

ANNUAL REPORT
OF THE
GOVERNORS, PRINCIPAL AND FELLOWS
OF
McGILL UNIVERSITY, MONTREAL,
FOR THE YEAR 1887.

*To His Excellency the Right Honourable and Most Noble the
Marquis of Lansdowne, Governor-General of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:—

We beg leave respectfully to present to Your Excellency, as Visitor of the University under its Royal charter, the following report of its statistics and history in the educational year ending December 31st, 1887:—

The vacancies on the Board of Governors occasioned by the lamented decease of the Hon. Mr. Justice Torrance and Robert A. Ramsay, Esq., to which reference was made in the report of last year, have been filled by the appointment of Edward B. Greenshields, Esq., B.A., and Samuel Finley, Esq.

The Rev. Dr. Barbour, recently appointed to the principalship of the Congregational College of British North America, has taken his seat on the Corporation as the representative of that College, in place of the Rev. Dr. Stevenson, whose removal to England we had occasion to regret in the previous year. Dr. Barbour comes to this country with the highest commendations from the president and Fellows of Yale University, in which he occupied the important position of Chittenden Professor of Divinity.

We have to record with sincere regret the removal by death of William Craig Baynes, B.A., for thirty years the Secretary, Registrar and Bursar of the University, and who by his zealous and able discharge of the duties of that office, and by his high personal character and courteous deportment, had secured the esteem and affection of all connected with the University.

The Governors of the University, impressed with the great importance of this office, and the necessity of filling it with a man of the best business capacity and some academical standing, had not yet taken action in the matter of a new appointment; and for the present, Mr. Brakenridge, who has long and efficiently discharged the duties of clerk or assistant to the Secretary, is carrying on the work, with the advice and assistance of Mr. Finley, who has kindly consented to act as honorary treasurer.

Among the donations to the University during the past educational year should be reckoned a portrait in oil of the late Vice-Principal, Venerable Archdeacon Leach, which was formally presented to the Corporation at its meeting in October by Mr. Wm. D. Lighthall, M.A., B.C.L., the secretary of the committee charged by the subscribers to the portrait with its execution. It is now hung in the Convocation Hall, and constitutes a pleasing memorial of a man who will always occupy an important place in our educational history.

On occasion of the fiftieth year of the reign of Her Most Gracious Majesty, the University had the honour of presenting an address through Your Excellency, conveying the expression of our loyal and heartfelt congratulations and good wishes on this auspicious occasion, and of our gratitude for the favours extended to this University by Her Majesty and her royal predecessors.

FACULTIES AND AFFILIATED INSTITUTIONS, &c.

The work of the several Faculties of Law, Medicine, Arts and Applied Science in McGill has been begun and carried on in the present session as heretofore. The Affiliated Colleges in Arts, Morrin College, Quebec, and St. Francis College, Richmond, show a larger number of students than in previous

years, and will, we hope, send up several candidates for the Intermediate Examination. The four Affiliated Theological Colleges have worked as heretofore in perfect harmony with the University, and their privileges as to free tuitions have been increased while their number of students has risen to 150. The McGill Normal School has pursued its eminently useful labours with increased efficiency and public approval, as shown by the large number of its students in attendance from the country districts.

At the close of last session eighty-five degrees were granted in Arts, Medicine, Law and Applied Science. Ten University gold medals were awarded to successful candidates in the examinations, including that given in the Faculty of Applied Science by the British Association and that kindly presented by Your Excellency.

Dr. R. J. Wicksteed, of Ottawa, has continued his gift of a gold, silver and bronze medal for Physical Culture, the competition for which is open to students of all the faculties.

At the beginning of the present session, twelve exhibitions and scholarships were given to successful competitors, as well as 133 free tuitions, of which 78 were the gift of benefactors and 55 of the Board of Governors, the latter including 33 to students of affiliated theological colleges.

In the Donalda Special Course for Women, now endowed with the sum of \$120,000 by the munificence of Sir Donald A. Smith, the work of the fourth year in Arts is making satisfactory progress. The number of regular undergraduates has increased to 26, and the total number of students is 108. This affords encouraging evidence of public approval, and shows that these classes are meeting a real educational want. At the close of the present session we hope to have a graduating class of eight, all of whom have taken high or creditable standing in the College work.

We have to record our high appreciation of the valuable services of Miss Helen Gairdner as Lady Superintendent of the Women's Classes.

The increase in the number of students in the Faculty of Applied Science testifies to its growing reputation as a practical school; and enquiries made by the Dean show that its

graduates are for the most part occupying honorable and remunerative positions in professional life.

In this faculty the services of Mr. A. T. Taylor have been secured for the classes in Freehand Drawing.

The growth of certain departments of scientific work in connection with the Faculties of Arts and Applied Science, merits special attention in the present Report. The Department of Botany has made remarkable progress under Prof. Penhallow. There are now 168 students attending lectures on this subject, and 36 taking practical work, which includes elementary and advanced histology and the study of materials by the students in Applied Science. The rooms in the Peter Redpath Museum are used for this work; but it is anticipated that additional space and instruments will soon be required. Similar satisfactory progress has been made in the Department of Practical Chemistry in the new laboratories, under Dr. Harrington and Mr. Evans, in which there are now 114 students attending lectures, and 44 students belonging to the Faculties of Applied Science and Arts engaged in practical work. These facts show how much may be done when efficient instruction and suitable appliances are provided. Could we obtain similar laboratories and adequate assistance for physical and geological science, a farther advance in the same direction could easily be made, and the way would be prepared for the institution of Science Degrees.

The summer session of the Medical Faculty has been continued for a number of years, and is of signal benefit to students. The attendance last summer was large, and the professors and lecturers employed, as usual, presented the amount of the fees (\$1152.80) to the Museum, Library, and Apparatus of the Faculty. This liberality on their part entitles them to the warmest thanks of the University and of all interested in medical education.

The recent agitation respecting the effect of the regulations of the Council of the Bar on the Faculty of Law has very properly drawn the attention of the friends of the University to the importance of more fully providing for this Faculty, which at present has only the benefit of the income of the Gale endowment and a small annual grant from the general funds of the

University, while its fees are necessarily of very small amount. A great stimulus to the work of this Faculty would be given by an endowment, or by the provision of suitable rooms or a building for its accommodation. It is deserving of notice that a movement in this direction is now in progress in connection with the University of Toronto, in which it is proposed that funds shall be raised in part by the Law Society, and that the same examination shall avail for the degree of LL.B. and for admission to the Bar. If a society were formed of Law Graduates of this University and others interested in legal study, some similar arrangements could possibly be arrived at here.

Mr. Barnjum reports in the present session a class of 60 students in the University Gymnasium. This class being voluntary, and the Gymnasium not being conveniently situated for the students, the number in attendance is smaller than could be desired. Those who attend are, however, diligent and successful, and could means be found to erect a new and more attractive Gymnasium, it is probable that the attendance might be largely increased.

The Report of Morrin College shows 28 students in the first, second and third years, and that of St. Francis College 13 in the first and second years. It is expected that these colleges will send up 16 candidates for the Intermediate examination.

In the Normal School building extensive repairs have been carried out by authority of the Local Government ; but these have for the present been left in an imperfect state, so that the capacity of the Primary School for pupils has been diminished, rather than extended as contemplated by the Committee, and much inconvenience has been experienced in consequence of the imperfect state of the heating apparatus in the main building. We are also desirous that a Kindergarten shall be established, and a workshop erected to train children in the use of tools. These additions are more especially in the interest of the teachers-in-training, who should have some acquaintance with these departments of school work. It is hoped that the Government will be able to give a liberal appropriation toward these important objects, and that they may be carried out before the beginning of next session. It is to be observed that while the work done last summer has diminished the capacity

of the building relatively to the number of pupils, and consequently the income of the school, the completion of the additions proposed by the Committee would materially increase the number of pupils and the revenue of the school from fees.

The Normal School Committee has prepared for submission to Corporation and eventually, if approved by it, to the Department of Public Instruction and the Protestant Committee of the Council of Public Instruction, regulations for enabling candidates for academy diplomas to avail themselves of the classes in the Faculty of Arts, and thus to relieve the Normal School of the classes in this department, so that increased attention may be given to the other classes and to the teaching in the Model schools.

In the examinations of the Normal School, seventy diplomas were awarded to candidates of different grades, for Academies, Model schools and Elementary schools.

Our university lists now show, without reckoning those removed by death, 1,368 professional graduates in course, viz., 890 in medicine, 376 in law and 102 in applied science. Of these 125 have also degrees in arts, and there is reason to believe that nearly the whole are usefully employed in their respective professions. The number of graduates in arts in course is 367. The total number of persons who have received diplomas of the McGill Normal School is 1,196.

The number of students in the several faculties and departments of the University in the present session is large, although the smallness of the entrance classes occasioned by the epidemic of the year before last, continues to be felt in the class of the third year. There are in all 595 students in the several faculties of the College proper, after deducting three entered in two faculties, namely: 20 in Law, 235 in Medicine, 280 in Arts and 63 in Applied Science. In addition to these, there are 41 in colleges affiliated in Arts, and 108 studying for the profession of teaching in the Normal School. There are thus 744 students, without reckoning those in affiliated theological colleges numbering 150, or those in the Model schools of the Normal School, who are at present 368.

With reference to the above, it should be understood, as stated in last year's report, that we reckon only students in

actual attendance on classes, and that, on our system, though students in Applied Science and in Medicine attend classes in Arts, they are not reckoned as of that faculty, but only as of that in which they matriculate. Were the Science School and Medical School distinct institutions from the University, our lists in Arts would be swelled by many occasional and partial students. The majority of the students are from various parts of the Dominion of Canada, beyond the limits of the city of Montreal or its immediate district.

FREE TUITIONS FOR THEOLOGICAL STUDENTS.

The expediency of providing more fully in the matter of scholarships entitling to free tuition for the benefit of theological students, having been brought under the notice of the Board of Governors by a number of gentlemen interested in theological education, it was decided to offer free tuitions to theological students, being either regular undergraduates or partial students in Arts, who may be recommended for such presentations by the principals of the several affiliated theological Colleges. Heretofore many of these students have had presentations of this kind from benefactors. They will now receive these directly from the University itself, and it is hoped that such free tuition thus given by the Board of Governors, will be regarded as an honorable distinction as well as a substantial aid, and will tend to increase the number of theological students taking the complete course in Arts.

LIBRARY, MUSEUM AND APPARATUS.

The reports of the Library, Peter Redpath Museum and Observatory are appended to this report, and show the present condition of these departments of the University.

The number of volumes in the library is now 26,800, and this does not include about 10,000 volumes in the library of the Medical Faculty, so that the total number of volumes is about 37,000. It is also to be observed that as the greater part of the additions to the library consist of works of present educational or scientific utility, the actual value of the library is not to be estimated merely by its magnitude.

In the past year the library has been largely used by students and by original workers, and has been enriched by several important donations, which will be found referred to in the report of the library, along with other interesting statistics of its growth.

We are indebted to the late R. A. Ramsay, M.A., B.C.L., for a bequest of \$1,000 to be expended in the purchase of books, and the Library Committee has decided to employ this sum in enlarging our collection of books bearing on Canadian and American history and antiquities, subjects in which Mr. Ramsay took a deep interest.

The Peter Redpath Museum has steadily grown in its collections and appliances for instruction, and in the latter aspect may now be considered as a College of Natural Science. A very important acquisition is the large collection of Lepidoptera and other insects, formed by the late Mr. G. J. Bowles, of this city, and acquired for the University by the liberality of Mr. W. C. McDonald. Special mention should also be made of the collections of plants presented by the Geological Survey, through Prof. Macoun.

The Museum is of great value in giving to all students of the University, whether taking the classes in Natural Science or not, the advantage of learning something of the aspects of Nature in this country, and of the present magnitude of our knowledge of natural objects.

It also offers facilities to original work in Natural History and Geology not previously possessed in this city, and thus tends to advance discovery in science.

Mr. Peter Redpath and Mr. and Mrs. J. H. R. Molson have continued in the present year their handsome donations towards the maintenance of the Museum, and for the purchase of specimens, and the salary of the Assistant Curator.

Details as to the numerous valuable donations to the Museum, the additions made to its appliances for teaching, and the number of visitors, will be found in its special Report.

In the Department of Physical Science, an advance has been made by the introduction of an Otto engine and dynamo. For the latter, as well as for much kind advice and assistance, we are indebted to Mr. A. J. Lawson, Electrical Engineer, of this city.

A valuable Photometer has also been added to the apparatus of the Faculty of Applied Science by some liberal friends.

OBSERVATORY.

The Report of the Superintendent refers to the most important matters in connection with the work of last year. We may specially notice here the engagement of an assistant, to aid in the meteorological work, the measures taken for the perfection of the time service, the introduction of observations in solar photography, and the operations carried on in conjunction with Prof. Penhallow and the Natural History Society in the matter of Soil Temperatures, with the aid of a grant from the Elizabeth Thompson Fund. The Superintendent farther reports that additional results might be secured could the full amount of the small additional grant asked for some years ago be obtained.

Regular reports have been furnished to the press, to institutions, and to persons interested in meteorological work; and students have received instructions in time observations.

EXAMINATIONS FOR ASSOCIATES IN ARTS.

In the past summer these examinations were for the first time held under the joint auspices of the Universities and of the Protestant Committee of the Council of Public Instruction, and were extended to all the Academies and High Schools. The result was in many respects very gratifying, and it is hoped that this attempt to bring all the institutions of secondary education within the scope of one system of examinations will prove a permanent benefit to education in this Province. Candidates presented themselves from fourteen schools. Forty-four passed as Associates in Arts, besides 19 who passed the examinations, but were over 18 years of age; and nine took junior certificates. Thus 72 in all passed in these examinations.

In these examinations the Rev. E. I. Rexford, B.A., Secretary of the Department of Public Instruction, and Dr. Harper, Inspector of Academies, were associated with the University Examiners.

In connection with the recent agitation of the question of commercial education in the mother country, it is to be observed that our examinations have for a long time included provision for those who desire a business education rather than that leading to the University matriculation.

PROFESSIONAL EDUCATION.

We regret that no favourable issue can yet be reported to the efforts of the University and the friends of education toward a satisfactory adjustment of the relations of the University and School Education of the Protestant minority in this province with the professional bodies.

A formal statement was prepared and presented, along with personal explanations of delegates of the University, before the committee of the Legislature appointed on the bill of the Hon. W. W. Lynch, intended to remove the difficulties in relation to entrance into professional study, and also before the Council of the Bar and the Council of the College of Physicians and Surgeons, but so far without favourable results. The substance of the statements thus presented was as follows :—

I. *With reference to the examinations preparatory to professional study*, the following facts and principles are stated on behalf of the Protestant minority :—

1. The Protestant population possesses, under Legislative sanction and under the control of the Protestant Committee of the Council of Public Instruction and of the Department of Education, a complete course of study, extending from the Elementary Schools to the Universities. In this course, definite and rigorous examinations are conducted in every grade by the best examiners the Province can afford, and it is believed that this system provides an education equal to that exacted in any country for entrance into the study of the learned professions. The Certificates and Degrees based on this course of study and its examinations are now accepted for the above purpose in the other Provinces of the Dominion, and also in the medical and law schools of Great Britain and Ireland.

2. It is held that the Councils of the several professions should content themselves with fixing the stage in the general

education provided under the educational law, which may be necessary for entrance into professional study, and should allow the attainment of this to be ascertained by examiners under the two Committees (Roman Catholic and Protestant) of the Council of Public Instruction. Should the professional bodies desire any amendment in the course of study, this can be attained by application to the educational authorities charged by the law of the Province with this duty.

3. The action of the Professional Councils, in instituting separate examinations, is injurious to education, by exacting requirements not always in accordance with each other, nor with the systems of education in the Province. Such action consequently tends to the frittering away of the time and energies of teachers and pupils, to incomplete courses of study, to the substitution of "cram" for actual education, and to many failures in the examinations.

4. Special injustice is inflicted on the Protestant population, when only one preliminary examination exists, and this based principally on the educational methods of the majority, which are in many respects dissimilar from those of the Protestant schools, even when the names designating the subjects are the same. This is aggravated by a scale of marking attaching great comparative value to subjects such as "philosophy," as taught in the system of the majority, and to which Protestant educators do not attach so much importance as a part of preparatory education.

5. Whatever opinions may be entertained as to the relative values of the Roman Catholic and Protestant systems of education as existing in this Province, it is certain that both are recognized by law, and that in the Confederation Act guarantees were given to the minority that its system would not be interfered with or rendered invalid for practical purposes. It is believed also that the Protestant system has proved itself at least equal to the other, even under the present disadvantages.

6. The Degree of Bachelor of Arts, as granted by the Protestant Universities, after courses of study and consecutive examinations extending over three or four years beyond the Academy or High School Standard, implies the highest kind of

preparation attainable in this Dominion or elsewhere. This degree is accordingly accepted for entrance in the highest professional schools of the Mother Country and of the other Provinces, and the fact that it is not accepted in this Province is a reproach to our country, a disparagement of our Universities and a great discouragement to the higher education.

For the above reasons it is held by the Protestant Committee of the Council of Public Instruction and by the Protestant Universities :—

(1.) That the Degree of Bachelor of Arts should be accepted as evidence of qualification to enter on the study of any profession.

(2.) That for those not possessing this degree there should be one public Examining Board, acting under the educational authorities of the Province, and providing for entrance into the study of all the professions.

(3.) That this Board should be divided into two sections for Protestant and Roman Catholic candidates respectively.

(4.) That the action of the Professional Councils in reference to general education should be limited to indicating to the examiners the extent of the examination required for entrance into the several professions, and to securing certificates of the same from the examiners.

The above provisions are substantially those of the Hon. Mr. Lynch's Bill, now before the Legislature, and it is hoped that the Professional Councils will concur with the Universities and the educational authorities in favouring this measure, the effect of which it is believed will be to secure a much higher standard of preparatory education than that now attained.

II. *With reference to the Examinations for Licence to Practice,* it is held by the Universities :—

1. That their courses of study should be respected, and should not be interfered with by the Professional Councils, except in case of any grave abuses ; since it is not the Councils but the Universities that are recognized by Royal Charters and Legislative enactments as teaching bodies.

2. That the privileges with reference to admission of graduates to practice heretofore enjoyed by the Protestant Universities cannot constitutionally be withdrawn by any action of the Provincial Legislature ; and that it is not in the interest of professional education that these privileges should be relinquished in favor of a Central Professional Examining Board distinct from the Universities.

3. That the action of the Professional Councils with reference to the Professional Faculties would be most beneficial if limited to such reasonable oversight, through the Provincial Government or by Assessors or otherwise, as might be agreed on ; and which, while respecting the chartered rights and guaranteed privileges of the Universities, should satisfy the Professional Councils as to the sufficiency and proximate equality of the courses of study pursued and examinations required.

This subject was taken up in the University lecture delivered by the Principal in November. The lecture has been printed and extensively circulated, and reviewed in the newspaper press.

We have much pleasure in stating that the Protestant Committee of the Council of Public Instruction has warmly seconded the efforts of the Universities to obtain relief from the evils affecting the higher professional education, and that there seems to be a united desire on the part of all the Protestant population to have this matter finally and satisfactorily disposed of. We have also had much encouragement and expression of good will from educationists connected with the educational institutions of the majority, who sympathise with us and desire that we should have free scope for the carrying out of our own educational system.

It is hoped that the graduates of the University, and more especially those in Law and Medicine, will move in the matter by procuring the signature of petitions to the Legislature on behalf of the University.

FINANCIAL CONDITION AND PROSPECTS.

We regret to report that no gifts have been received in the past year, either for endowments of chairs or for the several ad-

ditions to the buildings and appliances of the University referred to in last report. In the mean time the expiry of the subscriptions given by friends of the University for five years, left at the close of the financial year a deficit in the accounts of the University, as was anticipated in last report.

In these circumstances, and after some deliberation, the Governors decided that it was not expedient again to apply to our friends; and to meet the immediate exigency certain members of the Board agreed to make up the required amount for three years. This act of liberality on the part of members of the Board, while it places the University and the public under great obligations to them, necessarily imposes on all connected with the management of our affairs the duty of rigid economy, and prevents us from indulging any hopes of immediate advance in supplying the deficiencies of our work.

We hope, however, that while our friends bear in mind our financial necessities with reference to the present operations of the University, they will not forget our need of endowments for unendowed chairs, at present in some cases with very deficient salaries, the difficulties under which we lie from the want of buildings for the Faculty of Applied Science, for a college dining hall, for a convocation room, for the better accommodation of the classes for women and other important uses; as well as the fact that we are painfully alive to the inability of the University to divide certain chairs and institute others much required in our present position. We may refer here to the desirability of more full provision for some departments of Practical Science, with the ultimate object of granting degrees in science properly so called, in addition to the professional degree in Applied Science: to the want of provision for Political Science, a matter in which Laval has this year taken precedence of us, and which is rising in importance in universities abroad; to the value of classes for the Training of the Voice and for Hygiene in connection with our academical work, and to our lack of any means of education in Fine Art, a department now largely provided for in some of the other colleges of this continent. These and other additions and improvements have been postponed, not on account of any unwillingness on the part of the University to enter upon them, but because of want

of means and the absolute necessity of avoiding any risk of pecuniary failure.

With reference to all these desirable improvements in our work, we feel that we cannot too strongly insist on the importance to Montreal and to the Province of Quebec of the existence of such a centre of literary and scientific work as that furnished by this University. In addition to the actual training given to students, the stimulus and aid which the members of the University are constantly giving to professional and industrial pursuits, to the general literary and scientific culture of the community and to the improvement of primary and secondary education, are of the highest value. It is instructive to notice that in recent educational discussions in the Mother Country and in the United States, these indirect benefits of universities and university colleges are held to be of themselves sufficient to warrant all the emoluments and public encouragement they can receive.

In this province a tendency has recently been manifested to place the universities in opposition to the secondary schools, and to hold that the very moderate legislative grants given to the former and their colleges should be withdrawn and given to the schools. With reference to these questions it should be borne in mind that in Canada no aid is given to the higher education by the general Government—a fact quite exceptional elsewhere; and that the sums given by benefactors to the universities and colleges are much larger relatively to the public grants than those contributed for the support of the schools. Further it is to be observed that the benefits of the university education are not local, but general, and are shared equally by students from all parts of the country, and of all social grades, and that the universities doubly aid the secondary schools by providing them with teachers and by holding out inducements to young men and women to enter these schools and complete their education therein with the view of subsequently attaining to university qualifications. But while for these reasons we hold that enlightened public policy would indicate much larger grants to universities and colleges than those which they now receive, we should in the present condition of education in this province, and more especially in

view of the disadvantages of the English minority, be glad to welcome the time when enlarged endowments would enable us to contribute our own fair share of the public grants to the better support of the preparatory schools. In evidence of this disposition, McGill University, in addition to educational advantages, is already giving, to students from country schools, in its free tuitions, exhibitions, scholarships and prizes, at least as much as it receives from the Provincial Treasury.

In this connection we would desire to impress on the friends of education the fact that the large staff of professors, the extensive educational appliances and the thorough organization of the University, along with the great number of students sharing its benefits, tend to render all donations made to it more fruitful of good than if invested in newer and smaller enterprises. This principle is well understood in the United States, where the large Universities are constantly receiving additional gifts. In the last Annual Report of Yale University, for example, we observe that it has received in the past year, and without any special effort or appeal, over twenty-one considerable money gifts, amounting in the aggregate to \$353,000, besides many smaller donations. These sums have been given for a variety of educational purposes, and in Yale as in this University they will effect for these uses a tenfold amount of good by their union with the other work of a great centre of education.

We beg in conclusion to express our gratitude to Your Excellency for the kind interest which you have ever manifested in the higher education in this country, and more especially in connection with this University.

On behalf of the corporation,

We have the honor to be,

Your Excellency's obedient servants,

JAMES FERRIER,
Chancellor.

J. WILLIAM DAWSON, LL.D.,
Principal.

REPORT OF THE LIBRARY COMMITTEE FOR
THE YEAR 1887.

To the Corporation of McGill University.

GENTLEMEN :—

In presenting this their Fifth Annual Report, the Committee are pleased to have to report another year of progress and improvement in the condition of the Library. There has been a respectable increase in the number of books, and also in the number of readers using them.

In the last Annual Report of your Committee, reference was made to an arrangement made at the beginning of the year, in response to a memorial from the Graduates' Society, for opening the Library on Thursday evenings to graduates of the University and members of the McGill College Book Club. This arrangement was carried into effect for sixteen weeks, when the period for which it was tentatively made expired, and it was found that an aggregate of twenty-seven readers only had availed themselves of the privilege granted. As the application was not renewed, and as your Committee could not regard the experiment as a success, the arrangement was brought to an end.

Careful examination as to unbound volumes was made before the close of the last session, when it was found that there were upwards of five hundred volumes that needed binding, both for their preservation and for facility of use. In order to have as many of these bound as practicable, your Committee made application to the Board of Governors for a special grant of \$150, which was received and expended. It must not be supposed that there are no other books in the Library needing binding; there are, in fact, thousands of valuable books which have never been bound at all, in the proper sense of the term, but they still wear the same flimsy dress they had on when they left the warehouse of the publisher. The Governors would cheerfully provide for the binding of such books did their means allow; but as they do not, the most your Committee can do is to husband to the best of their judgment the grants they annually receive, in keeping the number of unbound valuable periodicals as small as possible. With the wear and

tear of successive years this question of the condition of standard books will become of growing importance, and the friends of the Library could not bestow a greater boon upon it than the donation of moneys, the capital or income of which should be specially set apart for the purpose of binding.

Among such friends was the late Mr. R. A. Ramsay, whose sudden and premature death, within the year now reported, all lovers of books and of sound learning have been called on to mourn. His interest in the growth and full equipment of the Library was well known by repeated acts during his lifetime, and he gave further evidence of this by bequeathing the sum of \$1000 to the Library on the following conditions, viz. :—That it be “expended in the purchase of books for the General Library of the McGill College, under the direction of the Corporation thereof, each book to be substantially bound in leather, and to bear some indication of the source from which it comes.” Whereupon, the Corporation resolved :—“That in accepting the bequest the thanks of the Corporation be forwarded to the executors of the late R. A. Ramsay, and that the matter of the application of the bequest be referred to the Library Committee, with power to act, and with instructions to report thereon.” As Mr. Ramsay was known to take a special interest in books relating to British North America in particular, and to North America in general, your Committee deemed that it would be most in consonance with his wishes to expend the amount of his bequest in the purchase of such classes of books, and a sub-committee for selection has been appointed, with instructions to report from time to time. The condition as to binding and naming the donor will, of course, be attended to.

The pressure for additional shelf-room has, to some extent, been relieved by the handsome new case which, at the expense of Mr. Peter Redpath, has been placed in the Redpath Alcove ; still, with the rapid growth of the Library, this straitness of room will continue to increase until some permanent remedy be found for it.

Another important addition and improvement has been made by providing a suitable stand for the safe-keeping when not used, and for convenience of inspection when used, of the scarce and valuable “Audubon’s Birds of America.”

The donations of the year have been large, and some of them valuable. An offer has been made, through the Secretary of State, on behalf of the Dowager Lady Vernon, of a complete set of the late Lord Vernon's works on Danté, which are now very scarce, and which will be a valuable addition to the Library. The Hon. Robert Mackay has again made additions to his collection, by which its usefulness has been enhanced; the other principal donors have been Sir William Dawson, Mr. Peter Redpath, the McGill College Book Club, the Graduates' Society, Mr. Thomas Workman and Mr. J. H. Burland, with the institutes, societies, and departments of State, to which the Library has in former years been indebted.

The Graduating Classes in Arts and Applied Science, 1886, have subscribed the sum of \$28 to be expended in books on Natural Science which are used in the Honour Course of that subject.

Appended to this Report is the Conspectus of the Library, usually given, from which an estimate may be formed of the rise and growth of it during another year.

All of which is respectfully submitted.

GEORGE CORNISH, LL.D.,

McGILL COLLEGE,

Honorary Librarian.

January 24th, 1888.

CONSPECTUS OF LIBRARY FOR 1887.

<i>Quarters ending.</i>	<i>Readers.</i>	<i>Visitors.</i>	<i>Books read.</i>	<i>Books lent.</i>
April 23, 1887....	1660	153	1613	635
June 20, "	166	33	183	290
Oct. 24, "	607	72	555	408
Jan. 24, 1888....	1408	14	1115	400
	3841	272	3466	1733

Total number of volumes in Library..... 26,804

Increase for 1887..... 1,099

PETER REDPATH MUSEUM—REPORT OF THE
COMMITTEE FOR THE YEAR 1887.

To the Corporation of McGill University.

GENTLEMEN,—Your Committee beg to report that the work of the Peter Redpath Museum has been successfully carried on during the past year, and that every effort has been made to improve the arrangement of the collections and to give increased facilities for the study of natural science. The Museum continues to afford accommodation for the classes in geology, mineralogy, botany and zoology, and during the year more than 2,000 incidental visitors have entered their names in the register.

The new cases for cetacea and for botanical and ethnical collections have been completed, and the specimens arranged in them. A large case for economic minerals has also been provided and the specimens are now being placed in it. The publication of museum memoirs referred to in the last annual report has not been begun, but a number of manuscript notes on important specimens and of photographs have been prepared, and it is hoped that the issue of memoirs may be commenced during the present year.

The question of the preservation and safety of the building has engaged the attention of the committee, and in this connection they have to report that the stone staircase in front of the main entrance has been pointed, that the window-frames and doors have been oiled and varnished, and that additional ventilators have been introduced into the roof.

The catalogue of fossils has made considerable progress in the hands of Mr. Currie, and a detailed valuation of all the specimens in the Museum has been made and deposited in the office of the University. This was rendered necessary, as the value of the collections has largely increased since the last valuation made for the purpose of insurance.

Your Committee are indebted to Mr. Peter Redpath for the continuation of his annual donation of \$1,000 for Museum maintenance, and to Mr. and Mrs. J. H. R. Molson for their generous donations for the purchase of specimens and the

salary of the Assistant Curator. Some liability has been incurred for the cost of necessary cases, but it is hoped that this will be in part defrayed out of the fees of the botany class in the course of the session.

With regard to donations of specimens received during the year, especial mention should be made of the collection of *Lepidoptera* and other insects made by the late G. J. Bowles, Esq., and presented to the Museum by Mr. W. C. McDonald. This, with the Cooper collection of *Coleoptera* and the other specimens possessed by the museum, will render the collection of Canadian insects one of the best in the country. Special mention should also be made of the valuable collections of European and Canadian plants presented to the Museum by the Geological Survey of Canada, through Professor Macoun.

On behalf of the Committee,

B. J. HARRINGTON,
Honorary Curator.

MCGILL COLLEGE,

Montreal, Jan. 23, 1888.

REPORT ON THE MCGILL COLLEGE OBSERVATORY
FOR THE YEAR ENDING DEC. 31ST, 1887.

To the Corporation of McGill University.

GENTLEMEN,—I have the honour to present the report on this Observatory for the year now closed ; being my fourteenth annual report.

Meteorological Observations.—The regular meteorological observations, as specified in my report for last year, have been carried forward without interruption. The results have been published in the *Montreal Gazette*, and have also been distributed by private circulation among institutions and persons interested. The instruments employed are those enumerated last year, and their exposure has not been changed in any way.

Time Service.—Complete sets of observations for the determination of clock errors were made on 121 nights, in the manner detailed in my report for 1884. During the season of navigation, the time-ball for the use of shipping was dropped at noon of the 75th meridian. I have pleasure in stating that since certain changes were made in the arrangement of the dropping mechanism last spring, there has not been a single failure in dropping the ball. Time signals have also been distributed over the city and country in the manner described in former reports. Exchanges of clock signals with the Toronto Observatory have been made on twenty-four nights during the year. After correcting for known errors and for personal equation, the average of the differences obtained between the mean-time clocks of the two Observatories is 0.24s. and the greatest difference on any one night 0.53s. The result of the year's comparisons shows that the probable error of the time as given by one Observatory, at any time, as compared with that given by the other is 0.18s. The exchanges on ten nights were found to be favorable to the measurement of "wave time" and give a mean result of $0.02s \pm 0.002s$ for about 335 miles of No. 10 iron wire, under the conditions of an ordinary telegraph line.

Personal Equation.—In connection with the investigation of personal equation referred to in my report for last year, observations have been made by Mr. E. H. Hamilton and myself on twenty-one stars between the Equator and N. 87° , and on seven stars between N. 93° and N. 103° . A set of ten transits of each star was obtained and two such sets were generally observed in an evening. All the work has been reduced, but the data thus collected are not sufficient to permit any statement of results.

Solar Photography.—Some fairly good photographs of the sun have been obtained, but on the completion of certain changes which are being made in the photo-heliograph, and by employing slower plates than those hitherto used, much better results will be obtained. It has been decided to produce only four-inch photographs, as that diameter is best suited to the objects in view.

Soil Temperatures.—Preparations have been in progress for some time, and are now nearly completed, for a series of observations (to be made at this Observatory) on the temperature of the soil at various depths. The cost of the necessary apparatus and fittings has been met by a grant of \$200, made by the Committee of the Elizabeth Thompson Fund to the Montreal Natural History Society, for the purpose of investigating soil temperatures at Montreal. It is proper to state that this fund was established by Mrs. Elizabeth Thompson, of Stamford, Connecticut, U.S.A., "for the advancement and prosecution of scientific research in its broadest sense." Professor Penhallow, B.Sc., representing the Natural History Society, is associated with me in this work.

Educational.—The usual course of instruction in transit observations was given, but owing to some exceptional circumstances there was no class in meteorology. The Blackman telescope has been employed in illustrating the astronomical lectures in the Faculty of Arts.

Assistance.—Mr. E. H. Hamilton, B.A.Sc., who has for many years been an occasional observer, was appointed on the 1st of May last as assistant in the Observatory.

In January, 1885, a petition was addressed to the Honourable the Minister of Marine, by the Royal Institution, praying, for reasons therein set fourth, that an increase of \$750 should be made to the Observatory grant. The petition was responded to by an addition of \$300 to the grant. This amount, although it has to some extent freed the Observatory from the difficulties under which it then laboured, was, and is, by no means sufficient to meet the pressing needs of the Observatory. In view of these circumstances, I wish to recommend a renewal of the petition during the approaching session of Parliament, and to request the assistance of the Corporation towards obtaining the full amount originally asked for.

Respectfully submitted,

C. H. McLEOD,

Superintendent of the Observatory.

MCGILL COLLEGE,

Montreal, January 17, 1887.

STATEMENT
OF THE
RECEIPTS AND EXPENDITURE.

*STATEMENT of the RECEIPTS and EXPENDITURE of the
from 1st July, 1886.*

RECEIPTS.

GOVERNMENT GRANTS:—

Provincial	\$2,500 00	
Superior Education Grant	1,650 00	
Dom. Govt Grant, \$200; Observers, \$800	1,300 00	
City of Montreal, to Observatory, \$225; Harbor Com'rs, do. \$250	475 00	
		\$5,925 00

SCHOLASTIC FEES:—

Faculty of Arts Fees, (Ordinary \$604; Library, \$524)	1,128 00	
Faculty of Applied Science (Ordinary, \$2,435; Library, \$196)	2,631 00	
Botany and Zoölogy Fees	316 40	
Registration, Ordinary	293 00	
Higher Degrees	62 00	
School Examination Fees	201 00	
Diploma Fees	542 75	
Gymnasium Fees	295 00	
		5,469 65

COLLEGE GROUNDS MAINTENANCE..... 180 00

MUSEUM MAINTENANCE..... 74 00

ANNUAL DONATIONS:—

Scholarships and Exhibitions	338 75	
Medals and Prizes	245 86	
		584 61

LIBRARY ACCOUNT:—

Donation from Mrs. Hunt		500 00
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SPECIAL DONATIONS:—

Redpath Museum Maintenance	1,000 00	
Current Expenses	2,825 00	
		3,825 00

INTEREST, &C., FROM INVESTMENT:—

Net Returns—Including Arrears from former years		30,861 49
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ELECTION OF FELLOWS..... 60 50

PETTY RECEIPTS

16 66

TOTAL ORDINARY RECEIPTS..... \$47,496 91

RECEIPTS—SPECIAL FUND:—

Chair of Botany	1,175 00	
Ladies Arts Fees, \$861; Donalds Interest account, \$5,941.86	6,802 36	
Leancoil and Campbell Funds—Interest	3,656 42	
Gale Chair Fund—Interest	1,397 46	
Special Donation to Museum	500 00	
Molson's Museum Maintenance	24 90	
		18,556 14

INVESTMENT ACCOUNT:—

Gale Chair—on account	313 00	
Campbell Memorial Fund—on account	75 00	
Donalds Endowment Fund	70,000 00	
		70,388 00
Investments repaid during year		78,250 00

SPECIAL SAVINGS BANK BALANCES on hand 30th June, 1886..... 2,531 69

LEANCOIL AND CAMPBELL FUNDS, BANK BALANCE 30th June, 1886..... 5,377 33

GENERAL FUND, do. do. 8,154 85

16,063 92

\$220,754 97

(Verified)

ARTHUR H. PLIMSOLL, Auditor.

ROYAL INSTITUTION for the ADVANCEMENT of LEARNING,
to 30th June, 1887.

EXPENDITURE.

ADMINISTRATION:—		
Salaries (Principal, Secretary and Accountant).....	\$4,000 00	
Office Expenses.....	216 32	
Porters and Caretakers.....	1,308 00	
		\$5,524 32
GENERAL EXPENSES:—		
Fuel.....	1,144 23	
Printing, Advertising and Stationery.....	1,648 80	
Charges (Gibson & Mills' Annuities).....	2,085 57	
College Repairs, \$1,202.12; Grounds Maintenance, \$337.03.....	1,539 15	
Law Charges, \$81.20; Principal's Clerk, \$60.50.....	141 70	
		6,559 45
EDUCATION:—		
Faculty of Law.....	1,287 50	
Faculty of Arts.....	19,707 50	
Faculty of Applied Science.....	7,245 13	
Observatory Account.....	1,861 97	
Diplomas.....	69 88	
Natural Phil. Class, \$20.17; Chemicals, \$39.11.....	59 28	
Gymnastic Instruction.....	300 00	
School Examinations.....	416 81	
		30,948 07
SCHOLARSHIPS AND EXHIBITIONS.....	2,011 00	
MEDALS AND PRIZES.....	865 95	
		2,876 95
LIBRARY MAINTENANCE.....	962 84	
NEW BOOKS AND BINDING (provided by Fees Fund).....	1,129 43	
		2,092 27
MUSEUM MAINTENANCE.....		1,224 78
ELECTION OF FELLOWS.....		36 30
TOTAL ORDINARY EXPENDITURE.....		\$49,262 14
IMPROVEMENTS, ADDITIONS, &c.:—		
Museum.....	309 55	
Laboratory.....	275 41	
Scientific Apparatus.....	114 25	
Gymnasium.....	67 00	
College and Grounds.....	377 20	
Medical College.....	61 75	
General Fixtures and Furniture.....	103 17	
		1,308 33
EXPENDITURE SPECIAL FUNDS:—		
<i>Chair</i> Class of Botany.....	2,000 00	
Ladies' Arts Classes.....	5,482 19	
Leachoil and Campbell Funds—Interest.....	2,548 00	
Gale Chair Fund—Interest.....	1,172 00	
Special Donation to Museum.....	225 00	
Molson's Museum Maintenance.....	540 00	
Botany Classes.....	109 54	
		12,076 73
INVESTMENT ACCOUNT:—		
Invested during year.....	132,250 00	
Expended on Properties.....	275 78	
		132,525 78
SPECIAL SAVINGS BANK BALANCES on hand 30th June, 1887.....	1,411 60	
LEANCHOIL AND CAMPBELL FUNDS, BANK BALANCE, do.....	2,259 40	
DONALDA ENDOWMENT FUND, do do.....	1,486 01	
GENERAL FUND, do do.....	20,424 98	
		25,581 99
		\$220,754 97

Montreal, 13th Aug., 1887.

J. W. BRAKENRIDGE, Acting Bursar.

EXTRACT

Faint, illegible text, likely bleed-through from the reverse side of the page. The text is arranged in several paragraphs and appears to be a formal document or report.

