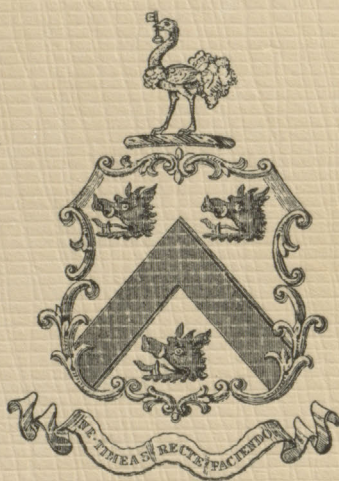
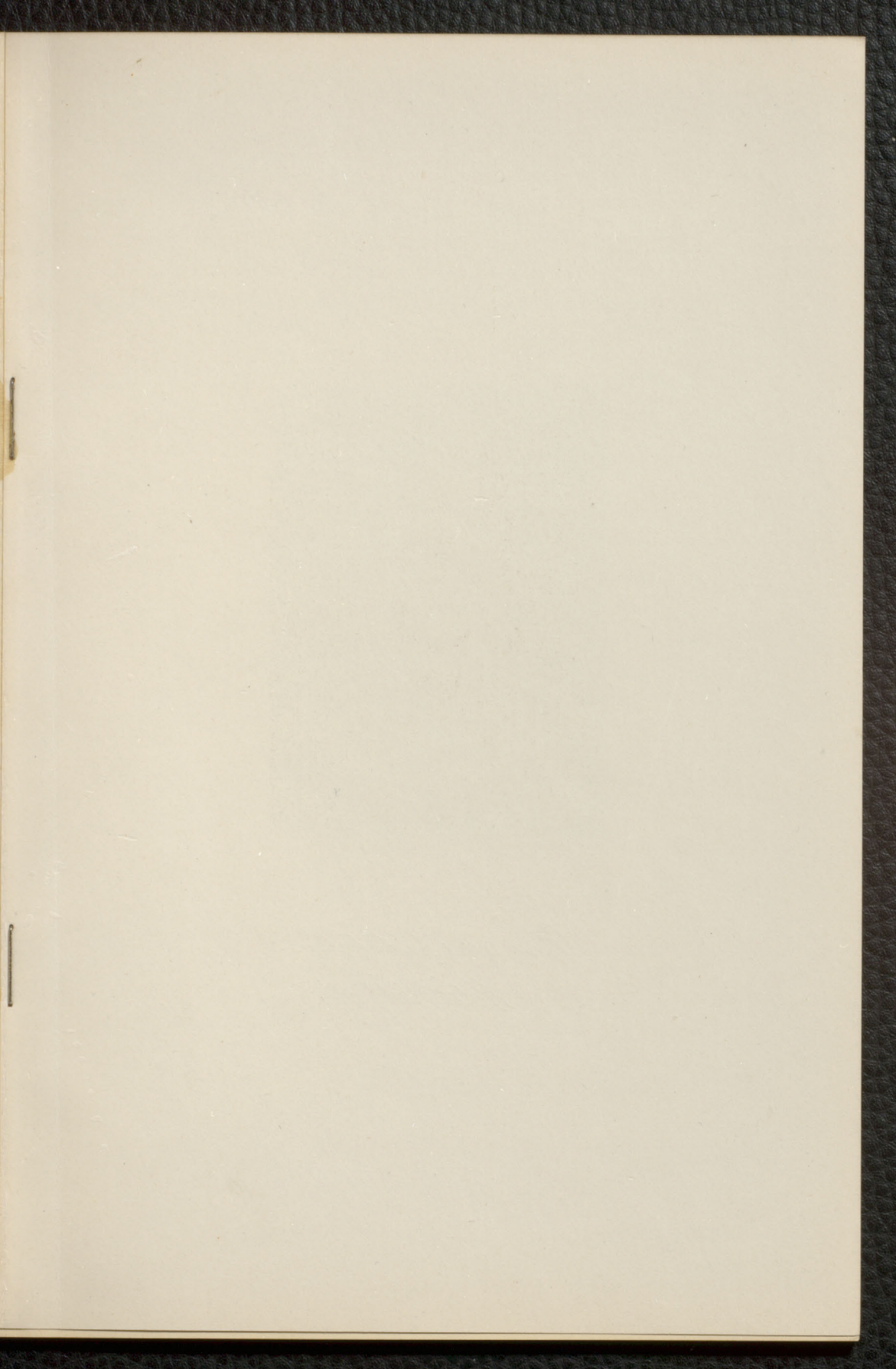
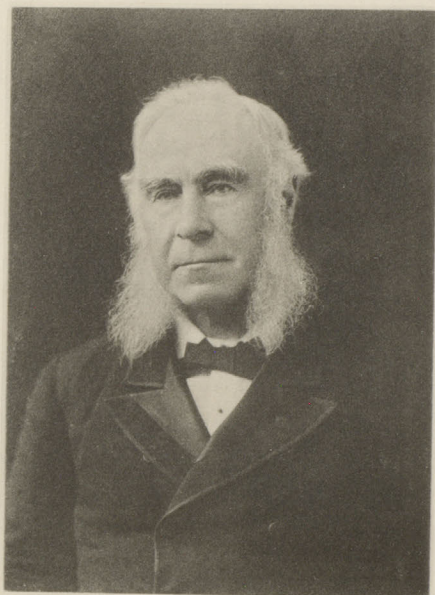


Peter Redpath



1882





Yours very faithfully
Peter Redpath

In Memoriam

PETER REDPATH

GOVERNOR AND BENEFACTOR OF MCGILL UNIVERSITY

AND FOUNDER OF THE MUSEUM, LIBRARY
AND CHAIR OF MATHEMATICS
WHICH BEAR HIS NAME

WITH HISTORICAL NOTICE OF THE
PETER REDPATH MUSEUM

BY

SIR J. WILLIAM DAWSON

C.M.G., LL.D., F.R.S., &c.

MONTREAL

FOR THE UNIVERSITY, "WITNESS" PRINTING HOUSE

1894

Introduction

PETER FIELD VTH

THE UNIVERSITY OF CHICAGO PRESS

CHICAGO, ILLINOIS

1968

THE UNIVERSITY OF CHICAGO PRESS

1968

PREFATORY NOTE.

This memorial has been prepared with more especial reference to the Peter Redpath Museum, and in a form suitable for binding with its publications and with those of the University in general. A special illustrated volume, recording the proceedings at the opening of the Peter Redpath Library, has already been issued.

Mr. J. Redpath Dougall, M.A., one of the Fellows of the University and a member of the Museum Committee, has kindly assumed the cost of publication, as a gift to the University.

The writer desires to acknowledge his obligations, on this as on many previous occasions, to his friend, the Rev. Dr. Cornish, for his kind assistance with the proofs.

J. W. D.

PRELIMINARY NOTE

This manuscript has been prepared with more special reference to the needs of the student than to those of the scholar. It is a work which is intended to be used in the laboratory and with those of the University in general. A special effort has been made to make the presentation of the material as clear and as simple as possible. The text is written in a plain, unadorned style, and the illustrations are simple and to the point. The author is indebted to the following of the University for their assistance in the preparation of this work: Mr. J. H. ... and a number of the students who have read the proof and made valuable suggestions. The author is also indebted to the following for their assistance in the preparation of this work: Mr. J. H. ... and a number of the students who have read the proof and made valuable suggestions. The author is also indebted to the following for their assistance in the preparation of this work: Mr. J. H. ... and a number of the students who have read the proof and made valuable suggestions.

J. H. ...

PETER REDPATH,

GOVERNOR AND BENEFACTOR OF
MCGILL UNIVERSITY.

In a biographical sketch of the founder of McGill University, prepared by the writer many years ago, the remark was made that men of the stamp of James McGill are of rare occurrence in the British colonies. At that time it could not have been anticipated that other benefactors of McGill University, animated by a similar spirit, were so soon to arise, and some of them giving still larger sums in aid of education. We may now reckon among such men the late Mr. William Molson, the late Sir W. E. Logan, the late Major Hiram Mills, the late Mr. David J. Greenshields, the late Mr. Thomas Workman, the Hon. Sir D. A. Smith, Mr. W. C. McDonald, Mr. and Mrs. J. H. R. Molson and many others, as well as the honoured subject of the present memorial, which is to be regarded not as a mere official record, but as a tribute of affectionate esteem and gratitude on the part of all connected with the University, and more especially of the Committee charged with the care of the Peter Redpath Museum.

Mr. Peter Redpath was born in Montreal, on August 1st, 1821. He was educated in St. Paul's School, Montreal, then one of the best institutions of higher education in his native Province, under the Rev. Dr. Black. He was one of the best pupils of a large class, and, as I am informed by one of his fellow-students, earned the respect and love of his class-mates

by his equable and amiable temper and his kindness to the junior boys. After completing his course in St. Paul's School, he spent some time in England in further study and in acquiring business training. On his return to Montreal, and from the time when he first entered on business and public life, he took a leading position as one of the most prominent and honoured citizens of his native place. He was recognized as a man equally remarkable for sterling integrity, sound judgment, refined tastes and a benevolent and kindly disposition; while the possession of wealth enabled him at once to gratify his own higher tastes and to carry out his wise and benevolent plans for the welfare of his fellow-men.

His father, Mr. John Redpath, was one of those strong, earnest, pious and clear-headed men of whom Scotland has supplied so many to build up the colonies of the empire. A leader in the Church to which he belonged, and one of its office-bearers, he was a diligent and sagacious man of business, and displayed his ability in this way by founding the first sugar refinery in Canada, and one of the largest on the American continent. He was a valued director of the Bank of Montreal and other business-enterprises, a member of the City Council at a time when it was justly held to be composed of the *élite* of the citizens, and would have been Mayor but for his generous preference of a friend. He was an earnest promoter of the improvement of the city, and set an example by the widening of streets and planting of trees on his own property. While amassing for himself a considerable fortune, and laying out with taste his beautiful property of Terrace Bank, he was ever ready to contribute freely of his means and to give his time and thought to every deserving public object. He was one of the founders of the Educational Institute at Point aux Trem-

bles, and of the Presbyterian College of Montreal, a subscriber to the first endowment-fund of McGill University, and a governor of and liberal contributor to the Montreal General Hospital. In all this his son was a worthy successor, continuing and enlarging the public services and benefactions of his father, and bringing them into relation with the advancing needs and opportunities of a new generation. As an educational benefactor, the name of Mr. Peter Redpath will ever be remembered in connection with the Museum, the Library and the University-chair which bear his name; but he also took part in nearly all the Subscriptions for general and special purposes in the University from 1856 downwards.

Mr. Redpath was married on October 16th, 1847, to Miss Grace Wood, the daughter of a gentleman of Manchester, England, noted among his fellow-citizens as an eminent promoter of philanthropic objects. Mrs. Redpath survives her husband, and is his executrix, not merely in the legal sense, but as one wisely and loyally desirous to carry out his wishes, and herself deeply interested in the educational and benevolent enterprises of her deceased husband. In evidence of this, she contributed to his last great gift of the new Library-building the two large and elaborate stained glass windows containing portraits of illustrious men in literature, science and art, which adorn the public reading-room.

In his connection with the University, as a member of its Governing Board, to which he was appointed in 1864, and of which at the time of his death he was the senior member, Mr. Redpath was invaluable. He regularly attended the meetings, was always interested in the questions under discussion, and ready to give aid, advice and influence in favour of every measure of improvement. In the midst of

many other avocations, he was always alive to its interests, and was constantly contributing to its advancement in many quiet and thoughtful ways. He was also a friend on whom every officer of the University could reckon, as kind and helpful in any difficulty or emergency; and he possessed that breadth of view which enabled him to make allowance for the failings of weaker men. One instance of his continued and painstaking liberality was the contribution from year to year of rare and valuable books on English history, selected for him by competent experts, until that Department of the University Library has become noted for its completeness and the treasures which it contains. After his removal to England, in 1880, he continued to take the same lively interest in the University, as was evidenced by his great benefactions after that date. He also kept up a regular correspondence with the Principal and others respecting its affairs, and acted in its behalf whenever necessary. In this respect his presence in England was often of the greatest service, and many members of the University cherish a grateful remembrance of the kindness and hospitality with which he received them in the old Manor House of Chiselhurst, which was his English home.

He acquired this property in 1880 as a permanent English residence, and took great pleasure in restoring and improving the house and grounds, till it became an ideal English country house of the olden type. The place was not only quaint and beautiful in itself, but was full of historic associations. It had been the home of Joan, the "Fair Maid of Kent," the wife of the Black Prince, and was successively in the possession of the Duke of Somerset, of Warwick the "King-maker," and of the Duke of Clarence; and, reverting to the crown in the reign of Henry VIII., was granted by Queen Elizabeth as a suburban

residence to her great statesman, Sir Francis Walsingham, where she is said to have sometimes visited him. In Mr. Redpath's possession it has opened its hospitable doors to many noted men of our own time. To a man of his tastes it afforded the pleasures of country life and of literary leisure, with ready access to London and all its advantages as well as facilities for extending hospitality to old Canadian friends whom business or pleasure brought to the Metropolis.

Mr. Redpath's life in England was not altogether one of repose. He engaged in serious legal studies, and became a member of the Middle Temple. He was on the London Board of the Bank of Montreal. He was a member of the Council of the Canadian Institute, took much interest in the question of Imperial Federation, and represented the North-West Territories on the Board of the Royal Imperial Institute.

Mr. Redpath visited Canada frequently after his removal to England, the last time being in the autumn of 1893, when he was accompanied by Mrs. Redpath. After a tour in the North-West, they returned to Montreal to be present at the opening of the New Library in October. He was at that time apparently in good health and spirits, appeared to enjoy the society of his old friends, and superintended with the greatest interest the completion of the beautiful new building which he had presented to the University, and the planning of which had occupied much of his thought in the two previous years.

After his return to England, no intimation of any serious illness had reached Montreal, when, on the 1st of February, the news of his sudden and unexpected death, received by cable, fell like a thunder-clap on his many friends. No event, it may be truly said, ever cast a deeper gloom on all connected with the McGill University and the institutions associated with it. For

the moment everyone seemed paralyzed, and the only thought seemed to be how it would be possible to express sympathy with the bereaved widow, to take part, by representatives in England, in the obsequies at Chiselhurst, and to engage in a memorial service in Montreal on the 6th of February, the day of the funeral in England. This last tribute, though hastily arranged, was most sincere and impressive. It was held in the reading-room of the New Library, so recently opened in the presence of its now deceased founder. The service was attended by all connected with the University and by many of the leading citizens of Montreal, and, as it proceeded, many moistened eyes testified to the esteem and affection with which Mr. Redpath was regarded. The following are extracts from the address delivered on the occasion by his friend and former Pastor, Rev. Dr. MacVicar, Principal of the Presbyterian Theological College:—

We unite this morning at the same hour in which his funeral service is being conducted at Chiselhurst, England, in a public tribute of respect and honour to the memory of Mr. Peter Redpath. He was a man of good ability, sound judgment, refined and elevated taste, and excellent culture—a lover of literature and art; and, what is infinitely better, a lover of truth and of the God of Truth. After a long and successful career, having retired from business, he removed to England, and both in this city and the old land was deservedly called to occupy many positions of trust and responsibility. In business he was uniformly characterized by indefatigable diligence and unswerving integrity. His yea was yea, and his nay, nay. Gentle, amiable and considerate of the opinions and feelings of others, ever ready to take a broad and generous view of their actions, and yet, when purity and principle were concerned, he was as firm as a rock. It was vain for those who had sinister ends to serve to attempt to turn him aside from truth and righteousness. In these respects he furnished a notable pattern, which young men and all others may do well to imitate. As a philanthropist he took rank

with the foremost in our land. His benefactions in various forms to McGill University and other public institutions bear witness to his unstinted liberality. He had grace and wisdom given him to administer his large resources in his life-time for the good of his fellow men; and this fact deserves to be emphasized. His last public appearance amongst us was in this very hall, three months ago, in the performance of a crowning act of educational usefulness. But let it not be supposed that all his benevolence took visible forms like those just mentioned. He was naturally unobtrusive, strongly averse to all ostentatious display and vulgar advertising of the good he purposed or accomplished. His unreported charities were numerous and wisely distributed. He sought to do his alms before God, and not before men to be seen of them. The Father who seeth in secret alone knoweth in what abundant measure he gave help and comfort to others. As a Christian he was devout, conscientious, and consistent. His Christianity was a life and character rather than a demonstrative profession. I had opportunities of knowing his views on these matters intimately. For many years he was an exemplary member and office-bearer of the Free Church, Côte Street, now Crescent Street Church. He served with me there most faithfully as a deacon during my entire pastorate, and was twice elected as an elder, the duties of which office, through the modest estimate of his own ability, he judged himself unable to undertake. His simple trust in the word and in the Christ of God was the secret of his meek and quiet spirit, unflinching generosity and sterling worth. And I must add that in all his Christian service and public munificence he was lovingly aided by his partner in life, with whom, in her great bereavement, we to-day deeply sympathize. Finally, in this hour of sorrow over the removal of one of Montreal's noble benefactors, let us seek, through the mediation of Jesus Christ, the help of His Holy Spirit, that we may emulate the example of him whose memory we honour.

Resolutions of condolence were passed by many public bodies with which Mr. Redpath had been connected or to which he had given assistance. The following resolutions of the Corporation of the University and of the Faculty of Arts may be given as examples:—

The Corporation of McGill University, on occasion of its first meeting after the lamented decease of Mr. Peter Redpath, one of the Governors of this University and one of its leading benefactors, desires to place on record its deep and grateful sense of the benefits conferred by Mr. Redpath on the cause of higher education in Canada, not only by his liberal benefactions, but by his earnest, wise and practical interest in all that concerned the welfare of this University.

In addition to many other acts of liberality, the Corporation recalls his large contributions, extended throughout many years, towards the formation in the University Library of a complete collection of Standard Works and original Records on the subject of English History, and his crowning gifts in the endowment of the Chair of Mathematics, and the erection and equipment of the Museum and Library Buildings which bear his name, together with the contribution of funds for their maintenance.

In connection with these benefactions, the Corporation hails with satisfaction the effort now being made by friends and admirers of Mr. Redpath in England and Canada to provide a suitable monument to be placed in the Library, and desires to commend to the favourable consideration of the Board of Governors the proposal of the Museum Committee that a memorial tablet be placed in the Museum, and that a special number of the Museum Memoirs be prepared, giving the history of this department since the announcement of the benefaction in 1880, with a biographical sketch of Mr. Redpath.

That the expression of the sincere sympathy of the University be conveyed to Mrs. Redpath and to the other relatives of the deceased in this country and in England.

The members of the Faculty of Arts of McGill College, meeting on the day when the mournful intelligence has arrived of the death of their common friend and benefactor, Mr. Peter Redpath, and remembering his many munificent, wise and thoughtful gifts to this University, and especially to this Faculty, more particularly the Chair of Mathematics, with the costly Museum and the Library which bear his name, desire to express their high appreciation of the qualities of intellect and of heart which led him to set so high a

value on sound learning, both in literature and in science, and by which he was prompted, in so many conspicuous ways and with such princely liberality and untiring zeal, to promote the full equipment and efficiency of this Faculty. His efforts in the cause of Higher Education have won a name and place for him among the benefactors, not of this University only, but of his country at large, and have brought him lasting and well-deserved renown. The members of the Faculty further desire to give expression to their heartfelt sorrow and sympathy with her who has for so many years been his partner in life and the true helpmate and sympathizer with him in his many and varied acts of beneficence for the good of his fellow citizens and of mankind. To the members of the family of the deceased residing in Canada the Faculty respectfully desire to tender their condolence in the loss they have sustained.

Many literary and scientific periodicals and leading organs of public opinion in Great Britain and the Colonies noticed his large scientific and educational benefactions and endowments, and paid deserved tribute to his memory. The following from the London *Times* may be quoted in illustration :—

Besides great business aptitude, Mr. Redpath was a man of high culture and wide sympathies. Thus he was President of the General Hospital of Montreal, and took an active interest in the McGill College and University there, which owes so much to the munificence of individual Canadians. In 1880 Mr. Redpath built, at his sole expense, a museum in connection with the University, intended as a place of deposit and study of specimens in geology, mineralogy, palæontology, zoology, botany and archæology. The foundation stone of this building, a striking architectural ornament to the University, was laid by the Marquis of Lorne, when Governor-General, and was then described by the Principal, Sir William Dawson, as one of the largest and most generous gifts ever made to the University or to the cause of education in Canada. More recently Mr. Redpath made a still more considerable addition to the University buildings in a spacious and handsome Library, for the use of undergraduates in the Faculties of Arts, Applied Science, Medicine and Law, which was opened at Montreal on October 31st, 1893, amid great rejoicings, in

the presence of the Governor-General, the Earl of Aberdeen, Lady Aberdeen, and a large gathering of representative Canadians. Mr. and Mrs. Redpath were present on this occasion, and Lord Aberdeen made graceful allusion to the chief gift, as well as to that of some fine stained windows, part of the decorations of the hall, by Mrs. Redpath. Not contented with providing the funds (which did not fall far short of £75,000) for the erection of the Museum and Library, Mr. Redpath devoted much time and study in examining similar structures in England and abroad, with a view to secure the best designs and most convenient equipment for the latter. As a result of his carefully-thought-out plans, the library, for its size (it will hold some 130,000 volumes), affords by its arrangements for readers and the housing of books an accommodation hardly equalled in any other such institution. For some years past Mr. Redpath, though a frequent visitor to Canada, has settled in England, where he became a member of the Middle Temple, was elected on the London Board of the Bank of Montreal (of which his father had been a director), and busied himself in helping to furnish the new museum and library in Montreal by frequent contributions of specimens and books purchased in Europe. He also took much interest in the Royal Colonial Institute, serving on the council of that body, and was member of the governing body of the Royal Imperial Institute, being specially appointed to represent the North-West Territories of the Dominion. His death, which took place at his residence, the Manor House, Chiselhurst, in his 73rd year, will be deplored on both sides of the Atlantic by a wide circle of friends, to whom his genial manners, high sense of honour, and active, unobtrusive benevolence had greatly endeared him.

The *Canadian Gazette* of London gives the following testimony to his career and to the estimation in which he was held by his countrymen:—

His memory will be chiefly cherished by reason of his broad and liberal sympathy with the cause of higher education. Though not a resident of Canada for many years past, he never forgot that it was in Canada that his wealth had been acquired, and so long as the name of McGill University survives, Canadians will need no other monument to the wisely-planned munificence of Peter Redpath. As

far back as 1871 he devoted \$20,000 to the foundation of a chair of Natural Philosophy,* and promised an annual subscription of \$400 for ten years in aid of the Faculty of Applied Science. Nine years later, following in the footsteps of his friend Sir Donald Smith, he marked the semi-jubilee of Sir William Dawson's principalship by announcing his intention to erect a costly and capacious museum building on the college grounds, wherein the large geological collections of the Principal, and the collections of Dr. P. P. Carpenter, Dr. Holmes, and others, might be fittingly housed. In September of that year the foundation stone was laid by the Governor-General, Lord Lorne, and at the close of 1881 the handsome dressed limestone building, which still remains the finest of its kind in Canada, was completed, at a cost of about \$140,000, besides a large annual sum for the cost of maintenance for ten years.

Subsequently, however, Mr. Redpath made an even more substantial gift to Canada's foremost University, in the form of a new university library. The proceedings at the opening of this library on the last day of October will be fresh in the memory of our readers. The Governor-General was present in his capacity as official Visitor of the College, accompanied by Lady Aberdeen; and the large gathering, representative of all classes of the community, which then assembled, little thought that they were taking part in the last public act of one of the most faithful of McGill's benefactors. Both Mr. and Mrs. Redpath were present, and the Governor-General, when receiving a beautifully-wrought gold key, the presentation of which symbolized the transfer of the building to the University, made graceful reference to the enlightened and generous public spirit which had ever signalized the attitude of the leaders of Montreal commerce, and Mr. Redpath chief among them, towards the cause of higher education. "Many years of a successful and upright career, and of much public usefulness, have," said Lord Aberdeen, "rendered the worth and name of Mr. Peter Redpath so familiar that it is unnecessary, nor would it in his presence be acceptable to himself, to dilate upon his claims to public esteem and good-will." These remarks fittingly describe the appreciation in which Mr. Redpath was held in all parts of Canada. His Excellency also spoke of the

* Subsequently, by permission of Mr. Redpath, transferred to the subject of Mathematics.

share Mrs. Redpath had in the presentation of that day, for the beautiful stained glass windows at each end of the library were her gift. This was the last public appearance of Mr. Redpath, and he had thus the satisfaction of witnessing the completion of this his final act of educational beneficence.

In England Mr. Redpath was one of the best-known friends of Canada. No Dominion day dinner or Canadian festival was deemed complete without his genial presence, and though his name seldom figured upon toast lists and the like, he was always one of the foremost to advance any worthy Imperial or Anglo-Canadian movement. From its commencement he, together with the late Sir Alex. Galt and Mr. R. R. Dobell, represented Canada upon the general committee of the Imperial Federation League. He took much interest in the Royal Colonial Institute, serving on the council of that body, and he was appointed to represent the North-West Territories upon the governing body of the Imperial Institute. He was, moreover, a member of the London Board of the Bank of Montreal, of which his father had been President, and was upon the directorate of that other well-known Canadian institution, the Canada Company. Thus his thoughts and activities were ever directed to the advancement of the best interests of the country which had given him birth and prosperity, and his shrewd common sense, kindly geniality, and quiet benevolence will be much missed on this side of the Atlantic.

The beautiful oil painting by Sydney Hodges, a gift to the University by citizens of Montreal, in the Hall of the Museum, perpetuates his form and features to successive generations of students and graduates who enjoy the benefits of his bounty, and it is intended to place a memorial tablet in Mexican onyx in the Museum, and a bust, and also a portrait (the gift of the graduates and students), in the Library. These buildings themselves and their valuable and instructive contents will, it is hoped, constitute for ages to come the proper monuments of a man of whom Canada should be proud—a man who, in his life-time, sought neither personal honours nor distinctions, but whose name will go down to posterity as one of the true nobility of the Empire.

THE PETER REDPATH MUSEUM.

The handsome structure erected as a University Museum by Mr. Redpath is the most prominent part of the western extension of the McGill College buildings. It stands on an elevated terrace, immediately west and in advance of the William Molson Hall, and facing the College grounds. Its material is the beautiful gray limestone of the Trenton formation, quarried near Montreal. It is in the Grecian style, and of stately and graceful proportions. Its length is 130 feet and its breadth 66 feet, exclusive of slightly projecting transepts at either end. It is planned in such a manner as to give the largest possible amount of well-lighted space within, and, for its size, is one of the best museum-buildings anywhere. It is not intended for a large general collection, but for series of typical specimens for teaching purposes in all departments of Natural Science, and to render these as accessible as possible, both for the use of individual students and for demonstrations by professors and lecturers to large classes.

The basement contains the residence of the janitor and the heating apparatus, which consists of two large daisy furnaces and hot-water pipes, with a special arrangement of hot-air chambers for ventilation. In the basement are also work-rooms for preparing specimens, lavatories, and store-rooms furnished with cabinets for duplicates and undetermined specimens.

The first floor has at the back a capacious lecture-theatre, seated for 200 students on raised seats, and with space for additional seats when required, and for the use of lantern apparatus and screens, and for cases to contain the specimens required for class-room use. It is furnished with shutters for darkening the room when necessary. In front of this, on one side, is the Herbarium, the nucleus of which was the collection of the late Dr. Holmes, presented by him to the University, but which, under the care of Prof. Penhallow, has been extended till it may be regarded as complete for Canadian Botany, and has besides large exotic collections; as well as very full suites of Canadian woods with microscopic preparations representing their structure, and models and large specimens for lecturing purposes. On the opposite side of the central passage are a professors' room, class-room and board-room and office, with a special library of reference.

Ascending the main staircase at the right-hand side of the entrance, the visitor first reaches a vestibule in which are *Archaeological Collections*, and large slabs of fossil footprints. The archaeological collections include series of aboriginal relics from all parts of the Dominion of Canada, and of America, Europe and the East. Among these may be mentioned the collections of Sir William Dawson, in the Lebanon caves in Egypt and in Palestine, collections made by Drs. G. M. and R. Dawson in the Queen Charlotte Islands, and a totem-post, 32 feet high, presented by Dr. Buller; collections made by Dr. Nelson in Central America, and by Rev. Mr. Robertson in the New Hebrides; Dr. Lambert's collection of skulls, mummy and other relics of the Guanches of the Canary Islands; and a series of skulls and casts illustrating various types of men. On the walls of this vestibule are also placed portions of the collec-

tions of tracks from the Potsdam sandstone, and footprints of Batrachians from the carboniferous. Passing from this the visitor enters the main floor of the great Museum Hall, on either side of which and along the centre are arranged the Collections of *Fossils*, which are placed primarily in the order of geological time, from the older to the newer formations, and subordinately to this in the order of Zoological or Botanical classification. This arrangement enables the visitor or student either to see the general order of succession of animal and vegetable forms in the geological history of the earth, or to trace any particular group of animals or plants through the several geological formations. At the extreme end of the Hall are placed the collections of *Minerals* and *Rocks*, arranged in regular series to facilitate their systematic study.

The basis of the collection in Palæontology is that of Sir William Dawson, which is especially rich in Carboniferous and Devonian animals and plants, and in the fossils of the Pleistocene of Canada; and to this large additions have been made by subsequent collection or by exchange for the duplicate specimens. Important additions have also been made by purchase from the Wm. Molson Fund, the Logan Memorial Fund, and the donations of Mr. J. H. R. Molson; also by donations from the Geological Survey, and of Col. Grant of Hamilton, and other friends. The collection of minerals and rocks is based on those of the late Dr. Holmes and of Sir William Dawson, and large and important additions have been made through the exertions of Dr. Harrington, who has also commenced a collection of economic minerals of Canada.

Ascending a second flight of steps, the visitor enters the gallery of the great Hall. Here the collections in *Zoology* are placed, the Invertebrate animals in the table cases in regular

series, beginning with the humbler forms, and the Vertebrate animals in the upright cases in similar order. The whole arrangement here is intended to be of an educational character. The collection of Sir William Dawson forms the basis of the Canadian portion. In Mollusca, the collection of the late Dr. P. P. Carpenter is a prominent feature of the collection, being one of the finest and most perfectly arranged in the world. The McCulloch collection of birds, made by the late Dr. M. McCulloch, of Montreal, and presented by his heirs, forms the nucleus of the collection in Ornithology. The collection of Mr. Couper and the late Mr. Bowles, purchased for the museum, and that presented by Mr. Pearson, constitute the larger part of the Entomological specimens.

Further details as to the collections will be found in the "Museum Guide," issued for the information of visitors.

The announcement of the gift of the Museum building was made on the 2nd of April, 1880, at a banquet given by the Principal on the occasion of his 25th year of office, at which about three hundred of the graduates of the University and many distinguished guests were entertained. On this occasion Mr. Redpath very quietly and modestly stated his wish to secure better accommodation for the specimens which had been accumulated by the University, and for the lectures and demonstrations in Natural Science. The announcement was received with enthusiastic applause and many expressions of gratitude, though there was no idea at the time of the magnitude and character of the building which Mr. Redpath proposed to erect.

A site having been selected, and plans prepared by Messrs. Hutchison & Steele, architects, the foundation stone was laid by the Right Hon. the Marquis of Lorne, Governor-General of

Canada, and Visitor of the University, on September 22nd, 1880; and as the proceedings on that occasion contain much information as to the Museum and Mr. Redpath's purposes in its foundation, they are given here in full as reported at the time in the *Montreal Gazette*:—*

The Convocation of the University, with many invited guests, among whom were His Honour the Lieutenant-Governor of Quebec and His Worship the Mayor of Montreal, having assembled in the Library in the William Molson Hall, proceeded with His Excellency the Governor-General to the new building, where a capacious platform had been erected for ladies and invited guests, and where all necessary preparations had been made, under the superintendence of the architects.

After prayer by the Venerable Archdeacon Leach, Mr. Redpath stated the nature and objects of his gift as follows:—

MR. CHANCELLOR AND GENTLEMEN OF THE CONVOCATION,—A desire to aid the McGill University in the educational work which it is carrying on, and which, notwithstanding its very limited means, it is endeavouring to extend, has prompted me to supply one of its many wants by the erection of a Museum on the grounds of the University. The utmost space which can in the existing buildings be devoted to museum purposes is altogether inadequate, even for the exhibition of the specimens already belonging to the University, not to mention the extensive geological collection which the Principal proposes to present when sufficient accommodation shall be provided. This building is, therefore, intended as a place of deposit and study of specimens in Geology, Mineralogy, Palæontology, Zoology, Botany and Archæology, and it will probably more than meet all the immediate requirements of the University in that direction. It is intended that the use of the museum and its contents shall be in the first place for the professors and students of McGill College and

* It should be added here that, in accordance with the wish of Mr. Redpath, a plan and elevation were prepared by the architects for a façade of buildings in a line with the Museum, so that its position might work in with any future extension, whether by a corresponding building on the east side or by a great central block and two wings.

University, and secondarily, for all students of Natural Science and for the public, under such regulations as may from time to time be enacted by the Corporation of the University, with the approval of the Board of Governors. When the undertaking was commenced I did not anticipate any such ceremony as that which has brought this assembly together to-day. I am deeply sensible of the honour conferred by His Excellency the Governor-General in consenting to take a part in it, and I desire now, for myself, to thank His Excellency for his presence on the occasion.

Principal Dawson then addressed the Convocation and spectators as follows :—

MY LORD AND GENTLEMEN OF CONVOCATION, LADIES AND GENTLEMEN,—It falls to me to address to you a few explanatory words respecting the munificent donation to the University which we have met to-day to inaugurate. And first, I must return the thanks of the McGill University to Mr. Redpath for his generous gift, one of the largest ever made to the University or to the cause of education in Canada, standing next in amount to our original endowment, and ranking with the noble gift of the late Mr. Wm. Molson in 1861. It may indeed seem a large amount to be devoted to one branch of University work ; but, viewed in this way, it may serve as a measure of the greatness of that work in the aggregate. It must be borne in mind that a University Museum is not merely a place for the exhibition of specimens, but a teaching institution and a laboratory of original research. This Museum will indeed be a great Natural Science Department of the University, in which the classes in Geology and Biology will receive their instruction, and in which will be carried on with advantage those honour studies which will train original workers in all departments of natural science. From this place will go forth the men, and I trust the women also, best fitted to interrogate nature and bring to light the hidden treasures of our Dominion, and to avert by the aid of science the injuries with which any of its industries may be threatened. From it may emanate from time to time new discoveries tending to the honour of our country and the advancement of science. By its means we shall be enabled to extend the cultivation of a taste for the study of nature, beyond the limits of our regular classes, and to do much in the education of special students and of the public generally in those

delightful and improving studies which will be represented here. Finally, to this Museum will resort, for information and guidance, all those who are interested in the aspects of nature in this country and in the development of our natural resources. Thus we may claim for such an institution as this a large and important mission in science, education and the practical business of life. Nor must we regard it as without a use in relation to the higher interests of humanity. Nature proclaims the power and divinity of its Author; and however its testimony may be obscured by any temporary influence of false philosophy, no human power can ultimately silence this testimony, which is, perhaps, more profoundly impressed upon the mind by well-arranged collections of natural objects than in any other way. The gift comes also at an appropriate time, when our collections have outgrown the means for their exhibition, when we require the space they occupy for other uses, when the museum of our old and useful Natural History Society has reached the limit of its space, and when the only national collection in Canada, that of the Geological Survey, is about to be removed from us. Such objects as those to which I have referred have been attained in older and more advanced countries by institutions even greater than that now provided for us. I need not refer here to the magnificent national and educational museums of the Old World. We have sufficient examples on our own continent; examples furnished by national and local liberality, as well as by private benefactions. I may instance the great National Museum at Washington, which is intended to rival, and if possible surpass, the British Museum; the Central Park Museum of New York, on which that great city has lavished vast sums of money; the Zoological Museum of Harvard, whose revenues would suffice to support some entire Universities in this country; or the foundations of Mr. Peabody, which have established great museums in several American cities. With us these potent agencies of civilization are in their infancy; but we should be the more thankful for that which we celebrate to-day. In conclusion, permit me to say that in this Museum I recognize what should be a beginning of greater things in other departments of our work. I could wish to see a building similar to this for our Faculty of Applied Science, on the other side of our grounds; I could wish to see a Senate-house and Dining-hall of still more stately proportions;

I could wish to see our physical apparatus and class-rooms as well provided for as our natural science collections; I could wish to see additional endowments of chairs: and, not least, enlarged provision for aids to poor and deserving students. We cannot hope to secure all these things at once, but may venture to anticipate that the foundation of the Peter Redpath Museum may stimulate other friends of education to provide like liberal aids for all these other portions of educational work.

The Chancellor, the Hon. Mr. Justice Day, then invited His Excellency to lay the corner-stone, presenting him with the silver trowel which had been prepared for the occasion. A copper casket, hermetically sealed, was then placed in a cavity prepared for it. It contains the following deposits:—

The Calendar of the McGill University for 1880 and '81; the Examination Papers of Session 1879 and '80; Printed Extract from the Will of the late Hon. James McGill; the Royal Charter and Statutes; the Regulations of the Corporation and Pamphlets relating to the University; Deed of Gift by Mr. Peter Redpath, and Resolution of Board of Governors thereon; the newspapers of the day, together with the silver coins of the Dominion.

After the stone was duly laid, His Excellency addressed the meeting as follows:—

MR. CHANCELLOR, MEMBERS OF CONVOCATION, LADIES AND GENTLEMEN,—Now that my part in the physical exercises, which I cannot say I have graced, but have accomplished, is over, I have been asked to take also a part in the intellectual exercises of this day by saying a few words to you. When I first came to Canada, and afterwards at the time when Confederation was coming into being, the first political lesson that I learnt with regard to this country was that the Federal Government would have nothing whatever to do with education. The earliest lesson that I learnt, on arriving in Canada fourteen years afterwards, was that the head of the Federal Government was frequently expected to attend on such occasions as that on which we are assembled to-day, which has certainly a great deal to do with education. Perhaps, however, I may flatter myself by supposing that my presence here to-day has been desired more in the capacity of a friend than as an official, and I hope that this may be the footing on which you will always allow me to meet

you and see what you are doing. I can assure you I will never betray any of your secrets to my Ministers, except under the advice of my honourable friend on my right (the Lieutenant-Governor Robitaille), who is the natural protector and guardian of this University and of education in this Province. I share most heartily with you in the joy you must experience at the prospect of possessing so fine a hall for the accommodation of the treasures which are rapidly accumulating in your hands. That the necessity for a large building should have been so promptly met by the sympathetic support and far-seeing generosity of Mr. Redpath proves that the race of benefactors, illustrated by the names of Molson and McGill, has not died out amongst us. The removal of the geological collections belonging to the nation from Montreal to Ottawa, which has been determined upon, as bringing more immediately under the eye of the Legislature and the knowledge of the Government the labours and results attained by our men of science, necessarily deprives the residents of Montreal, who are students, of the facilities hitherto afforded by the presence in this city of those collections. It is satisfactory to know that this loss will be palliated by such noble gifts as those which have furnished you with other collections, which are now to find at last a proper place for their display. You, who have in your Chancellor and members of Convocation such eminent and worthy representatives of judicial attainment, of classical learning, of medical and surgical knowledge and of scientific research, will well know how to give full value to the last of these subjects, namely, to the culture of the natural sciences. Besides the direct utility of a knowledge of zoology, botany, geology and chemistry and of the kindred branches grouped under the designation of natural science, the pleasure to be derived from them is not amongst the least of the advantages of their study. However forbidding the country in which he is placed, however uninteresting the other surroundings of a man's life may be, he need never miss the delights of an engrossing occupation, if the very earth on which he treads, each leaf and insect, and all the phenomena of nature around him, cause him to follow out new lines of study, and gave his thought a wider range. It is your great good fortune that in your Principal you have a leader who is an admirable guide, not alone in the fairy realms of science, but also through those sterner, and to some less attractive

regions which own the harsher rule of the exigencies of the daily life around us. He has traced in the rocks the writing of the Creator, and, with the magic light, only to be borne by him who has earned the power through toil of reason and of induction, he has been able to see in the spirit and describe the processes of creation. His knowledge has pierced the dark ages, when through countless æons the earth was being prepared for man; he has shown how forests—vast as those we see to-day, but with vanished forms of vegetation and of life—grew, decayed, and were preserved in altered condition to give us in these days of colder skies the fuel we need. He has been for his beloved Acadia the historian of the cycles when God formed her under the primal waters, fashioned her in the marshes, teeming in his fervent heat, caused his fire to fuse the metal in her rocks, and his ice to scourge the coasts thereafter to be subjected to yet more stupendous changes, and raised and made fit for the last and highest of his works. His knowledge in these difficult studies has not separated him from us; it has only been a fresh cause for us to hail that public spirit which makes him give all he has, whether of strength, of time, or of knowledge, for the benefit of his fellow-citizens. Just as it was not for Acadia alone, but in the interests of science, that his first labour was undertaken; so now it is not for any especial locality, but for the good of the whole of our country, that he is head of this place of learning, whence depart so many to take their lot in the civil life of Canada. Even in his presence it is right that this should be said of him, here on this spot where you are to raise a new temple of the practical sciences, and now that he, with you, has become the recipient of this gift, which is a tribute from one who has earned success in the hard battle of life, offered to men who, with so much devotion, are training other lives to win their way by knowledge through the difficulties that may lie before them.

The CHANCELLOR then in eloquent terms thanked His Excellency, on behalf of the University, for the honour he had done the institution in laying the foundation stone of the Redpath Museum. He expressed the great gratification the presence of Her Royal Highness would have afforded them, deplored the unfortunate cause of her absence, and concluded by expressing the wish that she would soon be restored to the country in renewed health, and that a long

continued course of prosperity and usefulness in the high station to which it has pleased God to call both Her Royal Highness and His Excellency might be vouchsafed them.

The Rev. Principal MacVicar then pronounced the Benediction.

The foundation stone having been thus auspiciously laid, the work of erection of the building and of preparing the specimens for removal to it and for their proper arrangement was proceeded with as rapidly as possible, with the view of opening the Museum publicly on the occasion of the meeting of the American Association for the Advancement of Science in August, 1882.

The following extracts from the first report of the Museum Committee, appointed under the terms of Mr. Redpath's gift, will show the steps taken in the summer of 1882 in preparation for the opening:—

In the terms of the gift of the Peter Redpath Museum to the University, it is provided that the immediate management of the Museum shall be entrusted to a "Standing Committee of the Corporation, to be called the Museum Committee, to consist of the Principal as Chairman, and three other members of the Corporation, with whom shall be associated the Logan Professor of Geology and the Professors of Mineralogy, Zoology and Botany, and of other departments of Natural History in the Faculties of Arts or Applied Science of McGill College, should there be such Professors. The Committee shall have power to appoint any of its members Honorary Curator or Curators of the Collections or of any part thereof, and to arrange the times at which different Professors and their classes may teach or study in the Museum."

A Museum Committee was accordingly appointed by the Corporation of the University, at its meeting in January, 1882, and consisted of the following members: The Principal (*ex-officio*), Peter Redpath, Esq., Hon. Mr. Justice McKay, Dr. G. W. Campbell, Dr. B. J. Harrington (*ex-officio*). The following report was presented by the Principal to the first meeting, with the object of placing on record the steps taken by him up to that time in his capacity of Curator of the Museum, under the regulations of the University:—

The noble Museum, erected for the University by the munificence of Mr. Redpath, has now so far advanced toward completion, that it will probably be ready for the reception of specimens in May next, and it is extremely desirable that the collections to be contained in it shall be in as perfect a condition as possible at the time of the formal opening, which is intended to take place on the 24th of August, on occasion of the meeting of the American Association in Montreal. In view of these dates, it has been necessary to devote special time and attention for some months past to the arrangement and preparation of the specimens in the present Museum, and in the collections recently added to it by donation or purchase.

In June, 1881, Mr. Thomas Curry was engaged to mount, label and otherwise prepare specimens, and has been steadily engaged in this work since that time. The expense of mounting materials has been charged to the Museum fund. Mr. Curry's salary has been paid by the liberality of a lady of this city, who has also placed at the credit of the Museum a sum sufficient to secure his valuable services for some time longer.

Mr. P. Kuetzing has been employed, for a part of his time, to remount and renovate the specimens of vertebrate animals and to prepare some new specimens which have been purchased. He has up to this time been occupied more especially with the collection presented by the heirs of the late Dr. McCulloch. It is hoped that by the end of May he will have gone over the whole of the material of this kind possessed by the University and will have brought it up to a creditable condition.

The Principal and Dr. Harrington have been giving as much attention as possible to the proper naming of the minerals, rocks and fossils, and to their orderly and systematic arrangement, preparatory to the removal to the cases of the new building.

The following are the principal additions recently made to the collections, and more especially to those particularly intended for the Peter Redpath Museum :—

Principal Dawson's collections in the Geology and Natural History of Canada are in process of being arranged and mounted, along with the other specimens. The conditions of this donation, approved by the Board of Governors, are, that the specimens, while not kept separate from the general arrangement, will be labelled with the

name of the donor, and that he and Dr. G. M. Dawson shall have access to them for purposes of study, and with reference to their safe keeping. The total number of specimens in the collection cannot as yet be definitely stated, but is estimated at from six thousand to ten thousand specimens, besides much material available for exchanges. It may be stated here that for the past twenty years the duplicates of this collection, and more especially of the new species described by Dr. Dawson, have been used in exchanges for the benefit of the Museum, and that a large part of the specimens now in the cases and drawers have been obtained in this way.

The following are among the more important of the other donations recently received :—

From the Director of the Geological Survey, about 500 specimens of fossils and minerals, and twenty-three casts of large and unique fossils.

From Dr. T. Sterry Hunt, a collection of thirty-two species of Canadian fishes, prepared by Mr. W. Couper, of Montreal.

From the heirs of the late Dr. McCulloch, the whole of his valuable collections of birds and mammals, including 170 species—a collection having an historical value, in connection with the labours of Dr. McCulloch and the revision of the nomenclature of the specimens by the late Prince Charles Lucien Bonaparte.

From George Barnston, Esq., a valuable collection of fossil fishes from the Devonian of Scotland.

From Lieutenant-Colonel Grant, of Hamilton, Ontario, a large number of fossils from the Niagara formation, some of them of great rarity and interest.

From the American Census Commissioners, a valuable collection of American woods.

From the New York Museum of Natural History, through Professor Whitfield, a collection of 700 specimens of fossils, named by Professor James Hall. In exchange for this a complete collection of the Devonian plants of Canada, from the collections of the Principal and of Professor Hartt, has been given to the New York Museum.

From Peter Redpath, Esq., the skull of a Greenland whale, with the baleen perfectly preserved.

From Dr. G. M. Dawson, specimens of mammals from the N.W. Territories.

From Dr. Spencer, of King's College, Windsor, specimens of fossils from the Niagara and Corniferous formations.

In addition to these, valuable contributions have been received from the Smithsonian Institution, Prof. Marsh (of Yale College), Charles Gibb, Esq. (of Abbottsford), Professor Hilgard (of Washington), Captain J. A. Vibert, E. De Cew, Esq. (of Cayuga), Mr. Damon (of Weymouth), Mr. Chatfield (of Syracuse), Mr. F. Starr (of Auburn), A. J. Hill, Esq., C.E., Charles Robb, Esq., J. G. Miller, Esq., Mr. H. M. Ami, J. F. Torrance, Esq., B.A., T. Bland, Esq. (of New York), J. F. Whiteaves, Esq., Professor Cope (of Philadelphia), W. S. Davidson, Esq. (of Edinburgh), and others. Details of these gifts have from time to time appeared in the public prints and in the College Calendar.

In order to complete the collections in a manner worthy of the new building, and to make up for the loss sustained by the removal of the collections of the Geological Survey from Montreal, it has been necessary to make some purchases and to engage the services of collectors to supply certain deficiencies.

The collection of Devonian plants in the possession of the late Professor Hartt, of Cornell University, at the time of his death, was purchased by the Principal for \$250. It has afforded a few new species which have been described, several good museum specimens and materials for exchanges.

Casts of fossils, models of animals and specimens, have been purchased from the collections of Messrs. Ward and Howell, of Rochester, for \$451.

A few valuable and rare birds, not in our other collections, have been purchased of Mr. Passmore, of this city, for \$55.

The sum of \$25 was expended in procuring a collection of the interesting silicified fossils of Paquett's Rapids, on the Ottawa.

A collection of fossil fishes from the Cretaceous of Mt. Lebanon, has been purchased for \$34.

From E. De Cew, Esq., of Cayuga, an important collection of Corniferous corals, including some specimens of unusual size and perfection, was purchased for \$50. Mr. De Cew also presented some other fossils of interest from his own collections.

The valuable services of James Richardson, Esq., late of the Geological Survey of the Dominion, were secured during the past

summer, with the view of procuring specimens of some of the more rare and characteristic fossils of the Cambrian and Lower Silurian rocks. Mr. Richardson has engaged in this work without remuneration, and he was enabled to obtain a large number of valuable specimens at a very moderate expense.

One of Professor Ward's excellent copies of the great skeleton of the *Megatherium* in the British Museum, and a number of other large casts have been contracted for and are to be delivered in the course of next month. The net cost of these casts is \$568, and with the freight and fitting up it will amount to about \$800.

We have much pleasure in adding that several of the larger and more important specimens and collections referred to under this head are intended to form a memorial in the Museum to the late Sir W. E. Logan, and will be so labelled, and when the mounting of them has been completed will be paid for by a donation from his heirs of the sum of \$4,000.

The other specimens purchased have been paid for out of the Museum fund or by private gifts.

The cases have been contracted for by Mr. Roberts, and will, it is believed, be as nearly as possible perfect in their arrangements for the protection and display of the specimens. Mr. Redpath has added to his other liberal gifts the provision of these cases at an expense of \$10,000.

The plan of the arrangement of the collections has been fully decided beforehand, with reference to the dimensions of the hall and the character and position of the cases. It is hoped that it will provide in the most effectual manner for the display of the specimens, along with the greatest possible facilities for their scientific study. The Museum will thus afford advantages for the study of Geology and Natural History not previously enjoyed in this country.

In accordance with the resolution to open the Museum in August, 1882, the work of preparing and transferring the specimens from the old building had to be pushed on with the greatest rapidity. The Principal and Dr. Harrington gave their summer vacation to the work, and were zealously aided by a number of students and graduates, while competent assistants were employed in mounting and labelling. On the whole, it is probable that there has never been an instance of so large an amount of material being transferred

from one building to another and arranged in an orderly manner in so short a time. This was, no doubt, due in part to the care that had been taken to have the specimens in the old Museum and in Dr. Dawson's private collections mounted and arranged ready for removal. We had also to thank the architects and the contractors for the energy with which they pushed forward the interior arrangements to completion.

The result was that everything was ready for the formal opening on the evening of Thursday, the 24th of August.

In order that the occasion might be as agreeable as possible to our friends from abroad, Dr. Dawson had arranged to make the opening the occasion of his reception to the members of the American Association, of which he was President. Invitations were sent to His Excellency the Governor-General, the Lieutenant-Governor and other official persons, and a large number of citizens were also invited. The guests, numbering about 2,000, found ample accommodation in the large hall and its galleries.

When the company had assembled, the Chancellor, Mr. Justice Day, took his place on a dais at the end of the large hall, along with Mr. Redpath, Dr. William B. Carpenter (of London), Dr. James Hall (of Albany), and Dr. Dawson. The meeting having been called to order, Mr. Redpath formally conveyed the building to the Chancellor, on behalf of the University, in the following terms:—

Mr. Chancellor, I fain would have had ceremony dispensed with on this occasion, but as some ceremony seems to be demanded, I am here by invitation for the purpose of transferring to you, as the representative of McGill University, in the presence of this distinguished company, all my right, title and interest in the building in which we are assembled. The conveyance, without other condition than that the building shall be maintained for the purpose for which it has been erected, will be found in the document which I now

place in your hands. The undertaking was not begun without deliberation, and now that we have come to the end under such happy auspices, I see no reason to regret what has been done, I trust that the benefits which it was intended to confer will be realized.

The Hon. CHARLES DEWEY DAY, the Chancellor, then said: Mr. Redpath, it is my good fortune, as Chancellor of McGill University, to be its mouth-piece on this auspicious occasion. In the name and on behalf of that institution, I accept the gift of the Peter Redpath Museum now formally conveyed to it. It is a difficult task to express in fitting words our sense of the obligation under which you have laid, not only the University, but the friends of education, in the interesting and important department of science which your liberality is intended to promote. The architectural beauty of this edifice in which we are assembled—its classic design—the elegance and completeness of its finish, make it in itself an education of no small value; while joined to these excellences, its ample proportions and perfect adaptation to its destined uses, indicate the munificence and wisdom of its founder. We trust it will remain for future generations, what it now is, a majestic monument, bearing the honoured name of him in whom the power of riches has been added to the better gift of distributing them with a bountiful hand for the welfare of mankind. You will be gratified to learn that the valuable assemblage of objects of natural science for which you have provided this stately depository has been enriched by the addition of the life-long collections of our learned and honoured Principal, Dr. Dawson—a gift by him to the University of great pecuniary and far greater scientific value, and let me add that it is but one of a long series of benefactions and self-sacrifices by which he has earned our gratitude. Acts like these extend further than their first manifest objects. They give an impulse to philanthropic hearts, while they furnish a standing protest against the selfish and ignoble use of wealth. The prodigious growth of material prosperity in this our age, the marvellous creations of art and industry which cover the face of the civilized world, and the consequent increase in dangerous luxury, have in them a voice of warning. History tells us what they mean if left to themselves, without the restraining and elevating agencies which build upon them a true and permanent civilization.

We accept this hall of science as a noble contribution to those higher agencies ; and now before this assembly, made august by the presence of our distinguished guests, true kings of the realm of thought, and in the presence of the benefactors of this University, enlightened men, and not less sympathetic and generous women, we dedicate the Peter Redpath Museum to the study of the varied and wonderful manifestations of God's creation, and emphatically we dedicate it to the use of earnest students, who in reverent questioning of the works of living nature, and the records upon the stony tablets of a dead and buried world, seek that vital truth, which, above all other things, it imports the immortal spirit of man to know.

Dr. CARPENTER was then briefly introduced by the Chancellor. He said that when he received an invitation to take part in this meeting he felt that he could not refuse, if for no other reason, because he wished to give expression to the very strong and earnest interest he felt in the city. Nothing had been of greater interest to him since he had been in the city than to be accosted on all sides as the brother of Philip Carpenter, whose collection, he was glad to say, formed one of the ornaments of this museum, and he trusted would long remain to cultivate and extend the knowledge of the science which he loved. He rejoiced to do honour to the great and good man who had given this noble building for the reception, not only of the collections of the University, but to afford an illustration of the great principles of natural science. He alluded to the great value of the collection of Fossils contained in the building ; and more especially as having a peculiar interest to himself in connection with his own researches—those representing that remarkable fossil, as he believed it to be, *Eozoon Canadense*, discovered by Principal Dawson and Sir William Logan. He then spoke of the slender opportunities which existed when he was a young man, and of the great value to this young country of institutions for the study of natural history, both as promoting a high kind of education and as tending to practical progress. He rejoiced at the thought that natural science was now fully admitted to be an important part of collegiate education, and he was confident that it would keep pace with all the great departments of physical science. In conclusion, he dwelt on the value of science as a means of disciplining the mind and of preparing the young for the efficient discharge of the duties of life.

Professor HALL, who followed, directed attention particularly to the arrangement of the Museum. The collection in Palæontology had been placed in an order which would enable the student to obtain clear and definite ideas of the succession of life from the earliest to the most recent geological period. In the connection of the Museum with the University and its staff of teachers, there was a guarantee that all these valuable objects would be made available for educational use and would not be permitted to lie idly on their shelves. The Museum would thus be a source whence able and active naturalists would go forth to increase and extend our knowledge of nature, and especially of the natural history and resources of Canada. The building was in itself a beautiful object of art, and it was also admirably adapted for the purpose of instruction and for guiding the mind to an appreciation of the still higher beauties of nature. He concluded with expressing his concurrence in all that had been said respecting the high value which should be attached to natural science in education, and with reference to the growth and development of nations.

Dr. DAWSON said that on this occasion he desired to appear, not as the Principal of McGill College, but as the President of the American Association. In that capacity, and as representing a body deeply interested in all that tended to advance the study of science, as well as on his own behalf as a student of nature, he most heartily thanked Mr. Redpath for his noble benefaction. He had the greatest possible faith in well-arranged collections, as in themselves a means of education; and here, where they were united with admirable rooms for teaching, and were likely to continue to be provided with teachers, there was the best reason to hope that the Peter Redpath Museum would be a large and constantly increasing factor in the educational life and growth of Canada.

During the meeting of the American Association, the lecture theatre was occupied by the Geological Section, and the two class-rooms by the Biological and Microscopical Sections.

Immediately after the adjournment of the Association, work was resumed in the Museum, and preparations were made for the regular lectures of the session. The building was fully

fitted up for these purposes, and was in constant use from the beginning of the session in September. In addition to the ordinary college work, lectures were delivered on the Geology of Bible Lands; and a course of lectures on Zoology to ladies, in connection with the Ladies' Educational Association.

Since the opening in 1882, the Museum has been in constant use for the teaching of classes in Geology, Mineralogy, Petrography, Botany and Zoology, with all the facilities which can be afforded to students of these subjects by access to specimens and the use of the microscope. It has been constantly employed for original work by the professors and others, and has been visited and referred to by scientific travellers, while it has been open to the public and to classes from public and private schools. It was occupied by the Geological Section of the British Association, on occasion of its meeting in Montreal in 1884. Important additions have been made from time to time to the collections, more especially through the liberality of Mr. J. H. R. Molson, and by exchange for duplicates and the kind donations of friends. Large numbers of specimens have from time to time been circulated to museums and workers abroad and in this country. Memoirs on important parts of the collection and on new scientific facts have occasionally been published, though there is, unfortunately, no special publication fund for this purpose. The usefulness of the Museum in aiding original research in these and other ways might be greatly increased if there were more ample endowments; but so long as its officers are animated by the zeal for the progress of science which has hitherto characterized them, its influence may be maintained. Records of the progress of the Museum from year to year will be found in the annual

reports of the University. In the last report (1893) its work and condition are referred to as follows:—

About twelve years have now elapsed since the opening of the Peter Redpath Museum, and during that period the collections have been greatly enlarged and, by careful arrangement, made more and more intelligible and useful to students. The facilities afforded are being taken advantage of by increasing numbers of students, and we find that while in 1886 there were 186 attending the various classes, the number in the present session is nearly 300. During the past year 2,500 incidental visitors registered their names in the Museum book. The number of these might, no doubt, be easily increased, if this were deemed desirable, but it must ever be borne in mind that the Museum is primarily intended for the use of instructors and students, and that the introduction of large numbers of outside visitors would necessarily prove distracting and interfere with the work of the classes.

SUMMARY OF BENEFACTIONS OF MR. REDPATH.

It may be proper here to add a summary of the benefactions of Mr. Redpath to McGill University. Besides many minor gifts, these may be reckoned as follows:—

Endowment of Chair of Mathematics - - - - -	\$ 20,000
Subscriptions to various funds - - - - -	8,000
Collection of Books on English History (estimated)	12,000
Museum Building, Fittings, &c. - - - - -	140,000
Library Building and Furniture, including stained glass windows - - - - -	135,000
Capital of Library Fund - - - - -	100,000
“ “ Museum “ - - - - -	30,000
	<hr/>
	\$450,000

It may be remarked of all these gifts that they are fitted to have a permanent value in perpetuating in Canada the benefits of Higher Education. Mr. Redpath's intention in all his donations was of this character, and we may hope that this will be realized in their perennial fruitfulness.

Memoirs of Peter Redpath Museum

Recently Published :

SPECIMENS OF EOOZON CANADENSE, AND THEIR GEOLOGICAL AND OTHER RELATIONS.

NEW SPECIES OF FOSSIL SPONGES FROM THE CAMBRO-SILURIAN OF LITTLE METIS.

NEW FACTS RESPECTING FOSSIL GYMNASPERMS OF THE DEVONIAN AND CARBONIFEROUS.

SPECIMENS OF DENDRERPETON ACADIANUM AND HYLONOMUS LYELLI.

THE CANADIAN ICE-AGE, WITH COMPLETE LIST OF PLEISTOCENE FOSSILS IN THE MUSEUM.

NOTE ON A SHARK AND RAY FROM THE LOWER ST. LAWRENCE.

A "Synopsis of the Land Animals of the Carboniferous of Canada" and a "Revision of the Bivalve Mollusks of the Coal-formation" are in the press; and a "Revised List of Carboniferous and Devonian Plants" is in preparation.

MEMORANDUM FOR THE RECORD

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