

PROCEEDINGS
OF THE
Nova Scotian Institute of Science

SESSION OF 1926-1927
(Vol. xvii, Part 1)

65TH ANNUAL SESSION.
ANNUAL BUSINESS MEETING.

*Dental Lecture Room, Dalhousie College,
Halifax, 13th October, 1926.*

THE PRESIDENT, DR. STEPHEN G. RITCHIE, in the chair.

Other members present: DR. J. H. L. JOHNSTONE, D. J. MATHESON, PROF. D. S. MCINTOSH, DR. A. H. MAC-KAY, DR. D. MCINTOSH, DR. G. H. HENDERSON, DR. E. G. YOUNG, PROF. J. W. GOWANLOCH, E. TODD, DR. B. BABKIN, REV. BRO. W. B. CORNELIA, PROF. W. P. COPP, and H. PIERS.

The meeting was opened by the PRESIDENT'S address printed in full on page viii following.

The Treasurer's report was then presented by D. J. Matheson, showing that the receipts for the year were \$1946.40, the expenditures, \$68.98; balance in hand, \$1877.44 and balance in reserve fund, \$170.87; while the permanent endowment fund is \$1,500. The Treasurer pointed out that there would be chargeable against the balance the cost of printing the Transactions, Vol. 16, parts 1-4, now in press.—The report was received and adopted.

The Librarian's report was presented by H. Piers, showing that 1,505 books and pamphlets had been received through the exchange-list during the year 1925, and 875 have been received during the nine months, Jan. to Sept. 1926. The total number of books and pamphlets received by the entire Provincial Science Library (with which that of the Institute is incorporated) during 1925, was 1,652. The total number in the Science Library on 31st. Dec., 1925, was 71,886. Of these, 53,834 (about 75 per cent.) belong to the Institute, and 18,052 to the Science Library proper. 145 books were borrowed in 1925, besides those consulted in the library.

No binding or purchasing of books has been done, there having been no money grant at the Library's disposal since 1907.—The report was received and adopted.

Dr. MacKay reported progress in printing the Transactions, vol.16. Part 1 has been printed and part 2 is nearly completed.

Officers for the ensuing year (1926-27) were elected as follows:

President,—PROF. JOHN HAMILTON LANE JOHNSTONE,
PH. D., M. B. E., *ex officio* F. R. M. S.

First Vice-President,—ALBERT G. NICHOLLS, M. D., D. SC.

Second Vice-President,—PROF. DOUGLAS McINTOSH, PH. D.

Treasurer,—DONALD J. MATHESON, B. SC.

Corresponding Secretary,—PROF. D. S. McINTOSH, M. SC.

Recording Secretary and Librarian,—HARRY PIERS.

Councillors without office,—ALEXANDER H. MacKAY, LL. D.
F. R. S. C.; PROF. HAROLD S. KING; PROF.
GEORGE H. HENDERSON, PH. D.; PROF. E. GORDON
YOUNG, PH. D.; PROF. JAMES N. GOWAN-
LOCH, B. A., SC.; REV. BROTHER WILLIAM B.
CORNELIA; STEPHEN G. RITCHIE, D. M. D.

Auditors,—PARKER R. COLPITT and PROF. W. P. COPP.

DR. JOHNSTONE thanked the society for the honor done him in electing him President.

On motion of MR. PIERS and DR. MACKAY a vote of thanks was presented to the retiring President, DR. RITCHIE.

On motion of DR. D. MCINTOSH and DR. BRONSON a vote of thanks was presented to the Recording Secretary who has served in that office for thirty-two years.

FIRST ORDINARY MEETING.

*Dalhousie Medical Science Building, College Street,
Halifax, 15th November, 1926.*

THE PRESIDENT, DR. JOHNSTONE, in the chair.

DR. YOUNG, as chairman of the Scientific Exhibition Committee, reported that it had arranged for such an exhibition to be held under the Institute's auspices on the 26th and 27th inst.

The following papers were read:

(1) Some Seasonal Changes in Tide-pool Flora.—by PROF. HUGH P. BELL. (See Transactions, page 1).

(2) The Effect of Environmental Factors on the Development and Growth of *Littorina*.—By F. RONALD HAYES. (See Transactions, page 6). The subject was discussed by PROF. NICKERSON, DR. YOUNG, PROF. BELL, DR. HENDERSON, and MR. PIERS.

(3) An Installation for the Preparation of Radium Emanation for Therapeutic Use.—By PROF. G. H. HENDERSON, PH. D. (See Transactions, page 14). Remarks on the subject were made by PROF. D. S. MCINTOSH.

SCIENTIFIC EXHIBITION.

Medical Science Building, Halifax, 26th and 27th November, 1926.

A free public Scientific Exhibition was held by the Institute in nine rooms of the Medical Science Building, College Street, from 6 to 10 p. m. of Friday, 26th November, and from 2.30 to 4.30 and from 8 to 10 p. m. of Saturday, 27th November.

The Committee directly in charge consisted of DR. YOUNG, chairman, DR. RITCHIE, DR. HENDERSON, DR. BELL, PROF. KING, PROF. GOWANLOCH, and the President, DR. JOHNSTONE. The Institute was assisted by the various departments of Dalhousie and King's Universities, the Maritime College of Pharmacy, the Nova Scotia Technical College, the Atlantic Experimental Station for Fisheries, and C H N S Radio Broadcasting Station, as well as by students who aided in installing the exhibits and explaining them to visitors.

The exhibits and demonstrations related to physics, electricity, radio, chemistry, biochemistry, geology, botany, bacteriology, zoology, the fisheries, physiology, pathology, histology, embryology, pharmacy, and dentistry; and a brief printed guide, in folder form, was sold for ten cents.

The exhibition proved to be very popular, being visited by people of all classes, and was successful beyond the expectations of its promoters. On the first evening it was estimated that at least 1,500 persons attended; at the special session on Saturday afternoon, about 500; and in the evening of that day, at least 2,500; making a total attendance of about 4,500. The local press spoke of it in the highest terms.

It was probably the first really notable exhibition of its kind ever held in the province.

SECOND ORDINARY MEETING.

Medical Science Building, Halifax, 13th December, 1926.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

PROF. O. S. GIBBS, M. B., CH. B., gave a demonstration of "The Measurement of Renal Secretion." (See Transactions, page 21). The subject was discussed by DRs. YOUNG and BABKIN.

PROF. BORIS BABKIN, D. SC., presented a paper on "Digestion in *Fundulus heteroclitus*" (see Transactions,

page 20), which was discussed by DR. YOUNG, MR. PIERS, and DR. DREYER.

K. H. BUTLER, M. A., and PROF. D. MCINTOSH, D. Sc., presented a paper on "Compounds of the Halogens with each other, and with the Halogen Hydrides." (See Transactions, page 23). It was discussed by Drs. YOUNG and HENDERSON.

DR. YOUNG read a report from the Committee in charge of the recent Scientific Exhibition.

On motion of MR. PIERS it was resolved that the thanks of the Institute be presented to the various departments of Dalhousie and King's Universities, the Maritime College of Pharmacy, the N. S. Technical College, the Atlantic Experimental Station for Fisheries, and CHNS Broadcasting Station, as well as the N. S. Tramways and Power Co. for their valuable assistance in making a success of the exhibition, and to those students who aided in installing the exhibits and explaining them to visitors.

THIRD ORDINARY MEETING.

Medical Science Building, Halifax, 10th January, 1927.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

A paper by PROF. N. B. DREYER, M. R. C. S., on "The Excretion of Acetone Bodies on Diets of Fat and Carbohydrate" (see Transactions, page 26), and one by PROF. J. N. GOWANLOCH, B. Sc., on "The Tintinnoina of Eastern Canada", were read by title.

STEPHEN G. RITCHIE, D. M. D., read a paper entitled, "A Critical Study of Certain of the Simpler Wave Forms," illustrated by diagrams. The subject was discussed by Mr. Piers.

FOURTH ORDINARY MEETING.

Medical Science Building, Halifax, 14th February, 1927.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

It was reported that the following had been elected ordinary members on the 7th inst.: DR. A. G. HUNTSMAN,

DR. D. J. MACKENZIE, DR. VICTOR O. MADER, J. L. NICKERSON, B. A., and GEORGE A. BURBIDGE, all of Halifax.

PROF. HAROLD S. KING, presented a paper on "Attempts to Separate the Isotopes of Mercury by Chemical Means". (See Transactions, page 28). The subject was discussed by DRs. YOUNG, McINTOSH, HENDERSON and JOHNSTONE.

PROF. O. S. GIBBS, M. B., CH. B., presented a paper on "A Method of Measuring Renal Blood Flow". (See Transactions, page 27). It was discussed by DRs. YOUNG, BABKIN and HENDERSON.

PROF. E. G. YOUNG, PH. D., presented a paper on "The Technique of Fractional Fermentation." (See Transactions, page 61). It was discussed by DR. BABKIN, PROF. KING, MR. TODD, and DRs. HENDERSON, McINTOSH, and GIBBS.

FIFTH ORDINARY MEETING.

Medical Science Building, Halifax, 21st. March, 1927.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

The following papers were presented:

(1) A Simple Automatic Mercury Still.—By PROF. H. L. BRONSON, PH. D. (See Transactions, page 80).

(2) Chemical Manipulation: Physico-Chemical Apparatus.—By PROF. DOUGLAS McINTOSH, PH. D. (See Transactions page 71).

(3) The Problem of the Pancreatic Bladder.—By PROF. R. J. BEAN, M. S., and PROF. N. B. DREYER, M. R. C. S. (See Transactions, page 63). This paper was discussed by MR. TODD and DRs. BABKIN and HUNTSMAN.

The President announced that the Nova Scotian Government had restored the grant of five hundred dollars to the Provincial Science Library, which had been without such financial aid since 1907.

SIXTH ORDINARY MEETING.

Medical Science Building, Halifax, 11th April, 1927.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

The following papers were presented:

(1) The Autolytic Power of *Bacillus coli communis*.—By PROF. E. GORDON YOUNG, PH. D. (See Transactions, page 79). The paper was discussed by the PRESIDENT and DRs. BABKIN, HUNTSMAN and McINTOSH.

(2) The Vascular Reaction of the Submaxillary Gland to Histamine.—By MISS MARGARET E. MacKAY, M. A. (See Transactions, page 107). The paper was discussed by DRs. YOUNG, BABKIN and BEAN.

(3) Studies on Pancreatic Secretion.—By H. S. MORTON, B. A. (See Transactions, page 91). Discussed by DRs. BABKIN, YOUNG, McINTOSH and HUNTSMAN.

SEVENTH ORDINARY MEETING.

Medical Science Building, Halifax, 6th May, 1927.

THE PRESIDENT, DR. JOHNSTONE, in the chair.

A paper was presented by DOUGLAS DEB. COOPER ON "The Specific and Latent Heats of Acetaldehyde and Paraldehyde." (See Transactions, page 82). The subject was discussed by the PRESIDENT and DRs. BRONSON, McINTOSH and HUNTSMAN.

G. C. LAURENCE, B. Sc., presented a paper on "A New Determination of the Range of Alpha Particles from Uranium I and Uranium II." (See Transactions, page 103). It was discussed by DRs. McINTOSH, BRONSON and HENDERSON, and MR. TODD.

HARRY PIERS,

Recording Secretary.

PRESIDENTIAL ADDRESS, 1925-6.

By STEPHEN G. RITCHIE, B. A., D. M. D.

(13 October 1926)

Gentlemen:—

It is my pleasure to present herein a report of the proceedings of the 64th Annual Session of the Institute.

During the session your Council held eight meetings. The ordinary monthly sessions numbered seven. At these it was noticed that the attendance had steadily improved.

By vote of the Council, five new members were admitted. I regret to report one death during the year, that of Dr. Martin Murphy who died at St. Catherines, Ontario, January 9th, 1926, aged ninety-six. Dr. Murphy, one of the most noted engineers ever identified with this Province, was not at the time of his death a member of the Institute; but he was its ninth President from November 1891 to 1893.

The activity of the Council members during the year has resulted in a wonderful improvement in a number of scientific papers presented during the session. In the course of seven meetings nineteen papers were read, several of which are important contributions to scientific literature and research. In glancing over the titles it was noted that six are chemical, four physical, three biological, four medical, one mathematical and one geological.

Such results are indeed encouraging, and there is no reason to think that like results may not be obtained in the session now initiated. All that is necessary is activity on the part of the members of the Council similar to that displayed in the year just closed.

It would take too much time to discuss scientific achievements in general during the year, but I should like to call your attention to the remarkable advances made towards the attainment of television. The transmission and almost instantaneous reproduction of individual pictures or photographs is already a commonplace, and it may be safely predicted that television is just around the corner.

There were no popular lectures delivered during the session. It was proposed instead to hold an exhibition or demonstration of scientific progress which would be of interest to the public. Owing to circumstances over which your Council had no control this matter was held over; but it is hoped that it will take place during the coming session, sometime before the Christmas season. The committee in charge was continued with that end in view.

The provincial grant of five hundred dollars to the Institute of Science was again included in the estimates, so that it was unnecessary to interview the Government in that regard. The Council, however, was unanimous in thinking that steps should be taken to have the grant to the Provincial Science Library restored. This grant of five hundred dollars, for the purposes of supplying up-to-date text books, manuals, etc., was deleted from the estimates some years ago for reasons unknown. It was therefore thought advisable to appoint a committee consisting of Dr. A. S. McKenzie, Dr. A. G. Nichols, Dr. Douglas, McIntosh, Dr. J. H. L. Johnstone and your President to interview the Minister of Natural Resources, the Hon. J. A. Walker, to see what could be done. Mr. Walker met your committee in a very friendly and sympathetic manner and promised his assistance on the receipt of a formal letter from the committee, setting forth the facts of the case. This letter was duly forwarded. It will be advisable to follow the matter up before the estimates come down in the next session of the Provincial Legislature.

I take this opportunity of extending my sincere thanks to the members of the Council for the enthusiasm displayed, the uniform courtesy, support and assistance extended to me throughout the past session in carrying on the program of the Institute. I should also like to express again to the members my appreciation of the honor they conferred on me in electing me to the presidency for the second time. I have prized the honor very highly and I trust that my efforts on behalf of the Institute have met with your approval.