which was subsequently cancelled by the then existing Board of Education, because the holder had not in 1877 completed ten years' service.

48 Any certificate of the second class issued under this code or under the Education Regulations, 1890, may, subject to the like power of refusal of appeal as is contained in sub-section (1) of the preceding regulation, be raised to a certificate of the first class after three consecutive years efficient service as a teacher in any aided school of the colony. Provided always that no teacher whose certificate is so raised in any year shall be entitled to claim any increase of certificate salary in that year, unless such increase has been provided for in the sum granted by the combined courts on the Annual Estimates in respect of Grants to Primary Schools.

Power to raise Second Class Certificates.

Power to issue Provisional Certificate, and effect thereof

49 The inspector shall have the power to issue a provisional certificate to any person who, in his judgment, may be properly employed in a school. The holder of any such provisional certificate shall nevertheless be under obligation to present himself for examination at the first certificate examination subsequently held in the colony, provided that the date of such examination does not fall within six months of the issue of the certificate. If the date of the examination falls within those six months, the teacher must present himself at the next succeeding examination. The provisional certificate may be suspended if the holder fails to pass or for any other reason which is, in the opinion of the inspector, sufficient.

Effect of Provisional Certificate

50 A provisional certificate shall not entitle its owner to a certificate salary, nor shall the holder of one be entitled to be entrusted with the training of pupil teachers.

Recognition of Existing Certificates

51 Teachers holding certificates recognised under the regulations which came into force on the 1st day of January, 1883, or under the Education Regulations, 1890, shall be considered as holding certificates of the same class under this code.

Salaries attached to Certificates

52 The following salaries shall, subject to the proviso hereinafter contained, be attached to certificates held by males or females who are principal teachers of schools—

For a First Class Certificate -	-	-	240	dols	per	annum
For a Second Class Certificate -	-	-	180	"	"	"
For a Third Class Certificate -	-	-	96	"	"	"

Provided always that the salary to be received by a certificated teacher in respect of his certificate shall be reduced by one-fifth if, at the annual examination, the school of which he is the principal teacher fails to obtain 50 per cent of full passes calculated on the number presented for examination, and by one-third should his school fail to obtain 40 per cent. of full passes.

Employment of Assistant Teachers in large Schools

53 In a school having had an average daily attendance for the preceding six months of 120 or more, a certificated teacher may be employed as an assistant at a salary of 8 dols. a month, and such portion of the grant as may be determined by the manager and approved by the Inspector, in lieu of two pupil teachers, and in a school having an average daily attendance of 200 or more, two certificated teachers may be employed as assistants, in lieu of four pupil teachers, on similar conditions.

Holding of examinations for Certificates

54 —(1) Examinations for certificates of the second and third classes will be held annually in the month of January, at the Queen's College, Georgetown, and at such other times and places as may be necessary. There shall not be any examination for certificates of the first class.

(2) A syllabus of the subjects of examination is set out in Part VI. of the schedule of this Code, and will be sent to school managers in the month of February

(3) Candidates desiring to sit at any such examination shall apply for a card of admission, and each application shall be accompanied by unused postage or revenue stamps to the value of one dollar or such other sum as may be fixed by the Governor-in-Council.

Position of successful Candidates at examination

55 A successful candidate at his examination, if employed as the principal teacher of a school, will be entitled to draw a certificate salary from the first day of the month immediately following that in which the examination is held

Suspension or cancellation of Certificate

56.—(1.) A certificate may at any time be suspended or cancelled by the Inspector for misconduct, whether the holder thereof is employed as a teacher or not. The Inspector may impose on a teacher guilty of negligence or carelessness without any intention of fraud a fine according to the following scale, namely, for the first offence a fine not exceeding 5 per

cent of the teacher's salary (including his certificate salary, if any) for one month, and for a second or any subsequent offence a fine not exceeding 10 per cent. thereof

(2) The Inspector shall not suspend or cancel a certificate or impose a fine until the teacher has been informed of the charge against him and has been allowed an opportunity of making his defence

(3) If a certificate is suspended or cancelled, or a fine imposed the holder may appeal to the Governor-in-Council, whose decision shall be final

57 All communications from a teacher relating to the discipline or management of his school must be forwarded through the manager. Statistical information, letters with reference to certificate examination, &c, may be sent direct. No reply will be sent to letters when this regulation is disregarded.

58 Teachers will be required to furnish any statistical information, or any information with reference to the attendance of any scholar or scholars, which may be required by the Inspector, or assistant inspectors, or an educational district officer

CHAPTER IV

PUPIL TEACHERS.

59. Pupil teachers are boys and girls selected by the manager to assist in maintaining discipline and in instructing the lower classes. A pupil teacher must not be employed for more than five hours in any one day or more than twenty hours in any one week.

60 The manager is bound to see—

- (1) That the pupil teacher receives, without cost, special instruction from the principal teacher for not less than five hours during every week out of the regular school hours, not more than two hours being on the same day, and
(2) That he, during his last year, attends such classes of instruction in Agricultural Science (including Botany and Chemistry) as may be held for the instruction of teachers

61 —(1) Any school having an average daily attendance of 80, for six months, shall be entitled to one pupil teacher, and to one additional pupil teacher for every 40 above the first 80, but the number of pupil teachers shall in no case exceed four. One or two certificated assistant teachers or teachers may be employed in lieu of two or four pupil teachers.

(2) If the daily average attendance for any three consecutive months falls below the above numbers respectively, a pupil teacher's services shall be dispensed with at the end of that period without previous notice.

62 —(1) An application for the appointment of a pupil teacher shall be made in the form of Part VII of the schedule to this Code or such form as may for the time being be approved by the Inspector.

(2.) A copy of such form may be obtained on application to the department

63. Before a candidate can be employed as a pupil teacher he will be required to produce a certificate of birth or baptism, showing he is eligible for the examination, a certificate of good character from a minister of religion, and a medical certificate showing that he is not suffering from any infirmity likely to impair his usefulness as a teacher, and to pass an examination in the subjects specified in Part VIII of the schedule to this Code.

- Examination of Pupil Teachers 64 —(1) No candidate under 14 or over 16 years of age shall be eligible for the first examination as a pupil teacher
- (2) A pupil teacher's engagement shall cease when he or she attains the age of 21 years
- (3) Pupil teachers shall attend such annual examinations as may be appointed by the Inspector, and be examined in the subjects prescribed in Part VIII. of the schedule to this Code Candidates desiring to sit at any such examination shall apply for a card of admission.
- (4) At the examination every pupil teacher shall produce his note books and a certificate of good character from his manager.
- Restrictions on employment of Pupil Teacher 65 (1) No pupil teacher shall be employed as such for more than five years
- (2) A pupil teacher voluntarily leaving or being dismissed from one school shall not as a rule be eligible for employment in another
- (3) After two consecutive failures to pass the annual examination, except such failure is due to illness or other sufficient cause, a pupil teacher will no longer be recognized by the Inspector of schools.
- Salaries of Pupil Teachers 66 Pupil teachers, whilst actually employed in teaching, shall be paid the following salaries —\$3 monthly during the first year, \$4 monthly during the second, \$5 monthly during the third, \$6 monthly during the fourth, and \$7 monthly during the fifth provided always that these increments shall be conditional on their passing at the commencement of the second and subsequent years the annual examination
- Bonus to successful Pupil Teacher 67 Every pupil teacher who passes with credit the five consecutive examinations, and is able to produce a certificate of good character from his manager, shall be entitled to a bonus of \$20.
- Bonus to Principal Teacher for passing of Pupil Teacher 68 A bonus of \$20 shall be paid to the principal teacher of a school for every pupil teacher employed therein who passes the annual examination, if such teacher produces a certificate from the manager showing that such principal teacher has complied with the requirements of Regulation No 60 in respect of such pupil teacher. Such bonus, if more than one principal teacher of the same school has taken part in the tuition of a pupil teacher, shall be apportioned between such persons in proportion to the periods during which such persons respectively have filled the office of principal teacher of such school
- Pupil Teachers' Time-Table. 69 A pupil teachers' time table shall be hung up in a conspicuous place in the schoolroom.

CHAPTER V. [omitted].

REGISTERS.

CHAPTER VI.

GENERAL RULES.

- General right of admission to School 79 No child over five years of age may be refused admission as a scholar into any school on other than reasonable grounds.
- Restrictions on right of admission. 80 No child under four years of age, and no child suffering from any contagious, cutaneous, or infectious disease, or coming from a house in which such disease is known to exist, shall be admitted into any school, and the attendance of any child whose name is on the register but who comes from such house, or is so diseased, shall be prevented by the teacher.

81 It shall not be required, as a condition of being admitted into or continuing in a school, that a scholar shall attend or abstain from attending any Sunday school or any place of religious worship, or that he shall, or shall not, attend any religious observance whatever

Prohibition of condition as to attendance at Sunday School, &c.

82 —(1) The time or times during which any religious observance is practised, or instruction in religious subjects is given, shall be specified in the school time table, which shall be approved by the Inspector and kept permanently and conspicuously affixed in the school-room

Rules as to religious instruction

(2) Any scholar may be withdrawn from any such religious instruction without forfeiting any of the other benefits of the school

83 Members of the Executive Council and of the Combined Court, the Judges of the Supreme Court, Justices of the Peace, and any other persons authorised by the Governor may visit any school, and they shall have liberty to examine the registers and to record the result of their visit in the school log-book. Visitors are requested to report the results of their visits to the Inspector of Schools.

Persons having right to visit Schools

84 Every school shall be kept open for at least five days in each week, except on the fixed holidays and any special holidays granted by the inspector

Working days

85 —(1) In addition to all public holidays, a school may be closed for two weeks at Christmas, commencing on the Friday before Christmas Day, one week at Easter, and four weeks in August, commencing with the first Monday in August. The Easter and August vacations may be changed to other periods, but all such changes must be notified to the inspector beforehand.

Holidays

86. The school hours shall be from 9 a. m. to 12 noon, and from 1 p. m. to 3 p. m., or such hours as may be appointed by the inspector.

School hours

87. Any child over five years of age whose name is on the register of any school, and who has not passed the fourth standard, but who has made fewer attendances or has been a pupil for a shorter time than is prescribed by Regulations 21, 28, and 34 (as the case may be) shall be presented for examination when the annual examination of such school is being held, and shall be examined in the standard in which children of his age are usually examined, but no grant shall be made in respect of any pass obtained by any such child.

Examination of children whose names are on the register, but in respect of whom no grant is to be made

88. As soon as possible after the annual examination the Inspector of Schools shall prepare a return of all such scholars, and this return shall be forwarded to the manager.

Return of children so examined.

89. The Education Regulations, 1890, and the Education Regulations, 1891, are hereby revoked. Provided always that—

(1.) Any school receiving a grant under the said Regulations shall continue to receive the same up to 1st November, 1900, but no longer

(2.) Any school examined on or before the 1st March, 1901, shall be examined in the standards prescribed by Regulation 32 of the Education Regulations, 1890, and

(3) The salary of any pupil teacher employed at the commencement of these regulations shall, until the 1st day of November, 1900, but no longer, be that prescribed by Regulation 30 of the Education Regulations, 1890, but in all other respects he shall be subject to these Regulations.

*Pensions to Teachers**

- Appropriation of sum for pensions *88 A sum not exceeding \$1,000 per annum, or such other amount as may be voted by the Combined Court, shall be appropriated for paying pensions to deserving teachers
- Number of pensioners, &c *89 The number of pensioners at any time shall not exceed 15, namely, five at 100 dollars per annum, and ten at 50 dollars per annum, or such other less amount as may be allowed by the Governor-in-Council
- Selections of pensioners *90 The pensioners will be selected by the Governor-in-Council.
- Qualifications of applicant for pension *91 An applicant for a pension shall—
- (1) Be a certificated teacher in charge of an aided school at the time when the pension is applied for ;
 - (2) Have become incapable, from age or infirmity, of continuing to teach a school efficiently ,
 - (3) Have, as a rule, been employed as a teacher in an elementary school for 20 years or more , and
 - (4) Be 55 years of age or more, unless the pension is applied for on the ground of infirmity.
- Sending in of applications for pensions *92. Applications for pensions shall be sent to the inspector, who will submit them quarterly (in January April, July, and October), with complete record of the applicants' services, to the Governor-in-Council.
- Preferential claims of certain Teachers *93 Teachers holding certificates for the first class and of upwards of 30 years' service will be regarded, *cæteris paribus*, as having the first claim.
- Payment of pensions *94 The pensions will be paid quarterly on certificates forwarded to the inspector proving identity and good behaviour.

* Regulations of 1897 revoked by the Regulations of 1900.

SCHEDULE.

PART II.

Reg

INFANTS' SCHOOLS AND CLASSES —*Age from 5 to 7 years.

Reading.—To read from a Reading Sheet or from an easy Primer containing words of three or four letters.

Writing.—To copy on Slate from the Blackboard words of two or three letters

Arithmetic.—To point out, and write on slate, figures from 1 to 10, and count up to 20

No child shall be entered for this examination who is under the age of 5 or over the age of 7 years

STANDARD I.—*Age from 7 to 9 years.

Reading.—To read a few sentences from an Infant School Primer containing not less than 40 pages.

Writing.—Short words on paper Small letters on slates from Dictation

Arithmetic.—Notation to 100. To add and subtract mentally numbers up to 20

STANDARD II —*Age from 9 to 10 years

Reading.—Nelson's Royal Reader for Standard I or any similar book Slowly and distinctly

Writing.—Text or round hand on paper, and words or sentences from the Reading Book from Dictation on Slates

Arithmetic.—Notation to tens of thousands. Easy sums in Simple Addition and Subtraction The Multiplication Table up to 6 times 12.

STANDARD III.—*Age from 10 to 11 years

Reading.—Nelson's Royal Reader for Standard II, or any similarly graduated book. Clearly and intelligibly

Writing.—Transcription on paper. To write a paragraph from the Reading Book from Dictation on Slates.

Arithmetic.—Notation to hundreds of thousands The multiplication table. Sums in the simple Rules up to Short Division (inclusive)

STANDARD IV.— *Age from 11 to 12 years.

Reading.—Nelson's Royal Reader for Standard III, or any similarly graduated book. Clearly and intelligibly.

Writing.—To write on paper a paragraph from the Reading Book from Dictation.

Arithmetic.—Notation to millions. Sums in the simple Rules, Miscellaneous Questions.

* Approximate, but no grant will be made for any child passing the 1st Standard who is over 12 years of age on the day of examination.

STANDARD V.—*Age from 12 to 13 years.

Reading.—Nelson's Royal Reader for Standard IV., or any similarly graduated book. Fluently and with expression.

Writing.—To write neatly on paper, a paragraph from the Reading Book from Dictation.

Arithmetic.—Any sums (including Miscellaneous Questions) in the Compound Rules and Reduction of money, English and Colonial

Grammar.—The parts of speech.

Geography.—Definitions and British Guiana in detail.

STANDARD VI —*Age from 13 to 14 years.

Reading.—Nelson's Royal Reader for Standard V., or any similarly graduated book. Fluently and intelligibly to the Inspector without the book.

Writing.—Dictation on paper from any book or newspaper.

Arithmetic.—Miscellaneous Questions and Reduction of common Weights and Measures

Grammar.—The inflections of words.

Geography.—British Guiana and the West Indies.

Agriculture.—Blackie's Tropical Reader, Part I.

STANDARD VII —*Age from 14 to 15 years.

Reading.—To read from any book or newspaper. Good reading at sight

Writing.—To write from dictation with increased proficiency.

Arithmetic.—Vulgar and Decimal Fractions, Practice and Simple Proportion, and the work of the preceding standards.

Grammar.—Similar to that required of Standard VI., but with increased proficiency. Parsing.

Geography.—The British Colonies.

Agriculture.—Blackie's Tropical reader, Part II.

STANDARD VIII

Reading.—The same as Standard VII, with increased proficiency

Writing.—To write a short essay or letter, or to reproduce a story.

Arithmetic.—All the above rules. Practice, Proportion, Interest and Discount.

Grammar.—Parsing and analysis of sentences.

Geography.—America, and all the above with increased proficiency.

Agriculture.—Blackie's Tropical Reader, Part II., with greater proficiency.

N.B.—Reading may be tested in the ordinary class book if approved by the Inspector, but the books must be of reasonable length and difficulty. If only one set of Reading Books is provided for the lower standards, or if the lessons appear to have been learned by rote, the reading may be tested from a book for the same standard brought by the Inspector. Scholars in the fifth and higher standards will be required to understand what they read, and to answer questions on the subject matter of the reading lesson.

* Approximate, but no grant will be made for any child passing the 1st Standard who is over 12 years of age on the day of examination.

NEEDLEWORK.

I STANDARD	II STANDARD	III STANDARD	IV STANDARD	V STANDARD	VI STANDARD	VII STANDARD	VIII STANDARD
Threading Needles Hemming	Seaming or Sewing Felling	Stitching Sewing on strings. Patching calico garments.	Sewing on linen buttons. Stroking Gathering	Pleating Plain darning Button holing Fixing the work in a plain cotton shirt	Whipping Running tucks. Sewing on frills Setting in gathers Darning stockings	Herring-boning Fine darning Marking with cotton or silk.	Darning and patching fine linen, diaper, and calico Feather stitch Grafting Cutting out and fixing a plain garment
eg A plain pocket handkerchief	eg A child's pinafore	eg A pillow case or a plain chemise without bands or gathers	eg A plain night shirt	eg A plain day shirt	eg A night dress with frills	eg A cambric handkerchief	eg A plain shirt

PART III.

Regulations
20, 29, 33.

GRANTS.

I The sum of two dollars (\$2 00) shall be paid for every scholar over 7 and under 7 years of age, who, having been a scholar for over six months shall pass in the standard for infants' schools and classes in two subjects

II. A grant of \$1.25 shall be made for each pass in reading, writing or arithmetic, according to the standard in which the child is examined provided such child passes in at least two out of the said three subjects No grant will be made to any school which for two consecutive years fails to obtain 35 per cent of full passes at the annual examination in Reading, Writing and Arithmetic calculated on the number of children presented for examination in accordance with regulation 21

III. No grant will be paid for any scholar who fails in more than one subject

IV. Scholars who pass fully in reading, writing and arithmetic shall be eligible for examination in two of the subjects grammar, geography, agriculture and such other subjects as may be approved by the Governor-in-Council and shall be paid for at the rate of one dollar (\$1 00) for a pass in any one of those subjects The additional sum of one dollar (\$1 00) will be paid for every girl who, having passed in two of the three subjects first mentioned, passes also in needlework.

MERIT GRANTS.

V If at the expiration of any Financial Year the sum voted on the Annual Estimates for that Year in respect of "Grants to Primary Schools" has been only in part expended, the remainder may be divided as a Merit Grant among those Schools which are efficient in Discipline and Instruction, well supplied with Books, Slates, and School Apparatus and

conducted in commodious and well-ventilated buildings, and which contain more than 50 per cent. of full Passes in such proportions as shall, from time to time, be determined by the Governor-in-Council, and published in the Gazette

VI Twenty-five prizes of \$20 each shall be awarded annually in the month of March to the most efficient assistant teachers, sewing mistresses, and pupil teachers whose classes shall obtain not less than 90 per cent of full passes, preference being given to the largest classes and work in the highest standards. Not more than two prizes shall be awarded to the teachers in any one school.

PART VI

SYLLABUS OF SUBJECTS IN WHICH CANDIDATES FOR CERTIFICATES OF COMPETENCY WILL BE EXAMINED

THIRD CLASS CERTIFICATES.

- READING—To read with fluency, ease and expression.
- WRITING—To write a Paragraph from Dictation, neatly and correctly Copy Setting—
- ARITHMETIC—To work sums mentally Fractions, Decimals, Practice, Proportion, and Interest.
- GRAMMAR—The Elements of Grammar, including Parsing, Analysis of Sentences, and Shakespeare's "Merchant of Venice," with paraphrasing and questions on the subject matter
- SCHOOL MANAGEMENT—To answer questions on the Expedients of Instruction in the elementary subjects— (Gladman's School Method).
To answer questions on the Government Education Regulations.
The method of keeping School Registers.
- GEOGRAPHY AND HISTORY—LUCAS' Historical Geography of British Guiana, Trinidad, Barbados, and Jamaica.
- EUCLID AND ALGEBRA—(For Males only).
- AGRICULTURAL—(For Males only)—The elements of Tropical Agriculture
- NEEDLEWORK—(For Females only).—Plain Needlework, including Cutting Out
- DOMESTIC ECONOMY—(For Females only).—MANN'S Domestic Economy, pp 38 to 175. Special importance will be attached to the nature and action of food, and to the preparation of it
- EUCLID, BOOKS I. AND II.—Two hours will be allowed for the paper, which will consist of two parts. The first part will contain book work questions only, and will be collected at the expiration of an hour and a quarter, the second part will contain Easy Geometrical Exercises
- ALGEBRA—The Multiplication and Division of Algebraic quantities; Theory of Indices; Greatest Common Measure and Least Common Multiple; the Extraction of Square Root; Easy Equations.

SECOND CLASS CERTIFICATES

READING—Candidates will be expected to show proficiency in the higher qualities of good reading and to read with ease, fluency and accuracy long and involved sentences.

WRITING—To write a more difficult paragraph from Dictation neatly and correctly.

ARITHMETIC—The whole subject, including Mental Arithmetic, and Elementary Mensuration

HISTORY AND GEOGRAPHY—The Historical Geography of British Guiana and the British West Indies. To draw Maps from Memory of the more important Colonies (LUCAS.)

GRAMMAR—Parsing, Paraphrasing, Analysis of Sentences, Syntax, and to write plain prose on a given subject One of Shakespeare's Plays of which notice will be given at least one year before the examination. Questions on language, and subject matter

SCHOOL MANAGEMENT—To answer questions on the expedients of Instruction in Elementary subjects

To draw time tables for use in a school, under given conditions

To answer questions on the Government Education Regulations, and on the keeping of School Registers

EUCLID AND ALGEBRA—(For Males only)

EUCLID—BOOKS I, II, III—See requirements for Class III More difficult Geometrical Exercises

ALGEBRA—Same as for Class III, and the Solution of Quadratic Equations, and problems producing such equations, Ratio and Proportion, Progressions, Permutations and Combinations

AGRICULTURE—(Males)—Tropical Agriculture. The questions will at present be confined to the subjects treated in the Book on this subject published by the Government of Jamaica, and Blackie's Tropical Readers or other Books, of which due Notice will be given

DOMESTIC ECONOMY—(Females)—The whole subject as treated by Dr. MANN Questions will be asked on the making of poultices, nourishing Puddings, and teas for Invalids, the treatment of scalds and burns, &c, &c.

NEEDLEWORK—(Female)—Candidates will be required to show excellence in plain Needlework

N B.—Candidates must bring lead pencil, thimble and scissors

OPTIONAL SUBJECTS.

ALL CLASSES

MUSIC—(1) Notation in the Treble and Bass Clefs, Time, Accent, and the Major and Minor Scales

(2) To write down in correct time, short and simple passages played in the presence of the Candidate.

DRAWING—Any of the following exercises in any order, no candidate taking up more than three :—

- (1) Free hand from flat examples
- (2) Linear Geometry, with Instruments.
- (3) Linear Perspective.
- (4) Model Drawing.
- (5) Drawing on the Blackboard.

SCIENCE—Elementary Botany and Chemistry—Sanitary.

SCALE OF MARKS

	Full marks
READING * - - - -	100
WRITING * - - - -	100
ARITHMETIC* - - - -	150
GRAMMAR* - - - -	120
SCHOOL MANAGEMENT* - - - -	100
HISTORY AND GEOGRAPHY - - - -	100
EUCLID AND ALGEBRA - - - -	120
AGRICULTURE - - - -	60
MUSIC - - - -	60
DRAWING (20 for each subject) - - - -	60
DOMESTIC ECONOMY - - - -	100
NEEDLEWORK* - - - -	100
Total Males - - - -	970
Total Females - - - -	990

Minimum Marks for a Pass—

III. Class - - - -	450
II Class - - - -	500

Failure to obtain 30 per cent. in the Subjects marked * excludes a candidate from a Certificate

No value will be given to Papers for Second and Third Classes marked below 40 and 35 per cent. respectively

PART VII.

EDUCATION DEPARTMENT, BRITISH GUIANA.

GRANT-IN-AID SCHOOLS.

PUPIL TEACHER'S CERTIFICATE

Date 19

SIR,—I have the honour to inform you that I have this day nominated as Pupil Teacher in the School, believing to be well qualified for the office in respect of health, character, habits, and parentage.

I further certify that passed the VI. Standard in
 Reading, Writing, Arithmetic, Grammar, and Geography, and at an Examination held at School on the day of , 19

I am, Sir,

Your obedient Servant,

Manager.

Registered this

day of

19 - No.
Inspector of Schools.

PART VIII.

Reg. 63 & 64.

PUPIL TEACHERS' EXAMINATION.

READING

For Admission.	To read fluently and correctly a passage of prose from a fifth reading book.
End of First Year.	As above, from any book or newspaper
End of Second Year	As above, and to repeat 40 consecutive lines of poetry.
End of Third Year.	As above, and to repeat 60 consecutive lines of poetry or prose
End of Fourth Year.	Vide Requirements for Teachers' Certificates, Class III.

WRITING.

For Admission	To write from Dictation a passage from a fifth reading book.
End of First Year	A more difficult piece from a newspaper
End of Second Year	A still more difficult paragraph --Narrative Composition.
End of Third Year	A short Essay
End of Fourth Year.	Vide requirements for Teachers' Certificates, Class III.

ARITHMETIC, &c

For Admission.	To work sums in the Compound Rules, Money, Colonial and English, and Weights and Measures.
End of First Year.	Vide requirements for Standard VII
End of Second Year.	Vide requirements for Standard VIII
End of Third Year	The same with increased proficiency (Males--Euclid, Book 1, Propositions 1 to 15 Algebra to Division.)
End of Fourth Year	Vide requirements for Teachers' Certificates, Class III

ENGLISH GRAMMAR.

For Admission	Definitions, and to tell the parts of speech in a simple sentence.
End of First Year.	The inflections of words. Simple parsing
End of Second Year	More difficult parsing The analysis of Sentences.
End of Third Year.	More difficult Analysis and easy paraphrasing.
End of Fourth Year	Vide requirements for Teachers' Certificates, Class III.

GEOGRAPHY.

For Admission.	Geographical Definitions. British Guiana
End of First Year.	British Guiana in detail. The West Indies--(British)
End of Second Year.	The British Empire.
End of Third Year.	The same, with increased proficiency. Maps.
End of Fourth Year.	Vide requirements for Teachers' Certificates, Class III.

TEACHING.

At the end of the Second Year, Pupil Teachers will be required to teach a class to the satisfaction of the Inspector. Each subsequent year he will be required to show increased proficiency, and to satisfy the Inspector of his power to conduct a school.

NEEDLEWORK.

V STANDARD.	VI STANDARD.	VII STANDARD.	VIII STANDARD
Pleating Plain darning. Button holing Fixing the work in a plain cotton shirt.	Whipping Running tucks. Sewing on frills. Setting in gathers Darning stockings.	Herringboning Fine darning. Marking with cotton or silk.	Darning and patching fine linen, diaper, and calico. Feather stitch. Grafting. Cutting out and fixing a plain garment.
e.g. A plain day shirt	e.g. A night dress, with frills.	e.g. A cambric handkerchief	e.g. A plain shirt

AGRICULTURE, &c.

End of Second Year Blackie's Tropical Reader, part I

End of Third Year. Blackie's Tropical Reader, part II.

End of Fourth Year. Vide requirements for III. Class Certificates.

During the Fifth Year Pupil Teachers will be required to attend a course of Lectures on Chemistry and Botany, and to pass the examination held in connection therewith

APPENDIX C.

AN ORDINANCE (1900) TO AMEND THE ELEMENTARY EDUCATION ORDINANCE, 1876

Be it enacted by the Governor of British Guiana, with the advice and consent of the Court of Policy thereof, as follows —

1 This Ordinance may be cited as the Elementary Education Ordinance, 1876, Amendment Ordinance, 1900 Short title

2 The Elementary Education Ordinance, 1876, (hereinafter referred to as the Principal Ordinance), and this Ordinance shall be construed together as one Ordinance Construction

3 In Section 2 of the principal Ordinance the following provisions shall be inserted, namely — Interpretation of term

“Authorised person” means any person who, under this Ordinance has, and is entrusted with the same rights, powers, privileges, and functions as an educational district officer,

“Prescribed” means prescribed by any Regulations made under this Ordinance

And the following definitions, namely, —

“Aided School” means an elementary school, the managers of which receive any grant-in-aid from the colonial revenues,

“Colonial School” means an elementary school established by the Inspector of Schools and maintained from the colonial revenues,

“Industrial School” means any elementary school in which theoretic and practical instruction in agriculture or in any trade or trades, or in both is given and which is recognised under the regulations as an Industrial School,

are hereby substituted for the definitions of “Public Elementary School,” “Colonial School,” “Industrial School” and “Day Industrial School,” in that section given

4 In Section 7 (1) and Section 8 of the principal Ordinance the words “or pupils” are hereby inserted after the words “the children,” and the words “as Teacher or otherwise,” after the words “immoral conduct” wherever appearing in those sections Amendment of Sec 7 (1) and Sec 8 of Ord 3 of 1876.

5 The following sub-section shall be added to Section 10 of the principal Ordinance — Amendment of Sec 10 of Ord 3 of 1876

(3) Every member of the Combined Court, Minister of Religion, Justice of the Peace, Inspector of Schools, Assistant Inspector of Schools, School Manager, Certificated principal Teacher of a school authorised by writing by the manager of his school. Member of any Town or Village Council, Commissary of Taxation, Government Officer appointed under the Crown Lands Ordinance, 1887, or the Mining Ordinance, 1887, member of the Police Force, or person authorised by the Governor shall have and may exercise all the rights, powers, privileges and functions vested in an Educational District Officer by the Principal Ordinance provided always that no Police Constable shall have and exercise the powers given to an Educational District Officer by Section 15 or Section 52 of the Principal Ordinance unless authorised or empowered as therein mentioned and provided also that nothing herein contained shall impose on any person hereinbefore specified the duties imposed on Educational District Officers by Section 11 of the principal Ordinance.

6 In Section 14 (1) of the Principal Ordinance, the words “if such parent has previously been warned without effect to provide such instruction” are hereby inserted after the words “district officer may” Amendment of Sec 14 (1) of Ord 3 of 1876.

7 In Section 15 of the principal Ordinance, in sub-section (1) the words “elementary school other than a Industrial School” are hereby substituted for the words “Public Elementary School”, and in sub-section (3) the Amendment of Sec 15 (3) of Ord 3 of 1876

words "the person taking the child into custody" are hereby substituted for the words "Educational District Officer."

Amendment of Sec 24 (3) of Ord. 3 of 1876. 8 In Section 24 (3) of the Principal Ordinance the words "the person enquiring into the matter" are hereby substituted for the words "Educational District Officer"

Industrial Schools

Teacher's power of detention over children 9 Every child required to attend or sent by his parent to an industrial school may be detained by the teacher during such hours as may be prescribed

Employment of children 10 — (1) Every child attending an industrial school may be employed in the vicinity of such school during prescribed hours in agricultural pursuits on any plantation or lands or in any workshop. Provided always that the full value of any labour performed by a child after deducting the cost of the instruction and of the food (if any) supplied at the cost of the school to such child shall be paid to the parent of or secured for such child.

(2) The amount that may be deducted for such cost shall be fixed by the Inspector of Schools

Provision for children required to attend School for part only of a day 11 Provision shall be made at every industrial school for allowing children who are only required to attend an elementary school for two and a half hours in the day to receive instruction in elementary education in such school without becoming subject to the industrial training at such school.

Execution of order requiring child to be sent to school 12. Every child ordered by a Stipendiary Magistrate to be sent to an industrial school may at any time, while the order continues in force, be taken to the industrial school named in the order by an Educational District Officer or authorised person, or by any person authorised in writing by an Educational District Officer or authorised person.

Powers of Stipendiary Magistrate under Ord. 1 of 1852. 13 Nothing in this or the principal Ordinance shall affect the power and jurisdiction of any Stipendiary Magistrate under the Industrial and Reformatory Schools Ordinance, 1852, and in any case coming before a Stipendiary Magistrate under Section 15 or 16 of this Ordinance, such Magistrate may, in lieu of dealing with the case thereunder, order the child to be sent to the industrial school mentioned in the said Ordinance as if the case had arisen under and was expressly provided for by that Ordinance, and its provisions shall apply to every such order and to any child and the parent and father (as in this Ordinance defined) of any child sent to such school under such order.

Amendment of sections 35 and 41 (3) of Ord. 3 of 1876. 14 In Sections 35 and 41 (3) of the Principal Ordinance, the words "aided school" are hereby substituted for the words "Public Elementary School."

15. Section 37 of the Principal Ordinance is hereby repealed and the following substituted therefor —

Payment and application of school fees 37 — (1) Every parent of a pupil who attends an aided school or a colonial school, after he has ceased to be a child or has passed the prescribed fourth standard, shall be bound to pay to the teacher of such school for every week in which such pupil attends the school, a school fee not exceeding such sum as may be prescribed.

(2) All school fees must be paid not later than during the week next following the week in respect of which the same may have become payable.

(3) All school fees shall be applied for the maintenance of the school.

Amendment of Sec 41 (1) of Ord. 3 of 1876. 16. In Section 41 (1) of the Principal Ordinance, the words "or if in any district the Governor-in-Council on economical or other grounds direct him to do so" are hereby inserted before the words "the Inspector of Schools."

Amendment of Sec. 42 (2) of Ord. 3 of 1876. 17. In Section 42 (2) of the Principal Ordinance, the words "or entitled" are hereby inserted after the words "proprietor shall be compelled,"

18. In Section 46 of the Principal Ordinance, the words "the Inspector of Schools, every person authorised in writing by him and" are hereby inserted before the words "every Educational District Officer"

Amend
of Sec 4
Ord. 3 of

19. Any school fee or any sum payable under Section 21 of this Ordinance which is due and unpaid may be sued for and recovered in any Court of competent jurisdiction by the manager of the school or any teacher authorised in writing by such manager to recover it, or in the case of a colonial school by the Inspector of Schools or any one authorised in writing by him, and shall in all Courts be deemed a debt due to the person suing, by the parent

Recover
school fe
&c

20. In Section 51 of the Principal Ordinance, the words "in proceedings other than those taken for the recovery of school fees" are hereby inserted after the words "Plaintiff or"

Amend
of Sec .
Ord 3 of
1876

21 —(1) If a child whose name is on the register of any school and who has not passed the prescribed fourth Standard (a) is absent from the prescribed annual examination, or (b) is not a pupil of such school for the prescribed period, before such examination, or (c) does not make the prescribed number of attendances before it, and also fails in any of such cases to pass such examination in the standard in which children of his age are usually examined, the parent of such child shall in the absence of any reasonable excuse, be liable to pay to the manager of such school within two months after the date of the examination, a sum equal to the grant which would have been made to such school in respect of such child if such child had passed the examination. Provided always that no liability shall be incurred under this sub-section unless the parent of such child has a reasonable time before such examination been warned of the liability he is incurring hereunder

Liabilit
parent
child do
not atte
examina.
&c

(2) Any return or certificate purporting to be signed by the Inspector of Schools and to state the absence of any such child from or the failure of any such child to pass the prescribed examination shall be *prima facie* evidence thereof.

22. The words "or authorised person" are hereby inserted after the words "educational district officer," wherever such words occur in Sections 12, 14, 15, 16, 22, 24, and 52, and in Forms No 2, No. 3, No 4, No 6, and No. 7 of the Principal Ordinance

Insertio
words
" autho
person"
in speci
parts of
3 of 187

23. The words "aided school or colonial school" are hereby substituted for the words "Public Elementary School or any Day Industrial School" in Section 14 (2) (a) and Section 23 (1) of the Principal Ordinance

Amend
of Sect
and 23
Ord. 3
1876.

24. The words "to sue for and recover the school fees hereina required to be paid and" in Section 11 (4): the words "or to a Day Industrial School" in Section 15 (2) (b) and in Section 16 (1) (a) and (b): Sections 27 to 33 (both inclusive), 38, 39, 40, 48, 50, of the Principal Ordinance and Form No. 11 the words "or be sent to the Day Industrial School at" in Form No 5, and the words "or to the Day Industrial School at" in the note to Form No 7, in the schedule to the same Ordinance, are hereby repealed

Repeal

25. If the principal Ordinance is at any time reprinted under the authority of the Government, it shall be reprinted as amended by this Ordinance, and it shall be lawful to insert therein the additional sections hereby enacted in such places as may be deemed by the Government most suitable and to renumber, if necessary, all or any of the sections of the Principal Ordinance.

Reprin
authority
of Prin
Ordina

26. Any regulations in force at the commencement of this Ordinance shall have effect as if enacted immediately after such commencement.

Applic
to Reg
tions.

THE
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THE TEACHING OF AGRICULTURE IN ELEMENTARY AND HIGHER SCHOOLS IN THE WEST INDIES

In an interesting paper on *Agricultural Education in Greater Britain*, read before the Society of Arts on February 27, 1900,* Mr. Hedger Wallace arrives at the conclusion that "throughout Greater Britain, irrespective of climatic, racial, and political divergencies, there is a universal movement to give all interested in the culture of land every opportunity, facility, and assistance possible to improve themselves, their art and craft, and the land and its produce"

In the developments which have taken place in this direction during recent years few, if any, are more important and interesting than that which has resulted from the Report of the West India Royal Commission (Sir H. W. Norman, Sir E. Grey, and Sir D. Barbour), published in 1897 †

The Commissioners observed that while it was possible that no industry or series of industries could be introduced into the West Indies which would ever completely take the place of sugar, and certainly that no such results would be attained within the space of a few years, they regarded it as being of the utmost importance that no time should be lost in making a beginning of substituting other industries for the cultivation of the sugar-cane. They unanimously recommended *inter alia* .—

- (1) The settlement of the labouring population on small plots of land as peasant proprietors
- (2) The establishment of minor agricultural industries and the improvement of the system of cultivation, especially in the case of small proprietors
- (3) The improvement of the means of communication between the different islands, and
- (4) The encouragement of a trade in fruit with New York and, possibly, at a future time, with London.

On the subject of a system of peasant proprietors, the Commissioners remarked as follows —

"If the sugar estates are thrown out of cultivation, it is extremely improbable, and, in fact, it may be stated to be impossible, that any industry to be conducted on large estates can ever completely take its place, we have therefore no choice but to consider how means can be found

Extracts
from Report
—A System
of Peasant
Proprietors

* Printed in the *Journal of the Society of Arts*, March 9, 1900, for a "Supplementary Note" see the same Journal for July 13, 1900.

† Cd. 8655, 2s. 8d.

to enable the mass of the population to support themselves in other ways than as labourers on estates: If work cannot be found for the labouring population on estates, they must either emigrate or support themselves by cultivating small plots of land on their own account. No large industry, other than agriculture, offers any prospect of success, except possibly the gold industry in British Guiana, and when large estates cannot be profitably worked the adoption of the system of cultivation by petty proprietors is inevitable.

"The labouring population in the West Indies is mainly of negro blood, but there is also, in some of the Colonies, a strong body of East Indian immigrants, and the descendants of such immigrants. The negro is an efficient labourer, especially when he receives good wages. He is disinclined to continuous labour, extending over a long period of time, and he is often unwilling to work if the wages offered are low, though there may be no prospect of his getting higher wages from any other employer. He is fond of display, open-handed, careless as to the future, ordinarily good humoured, but excitable and difficult to manage, especially in large numbers, when his temper is aroused.

"The East Indian immigrant, ordinarily known as the coolie, is not so strong a workman, but he is a steadier and more reliable labourer. He is economical in his habits, is fond of saving money, and will turn his hand to anything by which he can improve his position.

"The cultivation of the sugar-cane has been almost entirely carried on in the past on large estates, but both the negro and the coolie like to own small patches of land by which they may make their livelihood, and take a pride in their position as landholders, though in some cases they also labour at times on the larger estates, and are generally glad to have the opportunity of earning money occasionally by working on such estates, and on the construction and maintenance of roads and other public works. The existence of a class of small proprietors among the population is a source of both economic and political strength.

"The settlement of the labourer on the land has not, as a rule, been viewed with favour in the past by the persons interested in sugar estates. What suited them best was a large supply of labourers, entirely dependent on being able to find work on the estates, and, consequently, subject to their control and willing to work at low rates of wages. But it seems to us that no reform affords so good a prospect for the permanent welfare in the future of the West Indies as the settlement of the labouring population on the land as small peasant proprietors; and in many places this is the only means by which the population can in future be supported. The drawbacks to the system of peasant proprietors have hitherto been their want of knowledge and care in cultivation, and the habit of what is called prædial larceny. The latter term is applied to the theft of growing crops, which is said to be very prevalent. We do not believe it will disappear until such practices are universally condemned by native public opinion, which, unfortunately, does not appear to be the case at present, and in the meantime each Colony must deal with the question as may seem best. The small proprietors show some desire to improve their modes of cultivation, and we shall have some suggestions to make on this subject.

"But whilst we think that the Governments of the different Colonies should exert themselves in the direction of facilitating the settlement of the labouring population on the land, we see no objection to the system of large estates when they can be maintained under natural economic conditions. On the contrary, we are convinced that in many places they afford the best, and, sometimes, the only profitable means of cultivating certain products, and that it is not impossible for the two systems, of large estates and peasant holdings, to exist side by side with mutual advantage."

* * * * *

The Commissioners then proceed to make the following proposal for the establishment of a Department of Economic Botany in the West Indies, at the expense of the Imperial Exchequer, and in connexion with that proposal to suggest

certain changes in the course of education in the public schools of the Islands

“ Establishment of a Department of Economic Botany in the West Indies.

“The practical work of cultivating new products must be left in the hands of private persons, whether owners of large estates or peasant proprietors, but there are certain directions in which assistance can be given by the State

“Your Majesty’s West Indian possessions are, as a rule, not of large extent, and some of them, though possessing separate administrative and financial systems, are of very limited area. Communication between them is difficult, and with the outside world it is both tedious and expensive. The persons engaged in cultivation suffer from this state of isolation, and are often without any information as to what is being done elsewhere. The cultivator of one product is often quite ignorant of the best means of cultivating any other, and does not know whether his soil and climate might be better adapted for something else. These remarks have special reference to the small cultivators, but they are not wholly inapplicable to persons interested in the larger estates

“The botanical establishments in the larger Colonies, such as Jamaica, Trinidad, and British Guiana, have already rendered considerable assistance in improving agricultural industries, and they are capable of being made increasingly useful in this respect. In the Windward and Leeward Islands and Barbados, small establishments called botanic stations were established a few years ago on the advice of the director of Kew Gardens, and the results, though not yet extensive, have been of a distinctly promising character. It is evident that to grapple with the present circumstances, there is required for the smaller islands a special public department capable of dealing with all questions connected with economic plants suitable for growth in tropical countries, and we recommend the establishment of such a department, under which should be placed the various botanic stations already in existence. These stations should be enlarged in their scope and character, and be organised on the lines found so successful in Jamaica. In the latter Colony it is admitted that intelligent and progressive action in the direction of encouraging a diversity of industries has produced most satisfactory results. To achieve this result has, however, taken more than 20 years of persistent effort, and the Government has spent more than £100,000 during that period on its botanical establishments. The department has distributed seeds and plants at nominal prices by means of the post office, Government railways, and coastal steam service, it has supplied information orally or by means of bulletins, regarding the cultivation of economic plants, and has encouraged the careful preparation of the produce by sending agricultural instructors on tour through the island to give lectures, demonstrations, and advice

“The special department recommended for carrying on similar work in the Windward and Leeward Islands should be under the charge of a competent Imperial officer, whose duty it would be to advise the Governors in regard to all matters affecting the agricultural development of the islands. He would take part in consultations with the object of improving agricultural teaching in colleges and schools, and of training students in agricultural pursuits, and would attend to the preparation of suitable literature on agricultural subjects. The existing botanic stations should be placed under his supervision, and the charge of maintaining them transferred to Imperial funds. Each botanic station would be actively engaged in the introduction and improvement of economic plants, and in propagating and distributing them throughout the island. It would carry out the experimental cultivation of new plants to serve as an object-lesson to cultivators, and it would be prepared to give the latest information to inquirers regarding economic products, and to provide suitable means as agricultural instructors. To effect all this will require funds entirely beyond the present resources of the smaller islands. We are, therefore, of opinion that as the necessity for such a department is urgent, the cost should be borne by the Imperial Exchequer.

"The promising experimental work connected with raising new varieties of canes, and increasing the production of sugar by the use of manures and other means, should receive special attention. The cost of some of this work would be a legitimate portion of the charge above stated. The chief experiments might be carried on as hitherto by the officers in charge of them in British Guiana, Barbados, and Antigua, but continued and extended, if found desirable, in Trinidad and Jamaica. In addition, the botanic stations in the Leeward and Windward Islands would maintain nurseries for the introduction of all new and promising canes, and would undertake the distributing them within their respective spheres of action. [The Commissioners then refer to Dr. Morris' Memorandum, as printed below]

"In dealing with the question of introducing new industries into the West Indian Colonies, or of extending existing industries, it must be borne in mind that for many of the special products of the West Indies there is only a limited demand. There is, for example, a comparatively large market for coffee, but not for such products as arrowroot or nutmegs, and if they were extensively grown in a number of the Islands they would soon cease to command a remunerative price. This has actually happened in the case of arrowroot

Education.—Elementary, Agricultural, and Industrial.

"In the course of our stay in the West Indies our attention was frequently called to the question of the progress of general education, and we obtained a considerable amount of information on this subject. There has been a marked increase of expenditure on this account in recent years, and, no doubt, the efforts made for the extension of education have been largely successful. The total expenditure on education amounted to about £95,000 in 1882, and to nearly £180,000 in 1896, showing an increase of about 90 per cent. It may be hoped that in Jamaica and Grenada, and probably in Trinidad also, it will not be found necessary, on financial grounds, to curtail this expenditure, but if the sugar industry fails in British Guiana and in the islands not mentioned above, the revenue may be quite unequal to the maintenance of the whole of the existing schools.

"At the present time a system of training in agricultural occupation is much needed. We think that some, at least, of the botanic stations should have agricultural schools attached to them, where the best means of cultivating tropical plants would be taught, and if elementary training in agriculture were made a part of the course of education in the public schools generally, the Botanic Department would be in a position to render valuable assistance

"Agriculture, in one form or another, must always be the chief and the only great industry in the West Indies, but a system of training in other industrial occupations, on a limited scale, is desirable, and would be beneficial to the community."

Extracts
from Subsidiary Report

Appended to the Commissioners' Report was a subsidiary report by Dr. Morris, C.M.G. (at that time Assistant-Director of the Royal Gardens, Kew, and now Imperial Commissioner of Agriculture for the West Indies) Dr. Morris's report comprised the following

SCHEME FOR THE ESTABLISHMENT OF A DEPARTMENT OF ECONOMIC BOTANY AND FOR AGRICULTURAL INSTRUCTION IN THE WEST INDIES

At the request of the Chairman the following scheme has been prepared for the special public department suggested by the Commission for developing the resources of the Leeward and Windward Islands and Tobago, and for affording assistance to the experimental cane cultivation to be carried on, in continuance of present efforts, in British Guiana, Barbados, and Antigua,

It is understood that concurrently with the working of this scheme steps will be taken by the Government in each island to open roads, to settle the people on the land, and provide facilities for delivering produce at the nearest shipping ports.

It is farther understood that a subsidy will be granted by the Imperial Government—(1) to establish direct steam communication (weekly or fortnightly as required) between Dominica and St Vincent and New York, and (2) for cheap and regular steam communication by means of two or more small steamers between the several members of the Leeward and Windward groups, connecting with each other, and with the New York steamers, at a central point such as Barbados or St Lucia.

It would be desirable to arrange for such tariffs by these steamers as would afford facilities for the conveyance of produce at specially low rates of payment, and supply a ready and convenient means of moving from one island to another to all classes of the community*.

The probable amount of the subsidies required would be £5,000 for the service to New York, and £1,800 to £2,500 each for the local steamers; £10,000 should be sufficient for both services.

It may be pointed out that the islands under consideration form an extended chain, the component parts of which are divided by intervals of sea varying from 20 to 100 miles across. They extend, in fact, north and south over seven degrees of latitude and form the eastern boundary of the Caribbean Sea. The extreme points are distant seven days by the route taken at present by the Royal Mail Company's steamers, which require a detention of two days and nights at Barbados.

The duties to be entrusted to the proposed department have been described in the report as follows—(1) to supervise and extend the work of the present botanic stations, (2) to start industrial schools for training boys in agricultural pursuits, (3) to encourage the theoretical (and to some slight extent the practical) teaching of agriculture in elementary schools, (4) to promote the teaching of scientific agriculture in colleges and schools, (5) to organise horticultural shows and exhibitions of implements and machinery suitable for cultivating and curing tropical products, and (6) to prepare bulletins, leaflets, and other literature on subjects suitable for cultivation in the West Indies.

The duties devolving on the botanic stations may be more fully described. They are to devote themselves in a systematic manner to the work of introducing, propagating, and distributing all the promising economic plants of the tropics, they are to initiate the experimental cultivation of new or little known plants, and assist in the efforts made in the larger colonies to secure improved varieties of the sugar cane. They are to act as centres for diffusing accurate information, and as training institutions for the practical teaching of tropical agriculture, also as the headquarters from which agricultural instructors would be sent to give lectures and demonstrations bearing upon the selection of land for tropical economic plants, their suitable cultivation, and the best methods for curing and packing the produce.

No provision is made in this scheme for the purchase of land or for buildings required, as these might be provided by the local governments in lieu of continuing the present payments to the botanic stations. It is desirable that the funds contributed by the Imperial Government should be wholly devoted to the efficient working of the department, and not to establishing gardens or erecting permanent structures.

ADMINISTRATION.

It is recommended by the Commission that "a competent Imperial officer" be appointed to take charge of the department, whose duty, briefly

* The Royal Mail Company might also be asked to afford special facilities for the conveyance of bulletins, seeds, and economic plants between all parts of the West Indies. In fact such articles should be carried free of charge when exchanged between the several botanic gardens for the purpose of improving the general welfare of these Colonies.

stated, would be to develop the agricultural resources of the Windward and Leeward Islands and Barbados

It has been suggested that this officer should act under the direct authority of the Secretary of State, and should locally administer and be responsible for all the funds contributed by the Imperial Government. The most convenient headquarters in every way would be Barbados.

This scheme might be submitted beforehand, and receive the careful consideration of the several governments concerned, but when the general policy has been settled it should be understood that all administrative details, and the charge of all the existing and any further botanic stations established in the Windward and Leeward Islands, are left entirely in the hands of the Imperial officer, who might also act, as occasion required, as consulting authority to the other Colonies

It is an essential part of the scheme now set forth that it should be consistently carried out for a period of ten years at least.

<i>Head Office</i>		£
*Chief officer - - - - -		1,000
†Travelling superintendent - - - - -		400
Clerk - - - - -		200
Travelling and office expenses - - - - -		600
Total - - - - -		2,200

TOBAGO

The Commissioners state that "it is desirable that a botanic station be established at Tobago subordinate to the Botanic Department at Trinidad, and having for its object the attainment of the same end." The island is too poor to support such a station itself, and it is very improbable that Trinidad, at present at least, will be prepared to assist it. The only alternative is to include it under the present scheme. The supervision might very well be left to the Superintendent of the Trinidad Department. The grant proposed might be expended as follows —

<i>Botanic Station, Tobago.</i>		£
Curator, £150-£200 - - - - -		200
Agricultural Instructor, £70-£100 - - - - -		100
Foreman - - - - -		50
8 labourers, £15 - - - - -		120
Tools, manure, &c - - - - -		30
		500
† for 6 labourers, £15 - - - - -		90
3 students, £10 - - - - -		30

GRENADA.

The present Botanic Garden, with the limited means at its command, does useful work, but, in accordance with the recommendation of the Commission, "this work should be extended and the station held respon-

* The Director of the Botanical Department in Jamaica receives salary and emoluments of £800 a year, the Government analytical chemist at British Guiana receives £1,000 a year

† To complete one visit of inspection through all the islands, staying a fortnight in each one, would occupy about four months. It is, therefore, essential to have the services of a superintendent to assist in organising the various agencies, and to be in charge of the head office when the chief officer is on tour.

sible for agricultural instruction, for the introduction and experimental cultivation of tropical plants of economic importance." Provision is suggested for additional land to be placed under experimental cultivation, for the employment of an agricultural instructor, and for the training of students. The latter are to be boys selected from the elementary schools and given a small weekly sum (in fact, a scholarship) to support them while being trained at the Garden. The full course should be for five years. Some assistance might be given from Grenada to the Island of Carriacou as indicated in the report on that island.

The details of the vote are as follows

<i>Botanic Station, Grenada</i>		£
Curator	-	200
Agricultural Instructor, £130-£150	-	150
Travelling and house allowance	-	70
Foreman	-	70
10 labourers, £15	-	150
4 students, £10	-	40
Tools, plants, &c.	-	50
		730

ST VINCENT

This island and Dominica require not only immediate assistance to prevent the people from becoming absolutely destitute, but, they promise to be more readily rescued from this condition by establishing a trade in bananas and other fruit with New York. This subject has been already dealt with in the preceding report. It is proposed to employ two agricultural instructors, to increase the number of students to six, and start in each island an industrial school to train 25 boys in agricultural pursuits. These boys are not to be criminals, but those placed under training by the consent of their parents, or orphans, and destitute children. The estimated cost of the industrial schools proposed in this scheme is based on the working of the successful reformatory schools now existing in Barbados and Antigua. No provision is made for buildings. These may be loaned from the local governments. The total grant of £1,500 is proposed to be expended as follows:

<i>Botanic Station and Industrial School, St Vincent.</i>		£
Curator	-	200
2 agricultural instructors, £150	-	300
Travelling allowances	-	80
1 foreman	-	70
1 foreman	-	60
12 labourers, £15	-	180
6 students, £10	-	60
Tools, manure, &c.	-	50
		1,000
Industrial School	-	500
		1,500

ST. LUCIA.

It is stated in the Commissioners' report that "more suitable land for the purpose of experimental cultivation in connexion with the botanic station is very much required." The Local Government might assist in providing the land and the necessary buildings. St. Lucia offers an excellent field for the development of minor industries. Everything

hitherto has been stopped by want of means. The grant proposed may be applied as follows:—

Botanic Station and Industrial School, St. Lucia.

	£
Curator - - - - -	200
Agricultural instructor, £130-£150 - - - - -	150
Travelling and house allowance - - - - -	70
Foreman - - - - -	70
10 labourers, £15 - - - - -	150
4 students - - - - -	40
Tools, plants, &c. - - - - -	50
	730
Industrial School - - - - -	500
	1,230

BARBADOS.

Provision is suggested for maintaining two experimental stations for sugar-cane cultivation at Barbados, one at Dodds, and the other on the highlands in the ratooning districts of the island. The complete dependence of this colony on sugar renders it necessary to devote special attention to the raising of new canes and in improving their saccharine contents. The officers in charge of the present experiments, or others selected for the purpose, should give their whole time to the work, regularly visit the estates, and publish information at frequent intervals. The detailed working of these stations might be arranged after consultation with the Government of Barbados. The contribution of £20 per annum hitherto made by the botanic station at Barbados to the Jamaica Gardens would cease under the working of this scheme.

Botanic Station and Experimental Cane Cultivation at Barbados, £1,500.

DOMINICA.

Remarks on this vote have already been given under St. Vincent. The details are here repeated.

Botanic Station and Industrial School at Dominica.

	£
Curator - - - - -	200
2 agricultural instructors, £150 - - - - -	300
Travelling allowance - - - - -	80
1 foreman - - - - -	70
1 foreman - - - - -	60
12 labourers, £15 - - - - -	180
6 students, £10 - - - - -	60
Tools, manure, &c. - - - - -	50
	1,000
Industrial School - - - - -	500
	1,500

MONTSEERRAT.

The station established in this island in 1890 was abandoned for want of funds to carry it on. An agricultural instructor is much needed to visit and encourage the peasants (in case shipping facilities are provided) in the cultivation of fruit and other products for export. For training boys in agriculture, arrangements might be made with Antigua. This vote is arranged on the same lines as that for Tobago, where the circumstances are very similar.

Botanic Station at Montserrat

	£
Curator, £150-£200	200
Agricultural instructor, £70-£100	100
Foreman	50
*8 labourers, £15	120
Tools, manure, &c	30
	<hr style="width: 100%; border: 0.5px solid black;"/>
	500
	<hr style="width: 100%; border: 0.5px solid black;"/>
* or 6 labourers	90
3 students	30
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ANTIGUA

The chief and practically only interest in this island is sugar. Hence it is proposed to provide for systematic experiments in raising new varieties of cane, and in improving the cultivation by the use of manures and other means, as in Barbados and British Guiana. The Botanic Station should co-operate in this work and also endeavour to improve the pine-apple and any other minor industry that offers hope of success. There is already a good industrial school at Antigua which should be maintained on its present lines.

Botanic Station and Sugar Cane Experiments at Antigua

	£
Botanic station	450
Sugar cane experiments	550
	<hr style="width: 100%; border: 0.5px solid black;"/>
	1,000

ST. KITTS-NEVIS.

The same organisation is suggested in St. Kitts-Nevis as in Antigua with the addition of an industrial school and an agricultural instructor. The latter should devote special attention to the peasant proprietors at Nevis.

St. Kitts-Nevis

	£
Curator, £150-£200	200
Agricultural instructor	70
6 labourers, £15	90
3 students, £10	30
Manure, tools, &c.	50
	<hr style="width: 100%; border: 0.5px solid black;"/>
	440
Sugar cane experiments	300
Industrial school	500
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	1,240

SUMMARY.

Botanic Stations and Industrial Schools.

	£
Tobago	500
Grenada	730
St. Vincent	1,500
St. Lucia	1,230
Barbados	1,500
Dominica	1,500
Montserrat	500
Antigua	1,000
St. Kitts-Nevis	1,240
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	9,700

BRITISH GUIANA.

The important character of the investigations carried on by Messrs. Harrison and Jenman in raising and testing new varieties of canes has already been noticed. There is such good promise of success that it would be a calamity if these experiments are not continued on the present lines. It is suggested to make a special provision for these investigations and to leave the detailed arrangements to be settled after consultation with the Government of British Guiana.

Sugar cane experiments in British Guiana - - £1,000

HORTICULTURAL SHOWS.

These shows are suggested as effective means of bringing into prominence the resources of the islands and of creating an intelligent interest in improving the cultivation of the soil and in prosecuting new industries. The funds set apart for this purpose would be chiefly spent in bringing together implements of field and garden husbandry, in explaining the construction and mode of working of suitable machinery for cleaning and curing produce, and in exhibiting samples of produce skilfully selected and packed for export purposes. One or two shows might be held annually in each island co-operating with any local efforts made in the same direction.

Grant - - - - - £500

GRANTS TO ELEMENTARY SCHOOLS.

Following the example set by the Education Department in Jamaica, it is proposed to make small grants in aid in two classes, (A) to schools in which the theory of agriculture is satisfactorily taught, and (B) a slightly increased grant in cases where in addition to the teaching of the theory of agriculture school gardens or experimental plots are maintained by the efforts of the teachers and scholars. The amount of the grant proposed for each school in Class A would be from £1 to £3; in Class B from £2 to £5, depending in each case on the number of children who reach a satisfactory standard of attainments. For the first year or two the total amount of these grants would necessarily be very small, as the chief outlay would consist of expenses incurred in giving instruction to and in training the teachers.

Grants - - - - - £500

BULLETINS, LEAFLETS, &c.

Bulletins, such as are now issued by the Botanical Institutions in the West Indies, are regarded as indispensable means for reaching the more intelligent members of the community and of diffusing amongst them accurate information in regard to tropical products. The leaflets proposed in addition would be distributed amongst the labouring classes after lectures and demonstrations by the agricultural instructors, and copies would be supplied free to magistrates, medical and government officers, clergy, police officers, and all persons having influence with or coming into contact with the peasantry. The leaflets would contain hints, expressed in simple and clear language, on the treatment of the soil and plants, and worded so as to be used for dictation lessons in the higher classes in elementary schools. Readers would be prepared for use in elementary and industrial schools dealing with the familiar plants of the tropics.

Grant - - - - - £500

GRANTS TO COLLEGES AND SCHOOLS.

There are no institutions existing at present in any part of the West Indies where the scientific teaching of Agriculture is carried on. All the better class of students attending the higher schools turn their attention either to the learned professions or to Government clerkships, while the better paid appointments connected with agriculture are filled from outside

or by a small number of local men who by hard plodding and the slow teaching of practical experience have qualified themselves to undertake charge of plantations. These local men are useful but they have had no scientific training, and necessarily, from their position, are restricted not only in their capability of realising the progress made in other countries, but of adapting such progress to their own circumstances. Unless brought up on family estates, agriculture is seldom regarded as a suitable career by young men in the West Indies; in fact they avoid it as much as possible, and their example is unfortunately followed by the better class of peasant proprietors, who prefer to educate their children for positions as clerks or as assistants in stores to any work connected with agriculture. A long period must elapse before there is a considerable change in this respect, but in certain colonies such as Barbados, Jamaica, Trinidad, and British Guiana, where there exist colleges and schools of high standing, it is very desirable to make provision for the higher agricultural education necessary to instruct those who may afterwards become managers and proprietors of estates, and fit them for availing themselves of the results of modern advances in improving local agriculture. The teaching and training given in temperate countries are of little service to men who are destined for tropical planting. Such men must be trained amidst the special circumstances of the tropics.

Grants might be offered for sound agricultural teaching to the Codrington College at Barbados, the Queen's Colleges at Trinidad and British Guiana, and to the Jamaica High School. The amount of the grant paid in each case would depend on the number of pupils who show ability to pass a written and oral examination, and on the character of the provision made for laboratory teaching and field work. Some assistance in this direction might be rendered by the officers and establishments connected with the Department, but special teachers, one at each college, would be necessary, at salaries from £350 to £500 per annum.

Grants - - - - - £2,600

SUMMARY.

Botanic Department.

	£
Head office - - - - -	2,200
Nine botanic stations and four industrial schools	9,700
Sugar cane experiments at British Guiana - -	1,000
Horticultural shows, exhibition of implements, &c.	500
Printing bulletins, leaflets, and distribution - -	500
Grants to elementary schools for teaching the theory of agriculture and care of school gardens	500
Grants to colleges and schools for teaching scientific agriculture - - - - -	2,600
	17,000

To this might be added the subsidies estimated at £10,000 for steamer services, making a total of £27,000.

In the course of the debate in the House of Commons on August 2, 1898, the Secretary of State for the Colonies (Mr. Chamberlain) spoke as follows, when introducing the supplementary estimate providing for the erection of an Imperial Department of Agriculture for the West Indies:—

Debate in the House of Commons, Aug. 2, 1898.

“The recommendations of the West Indian Royal Commission in this regard were twofold. In the first instance they suggested that a special Department [of Agriculture] should be established dealing with all

questions of economic plants and botanic stations in all the islands—we propose to adopt that suggestion and that this establishment should be placed under the direction of Dr. Morris, Assistant Director at Kew, who is marked out, as I think any one who knows anything of Kew will admit, by special qualifications for an important position of this kind. Not only has he all the scientific and other knowledge in the possession of the authorities at Kew, but also special acquaintance with the West Indies, and, if those other industries are to be successful, there is no one more capable of doing it than Dr. Morris. In order to carry out this scheme, which we owe entirely to the Royal Commission—because, except in detail, I know no way of improving on their recommendation—we ask for a grant of £4,500, all the money we can spend during the present financial year. But we estimate that the annual charge will be £17,500. . . . As regards the grants which we ask from the Imperial exchequer, I have to point out that it is absolutely impossible for the colonies to bear the cost under the present circumstances. We hope they may be in the future self-supporting, but at present it is absolutely impossible for them to do anything for themselves. If these grants were thrown on the revenue of the Colonies, the only result would be that their deficit would be increased, and we should have to ask for an increased grant in aid instead of a grant in aid for communication, agriculture, and technical instruction. The advantage of taking the whole matter into our hands is that we shall have it under our control, and we shall not be hampered by local jealousies, and shall be able to introduce something like a general scheme, which would be impossible if local Legislatures in each case had to be consulted, and local jealousies were brought into play. I regard the whole of this cost as being an expenditure intended to relieve the British Government of future charges. The object is to assist the West Indian Colonies in every possible way.”

Sir Edward Grey, M.P. (one of the West India Royal Commissioners), said :—

“Part of the vote is a grant in aid of an Agricultural Department, and I am exceedingly glad to hear that Dr. Morris is to be in charge of this department. He will bring to the discharge of his duties a knowledge of tropical produce, the possibilities and conditions of the cultivation of that produce, which I do not think can be surpassed by any one. He will bring to the administration of the department the greatest ability, energy, enterprise and devotion to work. His knowledge and assistance in reference to the prospects of the islands we visited, were of the greatest value to the Commission, and I am sure his work at the head of the department will be of the highest value to the islands, and will be of increasing value year by year.”

Letter from
the Secretary
of State.

The following are extracts from an Official letter addressed by the Secretary of State to the Governors of all the West Indian Colonies (including the Bahamas and British Honduras) respecting the organization and working of the Imperial Department of Agriculture :—

Downing Street,
6th September, 1898.

Sir,—You will have learnt from public sources of information that Her Majesty's Government have decided that, in accordance with certain of the recommendations of the West India Royal Commission, a Department of Agriculture shall be established in the West Indies. The cost of this Department for a period of ten years will be provided from Imperial funds, and grants will also be made in aid of the Public Revenues of Trinidad and Tobago (for the benefit of the latter Island), British Guiana, Barbados, the Windward Islands, and the Leeward Islands, to provide for or to assist in the maintenance of Agricultural and Botanical Establishments, Industrial Schools, or other kindred purposes, as has been done for the last half of the

current financial year under Sub-Head S 3 of the Supplementary Estimate and before Parliament last Session, of which a copy is enclosed

2 The headquarters of the Imperial Department of Agriculture in the West Indies will be at Barbados and the staff will consist of a Commissioner of Agriculture, a Travelling Superintendent and a Clerk Dr D Morris, C.M.G., Assistant Director of the Royal Gardens, Kew, has been appointed Commissioner of Agriculture and will take up his duties in Barbados early in October next He will correspond directly with the Colonial Office upon all matters concerning the general work of the Department, on matters affecting Colonial Establishments and expenditure he will correspond with the several Colonial Governments through the Colonial Secretaries.

3 He should be consulted on all Botanic and Agricultural questions, and on all matters affecting the organization, duties and expenditure of the Botanic Departments or other kindred institutions wherever their cost is to be reimbursed out of the Imperial Grant in Aid, and his services and those of his assistants should be made use of in every way possible with a view to the development of the resources of the Colonies.

Mr Chamberlain specially called attention, in a later part of this letter, to the proposal for arranging a Conference of the chief chemical and botanical officers in the West Indies at an early date, with a view to the prosecution of a policy of co-operative effort

The first Agricultural Conference held in the West Indies met in the Chamber of the House of Assembly, Barbados, on January 7, 1899 The President was Dr Morris, C.M.G., M.A., D.Sc., F.L.S., Imperial Commissioner of Agriculture for the West Indies. Representatives were present from Jamaica (3), British Guiana (4), Trinidad (5), the Windward Islands (3), the Leeward Islands (3), and Barbados (6)

First
Agricultural
Conference

The President then delivered the following address* :—

This is the first Conference assembled in the West Indies to discuss the practical details of agricultural work I re-echo the welcome just offered to you by Her Majesty's Representative in this Colony, and I trust that your visit and the important subjects that will be brought before you will be conducive to the welfare and prosperity of the communities among whom we live.

There is no doubt that at the present time the circumstances of the West Indies generally are not in a satisfactory condition. In December, 1896, a Royal Commission was appointed to examine into the present condition and future prosperity of the West Indies This Commission made an exhaustive inquiry extending over several months, and in August, 1897, it presented a Report containing valuable suggestions calculated to restore and maintain the prosperity of these colonies and their inhabitants It is generally admitted that the Royal Commissioners were men of exceptional ability and experience, and that their conclusions were entitled to be received as conveying a true and adequate account of the circumstances of the West Indies.

The recommendations of the Commission have since been adopted by Parliament, and a beginning has been made in giving effect to them by the establishment of a Department of Agriculture for the West Indies The duties of the Department are twofold (1) to endeavour to restore the sugar industry to a condition in which it could be profitably carried on,

* Reprinted from the *West Indian Bulletin, the Journal of the Imperial Agricultural Department of the West Indies*, vol i., No. 1. (Barbados), Messrs. Bowen and Sons London agents: Messrs. Dulau and Co., 37, Soho Square, W)

(2) to encourage the establishment of other industries in such colonies as afford suitable conditions to supplement the staple industry.

The funds at the disposal of the Department up to the 31st March next amount to £6,500. It is estimated that the annual provision afterward will be £17,500. As stated in the speech of the Secretary of State in the House of Commons in August last, this "must continue, if the experiment shows a prospect of success, until the colonies are once again placed in a self-supporting condition."

As you are aware, the duty of organising the Department of Agriculture in the West Indies has been entrusted by Her Majesty's Government to me, and I look forward with great interest to the work, and am prepared to devote all my time and energies to the important concerns committed to my charge. I ask, and I know I shall not ask in vain, for your cordial co-operation in the task of improving the agricultural interests of the West Indies.

There has been a disposition in some quarters to represent the scheme of the Agricultural Department as a weak alternative to the demands of the sugar planters. As a friendly critic has pointed out "It is nothing of the kind." On the contrary, it is founded on a close and keen study of the needs of the Colonies, and is devised not only to improve the methods of sugar cultivation, but to promote that variety of industries, that independent cultivation of the soil, which is necessary if these communities are ever to become stable, well-ordered, and flourishing."

THE SUGAR INDUSTRY.

The Agricultural Department is specially charged to assist the sugar industry wherever the conditions are favourable for its continuance. It is a cardinal point in the policy of the Department to prevent, if possible, a single acre of land now under canes from being thrown out of cultivation. Whether this will be practicable in every case will depend on circumstances, many of them beyond the control of the Department. Nevertheless, as far as the Department is concerned, it will discharge the important duties intrusted to it with fidelity and care. If its efforts are well supported and its recommendations fully carried out, there can be no doubt the sugar industry will eventually reach a more prosperous condition than at present. There are in the West Indies certain colonies in which the cultivation of the sugar cane has continued for a long period to be the staple industry. These may be termed sugar colonies. They are British Guiana, Trinidad in part, Barbados, Antigua, and St Kitts-Nevis. The others, namely Jamaica, Grenada, St. Vincent, St. Lucia, Dominica, Montserrat, and the Virgin Islands, although at one time, and still to some extent, dependent on the sugar industry, have found themselves quite unable to withstand the keen competition of recent years. If they are to exist at all, they will have to depend on other industries than sugar.

The operations of the Department must, therefore, be so distributed as to give adequate assistance to each of these groups. The population to be supported is almost equally divided between them. In the interest of the people themselves, it is, therefore, as important to give attention to the non-sugar Colonies as to the sugar Colonies.

Referring to the sugar industry, apart from the operations of certain political and fiscal changes which cannot be discussed here, there is a very considerable amount of work to be done to assist the sugar planters; for instance, in enabling them to improve their methods and in reducing the cost of production. We must, I think, assume that if the production of sugar goes on steadily increasing everywhere, prices cannot increase to any appreciable extent.

With the wider areas placed under cultivation, and the energy displayed by many European nations, the tendency is for the price of all tropical produce to fall, rather than to rise. In order, therefore, to meet this, there must be cheaper production, and cheaper production in the case of sugar demands the highest skill and knowledge in cultivation with the latest and best appliances in manufacture.

In every sugar-producing country great importance is attached to improving the quality of the particular plant yielding sugar. In European countries the amount of sugar yielded by the beet has been nearly doubled within a comparatively short period. Until within the last ten years nothing had been done on similar lines to improve the quality of the sugar cane. This work was only possible when by a fortunate circumstance the power of the sugar cane to produce fertile seed was fully realised. This occurred almost simultaneously in the East and West Indies—in Java and Barbados. This island is, therefore, to be congratulated, no less than those personally connected with it, in having been among the first to grasp the practical bearing of this fact.

The point now is to utilise to the utmost the capabilities of the cane in this direction, and endeavour to place it in an equally favourable position as the beet. The experiments so far carried on, though on a limited scale, have been most encouraging. We have results from Java, the Hawaiian Islands, and Louisiana, all confirming those obtained in the West Indies. I have recently cited those obtained in British Guiana. I would now draw attention to a seedling cane obtained in Barbados of a most promising character. [Dr Morris here exhibited a bunch of fine canes that had previously been brought in and placed in the upper part of the hall.] It was raised at Dodd's Botanical Station, and is known as Barbados, (or shortly) B 147. I quote from a letter written by Mr Bovell (who raised this cane) as follows: "This cane has been under cultivation here for the past five years, and it has during that time given an average yield of nearly half a ton of available sugar per acre over the 'Caledonian Queen,' which comes next, and more than three-quarters of a ton more than the 'Bourbon.' All the planters who have tried it speak favourably of it, and I have no hesitation in recommending planters in the black soil districts to plant this year about a third of their estate with it."

Mr. Bovell adds the following comparative statement of the average results for five years obtained at Dodd's with the Seedling Cane B No 147, and certain other canes usually cultivated in Barbados—

Name of Cane	Sucrose per Imperial Gallon lbs	Glucose per Imperial Gallon lbs	Average available Sugar per acre lbs	REMARKS.
Seedling No 147	1 794	114	7,190	
Caledonian Queen	1 980	041	6,137	
Rappoe	1 922	041	5,929	
Naga B	1 937	054	5,894	
Bourbon	1 775	086	5,210	
White Transparent	1 804	086	5,275	3 yrs only

The best proof of the value attached to this cane is the keen demand which has arisen for it amongst the planters themselves.

Several fields of it exist in different parts of the island, and it is reported as having actually yielded as high as three tons per acre. This year about 200 acres will be established on one group of estates. Further, in an island where new canes have hitherto been regarded with a certain amount of suspicion, it is a promising sign that those in possession of B. 147 find it advantageous to sell canes in large quantities to their neighbours. One planter alone has disposed of over one million plants this season. The demand for this cane from the neighbouring colonies is also considerable.

There are numerous other directions in which the sugar industry might be improved. It is proposed to undertake a series of experiments with various kinds of manures to find out the sorts best adapted to certain soils, and the period in regard to the age and condition of the canes at which they should be applied. Further, there is the treatment of the various insect and fungoid pests to which the sugar cane is subject. In previous years the loss arising from these causes has been very considerable. This loss is largely preventable, and it will be the business of the Department to study the circumstances and advise the planters to the best of its ability.

At Barbados, the experiments in these directions have already been started. Mr Bovell has been placed in charge of the field work with the title of "Agricultural Superintendent of Sugar Cane Experiments," while Professor d'Albuquerque will be in charge of the chemical work. With the hearty co-operation of the proprietors of estates, I have pleasure in stating that there will be established four Principal or Central experimental Stations, and eight Local Stations for the improvement of the sugar cane in this island. The Central Stations will be devoted to raising seedlings and to carrying out their treatment in the early stages until they are accepted as distinctly improved varieties. They will also afford opportunity for carrying on several series of manual experiments. The Local Stations will be entirely concerned in the practical and final testing under normal conditions of the best varieties and their adaptability as sugar producers in different soils and climates of the island. At the Local Stations the planters in each parish will have opportunities of observing the growth and habits of the selected canes treated like all the other canes on the estate, and of afterwards obtaining plants or tops for establishing their own plantations. The total area covered by these experimental stations will be about 130 acres. It is arranged that experiments on similar lines will be started at once at Antigua and St Kitts. In regard to Trinidad, the experiments started by Mr Hart will, it is hoped, be largely extended, while the chemical work will be undertaken by a competent officer. At Jamaica, where the experimental cultivation of canes introduced from other countries was started more than 20 years ago, and whence many varieties have been distributed to the neighbouring Colonies, it is anticipated that Messrs Fawcett and Watts will be able to take up experiments of a thoroughly useful character. I am unable to give information at present in regard to what is likely to be done in British Guiana. There is, however, before the Government of that Colony a proposal to provide funds, as advised by the Royal Commission, for continuing, on a large scale, the experiments which have already produced such good results.

The total amount so far proposed to be expended on the special sugar cane experiments in Barbados, British Guiana, Antigua, and St. Kitts-Nevis is £3,350. As all previous efforts in these islands have not cost more than about £350 annually, there is every hope that with the larger funds now available, which provide for the entire service of several competent officers, the ultimate results of the experiments cannot fail to be of great assistance to the sugar industry.

I do not, however, disguise the fact that outside British Guiana and Trinidad, and to some extent St Lucia, whatever improvement may take place in regard to new varieties of the sugar cane, the application of manures, the treatment of disease and the reduction of expenses in cultivation, the sugar industry in the smaller islands will never be in a satisfactory condition so long as the processes of crushing the canes and manufacturing the sugar remain as at present.

We have in the report of the Royal Commission the most painful demonstration of the inadequacy of the methods now in use. For instance, owing to defective treatment it is recorded (based on experiments extending over seven years) that there "is an average of over 2,000 pounds of sugar per acre left in the canes after crushing which is burnt in the megass." A large part of this could have been recovered by better machinery. At present in these islands it is said to require about 13 tons of cane to produce one ton of sugar. With the best machinery about 9 tons should

be sufficient to produce a ton of sugar. There is, according to reliable authority, a further heavy loss in boiling the juice and in converting it into sugar. I quote the exact words — "For every 100 pounds of crystallisable sugar contained in the juice, not more than an average of 75 pounds of ordinary muscovado sugar is now recovered."

Apart, therefore, from the loss incurred by imperfect crushing, the loss in actually manufacturing the sugar amounts to one-fourth of the total quantity produced. These statements appear to apply generally to the sugar industry as carried on in the smaller islands. As already stated, they do not apply to British Guiana and Trinidad, and to some localities in the island of St Lucia. There, very efficient machinery and appliances are used, and any improvements in other directions should add to the advantages already existing. As you are aware, the remedy recommended by the Royal Commission to prevent such a loss in the smaller islands was the establishment of Central Factories. This subject, as you will notice, is down for discussion by the Conference this afternoon. I trust that the information which will be placed before us by those competent to speak on the subject will lead to one or two experimental factories being established during the present year.

The time has evidently arrived when it is absolutely necessary for the planters to decide what the future of the sugar industry in these islands is to be. In commercial, as in natural life, the perpetual struggle for existence necessitates continual adjustment to new and fresh conditions. When this adjustment is wanting or imperfect, the industry, or being, is pushed aside and disappears. It is now imperative for the sugar planters to adapt themselves to the conditions of their environment, or they become "unfit." In other words, they will be unable to hold their own and they and their industry must disappear.

With your permission I would touch upon one or two other points. Rule of thumb methods, wherever existing, must be abandoned, and with them must be abandoned the crude and empirical notions in regard to agricultural subjects that have long since been discarded by our rivals amongst the intelligent communities of Europe and America. A simplification of methods for working sugar estates as well as for disposing of the produce (already adopted in some instances) is also necessary. This should tend to reduce the costs of management and, further, should enable the planters to obtain all estate supplies at reasonable prices.

Formerly, when the price of sugar was high, it was possible for the industry to bear charges that are now quite impossible. Times have changed, and simple and more direct methods, all culminating in reducing expenses, must now be adopted, otherwise West Indian sugar will have no chance of competing successfully in the markets of the world.

OTHER INDUSTRIES

In discussing the steps necessary to place the West Indies generally in a more satisfactory condition, the Royal Commissioners drew special attention to the need for expanding the number and extent of other industries. Their words, which I quote in full, are as follows —

"The recommendations involving expenditure by the mother country which we have considered it our duty to make, are based primarily on the present and prospective depression of the sugar industry in the West Indies, but they are of such a nature that they should, in our opinion, be carried out even if the sugar industry were restored temporarily to a condition of prosperity. It is never satisfactory for any country to be entirely dependent upon one industry. Such a position is, from the very nature of the case, more or less precarious, and must, in the case of the West Indies, result in a preponderating influence in one direction tending to restrict development in other ways.

"The general statement regarding the danger of depending on a single industry applies with very special force to the dependence of the West Indian Colonies upon the sugar industry, for the cultivation of sugar collects together a larger number of people upon the land than can be employed or supported in the same area by any other form of cultivation.

In addition to this, it also unfits the people, or at any rate gives them no training, for the management or cultivation of the soil for any other purpose than that of growing sugar cane. The failure, therefore, of a sugar estate not only leaves destitute a larger number of labourers than can be supported upon the land in other ways, but leaves them also without either the knowledge, skill, or habits requisite for making a good use of the land.

"Whilst, therefore, the vital importance of the sugar industry to the present prosperity of nearly all the Colonies is beyond dispute, we wish to observe that, so long as they remain dependent upon sugar, their position can never be sound or secure. It has become a commonplace criticism to remark upon the perpetual recurrence of crises in the West Indian Colonies, and we submit that the repeated recurrence of such crises, as well as the fact that the present crisis is more ominous than any of the previous ones, illustrates the danger to which we have referred, and adds much force to our recommendations for the adoption of special measures to facilitate the introduction of other industries."

The coast lands in the West Indies have been under cultivation in many instances, for more than a hundred years. In several districts large tracts have been abandoned as useless, and the casual visitor seeing these only is under the impression that the West Indies "are played out." A reference to the Report of the Royal Commission will show, what few realise, that so far from being exhausted, the total area of cultivable land not beneficially occupied at present, amounts to more than 22 million acres. Leaving out British Guiana, which is only partially explored, and confining our attention only to the Islands, viz., Trinidad, the Windward Islands, Barbados, the Leeward Islands and Jamaica, we find even within this smaller area, that leaving out swamps, rocky and other useless land, and allowing for land to be reserved in forest, there are still over 2 million acres suitable for bearing crops. The actual area under cultivation is only about a million acres. Practically, therefore, only one-third of the cultivable land in the West Indian Islands is at present utilised. These facts appear in the following table compiled from the official returns supplied to the Royal Commission —

Place	Area in Acres	Area now Cultivated.	Area of cultivable land not beneficially occupied
		Acres.	Acres.
British Guiana	65,836,000	325,000	20,000,000
Trinidad and Tobago	1,193,313	310,000	550,000
Windward Islands	328,122	95,000	135,000
Barbados	106,470	90,000	10,000
Leeward Islands	390,840	100,000	150,000
Jamaica	2,692,480	693,674	1,500,000
Total	70,547,225	1,613,674	22,345,000

Taking the colonies as a whole, we find the area now under cultivation is only a little over 2 per cent. of the total area, and only a little over 7 per cent. of the estimated cultivable area.

From the consideration of the land, we now pass to the circumstances of the population. It is admitted that even in Sugar Colonies like British Guiana, only one-third of the total population is directly engaged in the

industry. If we allow another third for those indirectly engaged and for Indians, we shall still have a third of the population contributing little or nothing to the exports of the Colony. In St Vincent, St Lucia, Dominica, Montserrat, Antigua, and St Kitts-Nevis and Jamaica, there are thousands of people whose labour at present is devoted to raising casual food crops. They thus destroy land that with suitable treatment should yield valuable crops for export.

The object of starting other industries is first of all to realise to the best advantage the extensive tracts of unused lands in these islands, and, secondly, to find remunerative employment for people who are now almost without the means of subsistence. Other industries are, therefore, essential.

In taking up this work I fully realise the difficulties of the situation. I am also sensible of the enormous amount of labour involved, and the slow and tedious character of the operations necessary to produce results at all commensurate with the cost of the undertaking. I have, however, a close acquaintance with the circumstances of these Colonies. I have carefully studied their resources, and I am not unused to deal with what is termed the "labour difficulty." In spite of these I retain, after an experience of twenty years, a strong faith in the future of these Colonies, and I believe that, rightly guided and assisted in these days of their adversity, they will realise the destiny designed for them by nature, and they will yet become happy and prosperous communities.

It is needless to enter into details. The work immediately at hand is to give attention to the sugar industry. When efforts are fully started in that direction, then I hope within a short time to devote the energies of the Department and the funds at my command in building up those other industries which the exceptionally able men on the Royal Commission regarded as essential to the permanent well-being of the West Indies.

BOTANICAL INSTITUTIONS

The Royal Commissioners stated that the botanical institutions in the West Indies have rendered considerable assistance in improving agricultural industries, and "they are capable of being made increasingly useful in this respect." Twenty years ago there were only three such institutions in existence. Now, owing to the organisation of the small establishments known as Botanic Stations, there are thirteen of these institutions. The results at the latter, "though not yet extensive, have been of a distinctly promising character." As the Colonies of Jamaica, Trinidad and British Guiana were regarded by the Royal Commission as in a position to maintain their own Botanical Establishments, no grants-in-aid in their case have been voted by Parliament. As regards the Botanic Stations, it is proposed to place them under the direct control of this Department, and the charge of maintaining them is transferred to Imperial Funds. The Botanic Stations so transferred are those at Tobago, Grenada, St Vincent, Barbados, St Lucia, Dominica, Montserrat, Antigua, and St Kitts-Nevis. Amongst the duties to be discharged by the Botanic Stations, the Royal Commissioners indicated the following:—"They are to devote themselves in a systematic manner to the work of introducing, propagating and distributing all the promising economic plants of the tropics. They are to initiate the experimental cultivation of new or little known plants, and assist in the efforts made in the larger colonies to secure improved varieties of the sugar cane. They are to act as centres for diffusing accurate information, and as training institutions for the practical teaching of tropical agriculture, also as the headquarters from which agricultural instructors would be sent to give lectures and demonstrations bearing upon the selection of land for tropical economic plants, their suitable cultivation, and the best methods for curing and packing the produce."

AGRICULTURAL INSTRUCTORS.

A considerable experience has shown that it is not sufficient to provide Botanic Gardens and Experimental Stations to influence the large body of

cultivators in the West Indies. They must be reached in a more direct and effective manner. The first attempt to employ travelling instructors was made on my recommendation in Jamaica in 1891. Two Cacao instructors were appointed by Sir Henry Blake, and the results since that time have fully justified the use of this method of assisting in the development of rural industries. Great care is necessary in selecting men possessing the necessary qualifications. In Dominica, St. Lucia, and Grenada it would be an advantage for them also to be able to speak the local *patois*. It is important to arrange beforehand with the leading personages in each district, so that the people are prepared to receive the Instructor and made thoroughly acquainted with the objects of his visit. A public meeting is useful as a first step, to be followed by visits to gardens and cultivated areas in the neighbourhood where the Instructor is able to give practical demonstration in the right methods of preparing the soil, in draining and manuring, and in putting out the plants in a neat and suitable manner. Later, he would show how the plants are to be cared for and pruned, and ultimately he would give a regular course of instruction in curing and preparing produce for export. These details carefully instilled into the minds of the people would be part of the general training necessary to direct the raw labour material of these islands into the right channels. I am absolutely convinced of the efficiency of the system, and it would not be difficult to mention several striking instances of the success that has attended it when the right men are employed and they are placed under favourable circumstances for carrying out the duties entrusted to them. It is proposed to attach an Agricultural Instructor to each of the Botanic Stations, and an officer with a similar training will have charge of the cultural work at the Agricultural Schools. Where it is not possible to attach an Instructor to the Botanic Station, arrangements will be made to allow the Instructor's duty, in part at least, to be undertaken by the Curator, leaving the garden meanwhile in charge of a competent foreman. In addition, Instructors, or experts, with special experience in budding and pruning fruit trees, curing tobacco, bee-keeping, selecting and packing fruit for export, will be employed to spend a month or two in each island and thus distribute practical knowledge over a wider area. For some years to come, the peripatetic instructors must be relied upon to carry out a large share of the training necessary amongst the adult portion of the community. In spite of the disadvantages incidental to their isolated position, these people are not slow to follow the advice given them once they are convinced of its practical utility and of its direct bearing upon their future welfare.

AGRICULTURAL EXHIBITIONS.

Agricultural Shows or Exhibitions are not new in the West Indies. They have been held for some years in the larger Colonies. They are practically unknown in the smaller Colonies. The purely educational side of these Exhibitions, especially in regard to small cultivators, has not been so fully recognised as it should be. The prizes are in many cases given for produce possessing intrinsically little or no merit. It is often badly prepared and presented in a slovenly and uninviting condition. Such prizes are calculated to do more harm than good, as they encourage the people in unskilful and careless habits which destroy any chance of their obtaining remunerative prices for their produce. The work of substituting careful and intelligent methods for those already so prevalent in the West Indies, will be a long and tedious task. It is, however, of so important a character that it must be dealt with. Possibly, the best way to start a better system in handling and marketing produce, is to offer several prizes at Agricultural Shows, but award them only in cases where the articles are presented in a thoroughly satisfactory condition. The Department might exhibit similar articles, especially those intended for export, as object lessons, and arrange for some of its officers to be present to explain exactly what is necessary in order to reach a high standard of merit.

It is understood that the prizes offered by the Department are in aid of

local efforts and not to supersede them. Further, the Department will bring together implements of field and garden husbandry and explain the construction and mode of working of suitable machinery for cleaning and curing produce. It will also exhibit cases skilfully packed with fruit and other produce ready for shipment.

It has been arranged that preliminary exhibitions will be held shortly at St. Lucia, Dominica, and Montserrat.

BULLETINS, HANDBOOKS AND LEAFLETS

The Royal Commissioners stated that "in the West Indies persons engaged in cultivation suffer from isolation and are often without any information as to what is being done elsewhere." In addition to the employment of travelling instructors it is proposed to meet the difficulties of isolation by preparing and distributing bulletins, handbooks and leaflets affording information on subjects of general interest. The principal publication of the Department will be the "West Indian Bulletin." This will probably be issued at the end of this month, and will contain amongst other matter the proceedings of this Conference. The handbooks will contain hints and directions in simple language on the cultivation of certain crops such as Coffee, Cacao, Oranges, Pineapples, Bananas, Ginger, Vanilla, etc. The handbooks will be stitched in canvas covers and form a series similar to those issued in England and the United States. The leaflets will be of a more modest character and will contain information expressed in simple and clear language suitable for distribution after addresses and demonstrations given to small cultivators by the Agricultural instructors. These leaflets will also be supplied free to magistrates, medical and revenue officers, the clergy, police officers, and all having influence, or coming into contact, with the peasantry. Both the handbooks and leaflets will be regularly supplied to schools, and the teachers will be encouraged to use them in dictation lessons and take an interest in diffusing the information contained in them amongst the people of the district.

AGRICULTURAL TEACHING IN PRIMARY SCHOOLS

In all agricultural communities the need of the hour is the education of the rising generation in the knowledge how to obtain from the soil those products for which there is a good demand in the markets of the world. Ignorance and ineptitude can never produce successful results. The prevailing practice in the West Indies is to take everything out of the land and abandon it immediately afterwards. This is a vicious and destructive system, but to suddenly change the habits of centuries is impossible. We must take the children and gradually teach them other ways. At least, the principles of sound agricultural methods must be taught in the elementary schools. Large sums are being spent in these Colonies on general education. The total quoted in the Report of the Royal Commission for the year 1896 was £180,000. It is admitted that "efforts made on general education have been largely successful." In some colonies steps have already been taken to teach agriculture as a part of elementary education. The chief difficulty is the want of knowledge on the part of the teachers. It is hoped that the Agricultural Department, as suggested by the Royal Commissioners, "will be in a position to render valuable assistance" in this direction. With the co-operation of the central educational authorities in each colony, the teachers will be given a course of instruction in the principles of Agriculture. They will also be taught how to impart the knowledge thus obtained to their pupils in a series of object lessons. They will further be supplied with a school reader containing agricultural information in simple and plain language. This will form the basis of all the theoretical and practical teaching required for the first few years in elementary schools. Great hopes are based on the educational value of school gardens where the teachers and children will carry out practically operations suggested by the lessons taught in school. In England, the Education Department recently referred to school gardens as follows — "We

fully recognise the improvement which a thorough knowledge of cottage gardening may effect in the condition of the working classes in agricultural districts, but as a school subject its teaching also serves a general educational purpose." Following the example set by the Education Department in Jamaica, it is proposed to make small grants in aid in two classes (A) to schools in which the theory of Agriculture is satisfactorily taught, and (B) a slightly increased grant in cases where, in addition to the teaching of the theory of Agriculture, school gardens or experimental plots are maintained by the efforts of the teachers and scholars.

The amount of the grant proposed for each school in class A would be from £1 to £3, in class B from £2 to £5; depending in each case on the number of children who reach a satisfactory standard of attainments. For the first year or two the total amount of these grants would necessarily be very small, as the chief outlay would consist of expenses incurred in giving instruction to and in training the teachers.

AGRICULTURAL SCHOOLS.

The Royal Commissioners recommended that "a system of training in agricultural occupation was much needed" in the West Indies. It was suggested that "some at least of the Botanic Stations should have agricultural schools attached to them where the best means of cultivating tropical plants would be taught." It is proposed to carry out this valuable suggestion. Provision has been made to establish an agricultural school immediately at Dominica, and as soon as the necessary land has been obtained, similar schools will be started at St Vincent, St. Lucia, and St. Kitts-Nevis. These schools are not to be reformatories, and will not deal with criminals. This would defeat the object in view. The more suitable plan for obtaining pupils would be to admit, preferably from the country districts, orphans and destitute children over nine years of age, or those voluntarily placed at the schools by their parents or guardians. The order for their admission will require to be signed before a magistrate, and provide that the child remain at the school without molestation of any kind for a period of not less than five years. It is hoped by means of these agricultural schools to train a certain number of the children of respectable black people in sound agricultural methods. They will, first of all, be employed in raising their own food and will be accustomed to neat, intelligent and active methods of carrying on various operations of garden and field husbandry. Further, they will be carefully taught to handle tools, how to raise and prune fruit trees, the best means for getting rid of fungoid and insect pests, and how to bud and graft. The boys thus trained should be most useful afterwards in diffusing practical knowledge of this kind amongst their own people.

TEACHING SCIENTIFIC AGRICULTURE IN THE HIGHER SCHOOLS AND COLLEGES.

On this important subject a paper is to be read before the Conference by the Rev. William Simms, who has given considerable attention to it. He has also visited the United States and Canada with the view of studying the methods there adopted. It is hoped from the paper itself and from the discussion that will follow, it may be possible to suggest a plan for at least starting the teaching of scientific agriculture in the colleges in the West Indies.

So far, little or nothing has been attempted in that direction. In consequence the students attending the higher educational institutions turn their attention to the learned professions or to Government clerkships. Both these are now overcrowded, while the better paid appointments connected with scientific agriculture are filled from outside. We must endeavour to make agriculture a popular and remunerative career for young men in the West Indies. To do this would be an effective means of generally increasing the resources of the colonies. It is understood that the training in agriculture given in European countries is not suited to

men who are destined for tropical planting. Such men are always better taught amid the special circumstances of the tropics.

The Department is prepared to offer grants to enable certain institutions to employ teachers in agricultural science, and possibly provide a number of scholarships for the most promising pupils. The heads of these institutions with whom I have conferred are thoroughly sympathetic in this direction. I therefore anticipate as one of the results of this Conference, that it will be possible to prepare a scheme for the teaching of agricultural science that will meet with the approval of the Imperial Government.

FUNGOID AND INSECT PESTS

The injury done to food crops and fruit trees by fungoid and insect pests is very considerable. The discouragement thus met with by those anxious to follow a better system of cultivation is no doubt responsible for the little progress that has hitherto been made in this direction. Usually the small cultivators regard a disease in their crop as a fatalism, and make little or no effort to deal with it. They also leave the diseased crops on the land, which, in the case of fungoid disease, becomes infected with spores, and so the crops of succeeding seasons are also injured or destroyed. I estimate that the total loss to crops from preventable diseases in the West Indies amounts to several thousand pounds yearly. Mr Fawcett will bring forward some suggestions on this subject before the Conference on Monday afternoon.

NEW STEAMSHIP SERVICES

As directly associated with the work of the Imperial Department of Agriculture, I may mention that tenders were invited in London, in September last, for four new steamer services for the West Indies. Service A. is intended to provide a fortnightly service between all the islands from St. Kitts southward as far as Trinidad. The object of this service, in accordance with the recommendations of the Royal Commission, is to afford with the existing Royal Mail Service a regular weekly service between the islands. Service B. is intended to be a fortnightly service between Trinidad, British Guiana, Barbados and Canada. This, it is hoped, will encourage trade in sugar and other products between the West India Colonies specified above and the Dominion of Canada. Service C. provides for a fortnightly fruit-steamer service between St. Vincent, Dominica, and the United States or Canada. The steamers, are to be specially fitted for the carriage of fruit, and the contractors are to undertake to purchase fruit at fixed rates. If circumstances require it, it has been suggested that this service be modified so as to provide fruit steamers between St. Vincent, Dominica, and the United Kingdom. Service D. is intended to supply a direct tri-weekly fruit service between a port or ports in Jamaica and a port in the United Kingdom.

The second West Indian Agricultural Conference was opened in the Hall of the House of Assembly, Barbados, on January 6, 1900. Dr. Morris presided, and there were present forty representatives, including the heads of all the botanical, chemical and educational departments, as well as representatives of the principal agricultural societies in the West Indies.

In the President's Address* the following passages occurred:—

I regard it as a great privilege to meet you, as the chosen representatives of the West Indies, in Conference to-day. I appreciate deeply the action of the several Governments in sparing the services of their officers to attend this Conference, and no less the Government of Barbados for its continued hospitality in lending us the use of this hall as a meeting place.

Second
Agriculture
Conference

Extracts
from
President's
Address

* *West Indian Bulletin*, vol. 1, No. 2.

Not only is every colony prominently represented by those engaged in botanical, chemical, and educational efforts in the West Indies, but we have also amongst us gentlemen deputed to attend in behalf of the principal agricultural societies in these colonies. We have, therefore, not only official but non-official representation. This should tend to give our deliberations a wider scope, and bring them into closer sympathy with those actually engaged in agricultural pursuits.

I regard your presence here as a proof that you share with me in realising the grave character of the present circumstances of these colonies. Also of your earnest desire to do all in your power to improve them by the special knowledge with which each of you, in his own particular branch, is equipped. Many now present were here last year, and since that time they have, I know, been busily engaged in carrying out some of the recommendations then adopted. I doubt not that by such efforts we shall, before long, do much to increase the material prosperity of these colonies.

In reviewing the work of the past year, there is much to encourage us; but, on the other hand, I frankly admit we are more and more sensible of the enormity of the task before us, and the need for active and united action to overcome the difficulties which confront us.

I believe no single agency is likely to prove so useful in this direction as these Conferences. It is recognised that isolated and individual efforts, however earnest and judicious, are bound to flag and, sooner or later, to be abandoned. The *vis inertia* in the West Indies is too great to be overcome by merely spasmodic efforts. Hence the suggestion of these Conferences. We have here an opportunity of renewing and strengthening our forces, and, after careful consideration, of utilising them to the best advantage. There are also the indirect benefits likely to arise from these Conferences -- the result of friendly intercourse and a mutual exchange of ideas amongst those engaged in a common work. It would, I admit, add to the interest and value of these Conferences if we could change our meeting place and visit each colony in turn. At present, at least, I regret to find this is not practicable. It would not only extend the period during which representatives would require to be absent from their duties, but it would increase their expenses nearly three-fold.

Under existing arrangements attendance at the Conference involves an absence, in the majority of cases, of scarcely a week. If the Conference were to meet, as suggested, at Trinidad, British Guiana, or Jamaica, it would require an absence of nearly three weeks. An annual Conference under these circumstances would be impossible.

* * * * *

Dr Morris discussed the subject of Agricultural Instruction in the following paragraphs:—

AGRICULTURAL EDUCATION.

A careful study of the subject of Agricultural Education appears to show that the tendency of the existing educational system in most, if not all, of the West Indian Colonies, has been to give the peasant a dislike for manual labour and to disassociate him from the cultivation of the soil. This has no doubt been, primarily, due to the absence of suitable training on the part of the teachers and to the educational methods in these Colonies following too closely those of the British Isles. It is inconceivable in communities so closely interested in the cultivation of the soil that Agriculture should not only have been entirely neglected, but that the encompassment of school life should have discouraged attention to it. Owing to the early period at which many of the children are removed from school and the irregularity of their attendance, it is not possible that much, if any, direct teaching in agriculture or what has been called "farming" can be given in elementary schools. What is first required is that a series of object lessons be given by intelligent and sympathetic teachers in all classes of schools, so that, to adopt the words of the Archbishop of the West Indies, "the entire youth of these purely agricultural communities should

be trained in an atmosphere favourable to agriculture, that they should grow up interested in it, and that they should learn that tilling the soil and caring for crops is a work worthy of being studied by intelligent minds and likely to lead to greater health as well as greater profit than the purely clerical work which is now so keenly sought for by the more capable peasant boys in the West Indies”

The scheme of agricultural instruction suggested to meet the immediate requirements of elementary schools aims first of all at rendering the existing teachers competent to give simple object lessons bearing on Agriculture and illustrate them by experiments and actual specimens. Examples of growing plants should be grown in pots and boxes under the eyes of the children, and every stage of their growth as well as the conditions favourable for rapid and successful development should be clearly explained. This much is within the reach of the poorest school in the West Indies. All, however, depends on the amount of knowledge and the interest thrown into the subject on the part of the teachers. It is proposed to assist the teachers at present in charge of schools by affording them the means of attending courses of lectures during their holidays. While attending these lectures all out-of-pocket expenses (except in British Guiana, Trinidad and Jamaica) are paid by the Imperial Department of Agriculture. Lectures to elementary teachers were started last year at Trinidad, St. Lucia and Barbados, in each case with singular success. They will be continued next week at Tobago, Grenada, St. Vincent and Dominica. The teachers so far have shown themselves most anxious to acquire knowledge of the principles of Agriculture, and it is anticipated that during the next two years most of the existing teachers throughout the West Indies will have passed through the initial course of training. The teachers now at the training colleges and all future students passing through such colleges should be fully instructed and be competent to teach Agriculture before they are placed in charge of schools. For the present, Blackie's "Tropical Readers," Books I and II, are recommended for use in schools, but great care is required to prevent mere book knowledge, which is worthless, taking the place of the intellectual education and the hand and eye training necessary for agricultural pursuits. To explain clearly what should be aimed at in this connection, I cannot do better than quote from a publication recently issued by the French Government on the "Teaching of Elementary Ideas of Agriculture in Rural Schools" —

"Instruction in the elementary principles of agriculture such as can be properly included in the programme of primary schools, ought to be addressed less to the memory than to the intelligence of the children. It should be based on observation of the everyday facts of rural life, and on a system of simple experiments appropriate to the resources of the school, and calculated to bring out clearly the fundamental scientific principles underlying the most important agricultural operations. Above all, the pupils of a rural school should be taught the reasons for these operations, and the explanations of the phenomena which accompany them, but not the details of methods of execution, still less a resumé of maxims, definitions or agricultural precepts. To know the essential conditions of the growth of cultivated plants, to understand the reasons for the work of ordinary cultivations, and for the rules of health for man and domestic animals—such are matters which should first be taught to everyone who is to live by tilling the soil, and this can be done only by the experimental method."

As a higher stage in Agricultural education it is proposed to maintain agricultural schools—the first at St. Vincent, St. Lucia, Dominica and St. Kitts. The boys will be fed, clothed, and trained free. Admission to these schools will be offered as an exhibition to boys in elementary schools of about 14 years of age who have passed the IVth Standard and who show moral and intellectual aptitude for such instruction.

We have next the scheme of instruction in Agriculture to boys in Secondary and High Schools assisted by the special lecturers in Agriculture provided by the Imperial Department. At the same schools scholarships are offered to boys from the country districts, the sons of planters in

moderate circumstances, who intend to devote themselves to agricultural pursuits

Lastly, there are lectures to the younger generation of planters and others engaged in Agricultural pursuits to afford information and assistance in elucidating the scientific problems which underlie the practical work in which they are daily engaged

This is a brief sketch only of the scheme of Agricultural Education now being actively carried on in these Colonies. The details have been carefully and gradually evolved in conjunction with thoughtful and leading men with great educational experience, and it may be confidently anticipated that if efforts are consistently sustained for a generation at least, we shall lay the foundations of a larger measure of prosperity for all classes of people in these Colonies, both white and black, than has been possible in any previous portion of their history

During the Conference several papers were read on educational subjects, and two of these (Mr. Deighton's paper on *Teaching Agriculture in High Schools and Colleges*, and the Rev. J. E. Reece's paper on *Teaching Agriculture in Elementary Schools*) are printed below, together with the official report of the discussion which followed each paper* It will be seen that there took part in the discussions several eminent authorities on education in the West Indies—the Rev. Canon Simms (Principal of University College, Jamaica), Mr. Potbury (Principal of Queen's College, British Guiana), the Rev. W. Carroll (St. Mary's College, Trinidad), Mr. G. B. R. Burton (Headmaster of Combermere School, Barbados), Mr. G. Hicks (Acting Superintending Inspector of Schools for Jamaica), Mr. W. Blair (Inspector of Schools, British Guiana), and Mr. J. H. Collens (Acting Inspector of Schools, Trinidad).

TEACHING AGRICULTURE IN HIGH SCHOOLS AND COLLEGES

BY HORACE DEIGHTON, M.A., F.R.A.S.,
Headmaster of Harrison College, Barbados

Agricultural Science has been taught at Harrison College for some time, but the resources of the college did not admit of this being done in a perfectly satisfactory way, the time at the disposal of the masters who conducted the science department being inadequate for the purpose. When it was proposed to me that additional aid might be given by the Imperial Department of Agriculture, I had to consider what change could be made in the curriculum of the college, which, whilst giving full scope to the teaching of agriculture to those boys for whom such a course was desired, would not injuriously affect the general education given at the college. As I had always been of opinion that it would be an advantage to education to have elementary science systematically taught in our lower forms, I gladly welcomed the proposal. I mention this because had I thought for one moment that the change in the curriculum which would be necessitated would interfere with the general education given at the college, I should have considered it my bounden duty to decline the offer here. My firm opinion, on the contrary, is that educationally we shall be great gainers.

This is not the place to discuss the question of the position which science should occupy in a school curriculum. But to justify my position that the

systematic teaching of science in the lower forms is a gain to education. I may add that "educate" means to "draw out" and not "stuff in" in other words education (and I am necessarily limiting the term to intellectual education) is the discipline of the intellect, the training of the mind, and not an attempt to cram the memory with facts. Now as a mental discipline, science possesses this special value, that it not only appeals to the reasoning faculties, but also—through the experiments which necessarily form an important part of every science course cultivates the powers of observation.

At the beginning of the third term of last year, with the aid of an Imperial Grant recommended by Dr. Morris, Mr Albert Howard, B.A., F.C.S., was appointed Lecturer in Agricultural Science at Harrison College, and the teaching of chemistry was begun in earnest in the first, second, third, and lower fourth forms; two hours a week in each of these forms being allotted to the subject. It is early yet to gauge the results accurately, but I can say this, that in every form there are boys who show themselves interested in the work, and Professor d'Albuquerque tells me that he was more than satisfied with the general results of the examination, which he himself conducted at the end of the term. No doubt there are boys in each form who take little or no interest in the work, but the same may be said of every subject *e.g.*, has not every one who has had to teach Euclid to beginners found immense difficulty at first in getting the majority of the boys to take any interest in the work? Have they not, on the contrary, shown a marked distaste for it? But nobody would venture to say that therefore Geometry ought not to be taught. "It is a very laudable effort," says John Stuart Mill, "to render as much as possible of what the young are required to learn easy and interesting to them. But when this principle is pushed to the length of not requiring them to learn anything but what has been made easy and interesting, one of the chief objects of education is sacrificed."

This elementary course affects two classes of boys. (1) Those who do not intend to continue the study of science, and (2) those who do intend to do so. In the case of a boy of the first class the course will prove a valuable intellectual training, and it will be his own fault if he is not able to take an intelligent interest in many scientific subjects which otherwise would be quite incomprehensible to him. Considering how largely and increasingly the practical applications of science enter into everyday life ought not some knowledge of science to be now considered a necessary part of a liberal education? The advantages to a boy of the second class are sufficiently evident—he will be able to attack his new work well equipped for the struggle.

The study of science as a separate branch of school work begins in the upper fourth form. When a boy, who intends to take up science, reaches this form, he drops Greek and Latin, and devotes the time thus liberated to the study of science. The particular form at which this divergence should occur has been carefully considered by me. All authorities are unanimous in insisting that a sound general education must be acquired before any special work is attacked. It may therefore appear too early to allow a boy to specialise when in the upper fourth form, and I should myself prefer putting it off till he reaches the fifth form, but I believe that local conditions, for the present at least, require the earlier period to be adopted.

Dr Morris has supplemented the appointment of a Lecturer in Agricultural Science by instituting Exhibitions to be held by boys from the country districts who are thereby pledged to become Agriculturists. At present there are five such exhibitors at Harrison College. I believe this step to be as wise as it is liberal: probably, especially valuable as a sort of pioneer movement leading the way in which it is hoped that many will follow.

I am aware that there are many who regard this educational movement as likely to prove of little value. I think this is principally because the benefits to be derived from it cannot be immediate and must be very gradual. The problem before us is this—granting that there is room for improvement in the cultivation of the sugar-cane, on which the life of this

island depends, how is this improvement to be brought about except by gradually placing the charge of the estates in the hands of men who have been scientifically trained for that very purpose? All experts tell us that Practice must not be divorced from Theory, but that all practical work ought to be based on theoretic knowledge. The wise man, he who learns by the experience of others. If we in Barbados are willing to learn by the experience of others, we shall certainly avail ourselves to the utmost of the great advantages which the foresight of Dr Morris and the liberality of the Home Government have placed so easily within our reach.

I have explained shortly the arrangements made at Harrison College for the teaching of Science. I am confident that with the additional help which has been afforded us we shall be able to turn out scientific agriculturists just as we have turned out successful classical and mathematical scholars, and that the slight change which has been made in our curriculum, so far from interfering with the advance of those boys who do not eventually take up the study of science, will educationally be a distinct advantage to them. But if we are to be as successful in Agriculture as in classics and mathematics, we must work under similar conditions—the boys must come to us when quite young.

DISCUSSION

Rev. CANON SIMMS (University College, Jamaica) There can be no doubt, that Mr Deighton's paper describes the only way in which it is possible for our High Schools and Colleges to take part in this work—namely, the teaching of elementary science in the lower forms, and then gradually extending it as boys reach the higher forms. I would, however, suggest that boys should specialise in the fifth form instead of the upper fourth. The paper requires little or no criticism. Every one must agree with Mr Deighton that, apart from any value it may have on the educational side, the teaching of elementary science in these days is an absolute necessity. The boys who are going to take up agricultural work must specialise in the science of agriculture. Technical agriculture I should regard as the work of post-school days and not a work of school days. In the last two or three years of his school life the boy should lay the scientific foundation on which technical agriculture could be built. That is the way in which good work could be done. We must first of all overcome many difficulties—difficulties arising from our slender staff, difficulties arising from the overcrowded condition of our time table, and difficulties arising from the fact that our more intelligent boys at present chiefly turn their attention to University requirements and conditions. I find few of the sons of planters and overseers in Jamaica make up their minds to go in for agriculture. The fact is, the planter tells his son that sugar does not pay, and the son naturally wants to take up something else that does pay. The only way of meeting difficulties of this kind is that so clearly indicated by Mr Deighton.

Mr J. A. POTBURY (Queen's College, British Guiana) All the West Indies naturally look to Harrison College for a lead in educational matters. We in British Guiana have done so for a long time. But Mr Deighton during the past twelve months has enjoyed the advantage which the Colleges in other colonies so far have not had, that is, a supplemented staff. I should be very glad if the Imperial Department would similarly aid us in the matter. Given a staff, we are quite prepared to take up the teaching of scientific agriculture.

Rev. W. CAROLL (St. Mary's College, Trinidad) I regret to learn that my criticism last year on this subject was considered to some extent a destructive one. However, I believe it is well to see both sides of a question. It is not by ignoring our difficulties that we can surmount them. And that there are difficulties in the way of introducing the teaching of agriculture into our secondary schools I think will be pretty generally admitted. I agree with Canon Simms and the other gentlemen who have spoken as to the nature of these difficulties. First, it must be borne in

mind that in our secondary schools the system of education that has existed and does exist, is and has been classical and literary rather than scientific, and so far at least, every attempt that has been made to introduce anything else has failed. Mr. Deighton and the leading educational authorities in these colonies have given us to understand that the boys should not be allowed to specialise too early. Now I think the best thing is to fix the age at which a boy should branch off to special studies, say at seventeen or eighteen years, and then, only when he has passed through a regular course in the ordinary subjects taught in our secondary schools. Then it becomes a question how far agricultural instruction is likely to succeed by grafting it on to our present system. It would be very unwise to overcrowd our time-table. As far as my experience goes our boys are not very favourably disposed to agricultural studies. It is true that hitherto they have not had a favourable opportunity of manifesting their appreciation, but where they have had such opportunity they have not availed themselves of it to the extent one would expect. My experience of the College of which I have charge is this: that within the last three years as many as thirty young men left us to continue or complete their studies in Europe, many of them the sons of planters and agriculturists—sons of men whose whole life was associated with agricultural pursuits, some of them went to England, some to France, some to Germany. Not a single one has so far offered to take up a course of agricultural instruction. There is a reason, for it, and it is this: the impossibility of a young man making a living out of agricultural pursuits. That is at the root of our difficulty. Given that a young man could reach the same success in life as an agriculturist that he could in other professions, I am of opinion that trained agriculturists would be forthcoming. These are the points that suggest themselves to me, but in stating them I wish it to be understood that I do not oppose the teaching of agriculture in our secondary schools. Furthermore, I am of opinion that the Imperial Department of Agriculture is endeavouring to overcome the difficulties I have indicated, and it is right that it should have the sympathy, co-operation, and active support of everyone in the West Indies. We came last year looking for light. We saw a glimmer then. Having heard Mr Deighton's very explicit paper to-day, I begin to think we have streaks of dawn. I hope that when next we meet we shall be in full light, and in a position to make agricultural teaching in secondary schools the success which it deserves to be.

THE PRESIDENT Mr Burton, the Headmaster of Combermere School, Barbados, has asked to be allowed to address a few words on the subject now before the Conference.

MR G B R BURTON I am of opinion we should start to teach agricultural science in the second grade schools in the West Indies for the following reasons. The majority of boys attending these schools will in time be engaged in agricultural pursuits as managers and book-keepers, and through them we would gradually reach the lower classes—that is, the labourers on the estates. I do not speak specially of the Combermere School because most of the pupils there will probably enter commercial life. Arrangements might, however, be made for the small number of our pupils intended for agricultural pursuits to attend the agricultural classes at the Government Laboratory, which happens to be quite near to our school. In extending agricultural education to second grade schools it is necessary to avoid two mistakes. (1) The teaching must not be given at so-called centres—classes will have to be formed at each school; (2) it is necessary that more than one lecture be given per week at each school, otherwise little good will be done. I may add that we shall never get agricultural science earnestly taken up until we place it on an equal footing with other subjects and give the boys equal attention and encouragement.

TEACHING AGRICULTURE IN ELEMENTARY SCHOOLS

BY THE REV J E REECE, M.A.,
Inspector of Schools, Barbados.

I have been asked to give a short account of the recent effort made in this Island by the Imperial Department of Agriculture to give instruction and a measure of practical training to some of the teachers of our elementary schools. Also to suggest how the work may be continued in future years.

About the middle of August last year a circular was sent by the Education Board to each supervising minister stating that a course of lectures on agricultural science would be given during the September vacation, and asking that the names of those teachers who were willing to attend should be sent in. About seventy teachers volunteered, but as it was impossible to accommodate so large a number at once it was decided to select forty-six of the teachers who were in charge of Primary and Combined Schools to attend. In consequence of the absence of Dr. Morris from the Island the Very Rev. the Dean of St. Michael, a member of the Education Board, gave the opening address. Mr R. Radcliffe Hall, the Assistant Professor of Chemistry, delivered eight lectures. The course comprised life and the elementary chemistry of it, plants, their nature and work, the nature, structure, and functions of roots, stems, leaves, and flowers, and the cultivation and care of plants.

Mr J R Bovell, the Superintendent of the Botanic Station, gave demonstrations on practical horticulture on four afternoons, and on two other afternoons conducted the teachers over the gardens at Government House and Queen's House. The teachers were most regular in their attendance, although many of them daily made a journey of over twenty miles. Several teachers have informed me that they considered Mr. Hall's lectures most interesting and instructive, and that they learned many things from Mr. Bovell's demonstrations which would be of great value to them in giving instruction to their pupils. An examination was held by each lecturer on the subject matter of the lectures. Thirty teachers attended this examination. The papers of nine of these were considered of sufficient merit to entitle the writers of them to be placed in the first rank. I have every reason to believe that the teachers who attended these lectures derived much good from them, and they will doubtless get more good from a similar course in the future. What has been done can only be regarded as a beginning, and I would venture to suggest that those teachers (whether teachers of primary schools or infant schools) who are interested in agricultural pursuits should be invited to attend a course of lectures to be delivered, say on the third Saturday in each month, with three or four extra lectures given during the Whitsuntide or September vacation (or both, if deemed necessary) and followed by an examination at the end of the year. Another course of lectures of a more elementary character might be arranged for on the fourth Saturday in each month, which assistant teachers and pupil teachers might be required to attend, and at their annual examination questions might be set on the subjects in which they had thus received instruction.

Then arises the question: What can be done to give regular and intelligent instruction in this subject to the children in our Elementary Schools? I have proposed to the Education Board that they should allow the teachers who gained a certain number of marks in the examination held by Messrs Hall and Bovell to prepare at once their pupils for examination in Blackie's Tropical Readers, and to grant a premium for each scholar who passes this examination successfully. The smaller book would be used by children in the fourth standard and the larger book by those in the higher standards. In the lower standards much useful information could be given by means of object lessons carefully selected, and intelligently taught. These in good hands would brighten school life and interest the children, but too often they are nothing but bare recitals of facts, and little is done to train the faculty of observation. It may also be

possible to do something in the way of growing plants in pots or boxes, and in this connection it has been suggested to me by one of our teachers that prizes might be offered at one of our annual Exhibitions for plants grown in pots or boxes by our school children. As time goes on it may be possible to start a school garden here and there where a spot of land near the school house can be obtained, and these plots may be inspected by officers of the Agricultural Department, and prizes awarded. This no doubt will be a work of time, and it is right that it should be so. No greater mistake could be made than to force this matter on those who are unwilling to enter heartily into the scheme. Our motto in this case must be "*festina lente*." By the last issued report of the Committee of Council on Education (England and Wales), I find that in 1895 only one school out of the 19,739 inspected by Her Majesty's Inspectors of Schools obtained a grant for the practical teaching of cottage gardening, in the following year 42 schools received the grant, in 1897, 72 schools, and last year 84. In the same publication I find in the general report of one of Her Majesty's Chief Inspectors on the Schools in the Welsh Division the following remarks — "A great part of Wales is agricultural, and the people gain their livelihood by farming. It might naturally have been thought that in many rural schools the elder boys would have received instruction in cottage gardening, just as in many country villages, especially in Carnarvonshire, their sisters have lessons in cookery. Yet this subject practically receives no attention, and only 31 boys throughout the length and breadth of Wales received last year the cottage gardening grant. To anybody who has seen the zest with which boys enter into such a congenial occupation as outdoor work, and the stimulus which it gives to other studies, it seems strange that this should be the case."

The time has arrived when it is absolutely necessary that elementary education should be made more practical, and I feel sure that these West Indian Colonies will do their utmost, with the limited means at their disposal, to make it so. There has been very little attempt made in the past to draw out and train the faculties of children. Our system must be remodelled so as to draw out these faculties. "In too many cases" (to quote from a paper by Mr F. J. Lloyd) "the sole object of education has been to cram a certain number of useless and disconnected facts, or pseudo-facts, into what is termed the brain. Teachers recognise one faculty, and one only, viz, memory, and to train this one faculty to the neglect of every other has been the sole object of education for ages past, and remains so mainly to the present day. It has entirely neglected to develop manual skill, it has neglected to draw out or cultivate any mental faculty save memory, and even for this purpose has utilised subjects, the recollection of which would in no wise benefit the future farmer. But far worse than this, it has neglected the most valuable of nature's gifts to all of us, the strongest natural faculty we possess, observation. What is the most striking faculty possessed by a child from three to six years of age? The power of observation. Watch that same child between the ages of thirteen and sixteen, and the power, though at times manifesting itself, is gradually becoming dormant, partly because it has not been cultivated, partly from its constant suppression by the ignorance and heedlessness of those who surround the child. Ten years later the faculty is practically non-existent, lost from neglect of use, as a singer may lose the power of song or a musician the power of execution. The difficulty now found in improving Agricultural Education depends greatly upon this failure of the past." Be ours the task, as far as lies in our power, to try and remedy this defect in our Educational systems in the West Indies.

DISCUSSION.

The PRESIDENT: The Lectures so successfully given at Barbados and St. Lucia will shortly be extended to Grenada, St. Vincent and Dominica. Great interest has been taken in these lectures in every part of the West Indies. It is evident that we are working on right lines. We

have among us to-day leading educational authorities whose counsel based on long experience we would gladly welcome. In Jamaica, for instance, the vote for Elementary Education amounts to about £60,000 yearly. There are in all about 900 teachers. Strenuous efforts are being made to adapt the educational system in that island to the requirements of the people and on lines very similar to those advocated by the Imperial Department of Agriculture. As Representative of Jamaica we have here the Acting Superintending Inspector of Schools, Mr George Hicks, who is one of the most earnest educationists in the West Indies. I would ask Mr. Hicks to be kind enough to open the discussion following Mr. Reece's paper.

Mr Hicks The interesting and useful paper just read is full of encouragement to those about to undertake similar work. The systematic instruction of the teachers is of course essential before they can embark on the instruction of their pupils. Provision was made for agricultural instruction in the Jamaica elementary schools and special grants offered, but without accomplishing very much. We now propose to make such instruction an integral part of the curriculum. We are liable to fall into a mistake in introducing agricultural education into the elementary schools in the West Indies. Statements have been made that country boys prefer a town life and clerical work to a country life and tilling the soil. But this is not peculiar to the West Indies. It appears to be universal. In France what we know as the "French scheme" of agricultural instruction has been introduced for the express purpose of preventing the French country boys from yielding to the tendency of drifting into the towns and neglecting the cultivation of the soil. As in France, so in America; leading educationists there also are seeking to counteract the same tendency.

Dr MORRIS, In European countries and in America there are factories and other means of employment in towns to attract the people. Here we have none.

Mr Hicks Because that is so, our problem is not so difficult. The boys here, forsaking the soil, drift into towns, and if they find no employment there they drift back again to engage unwillingly in agricultural work. Our aim should be to equip them for such work and enable them to live comfortably by it. It is now believed, and I am satisfied the belief is well founded, that education can be given on wiser and more extended lines than formerly, and that the country boy so educated will find country life both remunerative and attractive. It is currently believed that there is on the part of the people of the West Indies an aversion to manual labour. We are liable, I think, to give this too large an interpretation. "Little labour, little gains" is quoted by our President. I would add "The greatest gain with the least labour" as the universal rule. The aversion to manual labour is, after all, only a desire for greater gain with less labour. When increase of gain is offered the manual labour is forthcoming. This has been fully proved everywhere in the West Indies. I believe if we base our educational efforts upon the general truth that the people in these colonies are like other people, that they have essentially the same desires and are actuated by the same motives, we shall be on safe ground. It is fortunate that the proposed agricultural instruction which seems to be urgently needed in the West Indies, is also that which is best from the educational standpoint. The Imperial Department of Agriculture is therefore promoting educational methods in the best interests of all. The new lines of education, the hand and eye training, the training of the powers of observation, the learning to see things and to do things, are I believe truer lines, upon which, generally speaking, a more valuable education will be gained. Our attitude should be not that of standing aloof and offering the tillers of the soil that which is for them and not for us, but as offering what we share with them—that which is best for them and best for all. The eyes of the country child should be unsealed. He should be made to see the beauties and wonders that lie about his feet, and are to be found in profusion all around him. A sympathetic, skilful teacher will invest rural life with an interest that will attract and fascinate. The life that was monotonous, dull, insipid, and purely mechanical will be changed into one full of interest; and with this there will be gained a discipline of the mind, a development of intellectual power, which are

prominent aims of all true education. The new knowledge and skill will be to the country boy as a new tool, the possession of a new power, and he will be eager to make use of it. What is done on a small scale in a corner of the school plot, or in the box-garden, will be reproduced at home on a larger scale and with added interest. It will be his delight to show what he can do, and the useful results of his doing. He will find use for his knowledge of reading, writing, and arithmetic in connection with his observations and experiments in the study and mastery of some of the secrets of nature. He will have a desire to read; and, if we are wise, we shall see that he has opportunity by providing the school with a suitable library, and some of the books specially applicable to country life.*

The educationists of France and America are zealously endeavouring to make rural life more attractive, and I feel sure that they will find this possible, and also that we, moving upon like lines, will find it to be possible in the West Indies. The Imperial Department of Agriculture will certainly accomplish much in the efforts now put forth to make rural life more interesting and more profitable, and therefore more attractive. I am sure that we who are engaged in educational work will most heartily co-operate with the Imperial Department of Agriculture in its present effort to introduce a wise and feasible degree of agricultural instruction into the elementary schools of the West Indies.

Mr W BLAIR (Inspector of Schools, British Guiana). A few days after my arrival in British Guiana I received a letter from the Government Secretary asking me to submit a Code of Rules and Regulations awarding special grants to Mission Schools for Aboriginal Indians, and to schools in remote and sparsely populated localities. I will not take up your time in giving you the details of these rules, but it appeared to me that having had some experience of Agricultural and Technical Schools in the Island of Ceylon I could at the same time prepare a Code for Agricultural and Industrial Schools for British Guiana, and I had the satisfaction of seeing my proposals adopted by the Governor and the Court of Policy, and the Combined Court passed a vote of \$1,500.

I divided the Schools into 4 classes, A, B, C, D

The following regulations were adopted —

(1) Industrial Schools in which technical instruction is given shall be classed as "D" Schools.

(2) An application for a grant-in-aid to an Industrial School will be entertained on the following conditions —(a) that the school shall teach agriculture or a trade or trades approved by the Inspector of Schools; (b) that the school shall be sufficiently provided with appliances for elementary instruction in agriculture or in the trade or trades to which the school is devoted, and (c) that the master or mistress appointed to teach agriculture or the trade or trades is duly qualified.

(3) The Manager of a "D" School shall receive in addition to the general grants payable under No. 12 (a), (b), and (c) of the Education Regulations, 1890, the sum of \$7 50 for each pupil, being over twelve and under seventeen years of age, who may be certified to have been in attendance for not less than 100 days, and to have received daily not less than two hours' instruction in agriculture or in the workshop, and who is able to work at his trade to the satisfaction of the Inspector of Schools, provided that the grant to any single "D" School shall not exceed the sum of \$200 (£41 13s 4d).

(4) The number of "D" Schools shall not exceed ten.

* Note added:—Some Schools in Jamaica now have Libraries, mainly through the personal efforts of Mr. Hicks. There is a proposal before the Government to assist the formation of School Libraries by the offer of a grant to defray one-half the total cost. [Ed. W.I.B.]

The first to ask for a grant were the Nuns of the Ursuline Convent for the establishment of a school laundry, which has been an unqualified success, and it is impossible to visit that institution without admiring the skill and dexterity with which young girls between the ages of twelve and seventeen years wash, starch, and iron ladies' underclothes of every sort and description, and under the direction of the Nuns the finest article. Without the Government grant it more than pays its way, and if the Government grant were withdrawn to-morrow, which it will not be, the School would be carried on just the same. Lady Sendall visited the laundry a fortnight ago and saw the girls at work, and spoke of their performance in terms of the highest commendation.

A tailors' shop was started in Georgetown by Canon Josa in connection with Christ Church School, which for the last five years has been fairly successful. A carpenters' shop at Plaisance School was opened with a flourish of trumpets, but it was never a success, and in three years had to be abandoned. Two Agricultural Schools, one in Demerara, East Coast, and one in Berbice, at Rose Hall, were opened, but both these schools were close to sugar estates, on which the boys who were inclined to work could readily find employment and earn from 6s to 8s a day. The more ambitious of them considered working in the fields as degrading, and they were anxious to attain what Mr Gladstone described as the "supposed paradise of pen and ink." The parents supported their children, and the schools were hopeless failures. We have been more successful at the Roman Catholic Mission Station at Santa Rosa. I have not had an opportunity of visiting the school, but my assistant reports that it is doing a good and useful work. I am afraid that one of the causes of failures was my want of respect for the prejudices of the parents. If I had required less I should have probably achieved more.

Simultaneously with the establishment of Industrial Schools I made important changes in the Syllabus of Subjects for Teachers' Certificates, introducing Agriculture for males and Domestic Economy for females. Dr. Nicholls' work is our text book, and the Hon. B. Howell Jones, a planter of wide and varied experience, is the Examiner. I have already handed to Dr Morris copies of the Examination Questions set at the examination held last week, and I shall be glad if he will give you his opinion on them. Arrangements are also being made for giving a few of our most intelligent schoolmasters a course of lectures in Chemistry and Botany. Professor Harrison has submitted the course to the Government, and we are now only waiting on the Combined Court for a vote. I am hopeful for the future, and if I am privileged to attend the Conference next year I trust that I shall be able to give you an interesting account of what we have done.

Mr. J. H. COLLENS (Acting-Inspector of Schools, Trinidad): I have listened with considerable attention to the valuable paper read by Mr Reece, and I fully endorse all that he has said. We have embarked in Trinidad on pretty well the same lines as in Barbados, and in Jamaica. I cannot, however, say for Trinidad what Mr. Hicks said with regard to Jamaica—that our people have no antipathy to manual labour. I am sorry to say they have. consequently, the colony finds it necessary to import a large number of East Indian labourers, or it would be impossible to get all our agricultural work done. If there is an attempt to make a child in the schools do manual labour, the parents state their objections very forcibly. I agree with Mr. Hicks that if our attempts to teach agriculture in elementary schools are to be successful, the greatest possible tact must be shown by the officers concerned. We must not drive or coerce the people; above all, we must try and instil into the children's minds a love of nature, and the necessity of learning nature's methods. If we succeed in doing that, we may hope in time to turn their attention to field pursuits and to agriculture generally as a means of earning a livelihood. We must, however, proceed very cautiously. In Trinidad it has been decided that the teachers should, first of all, have a course of lectures, and in the event of their showing aptitude in teaching agriculture and passing an examination in the syllabus laid out, they are to be rewarded by receiving a bonus

