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THE
EDUCATIONAL RECORD
OF THE
PROVINCE OF QUEBEC.

No. 5.

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VOL. IX.

Articles: Original and Selected.

IMPROVED SCHOOL-GROUNDS.

We have always had the idea that in the Province of Quebec an effort should be made by our teachers to make the school-house a pleasant place for the pupils within and without. There is no reason why the school building should not always be found nestling amid the foliage which is so grateful to young and old in our summer climate; and in view of the encouragement which the Protestant Committee propose to give to those who show some activity in making improvements in this direction, many of our teachers will learn how such work is to be accomplished, by what has been accomplished elsewhere. It will be probably some time before we can attain to the results which Mr. Livingston, the author of the subjoined paper, seems to have realized, but all of us can at least learn from his experience, and do what we can to earn the bonus that will in all probability be given in the years to come for this kind of progress. Mr. Livingston, who is a teacher across the line, says, in beginning his paper, "that the school-grounds should be the most attractive place possible, instead of being what they usually are, has been, in my mind, for many years, a firmly fixed idea. Eight years of persistent, patient work in the line of this idea have produced some experience and some results that may prove suggestive. I shall describe our yard and briefly note some of the means employed to make the improvements.

The building is a brick structure, faces east, and has in front an acre of ground in the form of a square. A broad walk extends from the front door half way down and then branches diagonally to each corner. From each side of the front door a walk extends around the building.

The first thing was to secure some trees. Native trees from the neighboring woods are far better than any procurable from any nursery. They are more hardy, grow better, last longer. One can select trees of good form. They can be transplanted promptly and carefully; hence trees very much larger than those from the nursery may be safely taken. Thus at least five years' growth may be saved in the hard wood trees, and the desired beauty and utility secured that much earlier. Our three favorites are the elm, the hard maple, and the linden. Each has naturally a handsome shape as well as beautiful foliage. About a dozen trees furnish all the shade we need, without injuring the grass.

The beauty of the sod must be preserved, for it is the real setting of the whole. How to secure a good lawn can be learned from any book on gardening, or from some friend who has had experience in this line. A thin coating of land plaster each spring many times repays its costs by the increased richness of coloring and rapidity of growth quickly seen in the velvety carpet.

A hedge of arbor vitæ runs from each corner of the building to the fence, and thus shuts off the back yard. The north wing of the building is set some twelve feet back from the front line of the main part. This left a triangular piece of ground between the building and the walk. The angle formed by the building is just north of the tower. In this shady corner we made a rockery of spar and marble chips, which we filled with ferns from the woods. A bed of fuchsias with a border of sweet alyssum around the base looks very pretty against the green and white back-ground. Near the centre of the triangle is a small round bed of choice pansies or tea roses. Planted near the rockery and close to the wall is a Virginia creeper which reaches now nearly to the eaves and forms for six months in each year a very pretty drapery of foliage. A Queen of the Prairie rose near it is nearly twenty feet in height, and bore last summer more than five hun-

dred roses. This has to be taken down each fall and lightly covered with straw. When well fed with a fertilizer it blooms abundantly, and also sends up strong new wood for the following year. Near the corner of the building are a clematis Jackmanni and a clematis candida. These varieties are very hardy; and while at their best, the foliage is fairly hidden by the profusion of beautiful showy flowers.

On the main part of the building there is another Virginia creeper. We plant each year some rapid and strong growing annual climber near the door. The *cobcea scandens* has won our favor on account of its rapid growth, fine foliage, and large, bell-shaped flowers.

On the lawn are four round flower beds about four and a half feet in diameter. Two of these are usually beds of showy geraniums, as we find nothing more satisfactory for this purpose than good geraniums. In another is phlox or some other bright and steady-blooming annual, and the fourth is filled with whatever our whim demands.

In addition to these flower-beds we have several rustic baskets and four iron vases. A very durable and attractive basket is made as follows: Get a kerosene barrel, cut out about six inches of the middle, and thus make two good-sized tubs. Give these a layer of green paint, and then cover them with tolerably straight branches running parallel to the staves. The sticks should be about an inch in diameter and should retain their bark. Cut these so that the outline of the tub may have a *serrate* form on both top and bottom. Trim with wild grape vine, and give the whole a coat of oil, or else a coat of dark brown paint. Set the tub on a post about eighteen inches high, and weave around the stump some large strong grape-vines, so twisted as to form a good broad base. The vines will twist into almost any shape if cut while the sap is in them. Another very neat basket is made in a similar way by cutting the top of the tub in scalloped form, and then neatly covered with bark. Cedar bark may be procured in almost any lumber yard. This fits nicely, looks well, and is very durable. This last basket counterfeits a large stump quite well. Four iron vases complete our outfit in this direction.

I must not forget, however, the thing of most interest to our little people. It is a large, rustic bird-house on a twenty-foot

walnut post. This is the summer home of our blue-birds and martins, to which they receive a cordial welcome every spring.

Ah, but all this costs money, time, and patience. Yes, *all* these; but the investment pays large dividends. To note the educative influence on the children and the effect on their home yards, to find that the very roughest boy will carefully protect the flowers from injury, to see how proud the patrons become of "our school-yard," to enjoy the wondering surprise of strangers when told that during all the eight years not a single plant has been maliciously injured or stolen, to realize that it has proved an effective object lesson to several fellow-teachers—these are *some* of the returns.

Not one cent has been expended from the public treasury for this purpose. School entertainments furnish the funds. Some of the best plants are "wintered over" by pupils or friends of the school, who have plants of their own. This plan does not burden any one person, and secures a nucleus for the new season.

Editorial Notes and Comments.

The teachers of our superior schools present their pupils for examination on Monday, the 3rd of June, and there are one or two things which may be mentioned in connection with this annual competition, in order that co-operation on the part of all who have the supervision of them may be secured in bringing about a successful issue. The experience of the last two years will materially assist the teachers and the deputy-examiners in carrying out all the arrangements with due attention to the details. The deputy-examiners have been put in possession of the regulations for their guidance, and the declaration to be signed by them at the close of the examination, is of such a character as to preclude all indifference in regard to the manner of conducting the examination. As we have said before, these examinations form the most important event in the annual history of the school, and have been the means of unifying the various systems of school training which formerly existed in our province. The examination papers have been drawn up with the greatest care to keep within the scope of the curriculum laid down for such grades in the course of study, and in view of such

a fact are they subject to after criticism. It is not sufficient for a teacher to say that one paper is too difficult, or that this one in a lower grade is very much harder to answer than another in a higher grade. The first question to ask is,—is such and such a paper within the scope? And if it be, then it is not the examination paper but the scope that is to be condemned. As a general thing, the teachers are now convinced that the simultaneous plan of examination is the only plan to adopt where there is to be a competition for rank among the schools of the province, and we have no doubt that this year's manner of conducting the examinations will give further satisfaction to every one connected with our educational system. The consolidation of all the regulations in pamphlet form must be found of great service to the teacher who is anxious to know all about the law in this and other connections.

—The third-class teacher's certificate in Ontario, it seems, is only valid for three years, and when the three years are up, some of the teachers of that grade come over into the Province of Quebec, and ask the Department to grant them a diploma on the strength of a certificate which has expired. It is not difficult to understand that no diplomas have been issued on any such terms. The liberality of the Quebec authorities in recognising the certificates of teachers obtained in the neighbouring provinces is not to be abused in this way, and it is to be hoped we have heard the last of applications of the above character.

Current Events.

—The Girls' High School of Quebec shares this year again in the scholastic honours which are being conferred at this season. The two young ladies who have taken their B. A., as mentioned above, are Miss McLeod and Miss Sloan, who were educated in that institution previous to their joining the classes of Morrin College.

—The examination for School Inspectors took place at Quebec on the 5th of April last, when the following gentlemen succeeded in gaining the number of marks sufficient to give them rank as being eligible for appointment as Inspectors :—Rev. R. Hewton, Rev. E. M. Taylor, and D. M. Gilmour. The recommendation for appointment comes from the Protestant committee.

—In mentioning these changes, we may say that it would be well for school commissioners elsewhere to imitate the example of the Sherbrooke Board, and not delay in making their appointments. Several teachers have sent their names to the editor of the *Record*, and these have been entered on the list of those who are open for new appointments; hence if school commissioners find any difficulty in procuring the services of a teacher, they may take advantage of making application to them for information.

—The first of the changes among our teachers for the coming scholastic year beginning with September next, has to be chronicled in the appointment of Mr. Hewton, of St. Johns, to the position of Principal of the Young Men's Academy of Sherbrooke. The appointment is one which ought to give satisfaction to the friends of education in the chief town of the Eastern Townships. Mr. Hewton's record is an excellent one, and we have no doubt that the success of the past will follow him in his new sphere of labour. He takes the place of Mr. Howard, who goes to fill an important position in the United States. It is a matter of regret that we have to record the departure from our province of such a man as Mr. Howard, who has for so many years been identified with the teaching profession in our province. His presence will be missed at the teachers' gatherings.

Practical Hints and Examination Papers.

IN DRAWING.—I had triangles, squares, circles, stars and diamonds cut out of pasteboard for the wee ones to draw with. After a time I desired the older ones to take two or more of these patterns and originate designs with them. This, after a few trials, they did very well. As soon as they gained an ability to make designs, smooth and regular, I introduced colored chalk for them to color and shade with. As a result, some of their designs were very pretty, evidencing an ingenuity for which I had never given them credit. After this, when their lessons were done, I had no trouble in keeping them busily employed.—*Popular Educator*.

—A very common fault in country schools is that of telling pupils much that they could and should find out for themselves. The temptation to give this kind—a very unwise kind it is—of assistance is much greater in a graded city school where the teacher has only one or two grades in her room, and can afford to take time to lead the child to discover for himself the truth sought after. When a pupil comes up with a question concern-

ing the construction of some word in a sentence, it is much easier to tell him what case and mood, and why, than to look over the sentence, recollect the knowledge necessary on the part of the child to enable him to study it out for himself; decide whether he has that knowledge, and then, if he be not already trained to original investigation, ask him a few questions the answers to which will enable him to arrive at the answer to the original question brought you. How much easier to tell a pupil to multiply by this, add that, divide by twelve and he will get the answer, than to aid him to go step by step from one known fact to another until he reaches the desired truth.

—We are afraid there would be some grumbling if such practical questions as the following were to appear in some of our examination papers, and yet no one will deny that such questions are of the right kind. The editor of them says:—Every pupil who has studied the subject of geography should be able, without any hesitancy, to correctly answer each of the following questions:—

If you wish to be surprised, try them; You will find a number who have “bin in jog-a-fy.”

1. How wide is the equator?
2. Can a person reach the North Pole by travelling N.W.?
3. If it is 4 p.m. here what time is it 165° west, east?
4. Draw two right angles with straight lines.
5. The difference in time between two places is one minute, what is the difference in longitude?
6. If your town lies on the 80 meridian, on what meridian do all other places having the same time lie?
7. Are parallels of latitude or lines of longitude straight lines?
8. Are meridians parallel lines?
9. Draw a line at an angle of 45°.
10. A straight line drawn from the centre of the earth pierces the surface 32° north of the equator. How many degrees to the South Pole? To the North Pole?
11. At what time of the year is the equator nearest the North Pole?
12. Are degrees of longitude all the same length?
13. At what point on the globe is there no latitude or longitude?
14. What is the diurnal motion of the earth?
15. When it is noon at Washington, what is the time 12° north, south?
16. Two persons are travelling *north toward* each other, how is this?
17. The news of a morning fire in New York reaches San Francisco before daylight. Explain.

—*The Progressive Teacher.*

—SCHOOL-BOY HONOR.—There are few things more irritating to the teacher than the conduct of pupils based on the false notion that it is always dishonorable for one pupil to expose another who may have been engaged in something detrimental to the good order and welfare of the school. Students when told that the law holds the accessory equally

guilty with the perpetrator of a crime or a misdemeanor, admit the soundness of the principle but still maintain that such is not the case in school life, and they therefore refuse to divulge any knowledge they may possess with regard to the real culprits. The question with the teacher is,—How shall a culprit under such circumstances be detected?

Books Received and Reviewed.

THE STICKNEY READERS OR CLASSICS FOR CHILDREN, compiled by J. H. Stickney, and published by Messrs. Ginn & Co., Boston. The fourth of this series has come to hand and it fairly sustains the volumes previously issued. The best test applied to such books is experiment. We have experimented with them, and can safely say that the results prove them to be excellent books in the hands of a child learning to read.

THE PSYCHIC LIFE OF MICRO-ORGANISMS, a study in experimental psychology by Alfred Binet, translated from the French by Thomas McCormack, and published by the Open Court Publishing Co, Chicago. The subject treated in this little volume, is a branch of psychology little known, and W. Binet has attempted in giving the study a new interest has endeavoured to show that psychological phenomena begin among the very lowest classes of beings—from the simplest cell to the most complicated organism. To the metaphysician who has fought his way out of the circle-thinking of the old schools, this book will be of the greatest interest. It is another stone laid in the foundation lines of the new psychology.

CONFESSIONS D'UN OUVRIER, by Emile Souvestre, edited by O. B. Super, Ph. D., Professor of Modern Languages in Dickinson College, and published by Messrs D. C. Heath & Co., Boston. This is an excellent supplementary text-book for our course in French, and would have been complete had there only been a vocabulary attached. The notes, however, make up very much for this defect. Those of our teachers who care to examine this work will find on nearly every page the genuine expression of noble feelings and, above all, an effort to correct the false impression that material possessions make up the sum of human happiness, whereas this consists rather in the faithful discharge of our duties, in friendly good feeling, and in practical benevolence towards our fellow men. The narrative reveals to us the manner of thinking of a genuine "homme du peuple."

ELEMENTARY SYNTHETIC GEOMETRY by Professor N. F. Dupuis, M.A., of Queen's College, Kingston, and published by Messrs. MacMillan & Co., London, England. This is the work of a teacher of long experience in one of our Canadian Universities, and may be taken as an introduction to the study of analytic geometry, or at least will enable the student who has passed through such a course as is laid down in its pages, to take up the study of analytic geometry with the zest that comes from a previous

experience, The point, the line, and the curve in a common plane are taken as the geometric elements, and by one of these, or their combinations, are defined as a geometric plane figure. There are in all five divisions in the book, each of which is divided appropriately into sections dealing with the various geometric figures discussed by Euclid.

ELEMENTS OF ANALYTIC GEOMETRY by Arthur S. Hardy, Ph. D., Professor of Mathematics in Dartmouth College, and published by Messrs. Ginn and Co., Boston. This, taking Todhunter's text-book as the standard, is an excellent text-book for the student, and will no doubt soon find its way into general use. Particular attention has been paid to those fundamental conceptions and processes which, in the experience of all mathematical teachers, have been found to be sources of difficulty to the student in acquiring a grasp of the subject as a method of research. The limits of the work are fixed by the time usually devoted to the above subject in our college courses by those who are not to make a special study of mathematics. The work will certainly prove to be a text-book which the teacher will use in his class-room, rather than a book of reference to be placed on his study shelf.

NATURE READERS: SEASIDE AND WAYSIDE; by Julia M. Wright, and published by Messrs. D. C. Heath & Co., Boston. This is the third volume of a series of children's readers which has become a favourite with our pupils. It would be well to add it to our school libraries. The author has not sought to model these books upon any pattern previously set, but to make them the outcome of her practical knowledge in dealing with the receptive and retentive powers of children. The "general knowledge" principle is being adopted nearly everywhere, and if we can only introduce an examination paper at the end of the year in our schools testing the intelligence of the pupils, we would only be doing what others have done. This book and its predecessors would be of great assistance in giving the child some of that general knowledge which makes so pleasant the acquiring of what has been called school knowledge.

HYGIENIC PHYSIOLOGY by Joel D. Steele, Ph. D., and published by Messrs. A. S. Barnes & Co., New York and Chicago. This is the third volume of the Pathfinder series on physiology and hygiene, and as it is an advanced form of the books which have been already issued, it will prove to be of great service to the teacher in preparing the lessons of the day on that subject. The author has evidently gleaned from every field, to secure that which will interest and profit his readers. The engravings and the coloured plates are of the best workmanship, while as a special feature, the analytical questions at the end of each division of the book, must be of invaluable service to teacher and pupil. The whole work is written in a spirit which will satisfy those of us who desire our children to recognise cause and effect in the laws which regulate health and happiness.

Correspondence.

LACHINE:—It is pleasant to learn that you have been so far successful in your plans in organizing your class in manual labour. As an inception of the movement in our province; it will certainly attract attention to your work at Lachine.

D. M. G. writes to say that Arbor Day was commemorated by the planting of forty-five elms around the Sutton School-house. The play-ground has all been levelled. The library is also receiving additional volumes from week to week. "Altogether," he says, "should the present condition of things be followed up for a few years, I see no reason why this should not become a first-class school."

GRUBE METHOD IN ARITHMETIC.—It consists of training beginners from five to six years of age on combination of numbers, not exceeding ten, in addition, subtraction, multiplication, and division. Begin with counters, such as small blocks of wood, shells, corn, beans, or pebbles, and use them for two or three months, until the pupils can make the combinations without the aid of objects.

Official Department.

DEPARTMENT OF PUBLIC INSTRUCTION.

QUEBEC, 14th May, 1889.

Which day the quarterly meeting of the Protestant Committee of the Council of Public Instruction was held. Present:—R. W. Hencker, Esq., LL.D., in the chair; Sir William Dawson, C.M.G., LL.D.; the Rev. John Cook, D.D.; the Ven. Archdeacon Lindsay, M.A.; George L. Masten, Esq.; the Rev. W. I. Shaw, LL.D.; Dr. Cameron, M.P.P.; A. W. Kneeland, Esq., M.A.; E. J. Hemming, Esq., D.C.L.; the Very Rev. Dean Norman, D.D.; the Rev. George Weir, LL.D.; the Rev. George Cornish, LL.D.

The minutes of the previous meeting were read and confirmed.

A communication was received from the Hon. Judge Church, regretting his inability to be present at the meeting of the Committee, on account of official engagements.

The following correspondence was submitted for the consideration of the Committee:—

1. From Miss Mary E. Egg, Montreal, applying for exemptions in the examination for a teacher's diploma under Regulation 40, and presenting certificates. The Committee agreed that Miss

Egg be exempt from all subjects of the examination for an elementary diploma, except Scripture History, French and Euclid.

2. From Miss M. Boa, St. Laurent, applying for exemptions in the examination for a Model School diploma under Regulation 40 and presenting certificates. The Committee agreed that as Miss Boa had been granted exemptions under Regulation 40 for an elementary diploma last year, no further exemptions could be given.

3. From Miss Martha L. Brown, Quebec, applying for exemptions in the examination for an Academy diploma under Regulation 41, on the ground of her standing in the intermediate examination at McGill University.

Moved by Sir William Dawson, seconded by the Very Rev. the Dean of Quebec,

That students who may have passed in the sessional examinations at the end of the second year in either of the Universities of this Province shall be allowed exemptions in those subjects of the examination for Academy diploma in which they have passed in the first class;

That the Chairman and Secretary be requested to prepare a regulation to the above effect and that in the meantime it be applied to any case or cases now before this Committee. Adopted.

4. From Mr. J. A. Nicholson, Montreal, applying for a first class Academy diploma under Regulation 54b, and presenting certificates. The Committee agreed to recommend that Mr. Nicholson be granted a first class Academy diploma on the production of the necessary certificates.

5. From Stanley A. Banfill, Montreal, applying for exemptions in the examination for a Model School diploma under Regulation 41, on the ground of his standing at the McGill Normal School. The Committee agreed that they have no power under existing regulations to grant Mr. Banfill exemptions.

6. From Mr. S. P. Rowell and Miss Liliias Watson, both of Montreal, applying for first class Academy diploma under Regulation 56, and submitting certificates. The Committee agreed that Mr. S. P. Rowell and Miss Liliias Watson be granted first class Academy diplomas.

7. From the Honorable Mr. Mercier referring to the resolution of the Protestant Committee of the 6th of February concerning the minutes of the Council, submitted for the information of the Committee.

8. From Dr. Christie, of Lachute, regretting his inability to accept the appointment as an associate member of the Protestant Committee, as it would be impossible for him to attend the meetings of the Committee regularly. The Committee agreed to postpone the appointment until the September meeting.

9. From the Provincial Association of Protestant teachers, recommending a series of text-books in drawing. The Committee agreed to refer the communication to the sub committee on text-books.

10. Applications from the candidates for the position of school inspector of the counties of Quebec and Megantic, were read from Rev. Mr. Tanner, Rev. Mr. Hewton and Mr. Albert Kinnear; and from A. L. Gilman, D. M. Gilmour, Willard A. Wells and the Rev. E. M. Taylor, for the position of school inspector of Protestant schools of the counties of Brome and Missisquoi.

The Board of Examiners for candidates for the position of inspector of Protestant schools reported that four candidates presented themselves for examination on Friday, April the 5th, and that three of them, namely, Rev. R. W. Hewton, Rev. Ernest M Taylor, and David M. Gilmour obtained more than fifty per cent of the marks in each of the three subjects of the examination as required by regulation. The report was received.

On the motion of the Very Rev. Dean Norman, seconded by the Rev. Dr. Shaw,

It was resolved that the Rev. Richard W. Hewton, M.A., be recommended to the Lieutenant-Governor in Council for appointment as Inspector of Protestant schools in the place of the Rev. M. M. Fothergill resigned, in accordance with Article 1940 of the Revised Statutes of Quebec.

It was moved by Sir William Dawson, seconded by the Rev. Dr. Cornish,

That the Rev. Ernest M. Taylor, M.A., be recommended to the Lieutenant-Governor in Council for appointment as Inspector of Protestant schools in the place of Mr. J. A. McLoughlin deceased, in accordance with Article 1940 R. S. Q.

Mr. Hemming moved in amendment, seconded by Dr. Cameron,

That Mr. D. M. Gilmour be appointed to the position. The amendment on being put, was lost on division, and the main motion was subsequently carried.

11. A resolution was presented from the McGill Normal School Committee, recommending Mr. T. B. Smiley for the position of head master of the Boys' Model School in connection with the McGill Normal School.

On the motion of Sir William Dawson, seconded by the Rev. Dr. Cornish,

It was resolved to recommend Mr. T. B. Smiley to the Lieutenant-Governor in Council for appointment as head master of the Boys' Model School in connection with the McGill Normal School at a salary of one thousand dollars a year, in accordance with Article 1940 R. S. Q.

12. From the Rev. James Watson, Huntingdon, submitting a resolution concerning the Jesuits' Estates Act. The letter was received and placed on record.

13. From Mr. J. A. Dresser, head master of Shawville Academy, asking that the examination papers for an Academy diploma be submitted at Aylmer for candidates for that section of the province. The Committee agreed to instruct the Secretary to make arrangements to submit the papers for the Academy diploma at Aylmer in July next.

The Secretary presented the following financial statement of the Protestant Committee which was received, examined and found correct:—

CONTINGENT FUND.

RECEIPTS.

1889.

Feb. 1.	Balance on hand.....	\$1,119 96
April 1.	Fees for A. A. certificates.....	45 00

EXPENDITURE.

Feb. 6.	Secretary's salary for quarter ending 31st December, 1888.....	50 00
Feb. 6.	R. White, for printing.....	1 50
April 3.	Salary of Inspector of Superior schools for quarter ending 31st March, 1889.....	125 00
	Secretary's salary for quarter ending 31st March, 1889.....	50 00
		<hr/>
		\$ 226 50
April 14.	Balance on hand.....	938 46
	Bank balance.....	939 96
	Outstanding cheques.....	1 50

(Signed,)

Examined,

R. W. HENEKER.

Sir William Dawson submitted the following application from the Board of Examiners for the certificate of Associate in Arts: "That the Protestant Committee be requested to contribute a sum of not less than \$200 towards the expenses of the Associate in Arts examination."

The resolution was received and laid over for consideration until the September meeting of the Committee.

Dr. Heneker then submitted a report on behalf of the sub-committee on the Jesuits' Estates. On motion of the Rev. Dr. Cornish it was resolved to receive the report and to consider the clauses seriatim. The report of the sub-committee was examined clause by clause, certain amendments were introduced, and it was moved by Sir William Dawson, seconded by the Very Rev. Dean Norman.

That the report as amended be adopted, and that the sub-committee be continued with the addition of Dr. Cameron's name, with instructions to communicate the report to the Premier of the Province to arrange for an interview with the Premier of the Province concerning the report, and to print and circulate the same.

The Rev. Dr. Cook moved in amendment, seconded by the Rev. Dr. Weir,

That this Committee, though not elected, is in consequence of the selection of the members who compose it, to a certain extent representative. It is appointed and expected to have regard to whatever concerns the interest of Protestant education in the Province of Quebec; not merely to make wise application of the funds entrusted to it, for that purpose, but also to see to it, as far as in it lies, that no funds legally and definitively set apart for such purpose be withdrawn. And the recent legislation in regard to the Jesuits' Estates seems an occasion on which it is the duty of the Committee to intervene, for the protection of Protestant rights, in regard to education.

That the Jesuit Estates having been confiscated in the reign of George III., became the property of the Crown, and were in 1831 transferred to the authorities of the then Province of Canada, to be applied to the purposes of education exclusively within the province, as appears by the preamble of the Act, 2 William IV, ch. 41, wherein it is stated that "His Majesty has been graciously pleased to confide without reserve to the Provincial Legislature the appropriation of the funds arising from the estates of the late order of Jesuits to the purposes of education exclusively."

That thereupon they were constituted a special fund for education and have always since been regarded as such. In particular by the Act 19-20,

Vict., ch. 54, the Jesuit Estates were appropriated as an investment fund for superior education in Lower Canada, and the revenues and interest arising from them, were assigned to form an income fund for the same purpose. That thus from the year 1831, when they were transferred by the Crown to the province, until the Act of 1888, these estates have been regarded and dealt with by all administrations as a trust for education, the defined purpose for which they were handed over to the Provincial Legislature. In consequence of the Act 51-52 Vict., ch. 13, the law establishing these provisions was substantially repealed, and power was given to the Lieutenant-Governor to sell the whole Jesuit property and to apply the proceeds to any purpose approved by the Legislature, and thus no fund now exists for the support and maintenance of superior education in this province, and the public provision for its continuance is dependent on the fluctuating decisions of the Legislature.

The Committee deplore this result, both as regards the Catholic and Protestant population. But its special duty is to regard that result as it affects the Protestant minority of the province, and on their behalf the Committee take leave to say that they consider the appropriation of any portion of the funds derived from the Jesuit Estates, to any other purposes than those of education, to be a breach of trust, and hold it may be justly questioned whether the Quebec Legislature could legally make such appropriation.

Also on their behalf, the Committee declines the proffered sum of \$60,000 as at all equivalent to the guarantee of a specially invested fund, inalienable, as the Committee believes, by the conditions on which it was given, and on which it has hitherto been held, and by the special provisions of the 93rd Sec. of the B. N. A. Act.

The amendment on being put was lost on the following division :—

For—Rev. Dr. Cook, Rev. Dr. Weir—2.

Against—R. W. Heneker, Esq., Sir William Dawson, the Venerable Archdeacon Lindsay, George L. Masten, Esq., Rev. W. I. Shaw, Dr. Cameron, A. W. Kneeland, Esq., E. J. Hemming, Esq., the Very Rev. Dean Norman, the Rev. George Cornish—10.

Then main motion then being put was carried on the same division.

The report as amended reads as follows :—

THE JESUITS' ESTATES SETTLEMENT.

This important Act of the Legislature of Quebec was first brought under the notice of the Protestant Committee of the Council of Public Instruction on the 6th of February, 1889, by a letter from the Provincial

Secretary. A sub-committee was appointed with instructions to consider what effect the Act would have upon the vested rights of the Protestant people of this Province, and upon the interests of Superior Education therein, and on the funds already devoted to those interests and purposes. The sub-committee made their report on the 15th May, 1889, and the following is the action of the Committee (the Protestant Committee) in this important question. The following brief sketch will show the history of the appropriation of the Jesuits' Estates to the purposes of Education:—

1. In the preamble of the Act 51-52 Vict., Cap. 13, "An Act respecting the settlement of the Jesuits' Estates," the following statement made by His Honor the Lieutenant-Governor at the opening of the Legislature in 1888 was inserted:—

"Whereas the said Estates were confiscated by the Imperial authorities under the reign of George III., after the suppression of the Order of the Jesuits, and were afterwards transferred to the authorities of the former Province of Canada—"

The authority for the above statement will be found in the preamble of the Act 2 William IV., cap. 41, an Act to make provision for the appropriation of certain monies arising out of the Estates of the late Order of Jesuits and for other purposes. The exact words are:—"Most Gracious Sovereign:" "Whereas His Excellency Matthew Lord Aylmer, . . . was pleased by message, bearing date the 18th of November, 1831, to lay before the Houses of the Provincial Parliament a despatch by him received from Lord Viscount Goderich . . . Principal Secretary of State the said year, whereby it appears that your Majesty has been pleased to confide without reserve to the Provincial Legislature the appropriation of the funds arising from the Estates of the late Order of Jesuits to the purposes of Education exclusively; and whereas it is expedient to make Legislative provision for carrying your Majesty's gracious intentions in that behalf into effect. May it therefore please your Majesty, etc. :—"

By the same section provision was also made for the placing of a separate chest in the vault of the Receiver General's office in which were to be deposited the monies of the said Estates, and further that the said Estates "shall be applied to the purpose of Education exclusively in the manner proposed by this Act, or by any Act or Acts which may hereafter be passed by the Provincial Legislature in that behalf but not otherwise.

The foregoing shows conclusively the possession of the Estates by the Imperial Government, the transfer of the property to the Provincial Parliament in trust, the acceptance of the trust, and the action of Parliament in order to guard the trust, and to prevent the revenues of the Estates from being mixed up with ordinary Provincial Funds.

2. On the foundation thus laid, legislation took place from time to time with the object of appropriating the monies raised from these Estates

(see 9 V. c 59, 1846, sec. 1; and 16 V. c. 74, 1853, s. s. 4-5 for Normal Schools.) (*a* and *b.*)

The trust, so established, was not affected by the Seigniorial-Tenures Abolition Act of 1854, which expressly exempted the Crown and Jesuits' Seignories, from the operations of the Act, (see clause 35 of the said Act.) (*c.*)

LOWER CANADA SUPERIOR EDUCATION INVESTMENT AND INCOME FUNDS.

3. In 1856 by the Act 19.20 V. c 54, provision was made for the formation of two Funds, to be known respectively as the Lower Canada Superior Education Investment Fund, and the Lower Canada Superior Education Income Fund. These funds were established as follows:

INVESTMENT FUND.

The estates and property generally of the late Order of Jesuits, whether in possession or reversion—including all sums funded or invested, or to be founded or invested as forming part thereof, and the principal of all monies which have arisen or shall arise from the sale or commutation of any part of the said Estates or Property, were appropriated for the purposes of the said Act, and formed the Lower Canada Superior Education Investment Fund.

(*a.*) 9 Vict. c 59, §1, clause 1. An Act for the appropriation of the revenues arising from the Jesuits' Estates for the year 1846.

"Whereas it is expedient to provide by Act of the Parliament of this Province for the application of the revenues and interest arising from the Estates of the late Order of Jesuits to educational purposes in Lower Canada, and to appropriate certain sums out of the same for such purposes during the present year. . . . it is hereby enacted. . . . That the revenues and interest arising from the real or funded property forming part of the Estates of the late Order of Jesuits, and now at the disposal of the Legislature for educational purposes in that part of this Province which formerly constituted the Province of Lower Canada, shall be and are hereby declared to be applicable to such purposes and no other, and that from and out of the said revenues, etc. . . ."

(*b.*) 16 Vict. cap. 74. An Act to appropriate certain unexpended balances of the School Fund for Lower Canada, and certain other sums, out of the Jesuits' Estates Fund, for educational purposes in Lower Canada.

Clause 4. And whereas it is expedient to define by law what amount shall be paid out of the Jesuits' Estates Fund, for the years 1852 and 1853, towards providing for the remuneration of the school inspectors and for the establishment and maintenance of a Normal School in Lower Canada. . . . Be it therefore enacted, That out of the said Fund there shall be appropriated and paid for the above purposes a sum not exceeding £2,000 currency for each of the said years.

Clause 5. And be it enacted, That out of the said Jesuits' Estates Fund there shall and may be paid, as an investment at the rate of 5 per cent. interest per annum, payable half-yearly. . . . a sum not exceeding £1,500 currency, for the purchase of a site and buildings for a Normal School at Montreal, and a further sum not exceeding £500 currency for the necessary repairs thereto.

N.B.—In each of the above Acts, and in all Acts appropriating the funds of the Jesuits' Estates, there will be found an "Accounting Clause," that the due application of the moneys appropriated shall be accounted for to Her Majesty through the Lords Commissioners of Her Majesty's Treasury.

(*c.*) Seigniorial Act, 1854. Clause 35. Be it enacted, That none of the provisions of this Act shall extend to the. . . .Seignories of the late Order of Jesuits.

The Income Fund was raised as follows :

(a) From the revenue and interest to arise from the real property forming part of the Jesuits' Estates, or from monies funded or invested as belonging to said Estates, or from any property real or personal reversible to the said Estates as part of them, the revenue and interest of investments made or to be made, and debentures held or to be held on account of the said Estates.

(b) From the income and interest to arise from investments to be made out of the monies received or to be received from commutations effected or to be effected in the Seigniories forming part of the said Estates, and generally all the revenues arising out of the said Seigniories forming part of the said Estates.

(c) From the revenues arising from the investment of monies received, the sale of any portion of the said Estates, or from the sale or redemption of any 'rente foncière' or 'rente constituée' being part of the said Estates.

(d) In addition to the foregoing the unexpended and unclaimed yearly balances of the Common School Fund for Lower Canada were added to the said Income Fund, and a sum of \$20,000 was also appropriated to the same purpose, to be taken from the Consolidated Revenue Fund of the Province.

(e) Further, in case the whole of the preceding sums should fall short in any one year of \$88,000, then such sum shall be taken from the Common School Fund of Lower Canada and added to the same, derived from other sources, as shall make it equal to \$88,000.

It was further provided by the same Act of 1856 that if in any one year the whole of the Income Fund were not apportioned and distributed the balance not distributed was to remain for further distribution, but power was given to the Governor to cause the said balance to be invested and the income or the interest of the said investment was to be added to the said Income Fund, but the principal was to form part of the Investment Fund.

Thus the trust established by the transfer by the Imperial Government of the Estates in 1831, and accepted by the Provincial Government in 1832, was maintained, and made available by the Act of 1856 for Superior Education, through the two great Funds then created.

4. Though many changes were made in the Education Law after 1856, both before and subsequent to Confederation, no change was made in regard to these two Funds until 1888, and then (not by direct legislation but) indirectly by the passage of the Act respecting the settlement of the Jesuits' Estates.

In the draft of the Revised Statutes, published in 1887, which was submitted to the Council of Public Instruction, in order that the Government might receive any amendments which either of the two Committees might deem to be of importance, the clauses relating to the two Funds are to be found intact.

In 1887 the Revised Statutes were submitted to the Legislature and adopted, subject to certain modifications, so as to incorporate the Acts of the same Session, &c. In the *Annex* of the said Act, a list of Acts and parts of Acts so incorporated is given, but although the law relating to Public Instruction (classed under Title V.) is modified in certain particulars, yet no reference is made to the cancellation of the clauses relating to the two great Funds for Superior Education.

5. In 1888 the Act respecting the Revised Statutes (1887) was amended so as to incorporate the Statutes of a general nature passed during the session, "and by section 1 of this amended Act the Lieutenant-Governor may select such Acts and part of Acts passed during the present Session as he may deem advisable to incorporate with the roll marked A. mentioned in the Act 50 Vict. Cap. 5, (1887), as being that of the Statutes revised, classified, and consolidated, and may incorporate them therewith."

In the same session (1888) the "Act relating to the settlement of the Jesuits' Estates was passed and by section 6 of this Act the Lieut.-Governor was authorized to dispose of the whole of the property . . . known as the Jesuits' Estates. By section 7 of the same Act, the Act respecting Escheats and property confiscated to the Crown (48 V. c. 10) is made to apply to the said Estates "notwithstanding Section 5 of the said Act," which Section 5 reads as follows:—"This Act shall not apply to confiscated or escheated property with respect to which there exists special statutes." The effect of this was to place the property under the control of the Commissioner of Crown Lands, with power to the Lieut.-Governor to sell and dispose of the same. "And the proceeds of the sale of the whole property may be applied also notwithstanding any Act to the contrary for the above mentioned purposes (the payment of \$400,000 and \$60,000 respectively) or for any other purposes approved by the Legislature."

6. In the Revised Statutes, as last issued, the clauses establishing the two great Funds are omitted, and by Appendix B, vol. 2, Revised Statutes, p. xxi, they are declared to be "effete."

7. Thus the trust was broken and no fund now exists for the support and maintenance of superior education in this Province. The Lieut.-Governor may sell the whole of the Jesuits' property, and the proceeds are at the disposal of the Legislature.

Nevertheless the Government, represented by the Honorable the Premier, recognizes the obligations of the Province in this respect, as may be seen on reference to the votes and proceedings of the Legislative Assembly of the 11th March, 1889, p. 449, and the votes and proceedings of the same body of the 19 March, 1889, as follows:—

11th March, "QUESTION BY MR. HALL:—

Is the \$460,000 mentioned in the Act of last session, 51-52 Victoria cap. 13, respecting the settlement of the Jesuits' Estates to be taken out of the proceeds of the said Estates, leaving the balance to be appropriated to

Superior Education, as heretofore; or is said sum to be taken out of the Consolidated Revenue Fund of the Province, leaving the said property generally called the "Jesuits' Estates" in the same position as they were before the passing of said Act?

"Is the Act of last session, 51-52 Victoria, cap. 13, respecting the settlement of the Jesuits' Estates to be held as dissolving the Superior Education Investment Fund and the Superior Education Income Fund, as defined under the provisions of the Con. Stat. L. C., cap. 15, sections one to five inclusive and others, or will the guarantee and provisions of said sections still be maintained?"

Answer by Honorable Mr. Mercier:—

"The best way of giving an answer to this question, is to give an extract from the following letter to His Eminence Cardinal Simeoni, Prefect of the *Propaganda* at Rome."

"Extract from a letter sent to His Eminence Cardinal Simeoni, Prefect of the Sacred Congregation of the *Propaganda* at Rome, dated the 25th October, 1888:—

"Does the Government of the Province of Quebec intend to continue to give in future either to the three Archbishops or to the five bishops of Lower Canada or again to the Jesuit Fathers the grant hitherto voted for Superior Education, even after having paid to the parties indicated by His Holiness the Pope the sum granted by the Act of last session in settlement of the Jesuits' Estates."

Answer.—"Yes."

In virtue of an old law, the revenues of the Jesuits' Estates formed a special education fund, the amount whereof, which has hardly varied since 1867, is now seventy-eight thousand four hundred and ten dollars (\$78,410), of which sixty-six thousand two hundred and forty dollars (\$66,240) is at the disposal of the Roman Catholics, and twelve thousand one hundred and seventy dollars (\$12,170) at the disposal of the Protestants.

The government intends to leave that amount intact, at the disposal of the Council of Public Instruction.

19TH MARCH 1889, QUESTION BY HON. MR. ROBERTSON:—

Does the fact of the grant of \$460,000, made in the Jesuit Bill of last session to the successors of the late Jesuit Fathers and to the Protestant Superior Education have the effect to deprive the Superior Education Fund in the Province of the proceeds of balance of said Estate for distribution hereafter according to chapter 15 of the Consolidated Statutes of Lower Canada? Does the said grant mentioned and the Act of last session have the effect in fact of virtually abrogating or repealing the clauses of said chapter 18 of the C. S. of L. Canada, respecting the distribution of the proceeds of the said Jesuits' Estates Fund?

Will the Superior Education grants which may be made hereafter from year to year be made out of the consolidated Revenue Fund of the

Province irrespective of the proceeds of the said Jesuits' Estates and to all intents and purposes, as if the whole of said Estates had been absorbed or placed in the consolidated Revenue Fund of the Province by the said legislation of last session ?

Answer by Hon. Mr. Mercier :—

1. In the first place, the assertion that the Jesuits' Bill of last session grants \$460,000 to the successors of the late Jesuit Fathers, and to the Protestant Superior Education, it is entirely inexact. Then it has already been stated that the ordinary grant to Superior Education will remain the same in future, and I confirm that statement.

2. This is a question of law which it is rather difficult to solve and which the government will study.

3. The same grant will be given in the future as in the past.

Thus the Premier distinctly stated that it was the intention of the Government to continue the grants hitherto voted to Superior Education after having paid the sums granted in settlement of the Jesuits' Estates.

The answer in each case was clear and explicit, and after stating what had been the yearly revenues of the said Estates since Confederation, the Premier declared that the Government intended to leave that amount intact at the disposal of the Council of Public Instruction, but the Committee cannot but see that the matter is entirely left to the will of the Legislature. The power to dispose of the Estates is given to the Lieut.-Governor-in-Council, as above set forth by section 6 of the Jesuits' Estates Act, and by section 7, the proceeds may be applied for any purpose approved by the Legislature.

8. The Committee are of opinion that the cancellation of the Trust must have been due to a misapprehension of the facts of the case.

But can a solemn transfer and acceptance of a property, accompanied by a declaration that the revenues of the said property shall be applied exclusively to a particular use, be cancelled without the consent of all the parties to the compact ?

9. Another question also arises in regard to the Jesuits' Estates Act of 1888.

By the terms of the Act the sum of \$400,000 is granted to the Holy See to be applied at the discretion of His Holiness the Pope within the Province of Quebec, and in addition thereto the Lieut.-Governor-in-Council is authorized to transfer to the Society of Jesus all the rights of the Province in and to Laprairie Common.

At the same time the Lieut.-Governor-in-Council must pay to the Protestant Committee of the Council of Public Instruction a sum of \$60,000. But the Committee must invest the said sum, and apportion the interest accruing therefrom among the Protestant institutions of Superior Education, in addition to and in the same manner as any sums now granted by law for the purpose of Superior Education, with the approval of the Lieut.-Governor-in-Council.

The Roman Catholic body receive a free grant of \$400,000 and La-prairie Common, while the Protestants receive permission to distribute the income arising from the investment of \$60,000 according to the will of the Lieut.-Governor-in-Council.

10. In conclusion, the Committee agree that the whole matter be laid before the Honorable the Premier of the Province, with a request that the Government will by legislation restore the cancelled Trust, and replace the Jesuits' Estates, or the proceeds thereof if sold, as an Investment Fund for Superior Education; and also re-establish the Superior Education Income Fund, as constituted by the Act of 1856.

(Signed),

R. W. HENEKER,
Acting Chairman.

The sub-committee on text-books presented an interim report, which was received, and on the motion of the Dean of Quebec, seconded by Professor Shaw, it was

Resolved,—That the sub-committee be discharged, and that the following, viz., Mr. Masten and Mr. Kneeland, with the assistance of the Secretary, be requested to act as a sub-committee to examine and revise the list of the text-books in use in the Protestant schools in this Province, and to report to the regular meeting in September.

The sub-committee on the Professions and Professional Examinations made the following report:—

PROTESTANT COMMITTEE C. P. INSTRUCTION,
14th May, 1889.

The sub-committee on Professions and Professional Examinations beg to report as follows:—

With regard to the Bills Nos. 17, 47, 83 and 84, introduced in the last session of the Provincial Legislature, to which reference was made at the last session of the Committee, the following occurred:—

No. 17. Amendment to School Law, passed.

47. Bill for the recognition of the B. A. degree thrown out in Legislative Council, although passed by a majority in the Assembly; A large number of gentlemen interested in education attended before the Committee on Legislation of the House of Assembly, in support of the Bill. The Committee referred the Bill to the House without any suggestions.

83. Respecting the incorporation of the Teachers' Association, was passed, and now forms Chapters 23 and 70 of the Statutes of Quebec, 52 Vic.

84. This Bill was withdrawn.

Your sub-committee, notwithstanding that the B. A. Degree Bill was thrown out, have good reason to believe that if again introduced at the next session, it will become law. Your sub-committee desire also to draw attention to the great inconvenience which the teachers of Superior

Schools find in preparing candidates for the varied examinations prescribed for entrance to the study of the several professions.

The whole respectfully submitted.

(Signed),

R. W. HENEKER, *Chairman.*

On behalf of sub-committee.

On motion of R. W. Heneker, Esq., seconded by Sir William Dawson, the report was received and adopted.

Dr. Hemming presented a report upon the Outremont case, referred to him, and the Committee agreed to receive the report and to transmit it to the Superintendent.

On account of the appointment of the sub-committee on text-books, which will bring up the whole question of text-books and sources of supply, Mr. Kneeland asked that his notice of motion concerning text-books be continued until next meeting. Granted.

The Inspector of Superior Schools was then requested to appear before the Committee and read his interim report of the inspection of the superior schools. The report was received and the Deputy Examiners for the June examinations were appointed.

The Secretary reported that the Deputy Examiners for the July examination under the Central Board, had accepted the appointment, with the exception of Rev. Mr. Jenkins of Three Rivers. The Committee agreed to appoint Alex. Houlston Deputy Examiner for Three Rivers. The Committee then adjourned until 9.15 A.M. the following morning.

WEDNESDAY, the 15th of May, 1889.

The Committee resumed its session at 9.15 this morning. Present: The same members as on the previous day, except the Rev. Dr. Cook, the Rev. Dr. Weir, and the Very Rev. Dean Norman. The committee adjourned until twelve o'clock to attend a meeting of the Council of Public Instruction.

After the meeting of the Council, the Committee re-assembled. The acting-Chairman, Dr. Heneker, reported the result of the action of the Council as follows:—

After the minutes of the last meeting of the Council of the 18th April, 1888, as recorded in the minute-book, were read, Dr. Heneker rose and objected to the minutes as read, as being incorrect in some important points, and requested that the English secretary be called upon to read a draft minute of the proceedings of the Council which he had prepared. After the draft minute had been read by the English secretary, Dr. Heneker moved, seconded by Sir William Dawson,—

That the draft minutes, as read by the English secretary, are correct, and are hereby approved. That in regard to the resolution of His Eminence Cardinal Taschereau, which, translated, reads as follows:—"That it is not expedient that any amendment should be made in the law concerning public instruction, with regard to the mutual relations of the two Committees of the Council of Public Instruction, nor concerning the collection and the distribution of the sums furnished by the Government or raised by virtue of this law,"—the insertion of the said resolution at the commencement of the proceedings of the Council is not only incorrect, but, in point of fact, the said resolution was not adopted. That the said resolution was not proposed on the first day of the sitting of the Council, as the business of the first day was confined to the consideration of the amendments proposed by the Superintendent of Public Instruction. That it was only proposed after the Council had passed upon all of the draft amendments proposed by the Superintendent of Public Instruction, and then only when an amendment to the Act to the following effect was proposed by Dr. Heneker on the second day of the session of the Council, viz.:—18. "Replace by the following": The words "religious majority" and "religious minority" mean the Roman Catholic or Protestant majority or minority, as the case may be, of persons who are entered upon the assessment roll as ratepayers, and the word "Protestant" in this Act and in any Act affecting education, in the collection and distribution of school funds, shall be held to mean all persons not professing the Roman Catholic faith. That when the said resolution was proposed by His Eminence, it was substantially as an amendment to the proposed amendment to Dr. Heneker, to clause 18, as above, although not so stated at the time. That immediately after the reading of the said resolution of His Eminence, the Protestant members of the Council asked to be permitted to withdraw for a short time, in order to confer together in view of the important nature of the Cardinal's resolution. That the Protestant members did so withdraw. That an informal interview was reported to them to have been held between Mr. Justice Jetté, the seconder of the Cardinal's resolution, and Mr. Justice Church, by which the members of the Protestant Committee were led to suppose that the whole matter raised by Dr. Heneker's amendment and that of the Cardinal would drop, so far as any action of the Council was concerned, provided Dr. Heneker would abandon his amendment. The Protestant members returned to the Council room, and Dr. Heneker announced his amendment as dropped, whereupon the Council proceeded to consider the other draft amendments, and no further notice or allusion was made to the resolution of His Eminence the Cardinal. That the sense of the Council was not formally taken on the resolution of the Cardinal; and had it been supposed that it was desired to have taken the sense of the Council thereon, all the Protestant members of the Council then and here present would have voted against it.

It was moved in amendment by Mr. Justice Jetté, seconded by His Eminence Cardinal Taschereau,—

That all the words after “that” be struck out, and the following substituted:—“Although it was understood that the facts hereinafter mentioned should not be entered in the minutes, it is nevertheless desirable, under the circumstances, that they should be stated there, and that, in consequence, the minutes be amended as follows:—The Council having taken into consideration certain amendments to the laws concerning public instruction, prepared by the Superintendent, by the Catholic Committee, and by the Protestant Committee, a discussion arose upon the following resolution proposed by Mr. Heneker, No. 18, of the amendments proposed by the Protestant Committee, viz.,” 18. Replace by the following: The words “religious majority” and “religious minority” mean the Roman Catholic or Protestant majority or minority, as the case may be, of persons whose names are entered upon the assessment roll as ratepayers, and the word “Protestant” in this Act, and in any Act affecting education, in the collection and distribution of school funds, shall be held to mean all persons not professing the Roman Catholic faith.”

His Eminence Cardinal Taschereau declared that if this resolution was submitted to the Council, he would propose in amendment that the distribution of the funds raised for the purposes of public instruction should be made according to the present population of the Catholics and Protestants in the Province, observing that by the present distribution one-third of the funds raised are granted to Protestants, whereas a distribution according to the present population would reduce this share to one-seventh.

In view of this declaration the Protestant members of the Council asked permission to retire to an adjoining room, in order to take into consideration the position in which they would be placed by such a proposition, and after consultation, an understanding was proposed according to which Mr. Heneker consented to withdraw his proposition, provided the Cardinal would not submit the one of which he spoke, to which the members of the Council unanimously agreed.

His Eminence Cardinal Taschereau, seconded by Judge Jetté, then proposed: “That it is not expedient that any amendment should be made in the law concerning Public Instruction with regard to the mutual relations of the two committees of the Council of Public Instructions, nor concerning the collection and the distribution of sums provided by the Government or levied under this law.” Adopted. And that the minutes with this amendment be adopted.

The amendment was carried on the following division:

Yeas—His Eminence Cardinal Taschereau, His Grace the Archbishop of Montreal, His Grace the Archbishop of Ottawa, His Lordship the Bishop of Three Rivers, His Lordship the Bishop of Rimouski, His Lordship the Bishop of Sherbrooke, His Lordship the Bishop of St. Hyacinthe,

His Lordship the Bishop of Nicolet, His Lordship Bishop Lorrain, Vicar Apostolic of Pontiac; Sir Narcisse F. Belleau, the Hon. Judge Jetté, the Hon. P. J. O. Chauveau, the Hon. H. Mercier, P. S. Murphy, Esq.—14.

Nays—R. W. Heneker, Esq., Sir William Dawson, the Venerable Archdeacon Lindsay, G. L. Masten, Esq.—4.

The following abstained from voting on account of absence from previous meeting:

His Lordship the Bishop of Chicoutimi, the Rev. Dr. Shaw, the Hon. Mr. Masson, the Hon. F. Langelier, Dr. Cameron, Mr. Eugene Crepeau, Henry Gray, Esq., A. W. Kneeland, Esq.—8.

The Committee agreed that the Inspector of Superior Schools should be requested to give the results of the written examination to the pupils of the Superior Schools before the first of September each year.

There being no further business the Committee adjourned to meet the last Wednesday in September or earlier on the call of the Chairman.

R. W. HENEKER,
Acting-Chairman.

ELSON I. REXFORD,
Secretary.

The July Elections.—The attention of Secretary-treasurers is called to the fact that as the first Monday in July is a legal holiday, no elections of school commissioners or trustees can be held on that day. Notices of election should, therefore, be given for the eighth of July, which is the first juridical Monday in the month. The Secretary-treasurer, and the chairman of the school commissioners or trustees should study carefully articles 158 to 188 of the School Code, which has just been issued, in order that the July election may be conducted in strict accordance with the provisions of the school law.

The examination of candidates for teachers' diplomas takes place the first week in July. Candidates for Elementary or Model School Diplomas can present themselves at any one of the local centres mentioned in our last issue, but candidates for Academy Diplomas are required to present themselves at Montreal, Quebec, or Sherbrooke. All candidates are required to make application for admission to examination to Rev. Elson I. Rexford, Quebec, enclosing a certificate of age, a certificate of moral character, and a fee of two dollars for an Elementary or Model School Dip-

loma, and three dollars for an Academy Diploma. Upon the receipt of the application with certificates and fees, a card of admission to the examination will be issued to each applicant, which must be presented to the deputy-examiner, on the day of examination. As the examination only takes place once a year, any candidate whose eighteenth birthday occurs before or during the year 1889 will be admitted to the examination. The following is the form of application and the form of certificate of moral character which candidates are required to present:—

SIR,

I, the undersigned.....
 residing at.....county of.....
 have the honor to inform you that I intend to present myself at
for the examination
 for.....diploma in
 July next.

I enclose herewith :—

1. A certificate that I was born at.....
 county of.....in the month of.....18.....
2. A certificate of moral character according to the authorized
 form
3. Two dollars for fees.

Form of Certificate of Moral Character.

“This is to certify that I, the undersigned, have personally known and had opportunity of observing.....

 for the.....last past; that during all such time his life and conduct have been without reproach; and I affirm that I believe him to be an upright, conscientious and strictly sober man.”

(This certificate must be signed by the Minister of the congregation to which the candidate belongs, and by two school commissioners or trustees or school visitors.)

TEACHERS INSTITUTES.—As stated in our previous number, four Institutes will be held during the second and third weeks of July next. The

programme of the Institutes at Lennoxville and Huntingdon will be as follows:—

	TIME	SUBJECT	LECTURER.
Tuesday	10-11	Introductory Geography.....	Prof. Parmelee.
	11-12	First notions of numbers.....	Dr. Robins.
	2- 3	Question box.....	
	3- 4	Measurement of angles.....	Dr. Robins.
	4- 5	Elementary Grammar.....	Prof. Parmelee.
Wed'n'y	9-10	Conference on School Difficulties.....	
	10-11	Relations of Earth to Sun and Moon, Tides and Seasons.....	Prof. Parmelee.
	11-12	Elementary Rules of Arithmetic.....	Dr. Robins.
	2- 3	Question box.....	
	3- 4	Measurement of lines.....	Dr. Robins.
Thursd'y	4- 5	Composition in relation to Grammar....	Prof. Parmelee
	9-10	Conference on School Difficulties.....	
	10-11	Continent of North America.....	Prof. Parmelee.
	11-12	Fractions.....	Dr. Robins.
	2- 3	Question box.....	
Friday	3- 4	Measurement of surface.....	Dr. Robins.
	4- 5	Analysis and parsing of idioms.....	Prof. Parmelee.
	9-10	Conference on School Difficulties.....	
	10-11	Baldwin's School Management, Part II, Gage's Edition.....	Prof. Parmelee.
	11-12	Unusual methods in Arithmetic.....	Dr. Robins
	2- 3	Question box.....	
	3- 4	Measurements of solids.....	Dr. Robins.
	4- 5	Baldwin's School Management, Part V, Gage's Edition.....	Prof. Parmelee.

It is particularly desired that Teachers, who intend to be present at these Institutes, prepare themselves by careful preliminary study for profiting to the utmost by the exercises of the classes.

The programme of the Institutes at Shawville and Granby will be as follows:—

	TIME	SUBJECT	LECTURER.
Tuesday	9-10	Enrolment.....	
	10-11	Opening Address.....	Rev. E. I. Rexford.
	11-11½	Mental Faculties and }.....	Dr. Harper.
	11½-12	Rules of Study.....	
	1½- 2	Organization:—General Principles.....	Rev. E. I. Rexford.
	2- 2½	Grammar:—The Sentence.....	Dr. Harper.
	2½-3	Teaching Reading:—Gen. Principles.....	Rev. E. I. Rexford.
	3- 3½	Vocal Culture.....	Dr. Harper.
	3½-4	Organization:—School Tactics.....	Rev. E. I. Rexford.
	4- 4½	Question Box.....	

	TIME.	SUBJECT.	LECTURER.
Wed'n'y—	9-10	—Methods of Teaching Reading....	Rev. E. I. Rexford.
	10-11	—The Attention :—Permanency of Thought.	Dr. Harper.
	11-11½	—Organization :—Classification.....	Rev. E. I. Rexford.
	11½-12	—General Exercise.....	
	1½- 2	—Practical Hints.....	Dr. Harper.
	2 -2½	—Grammar :—The Parts of Speech.....	Dr. Harper.
	2½- 3	—Organization :—Course of Study...	Rev. E. I. Rexford.
	3 -3½	—Physical Drill.....	Dr. Harper.
	3½-4½	—Question Box.....	
Thursd'y—	9-10	—Look and Say Method applied to Primer I.....	Rev. E. I. Rexford.
	10-11	—Study and the Text-book.....	Dr. Harper.
	11-11½	—Methods with Primer II.....	Rev. E. I. Rexford.
	11½-12	—General Exercise.....	
	1½- 2	—Work for the Little Ones.....	Dr. Harper.
	2 -2½	—Spelling through Reading.....	Rev. E. I. Rexford.
	2½- 3	—Grammar :—Analysis and Synthesis.....	Dr. Harper.
	3 -3½	—Methods with Book II.....	Rev. E. I. Rexford.
	3½-4½	—Question Box.....	
Friday	9 -10	—Organization :—Time-tables.....	Rev. E. I. Rexford.
	10-11	—Fundamentals of Education.....	Dr. Harper.
	11-11½	—The First Day of School.....	Rev. E. I. Rexford.
	11½-12	—General Exercise.....	
	1½- 2	—Practical Hints.....	Dr. Harper.
	2 -2½	—Science Lessons for Little ones.....	Dr. Harper.
	2½- 3	—Methods with Book III.....	Rev. E. I. Rexford.
	3 - 4	—Questions.....	

Teachers are requested to read the chapters in Baldwin's School Management on "School Organization" and "Study and Teaching," as a preparation for the work at Shawville and Granby. The teachers are also requested to bring with them a copy of the time-tables which they followed in their last schools and a copy of Gage's First Primer.

At Bishop's College, the College and School rooms will be placed at the disposal of the Institute. The lady teachers will occupy the School building, and the gentlemen the College building. The arrangements have been most satisfactory in previous years, and the cost of board and lodging has not exceeded fifty cents per day. Those intending to be present at Lennoxville, are requested to send their names to the Rev. Prof. Scarth, Lennoxville.

Arrangements are being made to provide hospitality for the members of the other Institutes, and teachers desiring such provision should send their names to Mr. J. A. Dresser for Shawville, Inspector MacGregor for Huntingdon, and Mr. Archibald McArthur for Granby.

TIME-TABLE FOR THE JUNE EXAMINATIONS--1889.

THURSDAY.	WEDNESDAY	TUESDAY.	MONDAY.
9.00 to 10.30 10.30 to 12.00	9.00 to 10.30 10.30 to 12.00 2.00 to 3.30 3.30 to 5.00	9.00 to 10.00 10.00 to 11.00 11.00 to 12.00 2.00 to 3.30 3.30 to 5.00	9.00 to 10.00 10.00 to 11.00 11.00 to 12.00 2.00 to 3.30 3.30 to 5.00
Physiology and Hygiene, Book-keeping.	Physiology and Hygiene, Book-keeping.	Brit. Can. & Bible Hist. English. Drawing. French.	Geography. Dictation. Reading and Writing. Arithmetic. English Grammar.
Physiology and Hygiene, Book-keeping.	Algebra.	Can. and Bible Hist. English. Drawing. Latin. French.	Geography. Reading and Writing. Dictation. Arithmetic. English Grammar.
Physiology and Hygiene, Book-keeping.	Reading and Writing.	British and Can. Hist. English. Drawing. Latin. French.	Geography. Scripture History. Dictation. Arithmetic. English Grammar.
Physiology and Hygiene, Book-keeping.	Special Course, Greek. Reading and Writing.	British and Can. Hist. English. Drawing. Latin. French.	Geography. Roman and Bible Hist. Dictation. Arithmetic. English Grammar.

McGILL UNIVERSITY.

ANNOUNCEMENT

OF THE

Faculty of Applied Science,

FOR

SESSION 1889-90.

The complete Calendar, containing the Announcements of the Faculties of Arts, Applied Science, Medicine and Law, of the McGill Normal School and of the University School Examinations, as well as the University Lists, can be had on application to the Secretary, McGill College.

Faculty of Applied Science.

THE PRINCIPAL. (*ex-officio*).

Professors :—HARRINGTON, Associate Professors :—DAWSON,
BOVEY, JOHNSON.
McLEOD, DAREY,
CHANDLER. MOYSE,
PENHALLOW.

Associate Lecturers :—LAFLEUR, TOEWS.

Dean of the Faculty :—HENRY T. BOVEY, M.A., M. INST. C.E.

Assistants :—TAYLOR, ATKINSON, HERSEY.

The Instruction in this Faculty is designed to afford a complete preliminary training, of a technical as well as theoretical nature, to such Students as are preparing to enter any of the various branches of the professions of Engineering and Surveying, or are destined to be engaged in Assaying, Practical Chemistry, and the higher forms of Manufacturing Art.

Four distinct Departments of study are established, viz. :

(1).—Civil Engineering and Surveying. (2).—Mechanical Engineering. (3).—Mining Engineering. (4).—Practical Chemistry.

Each of these extends over four, or, under certain conditions, three years, and is specially adapted to the prospective pursuits of the Student.

The Degrees conferred by the University upon such undergraduates of this Faculty, as shall fulfil the conditions and pass the Examinations hereinafter stated, will be in the first instance "Bachelor of Applied Science," mention being made in the Diploma of the particular Department of study pursued; and, subsequently, the degrees of "Master of Engineering" or of "Master of Applied Science." (§ V.)

Examinations for Land Surveyors :—Any graduate in the

Faculty of Applied Science, in the Department of Civil Engineering and Land Surveying, may have his term of apprenticeship shortened to one year for the profession of Land Surveyor in Quebec or Ontario, or for the profession of Dominion Land Surveyor. He must, however, pass the preliminary and final examinations before one of the Boards of Examiners. The former examination should be passed before entering the University, or in the First or Second Year of attendance.

Students in the Civil Engineering Department, who at the beginning of their Fourth Year give notice to the Faculty of their intention to prepare for the examination for Dominion Topographical Surveyors, will receive preparation for that examination, more especially in Spherical and Practical Astronomy and Geodesy, and may be exempted from the Heat and Hydraulics, or from the *Designing of the Fourth Year*.

Partial Students may be admitted to the lectures and examinations in the above special work.

§I. MATRICULATION AND ADMISSION.

1. Candidates for Matriculation must present themselves for examination on the 17th of September, 1889. They may, however, be admitted at a later period of the Session upon special application, if qualified to take their places in the classes in progress.

JUNIOR MATRICULATION. For entrance into the First Year, two examinations are held ;

(1) In the first week in June, when Schools may send their pupils for examination to McGill College.

N.B. Schools at a distance may send to the Secretary of the University names of Deputy Examiners, together with a list of candidates on or before May 15th, and, if approved, the examination papers will be forwarded to them.

(2) At the opening of the session, on September 17th and following days, in McGill College alone.

The subjects of examination are :—

Mathematics.—Arithmetic ; Algebra, to end of Simple Equations
Euclid's Elements, Books I., II., III.

English.—Dictation, Grammar [including Analysis] and Composition.

French.—Grammar to Syntax (exclusive) and easy translation.

Candidates unable to take the French examination are allowed to enter, but must take German as the Modern language of their undergraduate course.

Candidates who have passed the Associate in Arts examinations in the above subjects will be received as Matriculated Students in the First Year.

SENIOR MATRICULATION. For entrance into the Second Year only one examination is held, viz., on September 17th and following days, in McGill College. The subjects of examination are:—

Arithmetic.

Algebra.—To the end of Quadratics [as in Colenso's Algebra, Part I].
Euclid.—Books, I., II., III., IV., VI. and XI., and the definitions of Book V.

Plane Trigonometry.—Including solution of Triangles, and the use of Mathematical Tables.

Chemistry.—As in Nichol's Abridgment of Eliot and Storer's Manual.
English.—Dictation, Grammar (including Analysis), Composition, and the leading facts of the History of England.

French or German.—Grammar and easy translation.

Candidates unable to pass in Chemistry may be allowed by the Faculty to enter and take the First Year lectures on Chemistry.

Candidates who produce certificates of having already completed a portion of a course in some recognized School of Applied Science may be admitted to an equivalent standing.

§1. MEDALS, EXHIBITIONS AND PRIZES.

1. THE BRITISH ASSOCIATION GOLD MEDAL AND EXHIBITION, founded by the British Association for the Advancement of Science in commemoration of the meeting held in Montreal in the year 1884.

The British Association Gold Medal for Session 1889-90 will be open for competition to Fourth Year Students of the Practical Chemistry Course. Candidates must take a first-class general standing in the Ordinary Course, and the medal will be awarded to the Student who stands first in the Advanced Course. (§IV. B.)

2. THE STANLEY SILVER MEDAL (the gift of His Excellency The Right Honourable Lord Stanley.)

The Stanley Medal for Session 1889-90 will be open for competition to Fourth Year Students of the Civil Engineering Course.

Candidates must take a first-class general standing in their Ordinary Course, and the Medal will be awarded to the Student who stands first in the Advanced Course. (§IV B.)

The following Exhibitions and Prizes will be open for competition in September, 1889 :—

3. A British Association Exhibition of \$50.00 to Students entering the Fourth Year, the subjects of examination being the Theory of Structures, Mathematics and Mathematical Physics of the Ordinary Course.

4. A SCOTT EXHIBITION of \$66.00, founded by the Caledonian Society of Montreal, in commemoration of the Centenary of Sir Walter Scott, to Students entering the Third Year, the subjects of Examination being :—

[a] Macaulay's History of England, Vol. I., cap. I; Sir Walter Scott's Lady of the Lake. [b] Mathematics. [c] Mechanism.

5. A British Association Exhibition of \$50 will be open for competition to Students entering the Second Year, the subjects of Examination being :—

(a) Macaulay's History of England, Vol. I., cap. I.; Shakespeare's Tempest; (b) Mathematics.

6. TWO PRIZES IN BOOKS, each of the value of \$25, one presented by E. B. Greenshields, B. A., and one from the British Association Medal Fund, for the two best Summer Reports or Essays.

7. Two Prizes, one of \$15 and one of \$10, from the British Association Medal Fund, to Students entering the Third Year, for proficiency in levelling (running a line of levels and closing on the starting point).

8. A Prize of \$25.00 for the best mechanical model, preference being given to one of original design, presented by W. E. Gower, M. Can. Soc. C. E.

9. A Prize of \$25.00, presented by J. H. Burland, B. A. Sc., to Students entering the Second Year, the subjects of examination being :—(a).—Inorganic Chemistry; (b).—Elements of Organic Chemistry; (c).—Practical Chemistry.

10. Prizes or certificates of merit are given to such Students as take the highest places in the Sessional and Degree Examinations.

§ III. SPECIAL PROVISIONS.

1. Partial Students may be admitted to the professional classes upon payment of special fees (§ VII.)

2. Undergraduates in Arts may, if allowed by the Faculty of Arts, be admitted to the Professional Classes in Practical Science on payment of the fees for these classes.

3. Students in Applied Science may, by permission of the Faculty, take the Honour Classes in the Faculty of Arts.

4. Students who have passed the Intermediate in Arts, with standing not lower than Second Class in Mathematics, have the privilege of entering the Second Year in Applied Science, and will be exempted from one of the Departments in the Third and Fourth Years in Arts.

5. Undergraduates in Arts of the Second and Third Years, or Graduates of any University, entering the Faculty of Applied Science, may, at the discretion of the Professors, be exempted from such lectures in that Faculty as they may have previously attended as Students in Arts, but must pass all the examinations.

6. Students who have failed in a subject in the Christmas or Sessional Examinations, and who desire to regain their standing, are required to make a written application to the Dean of the Faculty for a supplemental examination. Unless such supplemental examination is passed, students will not be allowed to proceed to any subsequent examination in that subject.

7. Students of the Second, Third and Fourth Years will be required to answer satisfactorily a weekly paper on such subjects of the course as shall be determined by the Faculty.

8. Students who fail to obtain their Session, and who, in consequence, repeat the Year, will not be exempted from examination in any of those subjects in which they may have previously passed, except by the express permission of the Faculty. Application for such exemption must be made at the commencement of the Session.

9. A Student may obtain a certificate of standing on payment of a fee of \$2.00.

10. The headquarters of the Canadian Society of Civil Engineers is at present located in Montreal. The Society holds fortnightly meetings, at which papers upon practical current engineering subjects are read and discussed. Undergraduates joining the Society as Students may take part in these meetings and acquire knowledge of the utmost importance in relation to the practical part of the profession.

§ IV. COURSES OF STUDY FOR SESSION 1889-90.

A. ORDINARY COURSES.

CIVIL ENGINEERING.	MECHANICAL ENGINEERING.	MINING ENGINEERING.	PRACTICAL CHEMISTRY.
FIRST YEAR.			
Arithmetic, Euclid. Algebra. Trigonometry. Geometrical Conics. Solid Geometry. Descriptive Geometry (By permission of the Faculty.) Freehand Drawing. Chemistry. English. French or German.	Arithmetic, Euclid. Algebra. Trigonometry. Geometrical Conics. Solid Geometry. Descriptive Geometry. (By permission of the Faculty.) Freehand Drawing. Chemistry. English. French or German.	Arithmetic, Euclid. Algebra. Trigonometry. Geometrical Conics. Solid Geometry. Descriptive Geometry. (By permission of the Faculty.) Freehand Drawing. Chemistry. English. French or German.	Arithmetic, Euclid. Algebra. Trigonometry. Geometrical Conics. Solid Geometry. Descriptive Geometry. (By permission of the Faculty.) Freehand Drawing. Chemistry. English. French or German.
SECOND YEAR.			
Mechanism. Materials. Surveying. Descriptive Geometry. Algebra. Analytical Geometry. Calculus. Mathematical Physics. Experimental Physics. Zoology. English. French or German.	Mechanism. Materials. Surveying. Descriptive Geometry. Algebra. Analytical Geometry. Calculus. Mathematical Physics. Experimental Physics. Loco. Design & Cons. Mechanical Work. English. French or German.	Practical Chemistry. Mechanism. Surveying. Descriptive Geometry. Algebra. Analytical Geometry. Calculus. Mathematical Physics. Experimental Physics. Zoology. English. French or German.	Practical Chemistry. Descriptive Geometry. Mathematical Physics. Experimental Physics. Botany. English. French or German.
THIRD YEAR.			
Theory of Structures. Materials. Surveying. Descriptive Geometry. Analytical Geometry. Calculus. Sphl. Trigonometry. Practical Astronomy. Mathematical Physics. Experimental Physics. Geology & Mineralogy. Modern Languages.†	Theory of Structures. Materials. Machinery & Millwork Loco. Design & Cons. Descriptive Geometry. Analytical Geometry. Calculus Mathematical Physics. Experimental Physics. Mechanical Work. Modern Languages.†	Theory of Structures. Materials. Mining. Practical Chemistry. Blowpipe Analysis. Descriptive Geometry. Analytical Geometry. Calculus. Mathematical Physics. Experimental Physics. Geology & Mineralogy Modern Languages.†	Practical Chemistry. Theoretical Chemistry. Blowpipe Analysis. Mineralogy. Mathematical Physics. Experimental Physics. Zoology. Modern Languages.†
FOURTH YEAR.			
Theory of Structures. Mathematics. Heat & Heat-Engines. Hydraulics. Materials. Designs. Estimates. Spec'ns. Modern Languages.*	Theory of Structures. Mathematics. Machinery & Millwork Metallurgy of Iron. Loco. Design & Cons. Heat & Heat-Engines. Hydraulics. Materials. Designs. Estimates. Spec'ns. Modern Languages.*	Assaying. Mathematics. Metallurgy. Geology (advanced). Mineralogy advanced. Heat & Heat-Engines. Hydraulics. Materials. Designs. Estimates. Spec'ns. Modern Languages.*	Practical Chemistry. Theoretical Chemistry. Metallurgy. Assaying. Mineralogy. Geology. Modern Languages.*

(1) During the summer recess the Students in the 2nd, 3rd and 4th years are to employ themselves in some practical work (Mechanical Engineering students in a work-shop), and they are also to prepare a report on such work, to be handed in not later than October 1st. Credit will be given for this Report (or Essay) in the subsequent Sessional Examinations.

(2) Students are not allowed to take subjects which do not form part of their course, without the sanction of the Faculty.

† English or French or German. * Modern languages not imperative in the Fourth Year.

B. ADVANCED COURSES.

1. CIVIL ENGINEERING.—The higher Mathematics and Mathematical Physics, and the higher branches of Applied Mechanics (*Strength of Materials, Theory of Structures, Heat and Heat Engines, Hydraulics*).

2. MECHANICAL ENGINEERING.—The higher Mathematics and Mathematical Physics, and the higher branches of Applied Mechanics. (*Strength of Materials, Dynamics of Machines, Heat and Heat Engines*).

3. MINING ENGINEERING.—Study of Ore-Deposits (as in Phillips). Metallurgy. Theory and practice of Metal-Mining and Ore-dressing. Special work in mineral analysis, with an Essay thereon.

4. CHEMISTRY.—Organic Chemistry, Industrial Chemistry, Mineralogy and special laboratory work with an Essay.

N.B.—A Student will not be allowed to take rank in an Advanced Course unless he has obtained a first class general standing in the Ordinary Course of the same Department.

The Advanced Courses in the Departments of Civil and Mechanical Engineering extend over two years. Students who have passed a creditable examination in the Mathematics of the Second Year, may take these Courses, and will be exempted from the Modern Languages of the Third Year.

§ V. EXAMINATIONS.

I. FOR THE DEGREE OF BACHELOR OF APPLIED SCIENCE.

1. CHRISTMAS AND SESSIONAL EXAMINATIONS.

There will be a Christmas Examination for Students of the First Year in all the subjects, and for Students of the Second, Third and Fourth Years in Mathematics, and in those subjects which they take in the Faculty of Arts. A Sessional Examination in all the subjects will be held at the end of the First and Second Years.

2. DEGREE EXAMINATIONS.

(a) There will be a Primary Examination at the end of the Third Year in all the subjects of that year. Candidates must pass this Examination before entering the Final Year.

(b) There will be a Final Examination for the degree of Bachelor of Applied Science at the end of the Fourth Year in all the subjects of that year.

The General Classification for the Degree Examination will be under two heads, viz. :

First, those who have satisfied the Examiners in the Advanced Courses, in order of merit.

Secondly, those who have satisfied the Examiners in the Ordinary Courses in order of merit.

Special Certificates may be given for proficiency in particular subjects.

Certificates may be given to Students who have passed the Special Courses added to the curriculum.

Students who take their Degree in one of the Courses provided by the Faculty of Applied Science may obtain credit in either of the remaining Courses, by attending one or more subsequent Sessions, the necessary provisions for which will be made.

II. FOR THE DEGREE OF MASTER OF ENGINEERING.

Candidates must be Bachelors of Applied Science of at least three years standing, and must produce satisfactory certificates of having been engaged during that time upon *bona fide* work in either the Civil, Mechanical, or Mining Branch of Engineering.

They must pass with credit an Examination extending over the general Theory and Practice of Engineering, in which papers will be set having special reference to that particular branch upon which they have been engaged during the three preceding years.

Candidates must present applications for Examination, together with the necessary certificates and fees. The Faculty will notify the candidates whether their certificates are satisfactory, and also of the date of the Examination.

III. FOR THE DEGREE OF MASTER OF APPLIED SCIENCE.

Candidates must be Bachelors of Applied Science of at least three years standing, must present certificates of having been employed during that time in some branch of scientific work, and must pass with credit an Examination on the Theory and Practice of those branches of scientific work in which they may have been engaged. The other conditions as under the last heading.

§ VI. ATTENDANCE AND CONDUCT.

The regulations under this head are in all respects the same as those in force for Undergraduates in Arts.

§ VII. LIBRARY AND MUSEUM.

Students in this Faculty have the same privileges with reference to the Library and Museum as Undergraduates in Arts.

§ VIII. FEES.

In the Course of Civil Engineering.—\$45; Library, \$4. In all \$49 for each Session.

In the Course of Mechanical Engineering.—\$45; Library, \$4. In all \$49 for each Session.

In the Course of Mining Engineering.—1st Year \$45; 2nd, 3rd and 4th Years \$55; Library, \$4. In all \$49 to \$59 for each Session.

In the Course of Chemistry.—1st Year, \$45; 2nd, 3rd and 4th Years, \$55; Library, \$4. In all \$49 to \$59 for each Session.

Matriculation Fee, for the First and Second Years, \$5.

Fee for Degree of Bachelor of Applied Science, (including the Registration fee) —\$12.50.

Fee for Degree of Master of Engineering or Master of Applied Science.—\$25.

If for any Special reason the Degree of Ma.E. and M. A. Sc. be granted *in absentia* the fee will be \$40.

The fees must be paid to the Secretary, and the ticket shown to the Dean within a fortnight after the commencement of attendance in each Session. In case of default, the student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty on payment of a fine of \$1.

The B. A. Sc. fee must be paid before the final Examinations.

Laboratory Students are required to purchase their own chemicals, &c. The larger articles of apparatus will be supplied by the Laboratory, the Students being responsible for breakage.

Partial students may be admitted to the Professional Classes in any year, by payment of the ordinary fees for that year; or they may attend the lectures on any subject by payment of a fee of \$5 for each term; except in the case of Chemistry, for which a fee of \$10 for each term is required.

Graduates in the Faculty of Applied Science may take further courses on payment of half the ordinary tuition fees.

Students taking Blowpipe Analysis, when it does not form part of their course, are required to pay a fee of \$5.

Partial Students may attend the course of Instruction in Meteorology on paying a fee of \$5.

* The first term ends with the Christmas examinations, the second with the Sessional.

§ IX. COURSES OF LECTURES.

I. CIVIL ENGINEERING AND APPLIED MECHANICS.

Professor: :—HENRY T. BOVEY, M.A., M.INST.C.E.

Civil Engineering.

The course of instruction in Civil Engineering will include the following :— Mechanism, Earthwork, Masonry, Carpentry, Structures of Timber, Stone and Iron, the Construction of Common Roads, Rail Roads, Bridges, Viaducts, Tunnels, Canals, River, Harbour and Sea Works, Drainage Works, Lighthouses, Works connected with Irrigation and Water Supply, etc.

Applied Mechanics.

The subject of Applied Mechanics will be treated under two heads :—

(a) The Strength of Materials, embracing a study of Work, Inertia, Energy and Entropy, Strength, the Stiffness, and Resilience of Materials, Beams or Girders, Pillars, Shafts, Structures (*simple and complex*), Earthwork, Retaining Walls and Arches.

(b) Hydraulics, comprising the Theory of Hydrostatics and Hydrodynamics, the Flow of Liquids through Orifices, Pipes and Canals, the Action of a Stream on inclined or curved Vanes (*fixed or revolving*), Hydraulic Machines (*Pressure Engines, Vertical Water Wheels, Turbines, Centrifugal Pumps*), Pneumatics.

Heat and Heat-Engines.

The course of instruction in this Department will embrace :—The General Description of the Steam Engine, the Theory of Heat, the Application of Heat to Thermal Machines, the production of Heat and Steam, and also :—

(a) The movement and distribution of Steam, including the action of Steam in a Cylinder, the methods and regulations of the distribution of Steam, Systems of Cut-off, the general disposition of Cylinders, Condensers, &c.

(b) The modes of transmission and a consideration of certain special machines.

(c) The construction of an Engine, under which head will be considered Rivets, Bolts, Screws, Sockets, Keys, Cylinders, Pistons, Organs of Distribution, Organs of Transmission.

(d) The construction of Special Machines.

Designs, Estimates, &c.

Engineering Students will also prepare designs, specifications, and estimates of such works as are usually undertaken by the Engineer.

Each Student works independently, under the personal supervision of the Professor of Engineering, and makes such drawings and calculations as would be needed were the structure designed to be actually carried out.

II. MECHANICAL ENGINEERING.

Professors :— { HENRY T. BOVEY, M.A., M.I.M.E.
 { C. H. MCLEOD, MA. E., M.CAN.SOC.C.E.

Mechanism.

The lectures on Mechanism will treat of :—The object and structure of a machine, conversion and modification of motion, aggregation of motion, velocity ratios, linkwork, the teeth of wheels and trains of wheels, indicator diagrams and measurement of H. P., escapements, connections, various elementary combinations Shop visitation by the class.

Theory of Machines.

This Branch will comprise :—

(a) *The transmission of work*, including the measurement of work, the efficiency of machines, dynamical friction, viscosity, and the methods of transmitting work (by continuous rotation, oscillation, belts, water, and compressed air).

(b) *The modification of Work and Stores of Energy*, embracing a study of the actual energy of moving pieces, springs and weights.

(c) *Governing and controlling Machines*, including a consideration of uniform effort, variable resistance, machines driven by fluid pressure, differential governors.

(d) *Balancing Machinery.*

Mechanical Work.

A course of lectures will be given on the following specific Departments of Mechanical Engineering, and will treat entirely of the principles and results of actual practice :—The different classes of machinery, Belts, Gearing, Forging, Hammers, the Tempering of Steel, Tools, Vice-work, Fitting and Finishing, Lathes and Lathe-work, Planing, Slotting and Shaping Machines, Boring and Drilling, Milling and Milling tools, Screw-cutting, the Slide-valve, Standard Measures, Gauging Implements, Rivetted Joints, Fastenings, Pipes and Cylinders, Journals, Bearing, Shafting, Linkwork, Pistons and Stuffing Boxes, Lubricators, Moulding and Founding.

Students before obtaining their degree in this course must present certificates of having been employed for at least eight months in Mechanical work-shops.

LOCOMOTIVE DESIGN AND CONSTRUCTION.

SECOND, THIRD AND FOURTH YEARS :—Session 1889-90.

Mr. R. Atkinson, M. CAN. SOC. C. E., of the Canadian Pacific Railway Mechanical Engineering staff, will give a course of lectures at the Canadian Pacific Works on the design and construction of Locomotives, comprising Boilers, Cylinders, Motion and Tenders, and on Machinery and Shop Appliances.

III. MINING ENGINEERING.

Professor :—B. J. HARRINGTON, B.A., PH.D.

The object of this course is to give Students a knowledge of the characters and modes of occurrence of various economic minerals, together with the methods employed for their extraction and subsequent treatment.

The lectures on Mining are given during the Third Year, and among the subjects taken up the following may be mentioned :—Blasting and the nature and use of different Explosives, Quarrying, Hydraulic Mining, Boring ; the Sinking, Timbering and Tubbing of Shafts ; Driving and Timbering of Levels, Underground Conveyance and Hoisting, Drainage and Pumping, Lighting and Ventilation of Mines, special methods of Exploitation employed in the working of Metalliferous Deposits or of Coal Seams, &c. During this year, also, instruction is given in Blowpipe Analysis, the object of which is to enable Students by means of the blowpipe and a few simple re-agents to detect the nature of different Minerals or Ores. On account of the small quantity of apparatus required, and the rapidity with which accurate results may be arrived at, a knowledge of his subject will be found most useful to those engaged in geological or other field-work.

In the Fourth Year a short course of lectures on Metallurgy is given, and assays are made of various Ores, Fuels, &c.

NOTE.—The lectures on Mining and Metallurgy are illustrated by a series of Models.

IV. DESCRIPTIVE GEOMETRY AND SURVEYING.

Professor :—C. H. McLEOD, MA.E.

Descriptive Geometry.

SECOND YEAR.—(1).—Linear Drawing. (2).—Orthographic projection, including penetrations, developments, sections, etc.

THIRD YEAR.—(1) Orthographic projection (continued). Tangent planes and normals. Curved surfaces. Graphical determination of spherical triangles. (2).—Spherical projections, including the construction of maps. (3).—Axometric projection. Isometric projection. (4).—Shades and shadows. (5).—Mathematical perspective. Perspective of shades and shadows.

Surveying.

This course is designed to qualify the Student for admission to the practice of Provincial and Dominion Land Surveying. It also affords a practical and theoretical training in field engineering.

SECOND YEAR.—Chain Surveying, Angular Surveying. The use and adjustment of the Transit, Theodolite, Level (Dumpy, Y. and other forms), Sextant, Aneroid Barometer, Plane-table and other field instruments. Contour Surveying. Underground Surveying. Plotting. Practical operations in the field and Class-room. Calculating areas.

THIRD YEAR.—Topography, Review of Instruments, Methods of Setting out Work and Curves. Geodesic Levelling, Indirect and Barometric Levelling, Hydro-

graphic Surveying, Geodetic Surveying, The Astronomical Transit and Determination of time. Practical operations in the field, class-room and observatory.

NOTE.—The field work is carried out under the personal supervision of the Professor, and is as follows:—(a) a chain survey, (b) an angular survey, (c) a contour survey, (d) the location of a line of road, including preliminary surveys, ranging curves, levelling and setting out the work, (e) a hydrographic survey. Each student is required to make field notes, and from these to plot all plans and sections required in connection with the above.

At the close of the sessional examinations there is also an optional course for the 3rd year in astronomical observations and triangulations. The former includes latitude, longitude (by lunar culminations), azimuth and time.

FREEHAND AND MODEL DRAWING.

FIRST YEAR:—Session 1889-90.

Instruction in Freehand and Model Drawing will be given by Mr. A. T. Taylor, M. R. I. B. A.

Students in Arts may attend the classes in Freehand Drawing on payment of a fee of \$1 per term.

V. CHEMISTRY AND ASSAYING.

Professor :—B. J. HARRINGTON, B. A., PH. D. (Greenshields Professor of Chemistry and Mineralogy.)

Assistant :—M. L. HERSEY.

A course of Lectures, illustrated by experiments, is given to all Students of the First Year in Applied Science on the Laws of Chemical Combination, Chemical Formulae and Equations, the preparation and properties of the more important non-metallic and metallic Elements and many of their Compounds, and on the elementary principles of Organic Chemistry. Students taking these lectures must also devote one afternoon a week during the first term, and two afternoons a week during the second term, to practical work in the laboratory.

In the Second and Third Years of the Mining Course, instruction will be given in Qualitative and Quantitative Analysis, and Chemistry Students of these years will attend a Course of lectures on either Theoretical or Organic Chemistry. In the Fourth Year Mining Students will devote themselves chiefly to Mineral Analysis and Assaying, while Practical Chemistry Students may substitute Organic Analysis and the preparation of Organic Compounds for these subjects.

The laboratory is open daily (Saturdays excepted) from 9 a.m. to 1 p.m., and from 2 to 5 p.m.

VI. GEOLOGY.

Professor :—SIR J. W. DAWSON, LL. D., F. R. S. (Logan Professor of Geology)

Assistant Professor :—B. J. HARRINGTON, B. A., PH. D., F. G. S.

SECOND YEAR.—A preliminary Course in Zoology, with special reference to Fossil Animals.

THIRD YEAR.—Mineralogy (Ordinary and Honour), Lithology, Physical and Chronological Geology and Palæontology, Geology of Canada, Methods of Geological Exploration.

FOURTH YEAR.—Special Studies in Mineralogy and Lithology, Advanced Course in General Geology and Palæontology, Geology of Canada, Practical Geology and Field-work.

NOTE.—Students in the Mining and Chemistry Courses take the Honour Mineralogy of the Third Year. Mining Students alone take all the subjects of the Fourth Year; Chemistry Students only the Mineralogy and Lithology.

VII. BOTANY.

Professor :—D. P. PENHALLOW, B.Sc.

Course.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology

VIII. MATHEMATICS AND MATHEMATICAL PHYSICS.

Professor :—G. H. CHANDLER, M.A.

The lectures in this course are specially designed to meet the requirements of Students of Applied Science; those in Mechanics being introductory to Applied Mechanics. The subjects are as follows :—

FIRST YEAR:—(1) Euclid, six books. (2) Loci, Transversals, &c. (3) Algebra, to Progression. (4) Plane Trigonometry and the use of Mathematical Tables. (5) Elements of Solid Geometry. (6) Geometrical Conic Sections.

SECOND YEAR.—(1) Algebra continued. (2) Analytical Geometry. (3) Differential and Integral Calculus. (4) Mechanics.

THIRD YEAR.—(1) Mechanics continued. (2) Spherical Trigonometry. (3) Spherical and Practical Astronomy. (4) Revision and continuation of Analytical Geometry and Calculus, with applications to Mechanics, &c.

FOURTH YEAR.—Revision of Analytical Geometry and Calculus.

IX. EXPERIMENTAL PHYSICS.

Professor :—ALEXANDER JOHNSON, LL.D. (Peter Redpath Professor of Natural Philosophy.)

Students in this Faculty are required to take the course in Experimental Physics provided by the Faculty of Arts.

The subjects for the Session 1889-90 are Light and Heat.

X. ENGLISH LANGUAGE AND LITERATURE.

PROFESSOR :—C. E. MOYSE, B.A. (Molson Professor of English Language and Literature.)

Lecturer.—PAUL T. LAFLEUR, M.A.

FIRST YEAR.—English Language and Literature.

SECOND YEAR.—A special course on English Composition.

THIRD YEAR.—A special course on English Composition.

XI. FRENCH OR GERMAN.

French.—Professor.— P. J. DAREY, M.A., B.C.L.

German.—Lecturer.— P. TOEWS, N.A.

Students of this Faculty are required to take the course in one of these languages provided by the Faculty of Arts.

XII. METEOROLOGY.

Instruction in Meteorological Observations will be given in the Observatory at hours to suit the convenience of Senior Students.

Certificates will be granted to those Students who pass a satisfactory examination on the construction and use of Meteorological Instruments, and on the general facts of Meteorology.

§ X. TEXT BOOKS.

Applied Mechanics :—Bovey, Cotterill, *Rankine, *Collignon, *Weisbach, Reuleaux.

Hydraulics :—Merriman, *Weisbach.

Machinery, etc. :—Goodeve (new edition), *Willis, Rankine, Kennedy, *Knight, Rose, *Shelley, *Fairbairn, Unwin.

Heat and Heat Engines :—Holmes, *Jamieson, *Maxwell, Tait, Wilson, Rankine, Rigg, Marks.

Moulding and Founding :—Overman.

Materials :—Notes on Building Construction, *Gilmore, Thurston.

Descriptive Geometry :—Millar's Descriptive Geometry.

Surveying :—Gillespie's Land Surveying (new edition). *Johnson's Surveying.

Geology :—Dana's Geology; Dawson's Handbook of Zoology and Lecture Notes on Geology, *Nicholson's Palæontology, *Geological Survey Reports, *Dawson's Acadian Geology.

Mineralogy :—Dana's Manual, *Dana's Descriptive Mineralogy.

Blowpipe Analysis :—Brush's Determinative Mineralogy and Blowpipe.

Botany :—Gray and Bessey.

Chemistry :—Remsen's Compounds of Carbon, Thorpe & Muir's Qualitative Chemical Analysis, Fresenius' Manuals of Qualitative and Quantitative Analysis, *Watt's Dictionary of Chemistry, *Roscoe & Schorlemmer's Treatise on Chemistry, *Miller's Elements of Chemistry.

N.B.—The Text Book on Chemistry for the First Year will be announced at the commencement of Session 1889-90.

Metallurgy :—Greenwood's Manual of Metallurgy.

Assaying :—Rickett's Notes on Assaying, Chapman's Assay Notes.

Mathematics :—Todhunter's Euclid, Colenso's Algebra (Part 1), Hamblin Smith's Trigonometry, Wilson's Solid Geometry and Conic Sections, Briggs's Analytic Geometry, Peck's Calculus, Goodeve's Principles of Mechanics, Chambers' Practical Mathematics, Chambers' Mathematical Tables.

* *Books of Reference.*

TABLE OF LECTURES.

YEARS	HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
FIRST YEAR.	9			Mathematics.	Mathematics.	Mathematics.
	10	Mathematics.	Mathematics.			
	11	English.	French.	French.	French.	English.
	12	Chemistry.	German.	English.	German.	Chemistry.
	2		Pract. Chem. (2nd Term).	* Freehand Drawing.		Pract. Chem.
	3		Do	Do		Do.
SECOND YEAR.	9	French.		French.		French.
	10	Mechanism.	German.	Mechanism.	{ Theor. Chem. Mathematics.	German.
	11	Mathematics.	Zoology.	Mathematics. Botany. †	Zoology.	Mathematics.
	12	Botany. †	Exp. Physics.		Exp. Physics.	English.
	2	Pract. Chem Drawing.	Surveying.	Pract. Chem. ‡ Drawing.	Drawing. Pract. Chem.	Surveying.
	3	Drawing.	Drawing.	‡ Drawing.	Do	Drawing.
	4	Mech. Work Drawing.	Do	Do	Do	Metallurgy.
THIRD YEAR.	9	Mathematics.	Mathematics.	Machinery. Geology.	Theory of Structures.	Mineralogy. Mineralogy.
	10	Geology.	French. German. (2)	Mathematics.	French. German. (2) Theor. Chem.	Geology.
	11	Machines.	English.	German. (3)	Theory of Structures. (Advanced).	German. (3)
	12	Theory of Structures.	Exp. Physics.	German.	Exp. Physics.	
	2	Surveying. Pract. Chem.	Theory of Structures. Pract. Chem.	{ Blowpipe. Analysis.	Pract. Chem. Surveying.	Pract. Chem. Drawing.
	3	Drawing.	Drawing.		Drawing.	Drawing.
	4	Mech. Work. Drawing.	Drawing. Mining.		Drawing.	Metallurgy.

* The Freehand Drawing Class is also held from 9 to 11 on Saturdays.

† For Practical Science Students.

‡ For Mining Students

TABLE OF LECTURES—(Continued.)

YEARS	HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
FOURTH YEAR.	9	Mathematics.	Designing. Mathematics	Designing.	Theory of Structures.	Designing.
	10	Theory of Structures.	Designing.	Do	Machines.	Designing.
	11	Machines. Geology.*	Do		Theory of Structures.	Geology.*
	12	Theory of Structures.	Do	Geology.*	Theory of Structures. (Advanced)	
	2	Pract. Chem. Assaying. Designing.	Theory of Structures. Pract. Chem.	Pract. Chem.	Pract. Chem. Assaying. Designing	Do
	3	Do	Hydraulics. (a) Steam. (a)	Do	Do	Hydraulics (a) Steam.(a)
	4	Do	Do	Do	Do	Metallurgy

* For Mining and Chemistry Students. (a) Steam during first term; Hydraulics during Second term.

Field work for Students of the 2nd year on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays; for Students of the Third Year on Mondays, Wednesdays, Thursdays and Fridays, during the months of September and October.