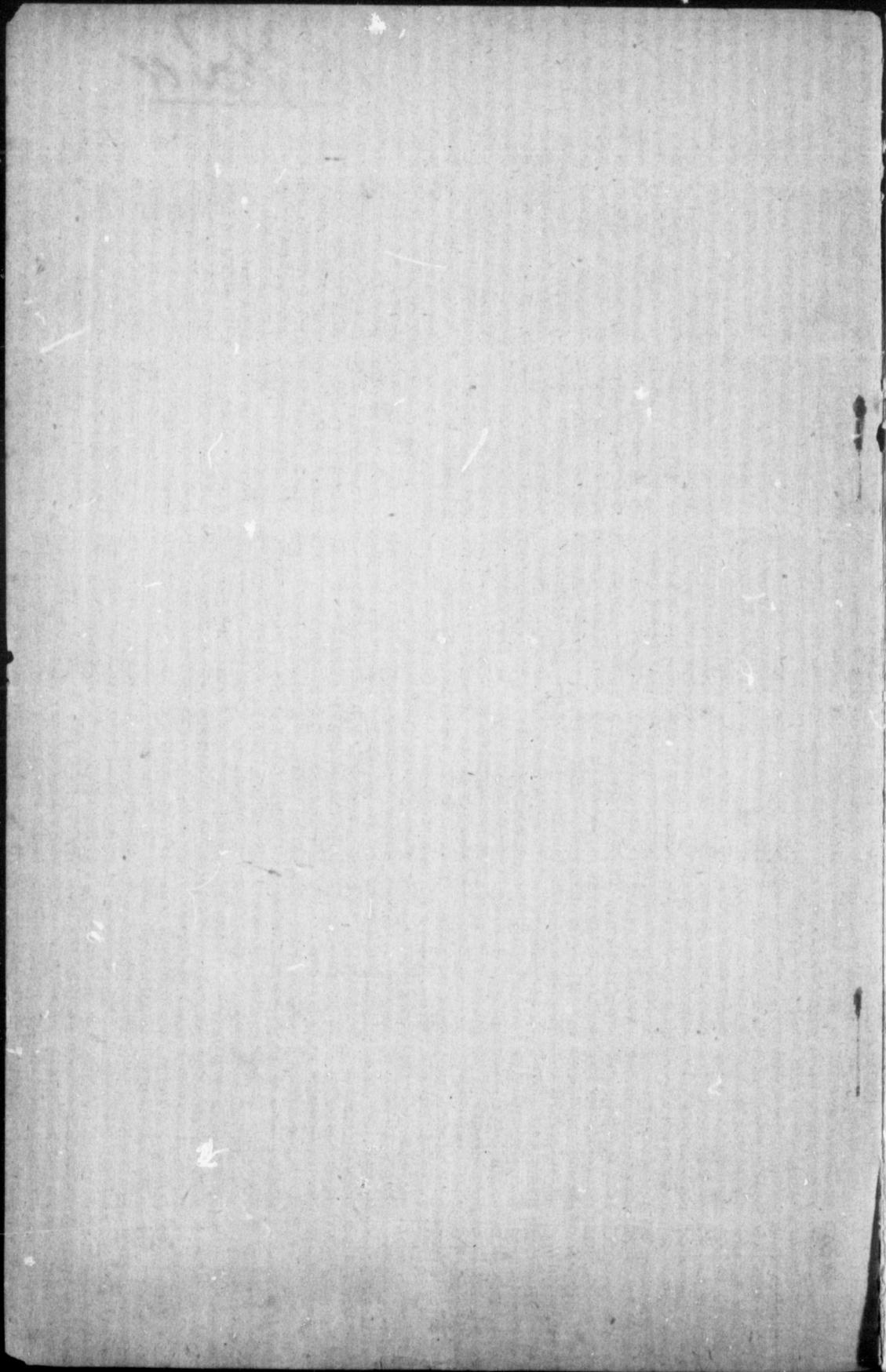


R. Bell

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ANNUAL REPORT
OF THE
GOVERNORS, PRINCIPAL AND FELLOWS
OF
MCGILL UNIVERSITY, MONTREAL,
For the Year 1891.



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(Published by permission of His Excellency the Governor-General, Visitor of the University.)

*To His Excellency the Right Honourable Baron Stanley of Preston,
G.C.B., P.C., Governor-General of Canada.*

MAY IT PLEASE YOUR EXCELLENCY :—

We beg leave respectfully to present to Your Excellency, as Visitor of the University, under the Royal Charter, the following Report of the history and statistics of the University and its Faculties and Affiliated Institutions, in the educational year ending December 31st, 1891.

We have had in the past year to deplore the removal by death of two members of the University who have long occupied useful and important positions.

Dr. Richard J. MacDonnell, B.A., M.D., professor of Clinical Medicine, though for some years professor of Hygiene, had occupied the former chair for only two years, with very much ability and acceptance, and was specially characterized by his earnest enthusiasm in his work and by his kindly interest in the welfare of students. His early death is a matter of deep regret not only to his colleagues in the Faculty of Medicine, but to all connected with the University.

Thomas A. Roger, M.D., long and favourably known as a medical practitioner in the city, occupied till the time of his death the honourable position of a Representative Fellow elected by the graduates in Medicine, and in that capacity regularly attended and took a useful part in the meetings of the Corporation.

It is proper to mention here the removal by death of David Davidson, Esq., of London, England, one of the original members of the Board of Governors under the amended charter, and at the time of his death the only surviving member of that body. Mr. Davidson resigned his position on the Board on his removal to Great Britain in 1862, but continued to take a lively interest in education in Montreal, which was evidenced by his annual gift of the Davidson Gold Medal as the highest prize in the High School. Mr. Davidson as a member of the Board of Governors was an active and earnest promoter of the welfare of the University, and took a special interest in the High School as a feeder of the University.

NEW APPOINTMENTS.

In the Faculty of Medicine, the chair of Clinical Medicine left vacant by the death of Dr. MacDonnell, has been filled by the transference of Prof. James Stewart, M.D., from the chair of Pharmacy and Therapeutics, which has been filled by the appointment of Alexander D. Blackader, B.A., M.D.

In the same Faculty, R. F. Ruttan, B.A., M.D., formerly Lecturer in Chemistry, has been promoted to the position of Associate Professor.

In the Faculty of Arts, Professor A. J. Eaton, M.A., Ph.D., has been promoted from the position of Assistant Professor to that of Associate Professor.

In this Faculty, through the liberality of the Chancellor, we have been enabled to provide for the educational needs of the junior classes by the appointment of four Sessional Lecturers, all Honour Graduates of the University, namely, J. L. Day, B.A.; Chas. W. Colby, B.A., Ph.D., M. H. Tory, B.A., and Rev. J. L. Morin, B.A. These gentlemen give assistance in the departments of Classics, English, Mathematics and French.

Mrs. J. H. R. Molson has given the means to secure the services of Mr. Neville N. Evans, B.A. Sc., as Sessional Lecturer in Chemistry. In addition to these, Mr. W. E. Deeks, B.A., has been acting as Demonstrator in Zoology, and Miss Carrie N. Derick, B.A., as Demonstrator in Botany. The experiment of employing so many junior assistants is a new one in McGill; but so far it seems to have been very successful, and was rendered necessary by the larger number of students in attendance than in any previous session.

Mr. J. P. Stephen, a former student of the Normal School, and late Head Master of the Boys' Model School, who has had the advantage of some experience as a teacher of Elocution in the United States, has been appointed Instructor in that subject, and has had good classes, though it is hoped that these may be largely increased next session.

The above appointments in the Faculty of Arts are only sessional, but it is hoped that the experience of their value may ensure their continuance, unless additional chairs can be established.

In the Faculty of Applied Science, Professor Carus Wilson having been transferred to the new Chair of Electrical Engineering, for which he is eminently fitted, John T. Nicholson, B.Sc., of Edinburgh, and lately Instructor in the Engineering School of the University of Cambridge, has been appointed Professor of Mechanical Engineering.

In the same Faculty the important Chair of Mining Engineering has been filled by the appointment of Mr. W. A. Carlyle, B.A.Sc., a graduate of this University, who has had much practical experience in mines in the United States.

These appointments have been rendered possible by the Endowment of the Chair of Electrical Engineering by Mr. W. C. McDonald, with the sum of \$40,000, and by the gift of \$18,400 in aid of the Chair of Mining Engineering by a number of citizens of Montreal, whose names will be found in the Appendix to this Report.

The teaching staff of McGill College in the present session numbers sixty-six persons in all, representing a larger amount

of educational work of a high class than has been heretofore accessible to students in this country.

UNIVERSITY BUILDINGS.

The new Buildings erected by Mr. W. C. McDonald, the Engineering Building, and the Physics Building, both stately edifices and admirably adapted for the uses for which they are designed, have made rapid progress, and it is hoped, may be publicly opened at the beginning of next session, on which occasion, one of the most important in the history of the University, in so far as technical and scientific education are concerned, it is hoped Your Excellency may honour the University with your presence.

The present session has been signalized by a new and most generous gift on the part of Mr. Peter Redpath. In addition to the foundation of the noble Museum building which bears his name, and the endowment of the Chair of Natural Philosophy, Mr. Redpath has for many years been a liberal donor to the Library, more especially in the Department of English History, which he has raised to a degree of completeness in rare and standard works unsurpassed in Canada. Now that the books are outgrowing the accommodation possible in the old library, he has come forward with the gift of a library building which is to be capable of holding about 150,000 volumes, and will contain spacious reading-rooms for men and women, and study or "seminary" rooms of the best and most modern construction; and is to be fitted with every appliance necessary to arrangement, safe-keeping and use of its contents. The College has long suffered from the want of adequate reading-rooms, and it is anticipated that the new building will greatly facilitate and promote the private and individual study on which so much of the progress of the student depends. This building is to be erected on the lots adjoining the College campus, recently presented to the University by Mr. J. H. R. Molson.

THE PAST AND PRESENT SESSION.

In the meetings of Convocation, at the close of last session, the following Degrees in Course were conferred :—

Law	{	B.C.L.....	3	}	6
		B.C.L. ad Eundem.....	1		
		D.C.L.....	2		
Medicine		48		
Arts (8 women)		30		
Applied Science		11		
Veterinary Science		22		
					117

The Honorary degree of LL.D. was conferred on George M. Dawson, D.Sc., F.R.S., Assistant Director of the Geological Survey, and on the Rev. Moses Harvey, of St. Johns, Newfoundland, an eminent writer on that colony.

Five University gold medals were granted to successful students, besides the gold and silver medals kindly presented by Your Excellency, the Wicksteed medals for Physical culture and the silver medal in Veterinary Science.

In the classes of the Normal School, 80 Diplomas were granted by the Superintendent of Education; namely, 4 for Academies, 26 for Model Schools, and 50 for Elementary Schools.

In the June Examinations for the title of Associate in Arts, no less than 410 candidates presented themselves, of whom, however, 103 came up for the Preliminary only; 120 candidates passed in the examinations for Associate and 27 for Junior Certificates. These candidates came up from 32 schools, and many of them fulfilled the requirements for matriculation in Arts or in Applied Science. These numbers are larger than in any previous year.

In the past session 166 exemptions from fees were given to students, in some cases in competition, in others as Benefactors' scholarships and as aids to Theological colleges. These exemptions are the means of assisting many deserving students who would have difficulty otherwise in completing their university course, and they are mainly given to students from the country.

In September, 12 Scholarships, 9 Exhibitions and 3 Bursaries were awarded in the entrance examinations in Arts, varying in value from \$125 to \$62.50. The larger number are the gift of Mr. W. C. McDonald; the others from the benefac-

tions of Mr. Hague, the late Major Mills, Mrs. Jane Redpath, and Sir D. A. Smith.

In Applied Science, one British Association Exhibition of \$50, and two Bursaries, the Scott Exhibition of \$66, and two prizes for Summer Essays, were awarded.

In addition to the ordinary privileges offered to students, Her Majesty's Commissioners for the Exhibition of 1851 were pleased last year to place at the disposal of this University one of their Scholarships for the encouragement of Practical training in Science. After careful consideration of the conditions of this liberal offer and of the qualifications of candidates, Percy N. Evans, B.A.Sc., was recommended for the appointment, and is now pursuing his studies in Germany, where, it is believed, he will fully vindicate the choice of the University. It is hoped that this liberal donation will be renewed to the University in 1893, and thenceforward in alternate years.

The total number of Students attending classes in McGill College in the present session is 910, distributed among the different Faculties as follows:—

Law		26
Medicine		248
Arts { Men	246 }	354
Women	108 }	
Applied Science		126
Veterinary Science		60
McGill Normal School— Teachers in training		106
		<hr/>
		920
Deduct repeated in different lists		10
		<hr/>
		910

In the Affiliated Colleges in Arts the following are in attendance:—

Morrin College, Quebec—		
Undergraduates	18 }	36
Partial and occasional	18 }	
St. Francis College, Richmond—		
Undergraduates		11
Wesleyan College, Stanstead		4
		<hr/>
		51

Of the above total number, about 600 are Undergraduates taking complete courses for Degrees, besides the teachers in

training of the Normal School. About 500 are persons not permanently resident in Montreal, but resorting hither for purposes of education.

With reference to these numbers, it should be understood that they include only students actually in attendance on lectures. In the Faculty of Arts the numbers do not include the students from other Faculties, as the Faculties of Applied Science, Medicine and Veterinary Science, attending classes in Arts. Such students are reckoned only in the Faculties to which they belong.

In the Faculty of Law, the increase of students is necessarily in the first and second years of the course. It is to be anticipated, therefore, that under the new arrangements the total number will be considerably augmented next session.

In the Faculty of Arts, while the number of men has steadily increased, the fact that this Faculty now outnumbered the others is due to the number of students in the Donalda special course, who now constitute nearly one-third of the students in this Faculty. Of the total number in Arts, 130 men and 42 women are Undergraduates, taking the full course of four years for the degree of B.A.

In the Faculty of Applied Science, the number of students in the first year has greatly increased, no doubt in consequence of the improved facilities for study now afforded by that Faculty.

The annual University Lecture was delivered by the Principal on November 13th, the subject being "Canadian Students."

AMENDMENTS OF REGULATIONS AND IMPROVEMENTS OF COURSES OF STUDY.

Under this head we may notice the proposal to enlarge the representation of the Faculty of Arts in the Corporation from two to four members, in order more fully to secure the interests of the Academical Faculty, which has been growing so much in number of students and teachers and in its range of studies.

Under the same head we may note the extension of the session in the Faculty of Law, so as to give more time for the

study of the many subjects now embraced in the course of legal instruction.

The Faculty of Arts has organized a series of courses of study for graduates preparing for the degree of Master of Arts, which it is hoped will greatly enhance the value of that degree, and induce a larger number of Bachelors of Arts to make preparation for it.

The Faculty of Arts has also with concurrence of the Corporation somewhat increased its fees—the feeling being that when so many scholarships, exhibitions and free tuitions are open to needy students, those able to pay for education should be required to contribute a sum more in proportion to the cost of the education received, and bearing some relation also to the much greater advantages now offered by the University than in former years.

The institution of a special course of Lectures in Pedagogy by the Principal of the Normal School has afforded to graduates in Arts greater facilities for training as teachers in Academies and High Schools, and may thus be regarded as an additional privilege to students in Arts.

The successful introduction of a course on Elocution has already been referred to.

WANTS OF THE UNIVERSITY.

We would respectfully direct the attention of our friends to the great need of additional endowments of chairs and lectureships in the Faculty of Arts. The subject was brought under the notice of the Board of Governors in December last in a report of the Principal, in which attention was directed to the necessity for the division of some of the more important chairs or the appointment of lecturers and assistants; to the need of endowments for unendowed chairs, and for the institution of instruction in some branches of study not now provided for. All these and other improvements are now urgently needed, to meet the requirements of the students, whose numbers have so largely increased in recent years.

This subject has also been brought under the notice of the Corporation, and by its request a detailed report on the more

urgent needs of the Faculty of Arts has been prepared by the Faculty and will be submitted to the Corporation and to the Board of Governors, and possibly to the friends of the University with the view of securing further benefactions.

We would also again refer to the absence of a Dining-hall and College Boarding-House, to the great need of a new and better situated building for the Gymnasium, and to the importance of having a University building for meetings of Convocation and for Examinations, the space for which is now altogether inadequate, as well as for University offices, and rooms for meetings of Boards and Committees.

The Donalda special course for women is still continued in the rooms provided for it when its number of students was comparatively small, and it is much to be desired that it should now occupy the building secured for it by the liberality of the founder. The whole of the original buildings, including the William Molson Hall and the East wing, are now required for the class-rooms and Chemical and Natural Science laboratories of the Faculty of Arts, independently of the space required by the Donalda department.

It should also be borne in mind that the Botanical Garden occupies ground temporarily leased, and requires a permanent habitation. This, however, is subordinate to the endowment of the Botany Chair, for which an attempt is being made to procure an endowment as a memorial to the late Charles Gibb, one of our most distinguished graduates in his successful devotion to arboriculture. The public-spirited exertions of Mr. Gibb deserve such a monument, and the recent great development of our practical work in Botany, our Herbarium and Botanic Garden should afford encouragement to any benefactor willing to give additional means to this attractive and useful department of our work.

The attention of the Corporation has been called to the very imperfect accommodation at present possessed by the Faculty of Veterinary Science and Comparative Medicine. This professional school is of so great importance to the material interests of the Dominion, that the provision of improved lecture-rooms, museum, library, etc., should commend

itself as a most worthy object to those interested in our livestock and domestic animals.

AFFILIATED COLLEGES.

The four affiliated Theological Colleges which, though independent bodies connected with their several churches, derive important educational benefits from the University, are all in a prosperous condition, and it is matter of satisfaction that an increasing number of their students enter for the full course for B.A., or take somewhat extended partial courses.

Morrin College, Quebec, has six Professors, and reports thirty-six students in all, of whom three are preparing for graduation next spring and five for the intermediate examination.

St. Francis College, Richmond, reports four Professors and Lecturers and eleven matriculated students, with two partials. It should send up four candidates for the intermediate examination.

The Stanstead Wesleyan College, recently affiliated as a college of the second class, reports three Professors and Lecturers. It has four students, and will probably present, at the end of the present session, one candidate for the intermediate and three for the first year examinations.

MCGILL NORMAL SCHOOL.

The work of the Normal School is still carried on in its old and somewhat inconvenient class-rooms, but the new addition recently erected by the Government is nearly completed, and will, it is hoped, be occupied next session. The necessary furniture, however, and fencing of the play ground still remain to be provided for. We are happy to be able to state that the Government has granted an appropriation for the purpose of providing the more necessary furniture for the class-rooms.

Mr. Parmelee having resigned his position, owing to his appointment as English Secretary in the Education Department, Prof. A. W. Kneeland, M.A., has been appointed in his room, and Mr. Orrin Rexford replaces Mr. Smiley resigned, as Head Master of the Boys' Model School.

When the additional rooms are furnished and occupied, the Normal School will be enabled, if supplied with a moderate addition to its revenue, to enlarge its work in the direction of preparing teachers for giving education in Agriculture, in Kindergarten work and other departments of special instruction.

The classes of the Primary Department will at once be removed to the new building, as they have for some time occupied very unsuitable rooms in what was formerly the workshop.

UNIVERSITY EXTENSION.

The subject of University Extension, as it has been called, has recently received great attention in Great Britain and the United States, and has been brought under the notice of the Universities of Canada by a circular from the Minister of Public Instruction, Ontario, inviting representatives to a conference in Toronto for the purpose of forming, if possible, a Dominion Association for the promotion of the object. This University has responded to the request, and has sent delegates charged with the duty of co-operating in any movement for this purpose, but without compromising the liberty of action of the University in its own proper sphere.

The movement as now carried on in the mother country is intended to afford some portion of the benefits of University education to those who cannot take advantage of the regular courses of instruction, and the method of operation is that the Universities provide Lecturers and Examiners, while the people of the places in which the lectures are delivered contribute the means of defraying the expense.

This University early moved in this matter, having begun courses of popular lectures in Montreal as early as 1856. In this province, however, no other local centres presented themselves, and the increasing strain on the University staff from the growth of our classes, with the activity of other bodies providing courses of lectures in Montreal, seemed in a few years to render any further action inexpedient, beyond that of admitting young men not members of the University to single courses of lectures as occasional students. At a later date a demand for instruction of this kind for ladies having arisen, the Mont-

real Ladies' Educational Association was established and successfully maintained courses of lectures, for the most part delivered by University men, for 14 years, when it abandoned its work in favour of the Donalda Special Course for women in the Faculty of Arts, and this while providing for women a regular course of study leading to the degree of Bachelor of Arts, also affords facilities to occasional students.

It seems probable that could the Association to be established for the Dominion create or stimulate a demand in the more important local centres and give information in regard to the best methods of procedure, the Universities in the several provinces can independently or in correspondence with each other provide the necessary means of instruction, and should this course be decided on, this University will be prepared to co-operate. It would appear from the report of our representatives at a recent meeting in Toronto that an agreement substantially of this character has been arrived at, and this University will be prepared in conjunction with sister Universities and affiliated colleges to take part in a scheme for the Province of Quebec.

In accordance with this understanding, the University has appointed the Principal, Dr. Johnson and Prof. Cox as its representatives to confer with other Universities in Quebec and to report to the Corporation at its next meeting a scheme for meeting any demand which may be found to arise next session for University Extension Lectures.

It is to be observed, however, that in the Province of Quebec, there are few centres of English population outside of Montreal likely to be able to sustain effectually University Extension Courses.

THE GYMNASIUM.

Mr. J. R. McKenzie was reappointed for the present session, and has been carrying on the classes very successfully. Miss Barnjum still efficiently instructs the classes of women. The number of men in attendance is 123, belonging to all the Faculties. The number of women is 15, besides a class of students of the Normal School. There seems to be much earnestness and enthusiasm in the work, but the number of

students taking advantage of Physical Culture might be greatly increased were a new and more accessible building provided.

REGISTRATION OF MEDICAL DEGREES.

The subject of Registration of Medical Degrees in Great Britain has continued to engage the attention of the University, but so far without success, it being apparently objectionable to the British Medical Council to accept reciprocity from particular provinces, while the Dominion Government is equally averse to take measures for that Dominion registration which alone will avail. In the meantime, owing apparently to the defect in our federal constitution which prevents the Dominion Parliament from legislating on educational matters, the practitioners of the United States and Australia are admitted to registration while Canadians are shut out.

It seems evident, however, that if the reciprocity of registration of any one Province could be accepted in England, the other Provinces would soon be forced to come in; and that if Provincial reciprocity cannot be accepted, the force of public opinion must eventually oblige the Dominion to intervene in a matter which, properly considered, belongs to professional and business life rather than to education, and in relation to which, owing to unwise provincial restrictions, the medical practitioners of one province are branded as unworthy to practise in another, and all Canadian practitioners forbidden to practise in any other part of the empire.

We propose to continue the agitation of this matter until some remedy for so great an injustice can be obtained.

STATE GRANTS TO UNIVERSITIES AND COLLEGES.

The question of aids from the Provincial Legislature to Universities and Colleges having been agitated at certain educational meetings and in the public press, it is deemed proper shortly to refer to the subject, more especially, however, in connection with this University.

Shortly after the reorganization of the University under its Amended Charter, and when its own revenues were altogether inadequate, repeated appeals were made to the Government

for aid, and some assistance was granted. By the Education Act of 1856, prepared by the late Sir G. E. Cartier, it was intended to give a regular and systematic support to the Universities and Colleges and the institutions supplying them with students, out of the income of the Jesuits' Estates, granted by the British Government for that purpose, and out of an additional sum supplementing it from the Provincial revenues. Under this act this University received its annual grant for some years. At the time of Confederation, however, a population clause was introduced which had the effect of reducing the Protestant share of the fund, and at the same time the growing needs of the academies made greater demands on it. The effect was greatly to reduce the University grant, and to threaten its extinction if the process of reduction continued.

In these circumstances gentlemen representing the Universities and colleges, after securing the concurrence of the Council of Public Instruction, presented the case to the Government and asked for a special and distinct grant to the Universities and Colleges. Letters and statements of the Lord Bishop of Quebec and of the late Hon. Mr. Ferrier giving the result of their interview with the Government on the subject, shew the nature of this application, in consequence of which the proceeds of the Marriage Licenses were granted in aid of Superior Education by an act passed in 1871; and in October 1872 a memorandum was presented to the Honble. Mr. Chauveau by the Protestant Members of the Council of Public Instruction suggesting the distribution of this fund to McGill University, the University of Bishop's College and Morrin College. This memorandum is signed by Judge Day, the Bishop of Quebec, Dr. Cook, Hon. Mr. Ferrier, Hon. Mr. Irvine and Rev. Dr. Leach. In accordance with this memorandum the first distribution was made in 1873, and has continued substantially unchanged, as appears from the Report of the Rev. Mr. Rexford, prepared for the Protestant Committee of the Council of Public Instruction in 1888, though St. Francis College and Stanstead College have also been beneficiaries, and in some years a surplus of the fund has been given to the Academies.

With this understanding the University has been content

and has made no complaint, and when recently a large sum was given to Colleges of the Roman Catholic faith and an equivalent to the Protestants, though this equivalent in the circumstances rightfully belonged to the Colleges as representing a sum granted on demand of the Jesuits' College, this University made no claim to any part of it.

It is to be borne in mind that this University has all along received from the State amounts quite disproportioned to its work and the contributions of its friends, and to the aids granted to Colleges elsewhere, that its work is for the whole province, receives no share of any local rates, and cannot be self supporting, while it gives large benefits free of cost to students from all parts of the country.

It is also to be borne in mind that the existence and endowments of the Universities give to the schools of higher education the stimulus and support on which their efficiency largely depends, and to the young men and women of the country the door of entrance to the higher professions.

In these circumstances the complaints which have been made and the wish avowed in some quarters to reduce the whole education of the country to the level of the common schools, appear both unwise and ungrateful, and are to be deprecated in the interests of the higher education.

It is to be hoped that delusive ideas on this subject will not commend themselves to the good sense of the people of the country. But should they prevail, it will be necessary for the Universities to curtail, in some degree, the benefits they now offer to students, or to fall back on the private liberality of their friends. In any case it should be understood that, in so far as this University is concerned, it is at this moment giving pecuniary and educational aids to deserving students from the country to a much greater extent than the whole amount of its grants from the Legislature, and that its action in these respects is a main stimulus to secondary education, and a powerful means of enabling young men and women of ability to rise to important social and public positions, beneficial to themselves and useful to the Dominion, and more especially to the well-being of the English minority in this Province.

REPORTS APPENDED.

The Library Report shows a considerable number of valuable donations, and the number of volumes to be nearly 32,000. The complaint so often renewed of inadequate room will it is hoped be removed next year by the erection of the new building provided by the liberality of Mr. Peter Redpath.

The Peter Redpath Museum also presents a satisfactory report, and may now be regarded as providing all the essentials of an education in Geology and Natural History in a manner not heretofore accessible in this country.

In the Observatory the usual Meteorological and Time observations have been continued, and instruction has been given to students. The leading feature of the work, has however, been the completion of the arrangements for the direct telegraphic determination of the longitude of Montreal, which is to be carried out in the coming summer, with the aid of grants from the Imperial and Dominion governments, and with the kind assistance of the Astronomer Royal. The completion of this work will be a benefit to the whole Dominion, as giving a datum for accurate determination of longitude in all parts of our country.

The Botanical Garden reports satisfactory progress, and it is hoped that the present occupation of the Trafalgar property may prepare the way for a larger and more perfect institution of this kind.

The Financial statement represents a year of exceptional income and expenditure, but when the great benefactions received, and the sums expended in new salaries and buildings are eliminated, the fact remains that the College proper is still insufficiently endowed, and that very little of the income is free to be expended in meeting the new demands constantly arising.

(Signed),

DONALD A. SMITH, LL.D.,
Chancellor.

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

January 27, 1892.

REPORT OF LIBRARY COMMITTEE FOR 1891.

Your Committee, in submitting their Report of the Library for the past year, have once more to record gratifying progress in every department.

The number of volumes added to the library is largely in excess of the usual average, amounting as it does to 1,601 in all, and making the total number of volumes 31,846. The donations have been of great value; and among those deserving special mention are 129 volumes from Mr. Peter Redpath, in which are included Muratori's *Rerum Italicarum Scriptores*, in 31 volumes, a work of great rarity and value, and in perfect condition; probably no other complete set of this work is to be found in the Dominion. Next is Pertz's *Monumenta Germaniae Historica*, complete, in 34 volumes; a very rare work, and a valuable addition to the Library.

Mr. W. C. McDonald has made a donation of 575 volumes and a number of pamphlets on Electricity, the Steam Engine, and matters appertaining to the work of the Faculty of Applied Science, whereby the library of that Department has been much improved and enlarged.

Donations have also been received from Sir William Dawson; and 175 volumes in General Literature from the McGill College Book Club.

Twenty-four volumes have been received, per Hugh MacLennan, Esq., from the estate of the late Miss Rimmer, and 171 volumes from various donors; also a donation of books to the Faculty of Applied Science by Prof. Egleston, of New York, through Prof. Bovey.

A complete set of Ruskin's Works, bound in calf, has been presented by Messrs. Wiley & Co., of New York, through Prof. Bovey.

Herr Brockhaus, the eminent publisher of Leipsic, during the year forwarded a copy of his catalogue, intimating, at the same time, his readiness to make to the Library donations of such books as might be selected, provided they were unbound. Your Committee deemed it their duty to accept so generous an offer, and a large selection from the catalogue has been carefully made by several of the Professors and forwarded to Herr Brockhaus; and as the binding could be done more cheaply in Germany than here, the Board of Governors, on application from your Committee, made a special grant of \$250.00, to be expended on the binding of such books in his donation as, in the opinion of Herr Brockhaus, may most need it. By this generous donation an addition of many valuable standard works will be made to the Library, for which the University is under great obligation to the donor.

An appropriation was made of \$300.00 by the Board of Governors

for general purposes of binding and necessary repairs, to which must be added \$25.00 received from the Ottawa Valley Graduates' Society for the same purpose. Two hundred and sixty-four volumes have been bound.

By resolution of Corporation, bearing date March 30th, 1891, it was ordered:—

“That the Library Committee be requested to consider the advisability of having a more complete catalogue of the books in the Library.” Your Committee regard the matter as one of great importance in facilitating the use of the Library, and, at the same time, as a large undertaking requiring the outlay of much money, time and skill. Nevertheless, they were of the opinion that a beginning should be made, and that assistance should be sought in this undertaking; and, to this end, application was made to the Board of Governors for a special grant in aid thereof, and your Committee received from them \$300.00, with which sum the services of a competent assistant have been secured, who has been working under the guidance of the Assistant Librarian. As a beginning, it was thought best to continue, until completion, the catalogue already in hand of the important and valued departments known as “Canadiana” and “Americana:” and the Assistant Librarian reports that it is now completed, including, as it does, say 3,000 volumes, or 10,000 entries. But this, as has been said, only begins the work, and the question now arises what further steps shall be taken to carry it to completion, for there is no doubt that the re-cataloguing of the entire Library is becoming every day more and more absolutely necessary. Further, the present card-catalogue is said to be well-nigh obsolete, and falls far short of present requirements. These are important questions, and it will have to be decided whether or no it will be best to let them stand over for a time, until at least it may be found what organic changes will be necessary when the new Library Building, to be erected by Mr. Redpath, shall have been completed.

During the year, on application of the Faculty of Applied Science, a number of books appertaining to the work of that Faculty were transferred, under certain conditions as to safe-keeping, cataloguing, &c., to their new building. Some 3,000 volumes were thus transferred, the cataloguing of which, in duplicate, involved much additional time and trouble.

The difficulties, as reported in former years, arising from want of space for readers, and overcrowding, have been aggravated rather than diminished, and they have interfered with making such exact returns of the numbers of those using the Library as is to be desired. But there can be no doubt that the munificent gift of a new

building, announced by Mr. Redpath, will bring these troubles to an end.

Hereunto is appended the usual conspectus of the Library for the past year.

On behalf of the Committee,

GEORGE CORNISH, LL.D.,

Hon. Librarian.

MCGILL COLLEGE, Jan. 26th, 1892.

CONSPECTUS OF LIBRARY FOR 1891.

QUARTERS ENDING.	READERS.	VISITORS.	BOOKS READ.	BOOKS LENT.
April 20th	3,888	32	2,327	1,344
June 25th	591	29	468	510
Oct. 26th	1,511	216	1,202	875
Jan. 25th, 1892	3,733	46	2,126	1,392
	9,723	323	6,123	4,121

Number of volumes in Library at date, 31,846. Increase for 1891, 1,601 volumes.

REPORT OF THE PETER REDPATH MUSEUM.

Your Committee beg leave to report the continued usefulness and improvement of this portion of the University work.

In the early part of the year the founder of the Museum increased our obligations to him by presenting a sum of \$1,000 in addition to his regular annual grant of a like amount. This second sum was to be expended on improvements of the Museum. The Committee has been enabled by this means to provide for the furnishing of the botanical room with proper cases for the Herbarium, which have long been demanded by its increase, owing to donations and the purchase of collections of foreign plants.

Additional cases and cabinets have also been procured or ordered for minerals, rocks, fossils and large Mammalian specimens, so that the building is much better furnished than before, and space is provided for increased collections. In these and other ways the Museum has been greatly improved, while a balance of the donation still remains.

The donation of Mr. J. H. R. Molson, for securing new specimens has been only in part expended, though we hope in the present year to make some important additions by means of this fund. We have to thank Mrs. Molson for a renewed contribution to provide for the salary of the Assistant Curator. Donations of duplicate specimens have been made in the course of the year to a number of institutions, and valuable exchanges have in some cases been received.

The additions to the Herbarium by donation and purchase, reported by Professor Penhallow, amount to nearly 2,000 species, and much of this material and of previous acquisitions still require to be mounted and arranged. This work is, however, in progress, and additional assistance may be available in the course of the present year.

Similar statements may be made with reference to the Geological Department, in which large stores of material await determination and arrangement by the professors in charge.

The Professors and Lecturers connected with the Museum, and the Assistant Curator, Mr. Currie, have also, as in past sessions, made valuable additions by collections in the summer vacation.

The educational work carried on in the Museum, in Geology, Petrography, Mineralogy, Zoology and Botany is now very complete, being provided for by a staff of four professors and lecturers and two assistants. Its benefits are enjoyed not only by classes of men and women in the Faculty of Arts, but by students of the other faculties, and the enlargement of the practical and laboratory work

has necessitated its extension into the centre building and the east wing, while the class-rooms in the Museum itself are almost constantly occupied. The number of visitors in the past year was 2,250.

It is hoped that in the coming year the material and means of instruction may be still farther improved ; and though in its present condition the Peter Redpath Museum may be regarded as the most complete educational institution for Natural Science in the Dominion, yet, in common with other institutions of like character, it requires constant care and frequent additions and improvements to keep it abreast of the progressive advancement of Science.

(Signed),

B. J. HARRINGTON,
Hon. Curator.

January, 1892.

REPORT ON THE OBSERVATORY,

For the year ending Dec. 31, 1891.

To the Corporation of the University :—

GENTLEMEN,—

I have the honour to present the report on the Observatory for the year 1891.

Meteorological Observations.—The usual meteorological observations have been continued without interruption, and the results have been published in the Montreal Gazette and Canadian Record of Science.

Time Service.—Determinations of clock errors have been made on 114 nights by the observation of 619 stars. The instant of mean noon has been given to the shipping, and other time signals have been distributed throughout the City and Dominion as in former years. The Ottawa time service is still, I regret to say, a source of annoyance, owing to imperfect arrangements for transmitting the time, and the incompetence of the person in charge of the time-gun at the Parliament Buildings.

The system of time exchanges with the Toronto Observatory has been continued with the following results: The average difference between the mean time of the two Observatories, on the sixteen days on which exchanges were made, was 0.17 sec., and the greatest difference on any one day was 0.38 sec. The comparisons give a probable error for the time of one Observatory, as compared with that of the other, at any instant, of 0.08 sec.

Longitudes.—Arrangements for the direct longitude determination between Montreal and Greenwich are practically completed. The transit instrument, loaned by the Royal Observatory, and the special electrical apparatus, constructed under the direction of the Astronomer Royal, by Messrs. Siemens Bros., were received at the end of August. The chronographs to be used in the Canadian portion of the work were made by G. N. Saegmuller, Washington, D.C. They are of similar construction, and belong respectively to the Physical and Engineering Laboratories of the University. The Commercial Cable Company's station at Hazel Hill, Nova Scotia, was visited in the month of June by Professor Cox and myself, and certain preliminary experiments on transmission through the cable were made. A shelter for the Astronomical Station and a transit pier have been erected at Hazel Hill. The foundation for the transit instrument at Montreal has been enlarged, and it will be necessary to increase the accommodation in the transit house by adding to it or rebuilding.

The experiments on cable transmission by automatic repetition of the signals between the land lines and the cables gave very encouraging results. A large number of signals were sent from Montreal to Waterville, Ireland, and back to Montreal, on June 7th. The total transmission time, including six repetitions on land line instruments and two repetitions on the specially designed cable repeaters, ranged between 1.00 sec. and 1.10 sec., the average time being 1.04 sec. The circuit included 1,720 miles of land line and about 6,000 miles of cable. On June 21, signals were sent through the cable from Hazel Hill to Waterville and back with the two cable repeaters only in the circuit. The average transmission time was 0.67 sec., and it ranged between 0.63 and 0.70, as measured on the trace of the siphon recorder.

The Dominion Government has granted \$2,000 towards the cost of the work. It is expected that observations will be commenced about May 1, and continued throughout the summer, the intention being to obtain a determination of the longitude in the early summer which will be complete in itself, and a second determination as late as possible in the Autumn.

Sunspots.—The observations of Sunspots by the projection method have been continued throughout the year. The results for the year ending, May, 1891, are being published in the transactions of the Royal Society of Canada. Owing to lack of assistance no work has been done with the photo-heliograph during the year.

Soil temperatures.—The observations described in last year's report have been continued, the couples remaining in the same position and at the same depths. I regret to say that this work cannot be continued beyond the present year unless additional assistance in the Observatory is provided for.

General.—Upwards of one thousand applications for information have been received and answered during the year. The movement for an improved site for the Observatory has not advanced materially beyond the stage in which it was reported to be one year ago. Mr. E. H. Hamilton, B.A. Sc., who for many years has filled the office of Assistant in the Observatory, has resigned in order to take the position of Chemist in the Bergenport Chemical Co.'s works New York. The position has been satisfactorily filled since July 1st last by Mr. Robert Bickerdike, jr., B.A. Sc.

Respectfully submitted,

C. H. McLEOD,
Superintendent.

REPORT ON THE BOTANIC GARDEN FOR 1891.

The work of the Botanic Garden has been continued during the past year with gratifying success. Through the donation of seeds from kindred institutions elsewhere and from friends, and by means of purchases, sufficient material for out-door culture was obtained to illustrate about forty families of plants, while the permanent collection for greenhouse culture was also strengthened in important directions.

The number of students deriving direct benefit from the garden was about the same as last year, as noted in my previous report, but the advantages placed at their disposal have been greatly increased. The work which the students have accomplished in this connection, constitutes one of the most important factors in their botanical education, giving them, as it does, a practical knowledge of plants in all their aspects. The method followed has involved weekly excursions in the field, terminated by a visit to the garden for further study and comparison. This was continued so long as flowers in the open lasted, after which the students were taken to the plant-house and given entire plants, grown for the purpose, in quantity, for analysis. Classroom analysis and examinations of dried plants have also been made from time to time.

A large number of visitors have taken advantage of the garden during the year. While the public are freely admitted and welcomed, no special effort has been made to attract them, in consequence of the imperfectly developed condition of the grounds. It is anticipated, however, that in the course of the coming season the garden may be so far advanced as to justify some special announcement in favor of public visitation.

In consequence of the very limited means available, the work of laying out the grounds has proceeded somewhat slowly. This has also been due in great measure, however, to the necessity for a large amount of preparatory work in the way of removing obstructions and preparing the ground, but with the work now accomplished in this direction, the actual development of the garden will be much more rapid in the future. About half the beds necessary for the Gamopetalæ have been finished, and it is probable that the coming season will witness the completion of this group, and possibly the Polypetalæ also. A large reserve garden was laid out and fully occupied; also a portion of the nursery ground was taken up with plants derived from seed and transferred from the old nursery in the College grounds.

Much valuable material has continued to be received from similar institutions in various parts of the world, in the form of seeds

and publications. Reciprocal favors have been extended as far as possible, while the immediate resources of the garden have been supplemented for this purpose by such scientific papers as are issued by the Director personally.

Special requests have been received from various sources for native plants possessing medicinal properties; plants or their products for chemical analysis; species of special botanical interest in other localities, and specimens illustrative of typical forms of indigenous species. All such requests have been met so far as the present resources of the garden would permit.

The facilities offered for communication with other gardens have enabled the Director to issue a yearly revised list of all the known Botanic Gardens. This will probably be continued in the future.

The very restricted means placed at the disposal of the Director render it impossible to carry on the work with that degree of despatch which is desirable, and which would best serve the interests of education. It is nevertheless hoped that in the near future the garden may be able to place at the disposal of the public such advantages as will induce the extension of much-needed pecuniary aid to it. In the meantime we rest under obligations to several gentlemen, whose names appear elsewhere, for very substantial encouragement given during the past two years.

The following donations have been received in money, materials and plants:

Mr. Jonathan Brown..... \$100

Mr. Robert Mackay..... 100

From Messrs. Brodie & Harvie, Frothingham & Workman, Lyman, Sons & Co., E. J. Maxwell, tools and other materials.

From Missouri Botanic Garden, Prof. J. A. Henriques, and various Botanic Gardens abroad, botanical publications.

From Botanical Gardens Harvard University, Melbourne, Hobart Town, Mysore, Malta, Tasmania, and from Arnold Arboretum, the Botanic Garden of Howard University, A. L. Cockayne, Esq., New Zealand, and Baron Von Mueller, Melbourne, collections of seeds.

From City Gardens, Montreal; Mr. W. Wiltshire, Mrs. R. Mackay, Mr. J. Walsh, Mr. J. Molson, Miss McCord, Mr. Torrance, Mrs. T. V. R. Brown, Mr. Alfred Joyce, Miss Orkney, Mr. J. Morgan, Mrs. G. P. Girdwood, Mr. W. M. Baillie, gardener, Seeton House, Bedford, England, specimens of plants for conservatory.

Plants and seeds have been sent to several botanic gardens abroad.

Respectfully submitted,

D. P. PENHALLOW, B. Sc.,

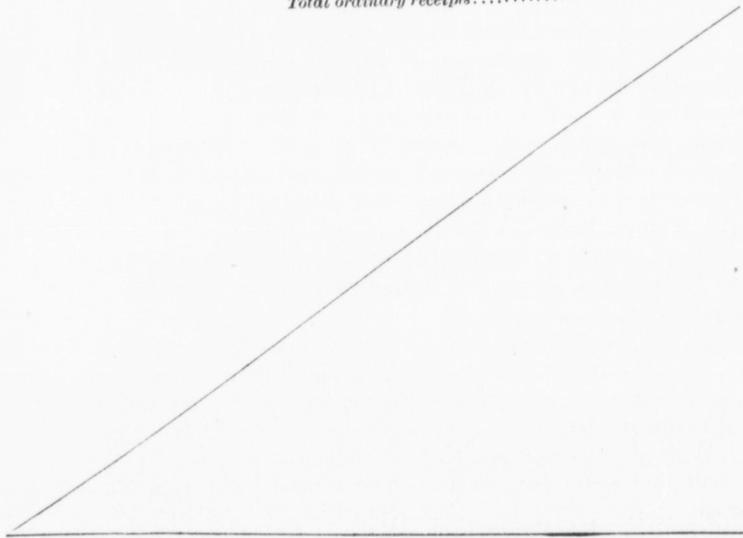
Director.

*RECEIPTS and EXPENDITURE of the ROYAL
from 1st July, 1890,*

RECEIPTS.

I. ORDINARY.

GOVERNMENT GRANTS:—		
Superior Education	1,650 00	
Marriage License Fund.....	2,500 00	4,150 00
SCHOLASTIC FEES:—		
Registration (Ordinary, \$441.00; Higher Degrees, \$12.00)	453 00	
Faculty of Arts (Ordinary, \$1006.50; Library, \$748.00).....	1,754 50	
Faculty of Applied Science Library Fees.....	196 00	
Botany and Zoology	287 63	
Additional Botany	52 60	
School Examinations.....	448 00	
Gymnastic	542 50	
Diploma	386 00	4,119 63
		52 95
MUSEUM MAINTENANCE		
		367 50
ANNUAL DONATIONS:—Scholarships and Exhibitions		
		40 00
COLLEGE GROUNDS MAINTENANCE		
		40 00
SPECIAL DONATIONS:—		
Redpath Museum Maintenance.....	1,000 00	
Current Expenses.....	100 00	
Chair of Hebrew	200 00	
Ottawa Valley Graduates' Library Fund	25 00	
	1,325 00	
	32,248 36	
INTEREST, etc., net returns, including arrears from former years		
		119 00
ELECTION OF FELLOWS		
		42,422 44
<i>Total ordinary receipts.....</i>		



Carried forward..... 42,422 44

*INST
to 30th*

I. ORDINARY

ADMINISTRATIVE

Salaries
Office
Porter

EDUCATIONAL

Faculties
Botanical
Botanical
Diploma
Natural
Gymnasium
School

GENERAL

Fuel
Printing
Charges
Allowances
Insurance
College
Law

SCHOLARSHIPS

MEDALS AND

LIBRARY—

MUSEUM

ELECTION

PETTY DE

IMPROVEM

Laboratory
Furniture
Scientific
Gymnasium

SPECIAL G

Faculties
Faculties

*INSTITUTION for the ADVANCEMENT of LEARNING,
to 30th June, 1891.*

EXPENDITURE.

I. ORDINARY.

ADMINISTRATION:—

Salaries (Principal, Secretary and Clerk)	4,850 00	
Office Expenses	82 55	
Porters	1,437 00	
	<hr/>	6,369 55

EDUCATIONAL:—

Faculty of Arts	23,891 81	
Botany Classes	167 65	
Botanic Garden Maintenance	1,140 73	
Diploma Account	49 50	
Natural Philosophy Class, \$96.55; Chemicals, \$113.25	209 80	
Gymnastic Classes (Instructor, Fuel, etc.)	1,111 44	
School Examinations	676 66	
	<hr/>	27,247 59

GENERAL EXPENSES:—

Fuel	1,095 89	
Printing, \$1,317.55; Advertising, \$400.53; Stationery, \$712.26 ..	2,430 34	
Charges (including the Gibson and Mills Annuities and Baynes Allowance)	3,194 47	
Insurance	24 46	
College Repairs, \$1,394.52; Grounds Maintenance, \$450.10	1,844 62	
Law Charges, \$83.00; Principal's Secretary, \$150.00	233 00	
	<hr/>	8,822 78

SCHOLARSHIPS AND EXHIBITIONS

1,868 50

MEDALS AND PRIZES

574 77

LIBRARY—Maintenance, \$1,020.00; Books, \$937.73

1,957 73

MUSEUM MAINTENANCE

1,394 63

ELECTION OF FELLOWS

45 15

PETTY DEBTS

12 40

IMPROVEMENTS AND ADDITIONS:—

Laboratory	44 73	
Fixtures and Furniture	45 05	
Scientific Apparatus	168 91	
Gymnasium	46 90	
	<hr/>	365 59

SPECIAL GRANTS:—

Faculty of Law	1,000 00	
Faculty of applied Science	1,500 00	
	<hr/>	2,500 00

Total Ordinary Expenditure.....

51,098 69

Carried forward.....

51,098 69

*RECEIPTS and EXPENDITURE of the ROYAL
from 1st July, 1890,*

RECEIPTS.

	<i>Forward</i>	42,422 44
II. SPECIAL.		
INCOME DEVOTED TO SPECIAL PURPOSES:—		
Faculty of Law Funds—		
Grant by Governors	1,000 00	
Gale Chair Interest	1,342 18	
McDonald Endowment Interest.....	7,101 28	
Fees.....	680 00	
	10,123 46	
Faculty of Applied Science Funds—		
Grant by Governors.....	1,500 00	
Fees.....	4,443 50	
Interest on Endowments.....	3,175 10	
Lectures on Sanitation.....	100 00	
	9,218 60	
Leancoil and Campbell Funds, Interest.....	3,947 02	
Donalda Ladies' Classes—Subscriptions, \$200.00; Fees, \$1,248.50;		
Interest, \$6,514.87	7,963 37	
Observatory:—		
Dominion Government Grant to Observatory, \$500.00; Observers, \$600.00	1,100 00	
City of Montreal, \$150.00; Harbor Commissioners, \$250.00; Interest, \$7.77.....	407 77	
	1,507 77	
Molson's Museum Maintenance.....	22 29	
Special Donation to Museum.....	1,000 00	
Peter Redpath Donation for Improvement to Museum.....	1,000 00	
Subscriptions Botanic Garden.....	1,026 84	
McDonald Faculty of Applied Science Special Fund.....	10,000 00	
	45,809 35	
SUBSCRIPTIONS CHAIR OF MINING ENGINEERING.....	3,950 00	
DO. EQUIPMENT WORKMAN BUILDING.....	10,712 00	
McDONALD DONATION FOR SURVEYING AND GEODETIC APPARATUS.....	1,500 00	
	16,162 00	
	Total special receipts.....	61,971 35
III. MISCELLANEOUS.		
INVESTMENT ACCOUNT:—		
Investments repaid during the year.....	112,332 18	
Campbell Memorial Fund—on account.....	100 00	
Gale Chair Fund—on account	4,485 05	
W. C. McDonald Chair of Physics.....	50,000 00	
W. C. McDonald Chair of Electrical Engineering.....	40,000 00	
Workman Mechanical Department Endowment—on account..	60,000 00	
W. C. McDonald Donation to Mechanical Department.....	20,000 00	
J. H. R. Molsons Donation of McTavish St. Property.....	42,500 00	
Markgraf Mortgage	9 75	
Graduates' Endowment Fund, Faculty of Applied Science	15 00	
	329,442 58	
BANK BALANCES, 30TH JUNE, 1890:—		
Savings Accounts.....	1,163 50	
Leancoil and Campbell Funds.....	2,788 70	
Donalda Endowment Fund.....	2,964 69	
McDonald Law Endowment Fund.....	54,100 00	
General Fund.....	5,563 31	
	66,580 20	
	\$500,416 57	

Verified,

MACINTOSH & HYDE, *Auditors.*INST
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II. SPEC

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*INSTITUTION for the ADVANCEMENT of LEARNING,
to 30th June, 1891.*

EXPENDITURE.

Forward..... 51,098 69

II. SPECIAL.

EXPENDITURE DEVOTED TO SPECIAL PURPOSES :—

Faculty of Law.....	10,594 74
Faculty of Applied Science, \$9,489.49; Books, \$151.78; Special Apparatus Fees, \$137.52.....	9,778 79
Leancoil and Campbell Funds—Interest.....	2,800 00
Donalda Ladies' Classes, \$7,805.39; Workman House Maintenance, \$28.47.....	8,033 86
Observatory.....	1,538 59
Molson's Museum Maintenance.....	540 00
Special Donation to Museum.....	180 84
Subscriptions Botanic Garden.....	1,138 37
W. C. McDonald Applied Science Special Fund.....	2,463 52
Workman Bequest.....	3,000 00
	<hr/>
	40,068 71

EQUIPMENT WORKMAN BUILDING.....	10,882 80
SURVEYING AND GEODETIC APPARATUS.....	1,448 81
R. A. RAMSAY LIBRARY FUND.....	76 57
	<hr/>
	12,408 18

Total special expenditure..... 52,476 89

III. MISCELLANEOUS.

INVESTMENT ACCOUNT:—

Invested during the year.....	282,756 25
Expended on properties.....	60 00
Workman Mechanical Building.....	52,238 00
	<hr/>

335,054 25

BANK BALANCES, 30TH JUNE, 1891 :—

Savings Accounts.....	7,932 62
Workman Endowment Fund.....	16,857 10
McDonald Law Endowment Fund.....	248 20
Leancoil and Campbell Endowment Fund.....	19,535 72
Donalda Endowment Fund.....	10,902 30
General Fund.....	6,310 80
	<hr/>

61,786 74

\$500,416 57

J. W. BRAKENRIDGE,

Acting Bursar.

Montreal, 3rd September, 1891.

SUBSCRIPTIONS FOR CHAIR OF MINING AND METALLURGY.

R. B. Angus, Esq.....	\$2,000.00	
Mrs. Dow.....	1,000.00	
Hugh McLennan, Esq.....	1,000.00	
Miss Benney.....	1,000.00	
T. A. Dawes, Esq.....	750.00	
A. A. Ayer, Esq.....	250.00	
G. W. Reid, Esq.....	100.00	
		\$6,100.00

Payable in three years.

Sir William Dawson.....	\$1,500.00	
Alex. Stewart, Esq., (London, Eng.).....	1,500.00	
R. S. Reid, Esq.....	1,500.00	
James Ross, Esq.....	600.00	
E. K. Greene, Esq.....	750.00	
Dr. T. Brainerd.....	750.00	
A. F. Gault, Esq.....	750.00	
Messrs. H. & A. Allan.....	750.00	
Hector McKenzie, Esq.....	750.00	
Peter Lyall, Esq.....	750.00	
A. Robertson, Esq.....	300.00	
John Duncan, Esq.....	300.00	
George Hague, Esq.....	300.00	
Jonathan Hodgson, Esq.....	300.00	
James Moore, Esq.....	200.00	
Messrs. Ames & Holden.....	150.00	
James Cooper, Esq.....	150.00	
		11,300.00
		\$17,400.00

