

PROCEEDINGS  
OF THE  
Nova Scotian Institute of Science

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SESSION OF 1919 - 1920

(Vol. XV, Part 2)

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58TH ANNUAL BUSINESS MEETING,

*Physiological Lecture Room, Dalhousie College, Carleton St.,  
Halifax, 10th November, 1919.*

THE PRESIDENT, DR. H. L. BRONSON, in the chair. Other members present: PROF. C. J. CONNOLLY, DR. E. MACKAY, D. J. MATHESON, DR. A. H. MACKAY, PROF. D. S. McINTOSH, C. B. NICKERSON, DR. J. CAMERON, DR. D. FRASER HARRIS, DR. J. H. L. JOHNSTONE, P. R. COLPITT, DR. W. W. WOODBURY, E. CHESLEY ALLEN, DR. S. G. RITCHIE, B. R. COYSH, F. C. CHURCHILL and H. PIERS.

THE PRESIDENT in his opening remarks stated that the society's efforts to increase its membership had met with success, the number of members being nearly doubled. The membership list had also been generally revised. The council was considering what might be done by the society to further the cause of science in a more popular and general way, and a committee had been appointed to deal with the subject, but was not ready to report. Reference was made to the loss sustained during the year through the death of MAJOR GENERAL HARDY, who had been the last surviving original member of the Institute, 1862, and who died at Dover, England, on 11th April, 1919; of DR. DONALD A. CAMPBELL, who died at Halifax on 7th January, 1919; and of REV. ROBERT LAING, who died on 19th April, 1919.

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By request of the President, MR. PIERS briefly sketched the career of GENERAL HARDY and spoke of his interest in all that related to this province and its natural history as well as in the affairs of the Institute which he assisted in founding.

The Treasurer, MR. MATHESON, presented his financial report for the year ended Oct. 1919, shewing that the receipts were \$1,103.93, the expenditures \$185.95, and the balance in hand \$917.98 (in current account), while the balance at credit of the reserve fund was \$361.48, and the permanent endowment fund, invested in Maritime Telephone bonds, was \$1,000.00. The report was received and adopted.

On motion, \$500.00 will be invested in Victory Bonds, and placed to the credit of the permanent endowment fund, as representing life-fees.

The Librarian's report was presented by MR. PIERS, showing that 1,163 books and pamphlets had been received through the exchange-list during the calendar year 1918. The total number of books and pamphlets received by the entire Provincial Science Library (with which that of the Institute is incorporated) for the same year, was 1,432. The total number in the Science Library on 31st Dec. 1918, was 60,890. Of these, 44,390 belong to the Institute, and 16,500 to the Science Library proper. 128 books were borrowed in 1918, besides the many consulted in the Library. No binding or purchasing had been done by the Library directly, there still being no grant at its disposal. The report was received and adopted.

DR. A.H. MACKAY laid on the table copies of the Transactions, vol. xiv, part 4, which had recently come from the press.

The following were elected officers for the ensuing year (1919-1920):

*President*—PROFESSOR HOWARD LOGAN BRONSON, PH.D., F.R.S.C., *ex officio* F.R.M.S.

*First Vice-President*—PROFESSOR C. J. CONNOLLY, PH.D. (Antigonish.)

*Second Vice-President*—PROFESSOR JOHN CAMERON, M.D., D.Sc., F.R.S.E.

*Treasurer*—DONALD J. MATHESON, B.Sc.

*Corresponding Secretary*—PROFESSOR EBENEZER MACKAY, PH.D.

*Recording Secretary and Librarian*—HARRY PIERS.

*Councillors without office*—ALEX. HOWARD MACKAY, LL.D., F.R.S.C.; PROFESSOR DONALD SUTHERLAND McINTOSH, M.Sc.; CARLETON BELL NICKERSON, M.A.; PROFESSOR DAVID FRASER HARRIS, M.D., D.Sc., F.R.S.S. E. C.; E. CHESLEY ALLEN; STEPHEN GALWAY RITCHIE B.A., D.M.D.; and CAPTAIN JOHN H. L. JOHNSTONE, M.Sc., M.B.E.

On motion of DR. E. MACKAY, the PRESIDENT, PROF. CONNOLLY and MR. PIERS were appointed a committee to consider means by which the Institute could extend its usefulness.

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FIRST ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.  
Halifax, 10th November, 1919.*

The first ordinary meeting was held on the conclusion of the annual business meeting. The PRESIDENT, DR. BRONSON, in the chair.

PROF. DONALD SUTHERLAND McINTOSH, M. Sc., Dalhousie University, read a paper entitled "Port Hood Harbour: its Past, Present and Probable Future." (See Transactions, p. 71) The subject was discussed by DR. A. H. MACKAY, MR. PIERS and PROF. CONNOLLY.

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SECOND ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,  
Halifax, 19th January, 1920.*

THE PRESIDENT, DR. BRONSON, in the chair.

It was reported that PROF. DONNELL BROOKS YOUNG, B.Sc., PROF. ROY AUBREY SPENCER, B.Sc., M.Sc., EBENEZER W. TODD, B. Sc., and DR. FRANK W. RYAN, proposed on 10th Nov., had been elected ordinary members by the Council in December.

The following papers were read by title:

- (1) Scattered Notes of a Field Botanist in Brittany, France, during the War.—By MAJOR J. H. BARBOUR, R.A.M.C., F.L.S., St. Omer, Pas de Calais, France.

(2) The Blue Crab (*Callinectes sapidus* Rathbun): Extension of its Range Northward to near Halifax, N. S.—By HARRY PIERS, Curator of the Provincial Museum, Halifax. (See Transactions, page 83).

On motion from the CHAIR, seconded by PROF. McINTOSH, it was unanimously resolved that the Nova Scotian Institute of Science desires to placæ on record its profound sense of loss in the death from pneumonia on the sixth day of January, 1920, after an illness of eight days, of PROFESSOR EBENEZER MACKAY, PH.D. (J. H. U.), MacLeod Professor of Chemistry in Dalhousie University. He was a member of the Institute from 1889, from 1907 to 1910 its President, from 1899 a member of the Council, and for the last few years the efficient Corresponding Secretary. As he was only in his fifty-sixth year, full of vigor, incessantly active, happy and hopeful; an ideal trainer of students in science; the most tactful and generous of collaborators; his death is a profound loss to the Nova Scotian Institute of Science, as well as to Dalhousie University and the science of Chemistry in Canada. Even in the affairs of the city of Halifax his usefulness in aiding many public improvements has created demonstrations of sorrow for his loss which have rarely fallen to the lot of an educationist.

It was further resolved that an obituary notice and portrait of the late Dr. Mackay be inserted in the proceedings. (See page xxvii.)

PROF. D. S. McINTOSH reported that he had received an interesting specimen of Inyoite from Hillsboro, New Brunswick, a mineral which formerly had only been reported from California, U.S.A.

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### THIRD ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,  
Halifax, 9th February, 1920.*

THE PRESIDENT, DR. BRONSON, in the chair.

The election of a Corresponding Secretary to fill the vacancy caused by the death of DR. E. MACKAY, was left to the Council.

C. B. NICKERSON read a paper by PROF. H. JERMAIN M. CREIGHTON, D. Sc., F.C.S., Swarthmore, Penn., U. S. A., on "Variation in the Composition of Compressed Illuminating

Gas with Pressure as it issues from the Compression Cylinder." (See Transactions, page 91) The paper was discussed by DR. BRONSON, DR. A. H. MACKAY, C. B. NICKERSON, E. W. TODD, and DR. S. G. RITCHIE.

HARRY PIERS, Curator of the Provincial Museum, Halifax, read a paper on the "Accidental Occurrence of the Pygmy Sperm Whale (*Kogia breviceps*) on the Coast of Nova Scotia: an extension of its known range." (See Transactions page 95) The subject was discussed by DR. MACKAY, PROF. D. B. YOUNG, F. C. CHURCHILL, PROF. CAMERON, DR. S. G. RITCHIE, and others.

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#### FOURTH ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,  
Halifax, 8th March, 1920.*

The SECOND VICE-PRESIDENT, DR. CAMERON, in the chair.

It was announced that WILLIAM G. ROBERTSON, Halifax, proposed on 9th Feb., had been elected an ordinary member by the Council.

PROF. D. FRASER HARRIS, M.D., D.Sc., F.R.S.S.E. and C., Dalhousie University, read a paper on "The Descent of Man in Medicine," illustrated with charts and lantern slides. A vote of thanks was presented to the lecturer.

On motion of MR. PIERS and DR. HARRIS, it was resolved that the N. S. Institute of Science convey to the publishers and editors of *Nature*, London, its congratulations on the occasion of the fiftieth anniversary of the establishment of that well-known scientific journal, and wish them continued success in the future.

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#### FIFTH ORDINARY MEETING.

*Munro Room, Dalhousie College, Carleton St.,  
Halifax, 12th April, 1920.*

THE PRESIDENT, DR. BRONSON, in the chair.

It was announced that RALPH F. HOPKINS, Halifax, proposed on 8th March, had been elected an ordinary member by the Council.

A letter was read from the editor of *Nature*, thanking the Institute for its resolution of 8th March.

PROF. JOHN CAMERON, M.D., D.Sc., F.R.S.E., Dalhousie University, read a paper entitled, "A Contribution to the Ethnology and Craniology of the Eskimos of Southampton Island, Hudson Bay," illustrated by lantern slides. The subject was discussed by DR. A. H. MACKAY, G. W. T. IRVING, H. PIERS, A. B. WISWELL, and others.

SIXTH ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College Carleton St.,  
Halifax, 10th May, 1920.*

The PRESIDENT, DR. BRONSON, in the chair.

On motion, PROF. DONALD S. McINTOSH was elected Corresponding Secretary to fill the unexpired term of office of the late DR. E. MACKAY.

A paper by FREDERICK C. CHURCHILL of Wolfville, N. S., on "An Abandoned Marine Sand-bar in the Cornwallis Valley, N. S." was read by MR. PIERS. (See Transactions page 65.) The subject was discussed by PROF. McINTOSH, E. W. TODD, DR. BRONSON, MR. PIERS and the author.

A paper by PROF. H. JERMAIN M. CREIGHTON, D. Sc., Swarthmore, Penn., on "A Convenient Form of Burette for Exact Gas Analysis," was read by C. B. NICKERSON in the author's absence. (See Transactions, page 115). The paper was discussed by DR. BRONSON, MR. NICKERSON, and MR. TODD.

The following papers were read by title:

"The Spring Bird Migration of 1914 at Antigonish, N. S."  
—By HARRISON F. LEWIS, Quebec, P.Q. (See Transactions, page 119.)

"Phenological Observations, Nova Scotia, for 1919"—By  
A. H. MACKAY, LL.D., F. R. S. C. (See Transactions, page 56.)

A discussion took place as to the selection of papers for publication, the cost of printing having very greatly advanced of late, and resulted in matters being left in the hands of the Council.

A vote of thanks was passed to PROFESSORS HARRIS and CAMERON for the use of their lecture-room as a place of meeting.

HARRY PIERS,

*Recording Secretary.*





PROFESSOR EBENEZER MACKAY,  
B. A. (Dal.), Ph. D. (J. H. U.)

Born, 1864; Died, 1920.

President of  
N. S. INSTITUTE OF SCIENCE,  
1907-1910



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OBITUARY NOTICE OF EX-PRESIDENT  
PROFESSOR EBENEZER MACKAY,  
B.A. (Dal.), Ph.D. (J.H.U.)  
1864-1920.

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On the 6th of January, 1920, a great science teacher died in Halifax after about a week of illness from pneumonia, struck down in spite of the best medical skill after one of the most busy sessions of the Chemistry Department of the University of Dalhousie, of which he was the very efficient head.

Ebenezer Mackay was born January 24th, 1864, at Plainfield, at the foot of Mount Dalhousie, Pictou County, Nova Scotia. He was the son of Angus and Elizabeth Mackay, the father coming out from Rogart, Sutherlandshire, Scotland, as the youngest member of a large family, whose descendants have already figured well in the history of Canada.

Ebenezer had a good grounding in the rural school. He carried off honors in the Pictou Academy, and graduated from the University of Dalhousie in 1886 with first-class honors in experimental physics and chemistry, and the Mackenzie Gold Medal.

He was Principal of the High School and the Public Schools of New Glasgow, Pictou County, from 1886 to 1892, where he had great success. He then took a post-graduate course in the Johns Hopkins University, became a Fellow in 1895, and graduated Ph. D. in 1896. He was engaged in a special research course of study at Harvard when appointed to the McLeod Professorship of Chemistry and Mineralogy in Dalhousie, 1896, after which he became a resident of the City of Halifax, and one of the active members of the Nova Scotian Institute of Science.

He was elected a member 27 November, 1889, and became President, 11 November, 1907, and was continued in this office until 12 December, 1910. He was elected President of the "Greater Halifax Conference" in 1911; and later filled many high positions in scientific, educational, social and civic departments.

His urbanity of manner, his unassuming demeanor, his accuracy of language with minimum expenditure of words, as well as his encyclopedic knowledge, his self-reliance, coupled with a most genial and sympathetic disposition, endeared him to all, from the rural school to the great scientific fellowships, and also to the general public which had often commandeered his services. He was the soul of honor and friendship.

The tragedy of his unexpected removal in the prime of his powers, and at the beginning of the fruition of his career, appealed profoundly to the general public as well as to the members of the Institute, as was shewn in the public obsequies on the occasion. His students were becoming important contributors to original research for which the Institute was organized as a stimulus. The torch had been suddenly flung down; but, *Vitai Lampada!* it is being caught up by those who learned to play the game.

A. H. McK.

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