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ANNUAL REPORT  
OF THE  
GOVERNORS, PRINCIPAL AND FELLOWS  
OF  
MCGILL UNIVERSITY, MONTREAL,  
FOR THE YEAR 1890.

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

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*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 this 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, 1890.

ENDOWMENTS AND BENEFACTIONS.

The leading events in the educational history of the University in the past year have been the series of munificent donations bestowed on it by a member of the Board of Governors, Mr. W. C. McDonald. To these, therefore, in this Report it is deemed proper to give the first place.

These donations apply to three of the Faculties of the University, and have given aid of the highest value to their work.

The Faculty of Law, previously destitute of any endowment except that of the Gale Chair, founded by the late Mrs. Stuart,

has received a sum of \$150,000, constituting the W. C. McDonald Law Faculty Endowment, under which the Faculty has been re-organized with an increased number of chairs, and with the arrangement that the Dean, Dr. N. W. Trenholme, is to devote his whole time to the work of the Faculty. The Faculty of Law now has a staff of eleven professors and has re-arranged and augmented its courses of lectures. The beneficial effect of this is already seen in the increased number of students and their greater enthusiasm in their work ; and there can be no doubt that the ultimate result will be to strengthen in every way the standing of the legal profession in this province, and more especially that of the English members of the Bar. In the present session, in addition to the regular students, the classes are attended by twenty-two occasional students, who are either graduates desiring additional legal education, or businessmen taking special courses of study.

In the Faculty of Arts, the endowment of the Chair of Experimental Physics, already filled by the appointment of Prof. John Cox, M.A., late Fellow of Trinity College, Cambridge, and the gift of a suitable building for physical class-rooms and laboratories, with the apparatus necessary for them, will, for the first time, give to the University adequate means for instruction in this important department of science. Hitherto the work in this has been carried on by Dr. Johnson, under the difficulty of want of any laboratory, and as a mere addition to the already excessive work of the chairs of Mathematics and Natural Philosophy. It will now constitute a separate department in the Faculty of Arts, and will also be an important auxiliary to the Faculty of Applied Science. The plans for the W. C. McDonald physical building are in progress, and through the kindness of Mr. McDonald arrangements are being made for procuring the new apparatus it will require.

The Faculty of Applied Science has not only shared in the liberality of Mr. McDonald in the provision and furnishing of a large and costly engineering building, but owes another building and a professorship of Mechanical Engineering to the bequest mentioned in last report on the part of the late Mr. Thomas Workman. The Thomas Workman Chair has been suit-

ably filled by the appointment of Prof. C. Carus-Wilson, B.A. (Cantab), A.M.I.C.E., as Professor of Mechanical Engineering.

The corner stone of the W. C. McDonald building was laid on October 30th, by your Excellency, in presence of the convocation and a large gathering of the friends and students of the University. The proceedings on the occasion have been published in a separate pamphlet along with plans and elevation of the new buildings. The buildings have since that date made rapid progress and will be ready for use next session ; and they will afford all the class-rooms, laboratories and workshops needed for the Civil and Mechanical Departments of the Faculty of Applied Science, as well as for a Department of Electrical Engineering, should that be introduced.

A number of manufacturers and merchants of this city have shown their appreciation of what has been done for technical education, by gifts of valuable machinery and apparatus. Among the most important of these donations is the gift of a large testing-machine, of the most improved construction, by Messrs. G. B. Burland and Jeffrey H. Burland, B.A.Sc.. We have also to thank Mr. J. H. R. Molson for the gift of an Otto gas-engine to the Faculty of Arts, and Mr. A. J. Lawson for a dynamo and Mrs. Redpath for a storage battery of twenty-two Gibson cells.

One of the most important donations made to the University in the course of the year has been the gift on the part of Mr. J. H. R. Molson of the lots between the College grounds and McTavish street and adjoining the Presbyterian College. The acquisition of these lots will enable college-buildings to be erected on this side of the grounds without encroaching on the campus ; and in the meantime the houses upon them constitute a source of revenue. This property is of the value of \$42,500.

The University has further to acknowledge with gratitude the gift on behalf of Her Majesty's Commissioners for the Exhibition of 1851, of one of their Nomination Scholarships of £150, in those branches of science (such as Physics, Mechanics and Chemistry) which are specially important for the national industries. This scholarship, it is hoped, will be suitably awarded in May next.

We have also to express our gratitude to the Provincial Government for much-needed repairs and improvements of the Normal School building, and for a grant to erect an extension of the building, so as to adapt it to the growing wants of elementary education. We believe that no public expenditure could be more helpful than this to the best interests of the Province.

Some delay has occurred in the provision of a building for the Donalda Classes for Women ; but the valuable property of the late Mr. Thomas Workman adjoining the University grounds, has been secured through the kindness of Sir Donald A. Smith for that purpose, and it is hoped that the necessary additions and improvements, and the inauguration of the new Royal Victoria College for Women, may distinguish the session of 1892-93.

We have pleasure in reporting that the Legislature of Quebec, at its session of 1889, passed a bill giving the holders of the degree of B.A. in British and Canadian Universities the privilege of entering on professional study without further examination. This new measure will, we trust, operate largely in the interest of liberal and professional education, by inducing young men to take a full course in Arts instead of merely cramming for a special examination, as has been too often the case heretofore.

We have again to express our obligations to Prof. J. C. Cameron, M.D., and to the Chancellor, for their generous aid in continuing the musical instruction of the Students' Musical Association and of the Donalda Glee Club.

#### FURTHER WANTS OF THE UNIVERSITY.

In connection with the great increase in numbers in the Faculty of Arts, the attention of the Board of Governors has been directed to the need of increase in the Staff of the Faculty, which, in addition to its own special work, necessarily provides for the general culture in science and literature of the students of the other Faculties, and is thus the Academical Faculty, properly so called, and the true centre and support of the whole University system. The requirements in this direc-

tion have, to a certain extent, been supplied by the additions to the staff in connection with the Donaldda classes for women and by the institution of the Chair of Experimental Physics. They may also be, to some extent, provided for by the endowment of the Royal Victoria College for Women ; but, in addition to all this, more is required, and the present income of the University is inadequate to any further expenditure ; while there are grave objections to any considerable increase of the fees in the Faculty of Arts or to any great diminution of the exemptions granted to students. In McGill, as in many other universities on this continent, it is more easy to obtain endowments for professional schools and for special objects than for the general funds applicable to all needs and emergencies. For this reason the Governors have thought it useful to specify certain objects which they are very desirous should be provided for, and which should commend themselves to the liberality of intending benefactors. A statement of this kind was issued a few years ago, and it is gratifying to know that many of the requests then made have been already granted. Other wants, however, have become more urgent by lapse of time and increase of students. The following may be specially mentioned :—

In the Faculty of Arts a further division of the Classical Chair and of that of Mathematics and Natural Philosophy is urgently required, as well as additional means for the maintenance of the instruction in English, Modern Languages and Hebrew. Provision is also required for the extension of the instruction in Political Science and Philosophy, and in Zoology and Physiology, Hygiene, Elocution and Gymnastics. Further provision is also needed for the Library and Museum, and graduate-tutors or assistants might be employed in several departments with advantage. Additional accommodation is required for several of the classes, which could be secured by improvements in the present buildings.

It is to be observed that these requirements are independent of those for the instruction of women, which are provided for by separate endowment, and it is hoped will be still better supplied in the Royal Victoria College when endowed ; but they concern the education of many Professional

and Theological students who are taught in the rooms and by the Professors of the Faculty of Arts, without any special pecuniary provision. It may also be stated that the best means of supplying these wants would be by donations to the General Fund of the University, applicable to all purposes.

Even the Faculty of Applied Science, notwithstanding the large and liberal gifts it has received, is still without the means of providing adequate salaries for its professors, and some of its departments are carried on by extra and unpaid work of teachers already burdened with excessive duties. A special example of this is the Department of Mining Engineering, one of the most successful in its results, but without endowment, and urgently in need of the services of an additional professor or lecturer, as well as of laboratories and apparatus. The Faculty of Law also is still destitute of class-rooms. The Faculty of Medicine requires still further extension of its building, and the Faculty of Veterinary Science deserves much better rooms than those in which its work is at present conducted.

In addition to the above, a large University Building, providing for Convocation Hall, Examination-rooms, Offices and Board and Committee Rooms, is much needed, as well as a Dining-Hall, a new Gymnasium, and a detached and fire-proof Library.

#### THE PAST AND PRESENT SESSION.

The total number of Students attending classes in McGill College in the present session is 854, distributed among the different Faculties as follows:—

Law	{ Undergraduates .....	17	} 39
	{ Occasional.....	22	
Medicine.....			263
Arts	{ Men.....	216	} 324
	{ Women.....	108	
Applied Science.....			80
Veterinary Science.....			54
McGill Normal School—			
Teachers in training .....			104
			<hr/>
Deduct repeated in different lists.....			864
			10
			<hr/>
			854



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

Morrin College, Quebec—		
Undergraduates .....	12	} 24
Partial and occasional.....	12	
St. Francis College, Richmond—		
Undergraduates .....	9	} 15
Partial and occasional.....	6	
Wesleyan College, Stanstead.....		1
		<hr/> 40

Of the above total number, about 560 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 thither 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 on 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 year of the course. It is to be anticipated, therefore, that under the new arrangements the total number will be considerably augmented next session, but the full number of students cannot be reached for two years.

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 increase of students in the Donalda special course, which now furnishes one-third of the total number of students in this Faculty. Of the total number in Arts, 121 men and 47 women are Undergraduates, taking the full course of four years for the degree of B A.

There is reason to hope that the additions made to the means of instruction in Applied Science will attract many additional students next session.

At the meetings of Convocation on April 1st and 30th, the

latter of which was honoured by the presence of Your Excellency, 171 Degrees in Course were conferred, as follows :—

Law.....	7
Medicine .....	56
Arts (9 women).....	46
Applied Science.....	14
Veterinary Science.....	48

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171

The only Honorary degree in Arts was that of LL.D. which the University had the honour of conferring on Your Excellency ; and the long and eminent services of Dr. McEachran were recognized by conferring on him the Degree of Doctor of Veterinary Science.

Eight University gold medals were granted to successful students, besides the gold and silver medals kindly presented by Your Excellency, and the Wicksteed medals for Physical culture. It is worthy of notice that three out of five gold medals in Arts were taken by women of the Donalda special course, an evidence not only of their ability and diligence, but of the educational advantages which they enjoy.

In the classes of the Normal School, 73 Diplomas were granted by the Superintendent of Education ; namely, 13 for Academies, 23 for Model Schools, and 37 for Elementary Schools.

In the June Examinations for the title of Associate in Arts, 124 candidates passed in the examinations for Associate and 10 for Junior Certificates. These candidates came up from 31 schools, and a large number fulfilled the requirements for matriculation in Arts or in Applied Science. These numbers are larger than in any previous examination.

In the past session 168 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 univer-

sity course, and they are mainly given to students from the country.

In September, thirteen Scholarships, Exhibitions and Bursaries, and one Medal-Prize 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 benefactions of Mr. Hague, the late Major Mills, Mr. Alexander, Miss B. Scott 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.

#### GENERAL UNIVERSITY AFFAIRS.

On recommendation of the Principal, it was decided by the Corporation to invite Prof. Cox to deliver his Inaugural Lecture instead of the Annual University Lecture. The subject selected by Prof. Cox was Physical Science in its relation to liberal education, and the lecture was delivered on Nov. 14th to a large and appreciative audience, including the members of Convocation and the greater part of the students.

In the past autumn we had the pleasure of receiving in the buildings of the University the members of the Quadrennial Wesleyan Conference, of the Iron and Steel Institute of Great Britain, and of the Provincial Association of Protestant teachers, and of inviting to the Museum and Library members of Synods and other bodies meeting in Montreal.

We had the pleasure of welcoming at the Convocation and also at the University dinner, representatives of the Graduates' Society of the Ottawa Valley, a new and spirited body, whose action we hope will be useful to the University, and which, it is believed, may lead to the organization of other University Societies outside the limits of Montreal.

We record with sorrow the early death of Prof. Edmund Lareau, D.C.L., Professor of Legal History in the Faculty of Law. Prof. Lareau was characterised by faithful and diligent attention to all the duties he undertook to perform, and by a

courteous and kindly disposition which endeared him to his colleagues and students.

#### FACULTIES AND AFFILIATED COLLEGES AND SCHOOLS.

So large a portion of this Report has been occupied with the additions and improvements made in connection with the several Faculties and Affiliated Colleges and the benefactions they have received, that it is not thought necessary to refer to them separately.

It may be stated in general terms that the several Faculties of the University and its Affiliated Colleges in Arts, the Normal School, and the affiliated Theological Colleges, were never in a more prosperous and efficient condition, as testified by their large number of students; and that the thanks of the University are due to the numerous officers of instruction in all the Faculties and departments for their earnest and efficient exertions, while the students on their part have been exemplary in conduct and diligent in the prosecution of their studies.

Morrin College has five Professors and reports twenty-four students in all, of whom two are preparing for graduation next spring and four for the Intermediate Examination. This College has in the past year extended its course in English, and has added the subject of Chemistry in the first year.

St. Francis College reports four Professors and Lecturers and fifteen students, and improvements to its Natural Science collections and apparatus. It will send up two candidates for the Intermediate Examination.

We had the pleasure to notice in last report the addition of a new affiliated College; the Stanstead Wesleyan College having been affiliated as a college of the second class. It has not yet sent up any candidates for the Intermediate, having as yet only introduced studies in the first year, but hopes next year to prepare candidates. It reports four professors and lecturers.

#### MCGILL NORMAL SCHOOL.

The opening of the session was somewhat delayed by the repairs already referred to, but the classes are larger than last

year and the work is proceeding with increased facilities and efficiency. When the additions kindly promised by the Provincial Government shall have been completed there will be little to be desired in the way of suitable accommodation for this important Institution. The Report of the Normal School Committee shows steady educational progress, and the large number of students in the present session is a very gratifying feature, more especially since the greater number are from the country districts.

Under new regulations of the Protestant Committee of the Council of Public Instruction, arrangements have been made with the McGill Normal School whereby lectures in Pedagogy will be open to senior students in Arts, thus enabling them, along with their final years, to take a course of instruction in the Art of Teaching, fitting them for the requirements of the First Class Academy Diploma. The regulations heretofore in force have already, by enabling University graduates to become teachers in the higher schools, greatly tended to promote the extension of liberal education, and it is hoped that the new arrangements may be still farther beneficial in this direction.

#### THE LIBRARY.

The Honorary Librarian reports many additional books acquired by purchase and by additional donations from Mr. Peter Redpath, the McGill College Book Club, the Graduates' Society and others. Detailed lists of donations have been published in the newspapers, and will appear in the annual calendar. The total number of volumes is 30,245, and this is exclusive of the large Library of the Faculty of Medicine, numbering about 20,000 volumes. The number of readers and visitors has been very large, and there is still more urgent need than last year of increased accommodation for books and readers.

#### THE PETER REDPATH MUSEUM.

The report of the Committee refers to the continuance of the regular work of education and of arrangement of specimens, and

to additions to the collections made by donation, exchange and purchase. Mr. P. Redpath and Mr. and Mrs. J. H. R. Molson have continued their kind and liberal benefactions. The Museum is constantly increasing in value and usefulness, and last year was visited by about 2,500 persons, besides the students in regular attendance. The chief need of the Museum at present is a fund for procuring cases and other requisites for preserving and mounting specimens, and for publishing lists and descriptions of specimens. The report refers at some length to the measures taken for making the Museum useful and attractive to the public as well as to students.

#### THE GYMNASIUM.

Mr. Naismith having resigned his position, Mr. J. R. McKenzie was appointed 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 122 ; in Arts 79, Applied Science 22, Medicine 14, Veterinary Science 3, Normal School and Theological Schools 4. The number of women is 27, besides 50 students of the Normal School. There seems to be much earnestness and enthusiasm in the work, and were the building more conveniently situated the number in attendance would probably be much larger.

The Board of Governors has offered the present gymnasium and the lot on which it stands for sale, and on its being disposed of, it is proposed to erect a larger and more suitable building on the College grounds, if possible in immediate connection with the campus. Could means be obtained, it might be possible to connect with the new gymnasium, rooms for certain college societies and a college dining-hall ; and it may also be expedient to consider whether the gymnasium itself might not be so constructed as to be available for the larger public meetings of the University.

#### THE OBSERVATORY.

The Report of the Superintendent of the Observatory refers to the continuance of the Meteorological observations and time

service, also to observations carried on as to sun-spots and soil-temperatures. A very important matter now engaging attention is the direct telegraphic determination of the difference of longitude between the Montreal observatory and that of Greenwich. The Astronomer Royal has cordially entered into the project and a grant has been secured from the British Government. It is hoped that the Dominion Government will also aid: the services of our observatory will, of course, be gladly given toward this important object. Application has also been made for an observatory site on the Mountain Park. This has been recommended by the Park Committee, and it is hoped will be granted by the City Council. In connection with the longitude determination, this will be an important gain to the city and to scientific education.

#### BOTANIC GARDEN.

It was stated in last report that a portion of the grounds had been set apart as a Botanic Garden. It was found, however, that much of the space devoted to this purpose would be required for the new buildings, so that other arrangements had to be made. In these circumstances the Trafalgar estate on the Côte des Neiges Road was leased from the Trustees of the Trafalgar Institute, and the plants, as far as possible, transferred thither. This property will thus become the Botanic Garden of the University under the immediate direction of the Professor of Botany. The arrangement, it is hoped, will be beneficial to the Trafalgar Institute as well as to the University, as the Trustees of the former propose to retain the property and to continue thereon the Conservatory established by Mr. Ross, the founder, and students of the Institute will have the benefit of the garden for their instruction in Botany. A report on the Botanic Garden is appended, with a list of donors to its support, to whom we are under great obligation.

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The statement of the Revenue and Expenditure of the University for the financial year ending June 30th is appended.

While the deficit shown in the account should stimulate our friends to furnish additional endowments, not only to meet this

but also to extend our educational work in the directions previously indicated, it is to be observed that, to a large extent, the deficit consists of advances in connection with new endowments and improvements, by which it will be repaid.

In conclusion, we beg to acknowledge with gratitude to God and to the generous benefactors who have aided the University, the many and important additions which have been made to its resources in the course of the year, and which, we hope, will greatly enlarge its fields of usefulness and encourage the friends of education to place at its disposal still more ample means for the extension and improvement of liberal and professional education in the Dominion of Canada.

On behalf of the Corporation,

We have the honour to be,

Your Excellency's Humble Servants,

DONALD A. SMITH, LL.D.,

*Chancellor.*

(Signed),

J. WM. DAWSON, LL.D.,

*Principal.*

MONTREAL, January 21, 1891.



## REPORT OF LIBRARY COMMITTEE FOR 1890.

It is a source of gratification to your Committee that in presenting this, another Annual Report, they are able to report a continued increase in the number using the Library, as well as in the number of books acquired and used during the year. With this Report is presented a comparative statement of the numbers of those using the Library during the quarter ending January 20th of each year, from 1888 to 1891, inclusive, from which it will be seen that there has been an increase of 150 per cent. Of course, this growth is, in part, due to the increased number of students in attendance in the several Faculties; and whilst it is gratifying, it is not without its embarrassments, not the least of which is the growing want of accommodation for both readers and books. The Library-Assistant again calls attention to this, adding that the unavoidable overflow of the students into the alcoves makes it impossible for him to keep the shelves as orderly as they should be. He further states that the daily routine of work keeps him so fully occupied that he is unable to devote any portion of his time, during Library-hours, to cataloguing; and thus there is the risk of work in this department falling into arrears. To obviate this, Mr. Mott proposes to stay an hour or two every afternoon, after the Library is closed when he will be able to work without interruption.

With this is connected another important fact, to which your Committee has adverted in former Reports, viz., that the Library is fast outgrowing its catalogue, and that the time is not far distant when a full and proper catalogue will become an absolute necessity. In their last Annual Report, your Committee suggested that a beginning of this important work might be made by cataloguing the books relating especially to the History of Canada and the American Colonies; and during the vacation, Mr. Mott had a considerable part of this well under way, but was compelled to lay it aside by the transference and cataloguing of the books placed in the Library of the Law Faculty.

The most important additions to the Library have been:—(1) A further donation for the Redpath Collection of 225 vols. from Mr. Peter Redpath, of the value of £228 16s. 6d., and comprising books of great scarcity and interest to the specialist as well as to the general reader. This collection is becoming unique in character and in value, and its munificent donor is conferring a benefit not upon the University only, but upon all lovers of literature and learning throughout the land. (2) In the month of April, the valuable library, rich especially in works on Canada, of Mr. Gerald E. Hart, of this city, was offered for sale, in Boston. The Board of Govern-

nors placed at the disposal of the Committee, for the purchase of books at this sale, the sum of \$1,000, and the Library-Assistant was sent to attend the sale. In order to avoid the purchase of duplicates of books on our own shelves, a very carefully-prepared list was made from the sale-catalogue by Prof. Moyse, special attention being given to the selection of works on matters relating to Canada. The number of volumes purchased was 329, amounting in value to \$603.18. The thanks of the Committee were tendered to the Board of Governors for their liberal appropriation, and also to Prof. Moyse for the time and care he gave to this matter, by which it was ascertained that owing to the fact of more than one book, or pamphlet, being bound up together, the Library was already richer in this class of books than was anticipated. (3) In October, the library of Mr. R. W. Boodle was offered for sale, and 316 vols. were purchased therefrom, the cost of which was generously met by the Chancellor, Sir Donald A. Smith, for which the thanks of the Corporation were tendered to him. (4) 143 vols. were presented by that, for many years, generous friend to the Library, the McGill College Club.

Seventy-one vols. have been received from the Graduates' Society. The sum of \$244.27 from the Ramsay bequest has been expended during the year, which leaves a balance of \$53.48 remaining, which will be spent in putting such books as may need it into the sort of binding enjoined by the lamented testator. This timely bequest has added to the Library 154 vols. of great value.

On the re-organization of the Faculty of Law, the members of that Faculty presented an application to be allowed to remove from the Library to their own library, for their use, certain law-books belonging to the various collections, and Parliamentary papers, amounting to 1,150 vols.; which application was granted by Corporation, and the books were transferred, catalogues of them having been prepared in duplicate, and specific conditions laid down for their safe-keeping, etc. By this removal, the pressure of lack of shelf-room was somewhat relieved, but only for a time; nor have your Committee any further suggestions to make dealing with the space at present at their disposal.

The sum of \$200 has been appropriated by the Governors for purposes of binding, which is scarcely adequate for our needs. The leading statistical items for the year are:—Readers, 8,354; books read, 3,590; books lent, 3,318; total vols. in Library, 30,245; increase for the year 1890, 1,608.

Further details are given in the appended tables.

All which is respectfully submitted by your Committee.

GEORGE CORNISH, LL.D.,

*Honorary Librarian*

MCGILL COLLEGE,

January 20th, 1891.

## CONSPECTUS OF LIBRARY FOR 1890.

QUARTERS ENDING.	READERS.	VISITORS.	BOOKS READ.	BOOKS LENT.
April 23rd.....	3067	31	1185	1092
June 24th.....	462	28	186	529
October 21st.....	1254	184	848	752
January 20th, 1891 . .	3571	86	1371	945
	8354	329	3590	3318

## STATEMENT OF THE NUMBERS ATTENDING THE LIBRARY DURING THE QUARTER ENDING JANUARY 20TH OF THE FOLLOWING YEARS.

	APPLIED SCIENCE.	ARTS.		VISITORS.	TOTAL.
		MEN.	WOMEN.		
1888 .....	597	748	63	14	1422
1889 .....	933	1117	109	47	2206
1090 .....	851	1427	390	35	2703
1891 .....	1317	1666	502	86	3571

## NUMBER OF VOLUMES IN THE LIBRARY.

January 20th, 1891.....	30,245
“ 1888.....	26,804
Increase.....	3,441
Present Total .....	30,245
Increase for 1890 .....	1,608

REPORT OF COMMITTEE OF PETER REDPATH MUSEUM  
FOR 1890.

The Committee beg leave to report that the work of the Museum has proceeded as in last session. The classes in Geology, Zoology and Botany have been accommodated as usual, and the use of the Lecture theatre has been given for the meetings of the University Musical Association and Donalda Glee Club, as well as for several occasional meetings of an academical character. The work of arranging and labelling new acquisitions and unarranged specimens has also proceeded steadily.

Several important additions have been made to the Geological, Mineralogical, Zoological and Botanical collections by exchange and purchase, and it is hoped that several desiderata will be acquired in the present year.

Several collections of minerals and fossils have been made up for exchange, and two boxes have been prepared and despatched as a donation to the Museum of the University of Toronto.

Mr. Peter Redpath has continued his donation of \$1,000 for current expenses, and Mr. and Mrs. J. H. R. Molson have kindly renewed their donations for the salary of the assistant curator and for the purchase of specimens.

As no funds are available for publication only one number of *Museum Notes* has been issued, but descriptions of the specimens of Trails and Markings on Rocks have been published by the Geological Society of London, and copies have been placed in the Museum. The expense of these publications has, as heretofore, been borne by the Principal.

The Herbarium has been increased during the past year by several important additions. A collection embracing 335 species of Mexican plants, collected by C. G. Pringle, was purchased by means of the J. H. R. Molson fund.

A valuable collection has also been received as a donation from Mr. R. Morton Middleton, jr., of London, England. It contains about 3,500 specimens, comprising Antarctic plants collected by Dr. Lyall during the expedition of the Erebus and Terror; plants from various parts of the United States, and a large collection from Great Britain and Continental Europe. As these are, for the greater part, plants not previously represented in the Herbarium, they constitute a most important addition. With this increase the Herbarium now contains 14,311 specimens.

The duplicate material, comprising most of the more common plants of Ontario, Quebec and the Maritime Provinces, of which we now have a rather large supply derived from student collections,

has been arranged with reference to its use in the instruction of the classes, and arrangements are now completed whereby students in the future will be given instruction in the analysis of both fresh and dry specimens.

During the year a few important additions have been made to the mineral collection by exchange and purchase, and the poorer specimens on view are gradually being replaced by better ones. A special collection is being arranged to illustrate such characters of minerals as lustre, cleavage, fracture, specific gravity, &c., and considerable new material has been added to the stock employed by students in determinative mineralogy. Several new models illustrating the laws of symmetry have also been obtained and used to illustrate the lectures on crystallography.

The most useful aid to the Museum at present would be a fund available for cases and for the mounting of specimens. Many of the specimens given by friends, or which can be acquired to supply deficiencies, require to be prepared and mounted at considerable expense, and advantage cannot always be taken of such opportunities or adequate cases provided for new specimens for want of means. It would also be a great advantage to have means of publishing and circulating lists and descriptions of specimens of scientific interest.

The number of visitors, besides students, has been about 2,500 in the course of the year. Many of these were free, and the fee for admission has been reduced to a nominal sum. It may be explained that this fee was not imposed for revenue, but to prevent the Museum from being a resort of idlers, who not only interfere with students, but injure specimens. It should also be stated that though the Museum is intended for educational rather than popular uses, it has been made as accessible as possible to all desirous to learn. All members of the University and friends accompanying them are admitted free. Free admission is given to all strangers having introductions; tickets of invitation have been issued to scientific, educational and religious bodies visiting the city, and classes of children are admitted when accompanied by their teachers. In these and other ways the collections in the Museum have been made accessible to all desiring to profit by them. It is, however, to be desired that means should be provided for large explanatory labels, drawings and models, to accompany specimens, and for such attendance on scientific and other visitors as might enable them better to understand and appreciate the collections.

The list of donations will be published in the annual calendar.

Respectfully submitted.

B. J. HARRINGTON, B.A., Ph.D.,

*Honorary Curator.*

January 21, 1891.

## REPORT ON THE OBSERVATORY.

*The Corporation of the University.*

GENTLEMEN :

I have the honour to present the report on the observatory for the past year.

*Meteorological Observations* :—The regular meteorological observations, as particularized in the report of the observatory for the year 1888, have been carried forward without interruption. The daily and monthly results have been published in the Montreal Gazette and the monthly summaries in the Canadian Record of Science.

*Time Service* :—Determinations of clock errors have been made by the observation of 565 stars on 98 nights. The noon time-ball has been regularly dropped, for the use of the shipping of the port, on all week days during the season of navigation. Time signals have also, as in former years, been distributed, continuously, to the various corporations and public Institutions enumerated in the report for 1888. Noon time signals have also been transmitted over the lines of the G. N. W. Telegraph Company to Ottawa for the Government time service. I regret to say, in this connection, that I have not been permitted to complete the work of re-organizing the time service at the Parliament buildings and that the reputation of our service is made to suffer through the insufficiency of the means adopted by the Government at Ottawa, to insure the accuracy of the firing of the noon time-gun.

Exchanges of clock signals with the Toronto Observatory have been made on fourteen days. The average difference between the mean-time clocks of the two observatories on these days was 0.29 and the greatest difference on any one day was 0.97. The comparisons give a probable error for the time of one observatory as compared with that of the other at any instant of 0.22.

*Longitudes* :—In the summer of 1883 the longitude of this observatory was determined by reference to the position of Harvard College Observatory, in a series of observations extending over four weeks, and conducted with the greatest possible accuracy. Subsequently the longitudes of Toronto and Cobourg were determined by difference from Montreal. During the past year some doubt has arisen as to the accuracy of the trans-atlantic longitude determinations upon which the geographical positions of American stations are made to depend, and it has been suggested that there should be an independent determination for Canada, made by direct connection with Greenwich. Mr. Hosmer, general manager of

the C. P. R. Co's. telegraph lines, has on behalf of that company and the Commercial Cable Co., guaranteed the free use of telegraph lines and cables for the work. The matter has been brought under the notice of the British Government and the Astronomer Royal, through the kindness of Sir Charles Tupper, and by representations from the Royal Society of Canada, through His Excellency the Governor General. In a letter dated June 23rd last Mr. Christie, Astronomer Royal, expresses his willingness to co-operate in the proposed determination, and his report to the Board of Visitors of the Royal Observatory at the Annual Visitation in June last, makes the following reference to the work:—

“Several proposals have been made to me recently for the telegraphic determination of the difference of longitude between Greenwich and stations which are important in connection with Geodetic Surveys. The superintendent of the McGill College Observatory, Montreal, has asked for the co-operation of Greenwich in a direct determination of longitude, with a view to making that observatory the base station for the Geodetic Survey of Canada, the Canadian Pacific Telegraph Company having offered the use of their lines and connecting cable for the purpose. A re-determination of the longitude of Washington is proposed by the superintendent of the United States Coast Survey, and in connection with this it may be advisable to fix the longitude of the terminus of the trans-Atlantic Cables. Lastly M. Otto Struve has urged the importance of re-determining with improved modern appliances the longitude of Valentia, as the extremity of the great European arc of longitude. It seems desirable that the Royal Observatory should take part in these operations, and the experience gained in the observations for the longitude of Paris and Dunkerque would greatly facilitate the work. Some additions to our instrumental appliances would be necessary for these and other longitude determinations which it might be expedient for us to undertake in the future.”

Under date of November 22nd Mr. Christie states that he has heard unofficially that the Treasury have given their approval, and that the grant which he required will be made.

During the past summer I took occasion to visit the terminus of the Commercial Company's Cables at Canso with a view to advancing arrangements for the work. The programme of operations for the determination, is now being actively discussed with the Astronomer Royal. The necessary funds for the prosecution of the Canadian portion of the work have yet to be provided, but it is confidently hoped that this will be met by a special grant by the Dominion Government. The matter has been brought under the

notice of the Minister of Marine by the Board of Governors of the University in a Memorandum prepared by a Committee of the Board. It is hoped that at least a portion of the work may be carried out during the coming summer.

*Improved Site for Observatory.*—The position of the present observatory being inferior for all kinds of astronomical work, it has, for many years been felt that provision should be made for a proper site for a future Astronomical Observatory. There are in the neighbourhood, two positions both admirably adapted for astronomical observations—the one on Mount Royal Park, the other on the high ground in rear of Cote St. Antoine—known as the “little mountain.” The former possesses the advantage of greater altitude and nearness to the University buildings. Both positions are fairly free from city smoke, being situated in the direction of the prevailing winds. The advantages of the Cote St. Antoine position would be such as would follow absolute ownership of the land, being at the same time at a sufficiently great elevation to command a practically unobstructed horizon. It was felt however that the advantage in nearness of the Mount Royal site was paramount, and that an opportunity should be given the Corporation of the city to reserve a portion of the park for this purpose. Application was accordingly made by the board of Governors of the University for a reservation of about two acres, on the western summit of the mountain. The application has received the entire approval of the park committee, but I am not aware that it has yet been considered in council. Should the grant be made it is proposed to occupy the position at once as a wind and thermometer station.

*Sunspots:*—The observations of sun spots by the methods explained in former reports have been made whenever the condition of the sky permitted. The results from the commencement of the observations in January 1888 to May 28th last, have been published in the transactions of the Royal Society of Canada, and with the approval of the society it is proposed to continue the publication from year to year.

*Soil Temperatures.*—During the past two years observations of soil temperatures have been taken daily, the primary object being to establish somewhat more definitely the relation of such temperatures to vegetation. An important part of this work relates to the changes attending the penetration of frost in autumn, the influence of snow as a protective covering, and the changes incident to the opening of the ground in spring. For this reason the period of observation embraces the entire year, instead of covering only the



spring and summer months as is customary. It may also be stated in this connection that observations are being made by Prof. Penhallow on root penetration and the movement of sap in trees, in order to complete the necessary data. These will be published as soon as circumstances will permit.

This work, which, it is expected, will be carried on continuously for some years, is conducted under the auspices of the Natural History Society of Montreal. The expense attending the construction of the necessary instruments was met by a grant from the Elizabeth Thompson Science Fund. Reference may be made to the Annual Reports of the Observatory for further information concerning the inauguration of this work. The following is a brief description of the instrument used:—Couples of copper and iron are placed in the ground at the required depths. A wire passes from each couple to a switch-board in the observing room, and there is a return wire common to all the couples, which—in the observing room—passes through a delicate galvanometer and a couple similar to those in the ground to make connection with the other wires at the switch-board. The galvanometer is made to read zero on the circle when the circuit is open. If now the circuit be closed at the switch-board the needle will be found to deflect, but may be brought back by bringing the inside couple to the same temperature as that in the ground. For this purpose the inside couple is immersed in water, or in winter, in a mixture of snow and water. When the balance is established the temperature of the water is the same as that of the ground at the depth of the outside couple.

In this, the first report upon the work, it is proposed simply to place on record the results thus far obtained, leaving to the future such deductions as it may be possible to draw. The temperatures in degrees centigrade—as given—are averages of ten-day periods, while the figures for snow and rainfall express the total precipitation for the same periods.

The soil terminals of the thermometer are located at a distance of about fifty feet from the air terminal, and about twenty feet from the observatory. The depths thus far operated upon are one, two, three and four feet from the surface, a limitation imposed by the formation of the locality, which is at present the only one available within working limits of the instrument.

The soil in which the instrument is placed is a well-drained and rather gravelly loam for a depth of four feet three inches, at which point the bed rock is reached. It will, therefore, be observed that the lowest point of observation is only about three inches from the rock. Grass has been allowed to grow freely about the instrument, though kept rather short, thus establishing the conditions of land in sod.

TEN DAY PERIOD EDINNG	TEMPERATURE IN DEGREES CENTIGRADE.					TOTAL PRECIPITATION IN INCHES.		Estimated depth of snow on the ground
	1 Ft.	2 Ft.	3 Ft.	4 Ft.	Air.	Rain.	Snow.	
1888.								
Nov. 11...	6.3	6.9	8.0	9.3	6.0	3.83	0.5	.....
21...	2.3	4.2	6.8	10.1	-2.0	0.41	3.1	1.4
Dec 1...	0.4	2.4	5.4	8.5	-4.5	0.76	7.4	4.5
11...	0.9	2.3	4.7	7.8	-2.5	0.01	2.2	3.6
21...	0.8	2.6	4.6	7.5	-10.2	0.81	10.9	3.6
31...	0.4	1.4	4.0	6.6	-3.1	0.75	3.8	4.7
1889.								
Jan. 10...	0.5	2.2	3.7	5.6	-2.5	1.62	6.3	2.5
20...	0.6	2.1	3.5	5.5	-5.7	0.23	2.4	4.0
30...	0.2	1.4	3.0	4.7	-9.2	0.03	29.4	19.0
Feb. 9...	0.2	0.9	2.8	3.0	-14.5	0.00	22.0	28.6
19...	-0.4	0.7	2.2	4.1	-8.3	0.30	10.2	35.5
Mch 1...	-0.1	0.9	2.2	3.5	-11.5	0.00	2.4	31.0
11...	-0.3	0.6	2.2	3.5	-2.2	0.34	11.1	29.0
21...	-0.2	0.9	2.4	3.3	-1.4	0.08	3.1	26.7
31...	-0.5	0.4	1.8	2.8	-1.8	0.20	1.1	21.0
Aprl. 10...	-0.5	0.2	1.5	2.7	1.9	0.00	0.1	12.0
20...	3.7	1.0	0.2	0.0	8.8	0.15	.....	2.6
30...	6.4	7.0	4.7	2.4	8.6	2.04	.....	.....
May 10...	12.7	9.5	6.4	3.3	14.8	0.14	.....	.....
20...	15.3	12.9	9.6	4.3	16.3	1.36	.....	.....
30...	14.7	13.3	12.6	7.7	10.9	1.55	.....	.....
June 9...	15.5	13.1	11.3	7.9	14.9	2.35	.....	.....
19...	18.8	16.5	13.6	8.9	17.5	0.93	.....	.....
29...	19.2	16.9	14.6	9.8	18.4	1.47	.....	.....
July 9...	21.1	19.9	17.1	11.1	21.7	1.39	.....	.....
19...	20.4	18.8	16.9	12.6	19.1	1.56	.....	.....
29...	21.5	19.1	17.8	13.6	19.3	4.17	.....	.....
Aug. 8...	21.2	19.4	17.9	14.3	19.2	1.12	.....	.....
18...	18.7	17.5	17.4	14.6	16.6	1.50	.....	.....
28...	18.9	17.3	16.8	14.2	18.5	0.25	.....	.....
Sept. 7...	19.6	17.6	16.8	14.1	19.9	0.12	.....	.....
17...	18.4	17.7	17.2	14.5	19.1	1.59	.....	.....
27...	13.6	14.3	15.9	15.7	11.5	2.68	.....	.....
Oct. 7...	11.0	12.2	14.0	14.7	8.6	2.46	.....	.....
17...	7.1	8.1	10.4	12.9	5.7	0.12	.....	.....
27...	5.0	6.3	8.7	11.1	3.1	0.47	.....	.....
Nov. 6...	4.7	5.7	7.9	10.7	4.3	1.11	0.8	.....
16...	4.3	5.4	7.3	9.8	2.1	0.29	0.1	.....
26...	3.0	4.4	6.7	9.3	1.7	1.39	.....	.....
Dec. 6...	1.2	3.5	6.0	9.1	-7.1	0.00	17.5	13.0
16...	1.0	2.7	4.9	7.9	-3.6	1.39	2.0	9.0
26...	0.9	2.2	4.2	6.5	-1.1	1.55	8.5	5.0

TEN DAY PERIOD ENDING	TEMPERATURE IN DEGREES CENTIGRADE.					TOTAL PRE- CIPITATION IN INCHES.		Estimated depth of snow on the ground
	1 Ft.	2 Ft.	3 Ft.	4 Ft.	5 Ft.	Rain.	Snow.	
1890.								
Jan. 5...	1.3	2.7	4.4	6.6	- 6.1	0.70	7.0	5.0
15...	1.9	2.3	3.9	5.7	-11.9	1.00	11.4	10.0
25...	1.4	1.8	3.2	5.0	-11.9	0.18	12.8	19.0
Feb. 4...	1.1	1.6	3.3	5.1	- 6.6	0.41	0.6	17.0
14...	0.8	1.6	3.2	4.8	- 8.1	1.29	13.2	20.0
24...	0.8	1.5	2.8	4.1	-11.7	0.20	13.9	30.0
Mch. 6...	1.0	1.6	3.0	4.1	- 5.1	0.96	0.0	28.0
16...	0.7	1.5	2.7	3.7	- 2.6	0.30	0.0	20.0
26...	0.4	0.9	2.3	2.9	- 1.6	0.18	1.4	11.0
Aprl. 5...	0.5	1.1	2.3	2.8	- 0.4	0.65	10.3	11.0
15...	0.6	0.2	0.9	1.1	4.7	0.25	0.2	6.0
25...	5.3	2.8	2.0	1.5	5.3	0.12	.....	1.0
May 5...	7.4	5.2	4.5	2.6	6.7	1.75	2.8	.....
15...	9.1	7.1	5.9	3.6	9.2	1.47	.....	.....
25...	11.7	10.0	8.2	4.9	11.8	1.72	.....	.....
June 4...	15.0	12.1	9.6	5.9	15.1	1.58	.....	.....
14...	15.5	13.5	11.7	7.8	15.3	0.90	.....	.....
24...	17.6	14.7	12.4	8.2	19.4	0.92	.....	.....
July 4...	21.1	17.8	14.8	9.8	21.7	0.65	.....	.....
14...	20.7	18.3	16.1	11.5	19.4	0.20	.....	.....
24...	20.7	18.3	16.5	12.1	18.5	1.02	.....	.....
Aug. 3...	21.7	18.8	16.6	12.2	22.8	1.07	.....	.....
13...	21.9	19.9	17.8	13.3	20.8	1.56	.....	.....
23...	18.7	17.5	17.0	14.5	15.7	2.71	.....	.....
Sept. 2...	16.5	15.3	15.4	14.5	15.5	3.65	.....	.....
12...	17.2	15.7	15.4	13.9	17.0	2.29	.....	.....
22...	14.9	14.6	15.1	14.1	14.3	0.98	.....	.....
Oct. 2...	11.1	12.0	13.5	13.8	14.1	0.30	.....	.....
12...	10.1	11.1	12.9	13.5	8.7	0.80	.....	.....
22...	8.8	8.0	10.8	12.3	7.7	1.64	.....	.....
Nov. 1...	6.8	7.6	9.7	11.7	4.6	0.30	.....	.....

About 1,500 applications for information have been received and answered during the year.

Mr. E. H. Hamilton, B.A.Sc., continues to fill the office of Assistant in the observatory and to perform his duties in that connection faithfully and with ability. I regret that the funds of the observatory do not admit of increasing his salary to an amount in some degree proportional to the value of his services.

Respectfully submitted,

C. H. McLEOD,  
Superintendent.

McGILL COLLEGE,  
Montreal, Dec. 1st, 1890. }

## REPORT ON THE BOTANIC GARDEN FOR 1890.

At the time of the last Annual Report, I had the pleasure of announcing the institution of a Botanic Garden in the College grounds, a large part of which had been appropriated to this purpose. It was later found, however, that the demands for building space, consequent upon the Thomas Workman and W. C. McDonald endowments, necessitated the removal of the garden to another locality. At this juncture the University was fortunate in securing possession of a property comprising land and buildings, situated at the top of the Cote des Neiges hill, immediately outside the city limits. This property embraces about ten acres of good land, having upon it a fairly good orchard, dwelling house, stables, store and tool house and a conservatory. Possession was gained on the first of November, although we had occupied the conservatory for two months previously. Under the circumstances, it was not possible to do much beyond preparing the house for winter and getting in a supply of plants. With a few exceptions there were no plants in the conservatory, the stock for which was drawn from a variety of sources.

As far as possible, however, work, preparatory to the next season, was pushed actively forward. Half an acre of ground was broken for a nursery, one hundred and fifty feet of road and two hundred feet of paths constructed, and a large area marked off for paths and beds to be completed in the spring. The removal of dead trees, useless shrubs and other encumbrances also called for a large amount of labour.

The conservatory, as found, comprised two houses representing a total length of 163 feet, by 20 feet in width. The structure was in a much neglected state. In addition to closing numerous open joints, it was found necessary to double glaze the gable ends and side walls throughout. The larger house was divided by a partition, and a potting and tool house 12 x 18 feet was constructed. As now arranged, the conservatory comprises the following:—

The greenhouse, 55 feet long, 20 feet wide and 11.5 feet high at the ridge. In this the general work of propagation is carried on, and plants are grown in quantity for the use of the classes. The stove house, 60 feet long, 19 feet wide and 17 feet high at the ridge. In this are the collections of ferns, palms, cycads, century plants. The camellia house, 48 feet long, 19 feet wide and 17 feet high at the ridge. This contains the camellias and azaleas, and other plants requiring a comparatively low temperature.

The stock now in these houses was wholly obtained by donation and purchase, with the exception of a number of camellias and

azaleas, and a large sago palm (*Cycas revoluta*) obtained from the once celebrated conservatories of the late Donald Ross, and now the property of the Trafalgar Institute. In addition to this, much new material is being grown from seed received from botanic gardens elsewhere. It is intended to increase this stock as soon as warm weather returns. The object in view is to establish type groups of exotic plants, as affording the most valuable means of instruction.

It is designed that the grounds shall be laid out in beds according to the usual plan, in such a way as to exhibit to students and visitors, the natural relationships of the various families. As far as possible, representations of the Canadian flora will be made a leading feature, while to this will be added such exotic species as may prove hardy and possess special scientific or economic interest. Economic plants, both in the conservatory and out of doors, will be given a prominent place, and a special collection for the use of the Professor of Pharmacology, is now in course of preparation.

The value of the garden for purposes of instruction has already been amply demonstrated. The course of instruction has now been remodeled with special reference to the direct study of living specimens, a method heretofore impossible with us. Students in the advanced course of vegetable histology, continually draw fresh supplies of material from the conservatory. Students of the second year, in the Faculties of Arts, Medicine, Comparative Medicine and Science, as well as those of the Normal School, are supplied with material in quantity as occasion requires in descriptive work and classification. In addition to this, the classes are taken to the garden for special studies as occasion requires. The effect of having the actual specimens for examination has proved most beneficial to all; indeed it is only by pursuing the study in this way that it is at all possible to give that training to and development of the power of observation, for which this subject is justly regarded as possessing a high value. The total number of students deriving benefit from the gardens during the present session is 230.

The friends of the University and the public will be admitted to the Gardens during the coming year without charge, under such regulations as may be found necessary.

The donations for the year are as follows:—

PUBLICATIONS.

Boletim da Sociedade Broteriana.
Seed lists from—Jardin des Plantes, Paris.
“ Botanic Gardens, Madrid.
“ “ “ University of Breslau.
“ “ “ Portici.

Seed lists from—Botanic Gardens, Stockholm.

“ Royal “ “ Berlin.  
 “ “ “ “ Kew.  
 “ “ “ “ Munich.

SEEDS, TOOLS, ETC.

Botanic Gardens of Saharanpur and Mussourie, India, J. F. Duthie, Supt., seeds, 30 pkgs.

Botanic Gardens, Mysore, India, seeds, 9 pkgs.

Botanic Gardens, Harvard University, seeds, 224 pkgs.

Arnold Arboretum of Harvard University, Prof. C. S. Sargent, director, seeds, 63 pkgs.

Sir Wm. Dawson, seeds, 6 pkgs.

Mr. L. Cockayne, Christchurch, New Zealand, seeds, 18 pkgs.

Prof. G. H. Chandler, specimens *Tanacetum balsamita*.

Late Charles Gibb, seeds of palms and other tropical plants, 20 pkgs.

Mr. John Molson, plants and cuttings.

Dr. G. P. Girdwood, plants and cuttings.

William Evans, garden tools and seeds.

Hearn & Harrison, seven thermometers.

Frothingham & Workman, tools, \$33.00.

Chas. Garth & Co., plumbing, \$20.

G. R. Prowse, coal stove and fittings.

Morton, Phillips & Co., stationery.

Gilman Cheney .....	\$100
James Johnston .....	100
James Slessor .....	100
A Friend .....	100
Hugh Graham .....	100
A. F. Gault .....	100
W. T. Costigan .....	100
John Hodgson .....	100
H. Shorey .....	50
J. S. Shearer .....	50
Geo. Sumner .....	25
A. Ramsay & Co. ....	5

The following exchanges have been sent out:—

Botanic Gardens, Mysore, India, seeds, 12 pkgs.

Imperial Botanic Gardens, St. Petersburg, Russia, seeds, 14 pkgs.

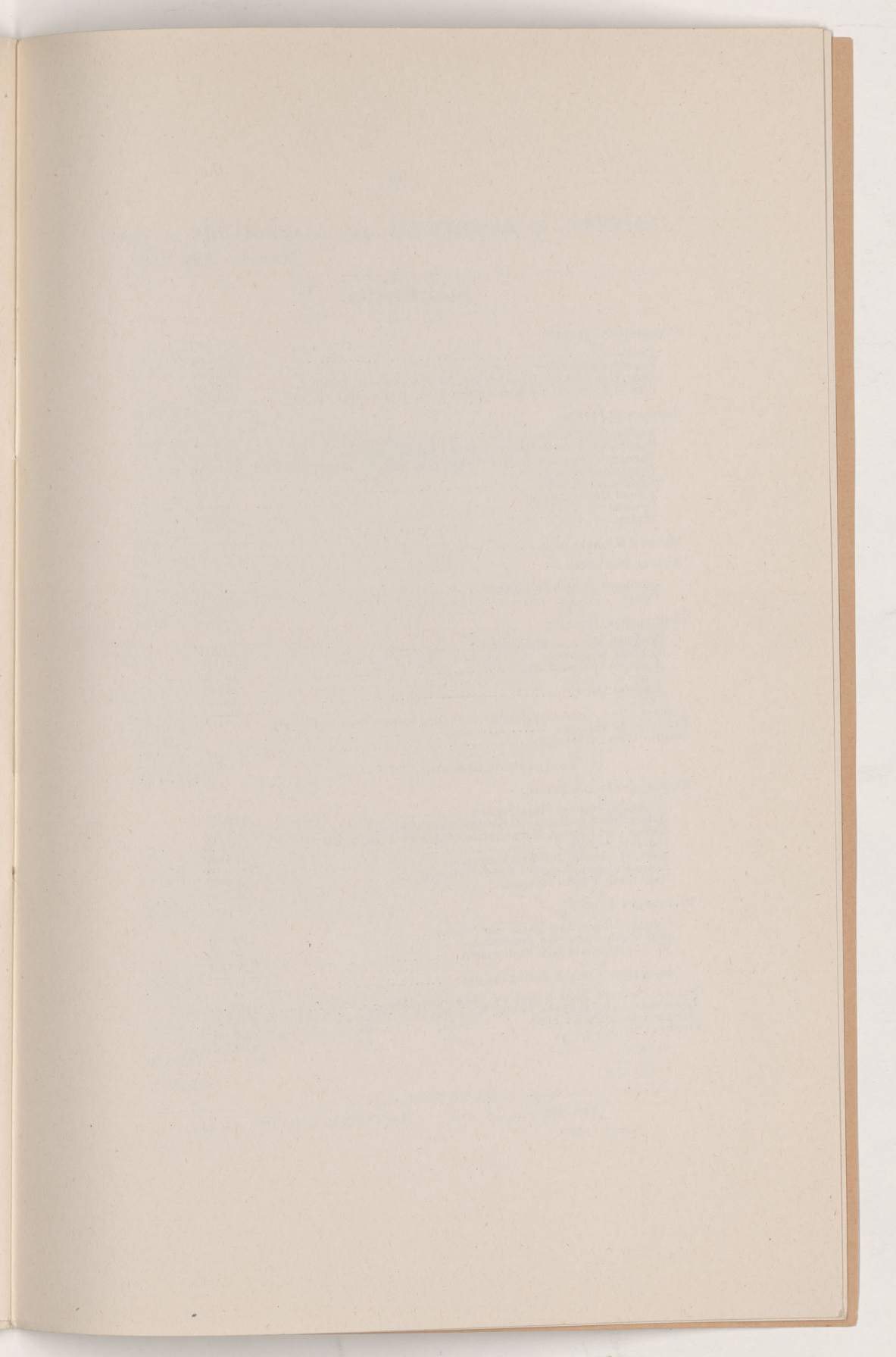
Imperial Botanic Gardens, Sapporo, Japan, seeds, 16 pkgs.

Mr. L. Cockayne, Christchurch, New Zealand, seeds, 17 pkgs.

Respectfully submitted,

D. P. PENHALLOW, B. Sc.

January 21, 1890.



*STATEMENT of the RECEIPTS and EXPENDITURE of the  
from 1st July, 1889,*

RECEIPTS.

<b>GOVERNMENT GRANTS:—</b>		
Provincial.....	\$2,500 00	
Superior Education .....	1,650 00	
Dom. Gov't Grant, Observatory, \$500; Observers, \$1,000.....	1,500 00	
City of Montreal, to Observatory, \$150; Harbor Com'rs, \$250.....	400 00	
	\$ 6,050 00	
<b>SCHOLASTIC FEES:—</b>		
Registration (Ordinary \$444.00; Higher Degrees, \$6.00).....	450 00	
Faculty of Arts (Ordinary, \$928.00; Library, \$748.00).....	1,676 00	
Faculty of Applied Science (Ordinary, \$3,321.50; Library, \$270.00)	3,591 50	
Botany and Zoology.....	370 50	
Additional Botany.....	50 00	
School Examinations.....	464 00	
Gymnastic.....	497 50	
Diploma.....	445 00	
	7,544 50	
<b>MUSEUM MAINTENANCE.....</b>		45 80
<b>ANNUAL DONATIONS:—</b>		
Scholarships and Exhibitions.....	122 50	
Prizes.....	100 00	
	222 50	
<b>SPECIAL DONATIONS:—</b>		
Redpath Museum Maintenance.....	1,000 00	
Current Expenses.....	7,181 43	
Lectures on Sanitation.....	10 00	
Chair of Hebrew.....	250 00	
Chair of Botany.....	400 00	
	8,931 43	
<b>INTEREST, etc., from investments, including arrears from former y'rs.</b>		30,562 85
<b>ELECTION OF FELLOWS .....</b>		197 50
<b>SUNDRY PETTY RECEIPTS .....</b>		9 80
		53,564 28
<b>Total Ordinary Receipts.....</b>		\$53,564 28
<b>RECEIPTS—SPECIAL FUNDS:—</b>		
Molson's Museum Maintenance .....	1,029 23	
Subscription to Botanical Garden Maintenance.....	10 00	
Ladies' Art Classes, Subscriptions, \$200.00; Fees, \$1,084.50.....	1,284 50	
Donalda Interest .....	6,375 56	
Subs. Workman Building Equipment.....	1,000 00	
Leancoil and Campbell Fund—Interest.....	3,419 32	
Gale Chair Fund—Interest.....	1,457 10	
	14,665 71	
<b>INVESTMENT ACCOUNT:—</b>		
Campbell Memorial Fund—On Account .....	1,050 00	
Gale Chair Fund—On Account.....	224 43	
W. C. McDonald Law Endowment.....	150,000 00	
	151,274 43	
Investments repaid during the year.....		37,356 65
<b>SPECIAL SAVINGS BANK BALANCES, 30th June, 1889 .....</b>	1,073 80	
<b>LEANCOIL AND CAMPBELL FUNDS, BANK BALANCE, 30th June, 1889 .....</b>	2,169 33	
<b>DONALDA ENDOWMENT FUND</b> do do .....	9,247 01	
<b>GENERAL FUND</b> do do .....	56,302 81	
	68,793 00	
		\$325,654 17

(Verified)

MACINTOSH &amp; HYDE, Auditors.



ROYAL INSTITUTION for the ADVANCEMENT of LEARNING,  
to 30th June, 1890.

EXPENDITURE.

ADMINISTRATION :—	
Salaries (Principal, Secretary and Clerk).....	\$ 3,891 69
Office Expenses.....	117 73
Porters .....	1,432 08
	\$ 5,441 50
GENERAL EXPENSES :—	
Fuel .....	934 73
Printing, Advertising, Stationery.....	1,834 25
Charges (Gibson, Mills and Baynes, Annuities).....	3,338 21
Insurance.....	5 33
College Repairs, \$2,213.03; Grounds Maintenance, \$546.71.....	2,759 74
Law Charges, \$110.70; Principal's Secretary, \$150.00.....	260 70
	9,132 96
EDUCATIONAL :—	
Faculty of Law .....	1,300 00
Faculty of Arts .....	20,373 22
Faculty of Applied Science.....	8,311 06
Observatory Account .....	1,916 86
Diploma Account.....	229 23
Natural Philosophy Class, \$136.94; Chemicals, \$76.06.....	213 00
Gymnastic Class (Instructor, Fuel, etc.).....	941 37
School Examinations .....	524 42
Botany Classes.....	287 60
Chair of Botany.....	2,000 08
	36,096 84
SCHOLARSHIPS AND EXHIBITIONS.....	1,871 01
MEDALS AND PRIZES.....	1,009 10
LIBRARY AC., \$716.72; MAINT'CE., \$1,650.62; BOOKS, \$1,033.79; } BINDING, \$265.25.....	3,066 38
MUSEUM MAINTENANCE.....	1,441 25
ELECTION OF FELLOWS.....	59 75
IMPROVEMENTS AND ADDITIONS :—	
Laboratory.....	67 75
Library Fixtures and Furniture.....	63 73
Scientific Apparatus.....	231 38
Gymnasium.....	10 90
Applied Science Class Rooms .....	55 75
	429 51
TOTAL ORDINARY EXPENDITURE.....	\$58,548 30
EXPENDITURE—SPECIAL FUNDS :—	
Ladies' Art Classes.....	7,409 48
Special Donation to Museum.....	211 09
Molson's Museum Maintenance.....	540 00
R. A. Ramsay Library Fund .....	209 20
Ladies' Class Room Furniture.....	22 80
Leancoil and Campbell Funds—Interest .....	3,750 00
Gale Chair—Interest.....	1,674 00
	13,816 57
INVESTMENT :—	
Invested during the year .....	186,700 00
Expended on properties.....	9 10
	186,709 10
SPECIAL SAVINGS BANK BALANCES, 30th June, 1890 .....	1,163 50
LEANCOIL & CAMPBELL FUNDS, BANK BALANCE, 30th June, 1890.....	2,788 70
DONALDA ENDOWMENT FUND .....	2,964 69
MCDONALD LAW ENDOWMENT FUND .....	5,563 31
GENERAL FUND .....	54,100 00
	66,580 20
	\$325,654 17

J. W. BRAKENRIDGE,  
Acting Bursar.

MONTREAL, Sept. 25th, 1890.

