

PROCEEDINGS

AT THE

47

ANNUAL MEETING

OF THE

NATURAL HISTORY SOCIETY

OF MONTREAL,

FOR THE YEAR ENDING MAY 18TH, 1875,

WITH

A LIST OF THE OFFICERS, RESIDENT MEMBERS, AND  
ASSOCIATES OF THE SOCIETY.

MONTREAL:

MITCHELL & WILSON, PRINTERS, 192 ST. PETER STREET.

1875.

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## NATURAL HISTORY SOCIETY.

### PROCEEDINGS FOR THE SESSION 1874-75.

#### FIELD DAY.

A Field Day to Belœil Mountain was held on the 24th of May, which was very numerously attended. The spring being unusually late, the collections of plants, &c., were not so large as they otherwise might have been. From the summit of the mountain, addresses relating to the geology and history of the surrounding district were delivered by the President, A. R. C. Selwyn, F. R. S., by Principal Dawson and Rev. Dr. De Sola.

The following prizes were awarded during the afternoon :

1. For the best named collection in any department of Natural History.—Captain F. S. Barnjum.
2. For the largest number of species of Flowering Plants, unnamed.—Mr. Rankine Dawson.
3. For the second best ditto.—Miss Grace Lyman.

#### MONTHLY MEETINGS.

1st Monthly Meeting, held October 26th, 1874.

The Hon. Donald Smith, M. P., was elected a member of the Society.

Dr. J. Baker Edwards exhibited a sample box of materials for chemical experiments, prepared by Dr. May, of Toronto, for the use of schools, and commented on the cheapness of these portable cabinets, and their use to young students.

Mr. Whiteaves then read a paper on the Marine Fisheries and Oyster Beds of the Gulf of St. Lawrence. This will be found (condensed) on pages 336-349 of the last volume of this journal.

2d Monthly Meeting, held Dec. 7th, 1874.

Postponed from Nov. 30th, 1874, that being St. Andrews's Day.

Dr. W. Osler and Messrs. James Fletcher, Arthur Webster, W. Campbell and Thomas W. Evans were elected members of the Society.

Principal Dawson then read a communication on Indian Remains from Lake St. Francis and elsewhere.

A discussion ensued, in which the President, Mr. Leslie, Mr. Marler and Mr. E. E. Shelton took part.

3rd Monthly Meeting, held Feb. 1st, 1875. (This meeting was also adjourned from Jan. 25th, 1875.)

Mr. James Esplin was elected a member of the Society.

Mr. G. M. Dawson read a paper entitled: "On the Superficial Features and Geology of the Plains, from the Lake of the Woods to the Rocky Mountains."

Supplementary remarks on this topic were then made by Mr. Selwyn, Prof. Bell and Principal Dawson.

4th Monthly Meeting, held Feb. 22nd, 1875.

Dr. G. A. Baynes and Messrs G. W. Reed, J. G. Bowles and W. Cowie were elected resident members.

Principal Dawson made a communication on two Indian Skulls recently obtained by Mr. Richardson from the vicinity of Victoria, Vancouver Island.

At the request of the President, the Rev. J. B. Good, of British Columbia, made some remarks on this subject and on the distribution of the Indian Tribes on the N. W. Coast.

Dr. P. P. Carpenter gave an account of a collection of Sea Shells made by Mr. Richardson in the Gulf of Georgia.

Mr. Whiteaves also commented on other marines invertebrates from that region, which were exhibited at the meeting.

Remarks on Mr. Richardson's collection were also made by the President, by Principal Dawson and Mr. G. M. Dawson.

5th Monthly Meeting, held March 29th, 1875.

Dr. G. B. Shaw was elected a resident member.

Mr. Whiteaves read a paper on some Algæ, Marine Invertebrates and Cretaceous Fossils from British Columbia.

6th Monthly Meeting, held April 26th, 1875.

Messrs. R. Stanley Clark Bagg; David Aikman, J. Hedley, H. McLaren and G. Sumner were elected members.

Mr. F. B. Caulfield read a paper on Insect Life in the vicinity of Montreal.

Remarks on this topic were made by Messrs. Marler, Whiteaves and other members.

Mr. R. W. McLachlan also read a paper on Indian Stone Pipes.

Some discussion ensued, and the proceedings terminated by the passing of a vote of thanks to the lecturers.

## SOMMERVILLE LECTURES.

The above course of free scientific lectures was duly delivered as follows :

1. March 4th, 1875. On Electricity, with experiments, by Dr. G. B. Shaw.
2. March 11th, " On the Adulteration of Food, by J. Baker Edwards, Ph. D., D.C.L., F.C.S.
3. March 25th, " The Grasshopper Plague of the North-West, by Prof. R. Bell, F.G.S., F.C.S.
4. April 1st, " The Transit of Venus, by Richard Johnson, M. A., F. R. A. S., Chief Astronomer at Kauai, Sandwich Islands, British Transit Expedition.
5. April 8th, " Matter out of place, by Dr. G. P. Girdwood.
6. April 15th, " The Nose, its Uses and Duties, by Dr. P. P. Carpenter.

## ANNUAL MEETING.

The Annual Meeting was held on the 18th of May, 1875, Rev. Dr. De Sola in the Chair.

The minutes of the last Annual Meeting having been read by the Recording Secretary, Principal Dawson delivered the following address, the President being absent in British Columbia.

## ANNUAL ADDRESS.

I propose to devote the greater part of this address to memories of a man whose death may almost be said to close an era in the history of geological progress, as the publication of his greatest work, the Principles of Geology, may be held to have begun an era in the study of that science, whose goal of to-day will ever be its starting point for to-morrow. Sir Charles Lyell, the greatest geological thinker of our time and nation, died on the 22nd of February, in his seventy-eighth year. He was born at Kinnordy in Forfarshire, on the 14th of November, 1797, and graduated at Oxford, in 1819. He studied for the Bar, and began the practice of his profession; but his mind was already occupied with inquiries as to the structure of the earth, stimulated apparently by Buckland's lectures, to which he had listened at Oxford. In 1824, he became an honorary secretary of the Geological Society of London, and for a time he was Professor of Geology in King's College, London. He was elected,

for the first time, President of the Geological Society in 1836.

Sir Charles received the honor of knighthood in 1848, and was raised to a baronetcy in 1864. He had the degree of D.C.L. from Oxford and that of LL.D. from Cambridge. He was thrice president of the Geological Society, and once of the British Association.

He married in 1832 the eldest daughter of Leonard Horner, himself a good geologist, and a friend and helper of Lyell in his earlier work; and his wife not only graced his home and sedulously attended to all the wants and interests of a man too devoted to his specialties to give much attention to the ordinary affairs of life, but shared the fatigues of his journeys, and gave no small help in many of his works, being herself well acquainted with natural history and an accomplished linguist. Her death, less than two years ago, deprived his old age of its chief earthly stay.

In January, 1830, the first volume of his *Principles of Geology* appeared, and was followed by the second in January, 1832, and by the third in the following year. This work has reached its eleventh edition; and with the *Elements or Manual of Geology*, which followed, it may be said to have done more than any other book to shape the geological science of the time. More especially the doctrine of reference to existing causes for the explanation of all geological phenomena, at once removed theoretical geology from a speculative to an inductive basis, and laid a stable foundation for a history of the earth. Though Lyell published many detached geological memoirs, and also gave to the world very instructive and interesting narratives of his travels in America, and latterly summed up the facts and conclusions at present reached with reference to the latest geological period, in his "*Antiquity of Man*," his great fame must rest on his *Principles of Geology*, and on the effect of this work in giving form to geological science.

While the name and fame of Lyell belong to the world, we in British America and our brother geologists of the United States have some special cause to revere his memory, because of his world-wide grasp of the subjects he studied, and because of his eminent services to our own local geology and geologists; and, as examples of these, I shall take the liberty of referring to some of them which came under my own personal observation.

The visits of Sir Charles Lyell to America were three in

number, though detailed narratives of two only were published. The first, in 1841, was made in pursuance of his determination to verify for himself, as far as possible, all geological facts to which he had occasion to refer—a determination justified not only by the love of truth, but by his own great powers of appreciating the nature and relations of phenomena, and of presenting them to the minds of others. He had, on this occasion, an invitation to lecture for the Lowell Institute of Boston, which kept him some time in that city; but he took time to travel very extensively both in Canada and the United States.

His second visit to America was made in 1845, and on this occasion, he merely called at Halifax, and did not travel in British North America. He devoted his whole time to the United States, and more especially to the South. In 1853, he was named one of the Commissioners to the Great Exhibition in New York, and on this third visit he landed in Halifax and spent some time in Nova Scotia and New Brunswick.

I had the pleasure of first meeting Sir Charles in 1841, when he spent a few weeks in the Maritime Provinces of British America. I had just returned from the University of Edinburgh and from the somewhat careful training in mineralogy and lithology of the veteran Jameson, and had already given some time and study to the Carboniferous rocks of my native province. In these circumstances, the visit of Lyell was most opportune for me; and from my local knowledge, I was able to give him some aid in unravelling those complexities of the Carboniferous beds, to which at the time his attention was earnestly directed. I accordingly accompanied him in the remainder of his tour in Nova Scotia, and after his departure, followed up his work in districts which he had been unable to reach. We have met many times since, both in England and in this country, and have regularly corresponded down to within a very short time of his death; and I have ever found him a warm friend, and intensely interested in all that concerned the growth of natural science in this country.

The benefits rendered by Sir Charles to American Geology in his several visits to this continent, it would not be easy to over-estimate. At the time of his first visit, few English geologists had seen those great breadths of the older and of the more recent formations by which this continent is distinguished, or had the means of realizing for themselves the resemblances and

differences of the formations on the opposite sides of the Atlantic; and American and British workers in these subjects were little known to each other. The visits of Sir Charles did much to remedy all this. His own mind was filled with those grander aspects of geological phenomena which appear in America. He brought into correspondence with each other those workers in science, whom his intuitive tact perceived to be suited to give mutual aid. In British America, in particular, his agency in this way was very valuable in bringing together the widely-separated cultivators of science, and in linking them with the scientific movement of the mother country.

Nor were his visits barren of purely scientific results. He may have made few discoveries of new facts,—and he had not time to enter into detailed stratigraphical studies;—but in a thousand instances he cast new light on obscure facts, and gathered into a harmonious union detached fragments of evidence, and suggested new conclusions and interpretations. Of this character were his re-arrangement of the Carboniferous rocks of Nova Scotia and New Brunswick; and the clear conceptions which he formed of the nature and origin of our Post-pliocene formations, and which are still, I think, in advance of those currently taught on this side of the Atlantic.

Limited though his time for observation was, he always seized the salient and important points of any formation or locality; and I have often been struck with the truthfulness and completeness of the sketches which he gave of phenomena with reference to which his opportunities of collecting information were very imperfect.

In these American researches, the great gifts of the man were brought out in a light somewhat different from that in which they appear in his general works. The main distinction between Sir Charles and most of his contemporaries, was his eminence as a thinker, whether in inductive or deductive reasoning. Like most of the English geologists of his time, he had received less training in the characters of minerals and rocks than that which the more severe schools of science exacted, and his imperfect vision was a great hindrance in field work, and sometimes even a source of personal danger; but when facts, however complex, were once obtained, they grouped themselves in his mind in their natural relations, with an unfailling certainty, while their connections with all the other parts of his vast stores of know-

ledge and the general conclusions deducible from them, came out with a degree of clearness always beautiful, and often even startling.

Another quality of his mind was the fresh and vivid interest, almost childlike, which every new truth awakened in him. This feeling is more or less that of every true naturalist. It depends on the clear perception of what is presented to us, and on the keen realization of its relations to things previously known, and perhaps still more on the sudden breaking of those new relations upon the mind as if with a flash of divine light. I well remember how, after we had disinterred the bones of *Dendroperon* from the interior of a large fossil tree on the Joggins shore, his thoughts ran rapidly over all the strange circumstances of the burial of the animal, its geological age, and its possible relations to reptiles and other animals, and he enlarged enthusiastically on these points, till suddenly observing the astonishment of a man who accompanied us, he abruptly turned to me and whispered: "The man will think us mad if I run on in this way."

An allied feature of his mental character was the readiness with which he accepted new conclusions and relinquished without regret views which he might have long held, when he perceived them to be shaken or untenable. He seemed wholly free from that common failing of men of science which causes them to cling with such tenacity to opinions once formed, even in the face of the strongest evidence. This quality eminently fitted him to be the expositor of a rapidly advancing science, and also to be the patron and helper of younger and less eminent men, and was connected with that warm and earnest interest which he ever felt in the progress of knowledge, and with the deference with which he received new facts and suggestions from any quarter.

These qualities, apparent in his connections with American Geology, were equally valuable in his relations to science in its general aspect. A man so gifted, fortunate in his genius, his education, his outward circumstances, and in his appearance on the stage at a time when Geology had gathered in some of its greatest harvests of facts, and was waiting for a master mind to arrange them, had a great opportunity, which Lyell had the energy and ability to seize. He was thus able to become the guiding mind among his contemporaries in geological theory, and to

hold his pre-eminence down to the end of his life, and through all the great changes which occurred in the rapid development of the science. For nearly 45 years, his works have been the text-books of geologists, and though the great impetus which they primarily gave has thrown the study of the earth forward into an entirely new position:—the last editions of the *Elements* and *Principles* are still in the van of the science.

The position which he thus occupied is one to which he was in every way justly entitled. His large and judicial mind had always a clear perception of the true method of natural history. He saw that the foundations of our knowledge of geology were to be laid in extensive and accurate collections of facts, and in reasoning on these by severely inductive methods. This idea he carried out in his *Elements of Geology*. But in his *Principles* he opened up a new field, not as has been crudely conceived by some commentators on his work, one of the nature of deduction as distinguished from induction, but rather another inductive investigation, leading to general conclusions as to the changes now in progress, in order that by a fair use of analogy a key might be found to the interpretation of the facts and conclusions obtained by the study of the geological monuments of past ages. He has himself well stated this view of the case in the preface to the tenth edition of the *Principles*.

Viewed in this way, the Lyellian Geology rests on two inductive bases—the first relating to the facts discoverable in the earth's crust, and the second to the changes now in progress under our observation—and the connection of these by an analogy founded on identity of causes or conditions and identity of effects. This mode of treating the history of the earth was especially that of Lyell, and it was this that constituted his greatest contribution to the growth of modern geology.

Injustice has been done to the Lyellian method by two misconceptions, propagated perhaps by injudicious friends rather than by opponents, and which have arisen from a failure to enter into the grand comprehensive views of this great reasoner.

One of these is the representation that Lyell was thoroughly uniformitarian, in the sense of maintaining that similar changes had been taking place throughout all geological time. It is true that he objected to any explanation of geological changes by imaginary cataclysms not warranted by observation of similar facts; but no one was more ready than he to receive any

evidence of change, or physical or organic action, whether sudden or gradual, as a geological course, provided it could be shown to be or to have been a natural fact. Farther, no one was more fully impressed with the continual change and progress in nature, and with the necessity of taking into account the different conditions of different geological times, in applying any modern cause to account for ancient phenomena.

A second and still more mischievous misapprehension is that of regarding his method as similar to that style of analogical reasoning which Spencer and Darwin have made so current in our time. When Lyell strove to illustrate the conditions of the Coal period by those of the great Dismal Swamp, for example, his argument was one of analogy, but an analogy in which the main conditions could be proved to be identical. In both cases they were swamp conditions, though separated by a great lapse of time. He never would have reasoned, like Spencer, that the evolution of an egg explains the evolution of animals in geological time; because in this case the similarity of conditions which can alone give value to a natural analogy is wholly absent. Nor does the Lyellian philosophy properly admit the assumption, as a *vera causa* of past geological change, of processes supposed to be going on, but so slowly that human experience fails to obtain any measure of them, or even any certainty as to their reality. It is true that, in the later editions of the Principles, Sir Charles admits the force of Darwin's arguments for the transmutation of species, and devotes large space to their exposition; and he states, as his general conclusion, that Darwin "without absolutely proving this, has made it appear in the highest degree probable;" but I do not find that he ever regarded these brilliant speculations as occupying the same stable ground with his own grand general conclusions as to the persistency of existing causes in geological time. Lyell, in short, while a uniformitarian rather than a cataclysmist, held to uniformity not of effects, but of the general laws of causation; and the analogies by which he sought to connect modern changes with those which had left their monuments on the earth's crust, had nothing in common with those on which theories of transmutation of species have been based.

It is always an interesting inquiry in the case of a great student of nature, to ask what position he took in regard to those higher problems which directly affect man in his mental, moral

and spiritual nature. There is nothing in the study of nature to withdraw a man from sympathy with his fellows; and men of science who have so shut themselves up in their specialties as to take no interest in the general welfare and progress of society, have necessarily failed to secure for themselves and their subjects the hearty interest of mankind. In these respects, Lyell was characterized by the same breadth which appears in his scientific investigations and reasonings. He was a warm personal friend, and full of sincere sympathy with all that concerned those he loved. He was active and earnest in promoting education and the diffusion of knowledge, and he took a lively interest in all movements for improving the social and political condition of mankind. He was quite free from that tendency to attack or sneer at everything that other men hold sacred, which characterizes some of the advanced writers of the day. He neither tormented himself with the gloomy idea that men looked askance upon him and desired to persecute him, nor did he desire to make any other man a martyr to his faith. In the earlier editions of the *Principles*, he closed the work with a few paragraphs of "Concluding Remarks," in which he repelled the imputation that his doctrine of modern causes was equivalent to the assumption that "there never was a beginning of the present order of things;" and he takes occasion to state his doctrine of the relation of natural science to religion in the following words, which, I find, remain unchanged in the last edition:—

"We aspire in vain to assign limits to the works of creation in space, whether we examine the starry heavens or that world of minute animalcules which is revealed to us by the microscope, we are prepared therefore to find that in time also the confines of the universe lie beyond the reach of mortal man. But in whatever direction we pursue our researches, whether in time or space, we discover everywhere the clear proofs of a Creative Intelligence, and of his foresight, wisdom and power. As geologists, we learn that it is not merely the present condition of the globe which is suited to the accommodation of myriads of living creatures, but that many former states also were adapted to the organization and habits of prior races of being. The disposition of the seas, continents and islands, and the climates have varied; the species likewise have been changed, and yet they have all been so modelled on types analogous to those of

existing plants and animals, as to indicate throughout a perfect harmony of design and unity of purpose. To assume that the evidence of the beginning and end of so vast a scheme lies within the reach of our speculations, appears to be inconsistent with a just estimate of the relations which subsist between the finite powers of man and the attributes of an Infinite and Eternal Being."

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I have left but a little time to speak of the work of our own society in the past year. Six meetings for the reading of papers have been held during the winter. The subjects discussed at these might well afford some material for interesting remark; but, as the substance of them has been or will be published, this is scarcely necessary. In geology, our papers have related chiefly to the west. Mr. Whiteaves has described to us some of the Cretaceous marine fossils from British Columbia, which are found there associated with and underlying the remarkable coal fields of Cretaceous age containing remains of so many dicotyledonous trees. Mr. G. M. Dawson has given us some interesting expositions of the geographical features and superficial deposits of the little-known region along the 49th parallel, between the Red River and the Rocky Mountains, which are to be illustrated in his forthcoming Report on that region. In ethnology, we have had papers on Indian Remains from Lake St. Francis, and Mr. Richardson's Collections in British Columbia; and Mr. McLachlan has described some curious Indian Pipes. Dr. Carpenter, Mr. Whiteaves, Mr. Caulfield and others have directed our attention to a variety of zoological subjects connected with the natural history of the Dominion; and the economic aspects of natural history were well presented to us by the former gentleman in his memoir on our marine fisheries and oyster beds. It is to be regretted that our dredging operations could not be continued last summer; but it is to be hoped that something may be done this year, if not by government aid, at least by private enterprise. Should the arrangements to be referred to in the Report of the Council for the association of the Society with the Fraser Institute be carried into effect, it is to be hoped that they may give a new stimulus to our work; and may relieve the Society from much of the difficulty hitherto experienced in sustaining its library and museum, leaving it more free to pursue its work of scientific research and publication, and of popular education in science.

The report of the Chairman of Council was next read by Mr. G. L. Marler, as follows:

REPORT OF THE CHAIRMAN OF COUNCIL.

Your Council, at the end of their year of office, respectfully report as follows:

That the regular Monthly Meetings have been held, to the number of six, at which nine papers have been read. A list of these will be found in the Proceedings of the Society for the year just closed.

Your Council have also to report that negotiations have been entered into between the "Fraser Institute," the "Royal Institution for the promotion of Learning," and this Society, with a view to the union of the latter with the Fraser Institute, in order to establish a Free Museum of Natural History and Archæology.

The President and Principal Dawson were appointed a Committee to confer with the Governors of the Fraser Institute, and a preliminary memorandum of the conditions of union has been prepared. Some progress in the matter has been made, the proposition for the said union being favorably entertained by the Governors of the Fraser Institute. Special application was also made by this Society to the Royal Institution for the advancement of Learning to obtain its consent to such amalgamation, subject to the same rights in the new museum as its professors and students now possess. Further action in the matter has been delayed, in consequence of the absence of the Honorable Mr. Abbott, one of the Trustees of the Fraser Institute, in England. On his return, these negotiations will be resumed.

A Field Day was held on the 24th of May, 1874, at Belœil Mountain, and notwithstanding the unfavourable state of the weather the excursion was a decided success. A large number of people took part in it, a very pleasant day was spent, and prizes were awarded for the best collections made. Your council would suggest to the incoming officers that these Field Days should be continued.

Your Council would further report that the operations of its Scientific Curator in Dredging in the Gulf of the St. Lawrence were discontinued this year, through the inability of the Minister of Marine and Fisheries to place one of the Government vessels at his disposal, as on former occasions.

The Lecture-Room was rented, during the winter, to the Montreal Branch of the Entomological Society of Ontario, also to Mr. W. Muir, and the proceeds of such rental—amounting to \$202—will be found credited by the Treasurer in his accounts to be submitted this evening.

Your Council have also to report an addition of seventeen ordinary members, as having been elected during the past year.

The number of visitors to the Museum has increased somewhat there having been about 1200 in the session which closes this evening.

The Sommerville Course of Free Lectures has been duly delivered, a list of which, with the Lecturers' names, will be found in the Society's Proceedings.

The annual grant of \$750 from the Legislature of the Province of Quebec has also been duly received.

Your Council recommend that application be again made to the Local Government for an increase of this grant to \$1000.

Finally, your Council would again urge on the incoming Officers the desirability of trying to make the Library, which is now incomplete, more useful to its members, and to the students of Natural History generally.

The subjoined report of the Scientific Curator and Rec. Secretary was then read by Mr. Whiteaves:

#### REPORT OF THE SCIENTIFIC CURATOR.

Since the last annual meeting, considerable time has been devoted to the study of some of the most difficult marine animals obtained in four late dredging expeditions to the Gulf of St. Lawrence. So many specimens were collected on these occasions, that it will be probably some years before the whole of them are correctly determined.

The Foraminifera have been exhaustively examined, and some of the more critical forms have been sent to Dr. Parker. With the exception of a solitary species, the entire series has been now identified. The microscopic crustacea, such as the entomostraca and copepods, have been forwarded to Messrs. Robertson and Brady, who have kindly named all but a few still doubtful forms, which are believed to be new to science.

All the amphipods of the Gulf have been submitted to Prof. S. J. Smith, of Yale College, New Haven, the only authority on this subject in the United States, who has just communicated to me the results of his latest studies on these difficult crustacea.

Many of the polyzoa have also been examined microscopically, and some of the most doubtful species have been sent to the Rev. A. M. Norman, who is one of the best European authorities on this group. About twenty of these molluscoids, whose specific relations were doubtful, have been now determined satisfactorily. Some of the St. Lawrence polyzoa have also been sent, by request, to Prof. A. E. Verrill, who is engaged on a new work on the invertebrata of Northern New England.

The Dominion Government has decided, for the present, to discontinue the dredging explorations, a determination which, it is hoped, will soon be reconsidered.

Through the zeal of Mr. Richardson and the liberality of the Director of the Geological Survey, the Society has recently received a valuable collection of natural history specimens and ethnological objects, from various parts of British Columbia. Among these are a collection of flowering plants of great interest, a large series of marine animals, some Indian skulls and other miscellaneous objects. The plants have been carefully determined by Mr. Barnston, and the marine shells by Dr. P. P. Carpenter. The land and fresh-water shells and the crustacea have also been examined and named, and the aleyonaria, echinodermata, polyzoa and cephalopoda have also been partially studied. As soon as the specific relations of these and the hydroids have been properly ascertained, my intention is to contribute an article on these interesting specimens to the Society's Journal. The Society is indebted to Mr. S. I. Smith, of Yale College, for the names of several crustaceans described in Dana's and Brandt's elaborate monographs, works which are entirely inaccessible in Canada.

By Mr. Selwyn's request, a specimen of the rare Pennatulid from Burrard's Inlet has been presented to the Museum of McGill University, and a second one will be shortly forwarded to the British Museum.

The Cabinet of Insects belonging to the Society has been partly re-organized during the past summer. All the old and dilapidated specimens have been removed and destroyed, and their place filled, as far as possible, with new and better ones. In every order, the insects obtained on the Island of Montreal, have been kept separate. Large collections have been made in the field, during the summer, and the specimens obtained have been properly mounted. Special attention has been paid to the collection

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optera, especially to the aquatic species, and the list of the Montreal beetles has been largely added to. Mr. F. B. Caulfield has also kindly presented us with an extensive series of local species which were previously wanting in our cabinet. Mr. Passmore and myself have also endeavoured to collect as many specimens as possible of the diptera, hymenoptera, hemiptera and orthoptera of the Island of Montreal, and our efforts have been liberally supplemented by Mr. Caulfield and other friends. When a reasonable collection has been obtained, we propose to send the diptera to Baron Osten Sacken, and the hymenoptera to Mr. Cresson, unless Mr. Bowles can find time to work them up here. The orthoptera we hope to study ourselves, and indeed have already examined and identified all those that have been collected so far. One half of the Cabinet has been rearranged, but the coleoptera and lepidoptera remain to be finished. Materials for doing this have been accumulated, and it is hoped that the work will be completed, at least to a certain extent, during the summer. For some time attention has been directed to the collection of those insects which are parasitic on our native mammals and birds. A tolerably complete series of these has been obtained. Mr. Denny's monograph on the anoplura has been purchased, so that, when time will permit, it is hoped that some novel information may be obtained about these so far neglected but very curious insects.

Our local entomologists seem to have devoted most of their energies to the collection and study of the butterflies and moths only, while other orders have received hardly any share of their attention. Almost nothing is known about the two-winged flies of the Island of Montreal, or the bees, wasps, ichneumons, etc., the grasshoppers and the order to which they belong, or the hemiptera or spiders of the same district. Considerable difficulty has been met with in the attempt to preserve the neuroptera and orthoptera, as it was found that the larvæ of dermestæ make great havoc among dried specimens in our Cabinet. An alcoholic series of the orthoptera has accordingly been attempted, with fair results, but the preservation of the larger dragon flies has yet to be accomplished.

The remainder of my own private collection of shells and fossils has been imported from England, and some progress has been made in the arrangement and naming of the same. A want of proper cabinets, however, has long delayed the final classification and exhibition of this collection in the Museum.

The number of new specimens of birds or mammals obtained or presented during the past year has been unusually small.

The collection of North American birds' eggs has, however, been largely increased by a donation from J. J. Frothingham, Esq., and by exchanges with Mr. Lechevalier.

Marine invertebrates from the coast of Northern New England have been received, in exchange from Prof. Verrill; and negotiations are pending with Mr. Dall, from whom we may expect ultimately to receive some of the products of the seas off Alaska.

In accordance with a vote of the Society to that effect, a report has been published on the Cretaceous Fossils collected by Mr. Richardson in British Columbia, during the season of 1873, and progress has been made with a monograph on some of the Fossils of the Coal-bearing Rocks of the Queen Charlotte Islands.

Two original articles have been contributed to the *Canadian Naturalist*, and two have been read at monthly meetings of the Society, as already stated by the President.

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The following financial statement was submitted by n  
Treasurer, E. E. Shelton :



On motion of Prof. R. Bell, seconded by Dr. B. J. Harrington, it was unanimously resolved:

"That the foregoing reports be received, adopted, and printed for distribution among the members."

The thanks of the Society were also voted to the Officers of the past Session.

Principal Dawson moved, seconded by G. L. Marler:

"That the bye-law relating to the election of officers by ballot be suspended, and that A. R. C. Selwyn, F.R.S., &c., be re-elected President."

The motion was carried by acclamation.

Dr. B. J. Harrington and Prof. P. J. Darey having been appointed scrutineers, the following gentlemen were elected Vice-Presidents by ballot:

*Vice-Presidents*,—Sir W. E. Logan, LL.D., F.R.S.; Rev. A. De Sola, LL.D.; G. Barnston; E. Billings, F.G.S.; Principal Dawson, LL.D., F.R.S.; His Lordship the Metropolitan; C. Robb.

On motion of Mr. Marler, seconded by C. Robb, it was resolved:

"That the formality of balloting be dispensed with, and that the following three officers be re-elected:

*Treasurer*,—E. E. Shelton.

*Corresponding Secretary*,—Prof. P. J. Darey, M.A., B.C.L.

*Scientific Curator and Recording Secretary*,—J. F. Whiteaves, F.G.S.

The Scrutineers then declared the following gentlemen duly elected:

*Council*,—Prof. R. Bell, Dr. B. J. Harrington, G. L. Marler, J. H. Joseph, Dr. J. B. Edwards, D. A. P. Watt, Rev. Canon Baldwin, D. R. McCord, and James Ferrier, jun.

On motion of Principal Dawson, seconded by Mr. G. L. Marler, it was resolved:

"That Messrs. A. R. C. Selwyn, Dr. B. J. Harrington, R. McLachlan, M. H. Brisette, and Dr. W. Osler be elected a Library and Membership Committee."

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Scott

Prof.

Miss  
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## DONATIONS TO MUSEUM AND LIBRARY—SESSION 1874-75.

<i>From</i>	TO THE MUSEUM.
Mons. A. Lechevallier.	A series of Bird's Eggs from Florida and California.
E. Murphy, Esq.	A Horned Frog. <i>Phrynosoma cornutum</i> ?
Scott Barlow, Esq.	Fine specimen of <i>Amblystoma punctata</i> , Baird, from Spring Hill, Nova Scotia.
Prof. A. E. Verrill.	Two specimens of <i>Cancer borealis</i> from the Coast of Maine.
Miss Cordner.	A young Alligator from Jacksonville, Flor.
Mr. S. W. Passmore.	Water Snake ( <i>Nerodia sipedon</i> ), Toronto.
Dr. G. P. Girdwood	Green Snake ( <i>Chlorosoma vernalis</i> ) "
J. J. Frothingham, Esq.	Specimens of the Tell-tale Tatler and the Pied Billed Grebe.
F. B. Caulfield, Esq.	A small collection of Canadian bird's eggs, including an egg of the Goshawk from Montreal mountain, and two eggs of the Wild Turkey from Western Canada.
E. J. Major, Esq.	An extensive series of the coleoptera, diptera, hymenoptera, and lepidoptera of the Island of Montreal.
The Geological Survey, per A. R. C. Selwyn, F.R.S. (Director.)	5 Chinese Arrows. 3 Persian do. 1 Abyssinian Shotel. 1 Metal Celt, locality unknown. Indian Pipe, of Catlinite, brought from the Red River district. Indian Stone Pipe, probably from the Plains of the Saskatchewan. A collection of dried plants from various parts of British Columbia, made by Mr. James Richardson in 1874. A valuable series of marine invertebrates from the same region, including, besides about 60 species of shells, fine examples of the great sea pen of Burrard's Inlet ( <i>Verrillia Blakei</i> Stearns) in alcohol, also good alcoholic examples of <i>Octopus punctatus</i> Dall, <i>Echidnoceros cibarius</i> White, &c., &c.
	NOTE.—A detailed catalogue of these specimens will be published in an early number of this Journal.
<i>From</i>	TO THE LIBRARY.
John Harris, Esq.	The Circle and the Straight Line, 4 vols. 8vo. cloth. Centrifugal Force and Gravitation, 7 vols. 8vo. The Science of Ideal Theology as taught by the Bible Catalogue of Birds, vol. 1. Hand List of Seals. Guide to Exhibition Room. Report of the Entomological Society for the Province of Ontario for 1874. Report of Progress for 1873. Palæozoic Fossils, Vol. 2, Part 1. Manual of Artillery, by General de Peyster.
The Trustees of the British Museum.	
The Society.	
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The Author.	

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