PROCEEDINGS

OF THE

Nova-Scotian Institute of Natural Science.

VOLUME I. PART 4.

Anniversary Meeting, Oct. 9, 1865.

In accordance with the Bye-Laws of the Institute, the Anniversary Meeting, was held on Wednesday, Oct. 9, 1865, at 8 p.m. when the following gentlemen were elected office bearers for the ensuing year :—

President.—J. M. Jones, F. L. S.

Vice-Presidents.—J. B. Gilpin, M.D., Lt. Col. C. Hardy, R. A.

Treasurer.—Capt. Lyttleton.

Secretary.—Wm. Gossip.

Council.—Colonel W. J. Myers, F. R. M. S., J. R. DeWolfe, M. D., *Edin.*, Professor Lawson, L. L. D., Jos. Bell, J. H. Duvar, P. S. Hamilton, W. C. Silver, Lt. Col. Clifford, Royal Artillery.

The President in a brief address regretted that the state of the weather had prevented a larger attendance. He entered upon various topics connected with the welfare of the Institute, and alluded especially to the difficulty that had been experienced in carrying out the intentions of the Institute with reference to the summer Field Meetings, which he considered useful, not only in attracting attention to the natural products of the localities visited, but also in engendering a taste for enquiry into matters pertaining to the physical history of the Province. The Chief Commissioner of Railways had very kindly offered free passage over the lines to members attending Field Meetings, and every inducement was therefore offered to those who desired to participate in such meetings; but he was very sorry to say that but a very small proportion of the members took part in these excursions.

The Treasurer's account was examined and found correct, showing a balance credit of $81.87½.

Ordinary Meeting, Nov. 6, 1865.

J. M. Jones, *President, in the Chair.*

Dr. J. B. Gilpin read a paper on the Mackerel (*Scomber vernalis*, Mitch.)

illustrated with coloured drawings of two varieties of that species. (*See Transactions.*)

During the conversation that ensued, it was stated that the Mackerel was a much more valuable fish than the herring for commercial purposes. They did not taint so quick when in bulk. The present method of salting was described by Capt. W. T. TOWNSEND. It appeared to differ from that formerly practised, the fish being now packed with the back *upwards*, which prevented the saline sediment sinking into the flesh. A different species or variety of *Scomber*, which came upon the coast about eighteen years ago, none of which had been seen of late years, was alluded to. The upper jaw at the point was curved over the lower, and the fish was much larger and fatter than those now taken. Formerly in the spring the mackerel were all small, and in autumn all large, now they always varied in size at all seasons, large and small ran together.

With reference to the mackerel hybernating in shore mud during winter, the PRESIDENT mentioned a curious circumstance which had come to his knowledge, where a fisherman of Prospect Harbour, had taken one of these fish while eel-spearing through the ice of the harbour, the eyes of which were covered with a thick film. He considered that the supply of the fish on our shores depended very much on that of their particular food, which, if not abundant in the localities generally visited by them, would be sought for and found in other places, causing failure to the fisheries in some parts, while unprecedented luck would be had in others.

Capt. TOWNSEND also stated that the mackerel appeared very regularly on the Atlantic coast, nearly to a day, viz. on the 26th May. They were frequent around the Magdalen Islands all summer, and were found further north, even as far as the north-west coast of Newfoundland, but they had not been seen on the east coast for twenty-one years.

The PRESIDENT read a paper—"On the Geological Features of the Bermudas."—(*See Transactions.*)

In the discussion which ensued, the probability of those Islands having been once connected with the mainland, was mentioned by a member.

EXTRAORDINARY MEETING, NOV. 16, 1865.

The members met pursuant to notice, in the room at the Province Building, and proceeded to Government House to wait upon His Excellency Sir F. W. WILLIAMS, Bart., (of Kars,) the Lieut. Governor, who had graciously assented to the request of the Council of the Institute that he would become its Patron, vice Sir R. G. MAC DONNELL, the late Governor.

On being received by His Excellency, the PRESIDENT stated that owing to a rule of the Bye-Laws, all Lieut. Governors of the Province were to be requested to become Patrons of the Institute during their tenure of office, and that the Society would gladly enrol His Excellency's name in the place of his predecessor, expressing a hope that His Excellency would give his countenance and encouragement to their proceedings for the advancement of science and the benefit of the country.

His EXCELLENCY in reply said it would give him great pleasure to become the Patron of an Institution that was doing so much good in the Province, and that he would endeavour to further its objects as far as lay in his power.

ORDINARY MEETING, DEC. 4, 1866.

J. M. JONES, *President, in the Chair.*

RIGBY WASON, Esq., 16th Regt., and Lieut. ANDERSON, Royal Artillery, were elected members at the previous Council Meeting.

The SECRETARY read a paper by Lieut. Col. R. B. SINCLAIR, A.G.M. "*On Pisciculture,*" (*See Transactions.*)

The PRESIDENT read a paper by Mr. ELIAS MARETT, Associate Member, of St. John's, Newfoundland, "*On Bone and other Implements found in a Cairn of stones which covered the remains of a Bœothick or Red Indian, on an island of the Lower Burgeo group, Newfoundland.*" (*See Appendix.*)

The paper was illustrated by carefully drawn *fac similes* of the relics, from which it appeared that the aborigines who possessed them must have had some knowledge of the christian religion, or of its observance, and also of modern weapons of warfare, for on some of the implements were depicted rude crosses and cutlasses.

From the remarks made by several members it appeared that the Red or Copper Indians of Newfoundland, were sometimes met with as late as the year 1819. On March 5th, of that year, a Mr. Peyton, who carried on considerable salmon fisheries at the north of the island, having for some years been greatly annoyed and having suffered extensive injury at the hands of these natives, determined to go into the interior to have a meeting with the tribe, to endeavour to commence their civilization; but the expedition ended disastrously, for one of the Indians, at the first meeting having seized Mr. Peyton's father with the intention of killing him, was shot, and the rest ran away, with the exception of a woman who was brought back to St. John's, and became civilized, but her death occurred soon after on Jan. 8, 1820. In the spring of 1823, a fur hunter and his companions fell in with an Indian man and an old woman. The former fled, but the other approached and joined the party, whom she led to a place where her two daughters were. One was about 20, the other 18 years of age. The women were brought to St. John's, but the daughters being attacked with consumptive symptoms, were hurried back into the interior. The mother lived for some years at St. John's, dying at last of consumption. Nothing appeared to have been heard of this singular race from that date.

J. B. GILPIN, M. D., *Vice President*, read a paper on *Salmo Gloverii*, called by the country people *Grayling*. (*See Transactions.*)

An excellent coloured drawing of the fish accompanied the paper, and sketches of other members of the *Salmonidæ* were also exhibited.

In the conversation which ensued, it was stated that an eminent authority had given as his opinion that the Nova Scotian *S. fontinalis* was a char. Dr. Gilpin believed that *fontinalis* went down to the sea and returned. The

remarks of different members, however, only tended to prove that the *Salmonidæ* of the Province required more attention at the hands of ichthyologists.

The President, on behalf of the members, thanked the Lord Bishop of Newfoundland, Dr. FIELD, (who was present as a visitor,) for his kindness in forwarding a specimen of the Great Auk (*Alca impennis*,) from Newfoundland, which had enabled them to become acquainted with the anatomy of a bird which was now extinct.

His Lordship in reply stated that he was glad to find that the specimen in question had proved interesting to the members. It had been taken with two others from a guano bed on one of the Funk Islands, lying off the N. E. coast of Newfoundland, and was by far the most perfect of the three. He should always be happy to render any assistance in his power to further the object of the Institute, in gaining a knowledge of the Natural History of Newfoundland.

ORDINARY MEETING, JAN. 8, 1866.

J. M. JONES, *President, in the Chair.*

The Rev. JOHN MORTON, Bridgewater, was elected an Associate member at the previous Council Meeting.

Professor JAS. DEMILL, Dalhousie College, and J. RUTHERFORD, were elected members at the previous Council Meeting.

The Rev. JOHN AMBROSE read a paper entitled, "*Observations on the Fishes and Fishing Grounds of St. Margaret's Bay.*" (*See Transactions.*)

In connection with the observations of Mr. Ambrose, Capt. HARDY mentioned a curious circumstance which occurred last summer. A friend who was fishing in the North West Arm, hooked a hake (*Merlucius vulgaris*), and bringing it to the surface it was gaffed by a companion. The gaff, however, broke off at the socket, and the fish made its escape with the instrument sticking in it. After a short time they commenced fishing again, and hooked and gaffed a second time securely, the very same hake with the old gaff fast in its back.

The PRESIDENT read some "*Notes on Hurricanes and Revolving Gales of the North Atlantic,*" by J. S. HURDIS, of Southampton, England. (*See Appendix.*)

Capt. W. T. TOWNSEND stated his recollections of the Bermuda Hurricane of 1839, he having been on board a vessel off the coast of Newfoundland at the time when the gale reached that latitude. He described the unusual violence which characterized it, and the quarter from which it came, which differed from that of more southern points on its route.

Mr. R. MORROW exhibited some very curious rounded masses of vegetable origin, which he had procured from the shores of a lake in the forest some distance to the eastward of Halifax, and which had puzzled the minds of several naturalists, as to their method of formation.

Mr. C. FAIRBANKS, by request, laid upon the table a fine series of celts, spear and arrow heads, and several weapons and ornaments which he had procured in different parts of the colony.

Ordinary Meeting, Feb. 5, 1866.

J. M. Jones, *President, in the Chair.*

Messrs. J. R. Miller, James Forman, James B. Morrow, and John Kelly, were elected members, and Mr. J. L. Hurdis, of Southampton, England, a corresponding member, at the previous Council Meeting.

Mr. P. S. Hamilton, Chief Commissioner of Mines, read a paper "*On Auriferous Deposits in Nova Scotia.*"

Professor Lawson made some remarks upon the different methods at present practised in the crushing of gold quartz.

Capt. W. T. Townsend exhibited a very curiously formed "nugget" of large size in the form of a cross, which had been obtained at one of the mines.

The President read a continuation of Mr. J. L. Hurdis's "*Notes, on Hurricanes and Revolving Gales of the North Atlantic.*" After its conclusion he called attention to the almost perfect calm which had prevailed at Halifax during the last month or two, when the Atlantic, at a distance of a few hundred miles, had been the theatre of a series of storms of unparalleled violence. He considered that as the Gulf Stream was undoubtedly the great course over which the tropical gales swept their way, those gales were to some extent influenced by the colder atmosphere which rested over the course of the cold ocean current, which at that season of the year came with additional force from the north, filling the intervening space between the western confine of the gulf stream and the shores of Nova Scotia. This cold atmosphere might act as a barrier against the westerly extension of such tropical storms, and turn them in an easterly or north-easterly direction, which would point them to the shores of Europe. He contended that the currents of the ocean might have more influence upon the course of storms than was generally imagined, and considered that it only required time and a proper system of observation to prove the supposition.

Vice President Gilpin read a short paper describing a species of *Blarina*, recently taken near Halifax, which appeared to be entirely new to the Nova Scotian fauna.

Ordinary Meeting, March 5. 1866.

J. M. Jones, *President, in the Chair.*

Colonel W. J. Myers, read a paper entitled "*Notes on the Weather during 1865.*" (*See Transactions.*)

The President read a paper by Professor How, of King's College, Windsor, "*Notes on the Economic Mineralogy of Nova Scotia;—Limestones and Marbles.*" (*See Transactions.*)

The Commissioner of Mines made some observations relative to the white marble that had been noticed in the paper, which was stated to have been full of flaws. He happened a short time ago to be at the quarry, and heard from a person there that the parties who had been at work had actually blasted the marble with gunpowder. He thought this, without reference to other causes, might well account for the shattered state of the specimen taken to England.

At a short distance from this quarry another kind of marble occurred, which came as near to the description of *verd antique* as he considered possible. These marbles were not more than two miles from a shipping place.*

The Secretary read a paper by the Rev. JOHN MORTON, of Bridgewater, entitled—"*Remarks on the Pitch Lake of Trinidad.*" (*See Transactions.*)

Colonel MYERS and Mr. F. WAINWRIGHT, who had resided on the island, gave some interesting descriptions of its natural history.

Capt. LYTTLETON gave an interesting verbal account of his recent visit to the Oil Springs of Canada, and referred to their great commercial value.

ORDINARY MEETING, APRIL 2, 1866.

J. M. JONES, *President, in the Chair.*

Professor LAWSON, Dalhousie College, read a paper—"*On Sodium as an Amalgam,*" accompanied with interesting experiments. (*See Transactions.*)

The Hon. the ATTORNEY GENERAL had his attention called to the metal when in England lately, where he had visited the laboratory of Mr. Crooks, and had witnessed a series of experiments by that gentleman, having for their object its introduction into gold producing countries. He deemed the experiments quite conclusive and satisfactory, and they were such as Dr. Lawson had exhibited before them that evening.

Dr. DEWOLFE alluded to a communication which had been published by Mr. THOS. BELT upon the same subject. Mr. Belt's design was to procure a patent for a mode he had discovered of applying sodium as a flux of gold. He thought it would be well to ascertain if Mr. Belt's patent was in existence, and also its merits in comparison with the other process.

Capt. HARDY, R. A., (*Vice-President)* made some observations on the chlorides as disinfectants and their mode of preparation.

Vice President GILPIN read a paper "*On the Food Fishes of Nova Scotia.*" (*See Transactions.*)

The PRESIDENT referred to the identity of species in regard to several marine fishes of N. E. America, and N. Europe, and instanced the Cod, Mackerel, Herring and others, as presenting no marked difference from those of the British coast.

Professor LAWSON remarked that the White Fish mentioned in Dr. Gilpin's paper he had always considered peculiar to the large Canadian lakes. Dr. GILPIN, in reply said they were frequent in the rivers of New Brunswick, especially in the Madawaska, and were also taken in Lake Temisquata.

ORDINARY MEETING, MAY 8, 1866.

J. M. JONES, *President, in the Chair.*

The Secretary read a paper by THOS. BELT, F. G. S.,—"*On the Glacial Period in Nova Scotia.*"—(*See Transactions.*)

Rev. Dr. HONEYMAN, F. G. S., read a paper—"*On the Geology of Antigo-*

*It is the intention of the Nova Scotian Commissioners to send a fine series of these marbles to the Paris Exhibition of 1867.

nish."—(*See Transactions.*) The paper was accompanied by a carefully executed geological map of the district.

Lieut. Col. HARDY read a paper—"*On Nova Scotian Coniferæ.*" (*See Transactions.*)

A series of photographs illustrating each species exhibited the foliage in minute detail.

Mr. ANDREW DOWNS read a paper on—"*The Birds of Nova Scotia.*" (*See Transactions.*)