

PROCEEDINGS
OF THE
Nova Scotian Institute of Science

SESSION OF 1918 - 1919
(Vol. XV, Part 1)

57TH ANNUAL BUSINESS MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,
Halifax, 18th November, 1918.*

THE PRESIDENT, DR. D. FRASER HARRIS, in the chair.

Other members present: PROF. C. L. MOORE, DR. E. MACKAY, G. W. T. IRVING, and H. PIERS.

The President delivered a brief address, in which he reviewed the society's work during the past session, and also referred to the death of two members, Prof. Ernest Haycock and Maynard Bowman. (See biographical sketches on pages xvii, xviii.)

The Treasurer, MR. IRVING, presented his annual report for the year ending November, 1918, showing that the receipts during the year were \$987.00, the expenditure \$582.65, and the balance on hand \$404.35. The report was received and adopted.

It was resolved that steps be taken to purchase a \$500 Victory Bond.

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 1917, and 819 had been received during the first nine months of 1918, namely, January to September inclusive. The total number of books and pamphlets received by the Provincial Science Library (with which that of the Institute is incorporated) during the year 1917 was 1,483. The total number in the entire Provincial Science Library on 31st December, 1917, was 59,458. Of these, 43,227 (about 73 per cent.) belong to the Institute, and 16,231 to the Science Library proper. The report was received and adopted.

It was reported that STEPHEN GALWAY RITCHIE, B. A., D. M. D., Halifax, had been elected an ordinary member on 3rd October.

There was read a letter from WALTER H. PREST to the Recording Secretary, dated Pleasantfield, N. S., 28th Oct., 1918, relative to securing assistance in trenching a well-defined eskar at Middlefield, Queens Co., N. S. On motion of PROF. MACKAY and PROF. MOORE, the sum of forty dollars was voted to Mr. Prest for the purpose of making further investigation, by trenching, into the formation and structure of the eskar at Middlefield.

On motion of MR. PIERS and PROF. MACKAY, it was resolved that the Nova Scotian Institute of Science, at its annual meeting held at Halifax on the 18th November, 1918, place on record its deep sense of the loss it has sustained through the death of its oldest ordinary member, MAYNARD BOWMAN, B. A., analyst, which took place at Halifax on 20th August, 1918. The deceased gentleman had been a member and one of the council since 1884, for some years filled the office of librarian and of treasurer, and always took great interest in all the activities of the society.

Also resolved that the Nova Scotian Institute of Science hereby records its regret at the death of PROFESSOR ERNEST HAYCOCK, B. A., M. Sc., of Acadia University, Wolfville, which occurred in 13th April, 1918. Prof. Haycock was an

enthusiastic geologist and contributed several valuable papers to the Transactions of the society, and also organized and was president of the Kings County Branch of the Institute during its existence for some years.

A copy of the Proceedings and Transactions, vol. 14, pt. 3, session 1916-17, was laid on the table, and it was announced that part 4 was in the press.

The following gentlemen were elected officers for the ensuing year (1918-19):

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

First Vice-President,—PROFESSOR CLARENCE LEANDER MOORE,
M. A., F. R. S. C.

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

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 MC-
INTOSH, M.Sc.; CARLETON BELL NICKERSON, M. A.;
WILLIAM HARROP HATTIE, M. D.; PROFESSOR JOHN
CAMERON, M. D., D. Sc., F. R. S. E.; PROFESSOR
ALBERT G. NICHOLLS, M. D., D. Sc., F. R. S. C.;
PROFESSOR DAVID FRASER HARRIS, M. D., D. Sc.,
F. R. S. E., F. R. S. C.

Auditors—DONALD M. FERGUSSON, F. C. S., and HERBERT
B. VICKERY, M. Sc.

A vote of thanks was presented to the retiring President, DR. HARRIS, for the able manner in which he had filled the chair during his three-years term of office.

FIRST ORDINARY MEETING.

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

The PRESIDENT, DR. BRONSON, in the chair.

It was reported that there had been received on March 3rd as a gift to the Institute, from the estate of the late DR. CHARLES J. GOSSIP of Halifax, a framed oil portrait of one of its earlier Presidents, WILLIAM GOSSIP, which had been painted some time before his death, by Mrs. Henry Rogers, an artist who then resided in Halifax. On motion of MR. PIERS and DR. A. H. MACKAY it was resolved that the thanks of the Nova Scotian Institute of Science be conveyed to the estate of the late Dr. C. J. Gossip, for the gift of a portrait of its fourth President (1878-1880), William Gossip, a donation which the society very highly appreciates.

It was reported that LIEUT. RALPH V. WESTWOOD, R. N. V. R. Naval Control Office, Halifax, had been elected an ordinary member on 5th Dec., 1918.

PROFESSOR JOHN CAMERON, M. D., D. Sc., F. R. S. E., of Dalhousie University, read a paper entitled "A Craniometric Study of the Micmac Skull in the Provincial Museum of Nova Scotia." (See Transactions, page 1). The subject was discussed by the PRESIDENT, DR. A. H. MACKAY, W. H. PREST, H. PIERS, DR. FRASER HARRIS, and DR. E. MACKAY.

SECOND ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,
Halifax, 21st April, 1919.*

The PRESIDENT, DR. BRONSON, in the chair.

It was reported that FREDERICK C. CHURCHILL, Wolfville, N. S., had been elected an associate member on 3rd April.

CAPTAIN J. H. L. JOHNSTONE, R. E., Ph. D., M. B. E., Halifax, read a paper on "Artillery Observation Methods,"

ORDINARY MEETINGS.

which was discussed by the PRESIDENT, DR. E. MACKAY, H. PIERS, PROF. FINLAYSON and DR. A. H. MACKAY.

THIRD ORDINARY MEETING.

*Physiological Lecture Room, Dalhousie College, Carleton St.,
Halifax, 12th May, 1919.*

The PRESIDENT, DR. BRONSON, in the chair.

It was announced that BASIL R. COYSH, Halifax, had been elected an ordinary member, and PROFESSOR P. B. PERKINS, Mt. Allison University, Sackville, N. B., an associate member, on 1st May.

On motion of H. PIERS and DR. A. H. MACKAY, it was resolved that the Nova Scotian Institute of Science, at its meeting held at Halifax, 12th May, 1919, learns with deepest regret of the death of its last surviving original member of 1862, and one of its former vice-presidents, MAJOR GENERAL CAMPBELL HARDY, R. A., the talented author of "Forest Life in Acadie," which occurred at Dover, England, on 11th April, in the 88th year of his age. He possessed a splendid Christian character, was a good naturalist and an admirer of Nature, a fine sportsman, and was gifted with an accomplished pen and a brush which portrayed local scenery with skill and fidelity. The Institute extends its sympathy to his family, to whom a copy of this resolution shall be transmitted by the secretary. Further resolved that a biographical sketch of the deceased gentleman be prepared for the forthcoming part of the society's Proceedings. (See Proceedings, page vii.)

DR. E. MACKAY read a letter from the Society of Chemical Industry, dated 25th April, 1919, urging that the Government of Canada be requested to take over the German patents relating to dyes and other chemicals which have been registered in Canada. On motion of DR. E. MACKAY and DR. FRASER HARRIS it was resolved that with a view

to the future protection of the Canadian chemical industry, this society strongly urges that such legislative action be taken before the signing of peace as will empower a Canadian foundation company to control enemy patents registered in Canada. It was directed that a copy of this resolution be forwarded to Sir Thomas White.

A paper by PROFESSOR P. B. PERKINS and H. H. YORK, on "The Use of X and Gamma Rays in the Stimulation of Fungi occurring in Soil," was read by title.

A paper by DR. A. H. MACKAY, "Phenological Observation, Nova Scotia, for 1918," was read by title. (See Transactions, page 49.)

A paper by PROF. H. J. M. CREIGHTON, Ph.D., Swarthmore, Penn., U. S. A., on "A Method of Making Methyl Violet," was read by DR. E. MACKAY. (See Transactions, page 57.)

PROFESSOR JOHN CAMERON, M. D., D. Sc., read a paper entitled "Demonstration of a Racial Map of the World, founded upon a New Craniometric Method." The subject was discussed by DR. FRASER HARRIS, DR. NICHOLLS, W. H. PREST, H. PIERS, and DR. A. H. MACKAY.

WALTER H. PREST read a paper on "Eskers in Nova Scotia." (See Transactions, page 33.) The paper was discussed by PROF. MCINTOSH, H. PIERS, and DR. A. H. MACKAY.

HARRY PIERS,
Recording Secretary.

OBITUARIES.

MAJOR GENERAL CAMPBELL HARDY, R. A., Sportsman, Naturalist, Artist and Author; last surviving original member of the Nova Scotian Institute of Science; born 1831, died 1919.

BY HARRY PIERS.

The passing of General Hardy, the last surviving original member of the Nova Scotian Institute of Science, and a gentleman of unusual talent, calls for special notice, as he was a notable man who had taken the deepest interest in this province, and who did much through his writings to draw the attention of sportsmen and naturalists to this field.

Campbell Hardy was born at Norwich, Norfolk, England, on 10th October 1831, and was the eldest son of the Rev. Charles Hardy, M. A., of Whitewell, Hertfordshire. In the earliest years of the nineteenth century the latter had been a chaplain on one of King George's frigates on the North American station, and had visited Nova Scotia. Young Hardy was educated for the military profession at the Royal Military Academy, Woolwich. He entered the Royal Artillery as ensign on 19th Dec., 1849, and became lieutenant on 11th Aug., 1851.

To live and camp in the great backwoods of Canada had been his ambition in early youth, and in Feb. 1852, at the age of twenty, he came to Halifax, and remained here till August 1867, a period of fifteen and a half years. Being stationed in Nova Scotia throughout the entire period of the Crimean War, he was debarred from participation in active service. Like very many other military men of the period, he was a most enthusiastic sportsman, and being keenly interested in all he met with in forest and field, he became a good naturalist, and his skilful pencil enabled him to delineate with much truth the scenes and objects about him. In Andrew Downs he found a field naturalist who could assist him with knowledge of the animal life. He immediately began to take advantage of the sport which the New World offered in abundance, and was particularly attracted by the king of our game, the moose.

He was present at the inauguration of the Provincial Association for the Protection of the Inland Fisheries and Game of the Province of Nova Scotia, under the presidency of Capt. Chearnley, at Halifax in March 1853, and was one of the original members.

The following mention of some of his principal sporting trips during his first three years' sojourn here, will give an idea of his activity in this respect. In July 1852 he made a twelve-days' salmon fishing trip on the Nepisiquit River, New Brunswick. In the winter of 1852-3 he was on an unsuccessful moose-hunt with the veteran guide, Joe Cope, in the neighbourhood of Petite (Walton). On 26-28 Feb. 1853, he and a companion again went moose-hunting with that most noted of Indian guides, John Williams, and Francis Paul and his son Joe, at Ship Harbour Big Lake, Halifax County, but saw no moose. They then moved camp, and were from 1st to 3rd March at Fish Lake (now Scraggy Lake) in the Ship Harbour backwoods, and there on 4th March he got his first moose, a fine bull, nearly 7 feet to the shoulder and weighing 1100 or 1200 lbs., and the whole party brought down six moose in one day. In May, 1852 or '53, he was trout fishing at Frederick's Lake, St. Margaret's Bay Road, with the eccentric Charles Frederick; and June found him fishing sea-trout at the head of Musquodoboit Harbour, Halifax County. From 19th Aug. to 10th Sept., 1853, he was on a canoe voyage in New Brunswick, from Bathurst up the Restigouche River, fishing salmon, and down the St. John River to Fredericton. In Sept. of the same year on his return from New Brunswick, he was moose-calling with Indians Christopher Paul and Tom Phillips at Long Lake, Ponhook Lakes, Halifax and Hants Counties, and in Oct. 1854 he and a friend were again moose-hunting at Fish Lake (Scraggy Lake), with guide Joe Paul and another Indian. These trips he fully described in his first book.

As a result of these various shooting and fishing expeditions, and with the knowledge he had gained of our forests, trees, plants, mammals, fish, and of the Micmac and Malecite Indians and their legends, he wrote his first work, "Sporting Adventures in the New World, or Days and Nights of Moose-hunting in the Pine Forests of Acadia," published in two volumes of about three hundred pages each, at London in 1855, with two colored illustrations from his own sketches.

Particulars are given of the flies and fishing tackle required, and of the methods pursued in moose-hunting, etc., and the work concludes with a catalogue of the birds of Nova Scotia, with scientific names, 121 land birds and 83 water birds, in all 204 nominal species. No doubt his friend Downs assisted him considerably in the compilation of this list.

These racy and well-written sketches of sport and natural history attracted much attention, and soon made their young author well known in England as well as in Canada. His was the first comprehensive account of moose-hunting in this province, the attractions of which had hitherto only been made known in a limited manner by letters from officers on this station. This first work of Hardy is apparently fairly scarce.

On 6th June, 1855, he married, in the Garrison Chapel, Halifax, Matilda Sydney Stotherd, eldest daughter of the late Lt. Col. (afterwards General) Richard John Stotherd, C. B., Commanding Royal Engineer on this station, and subsequently Colonel Commandant of Royal Engineers at Dover, England. By this marriage he had the following children: Col. ——— Hardy; Capt. Campbell Edward Hardy, of the Royal Marines, died 17th Aug. 1889 in his 29th year; Capt. Ernest Clifford Hardy, R. N.; Major Francis Hardy, Miss Hardy, Miss Lucy R. Hardy, Miss Maud Hardy, Miss Mary Hardy, and Mrs. Ivor Thomas. Of these, Capt. E. C. Hardy, of the hydrographic department at the Admiralty, who was born here about 1862, is a student of birds, and about 1912 found a new bird in West Africa which the British Museum authorities named *Sylviella hardyi*. He saw service during the Egyptian War of 1882. Mrs. Hardy and these children, except Capt. E. C. Hardy, are still living.

After his marriage he resided in a house, still standing, surrounded by trees, on Camp Hill, at southwest corner of Robie and Shirley streets, now No. 368, about which countless flocks of plover came during the autumnal rains. On 23rd Feb. 1856 he was promoted to his captaincy, having some time previously served as adjutant of his corps.

On 31st Dec. 1862, he and other kindred spirits, such as J. M. Jones, Thos. Belt, Dr. J. B. Gilpin, Capt. Lyttleton, R. G. Haliburton, and others, were present at the inaugural meeting of the Nova Scotian Institute of Natural Science,

and he was elected a member of the first council. Regarding the foundation of the society, he wrote me a few years ago: "I remember well the friendliness and hearty cooperation of our efforts to set forward the development of local knowledge of the natural history and resources of the province. We were a band of enthusiastic lovers of nature—hunters and woodsmen, zoologists and geologists, botanists and fishermen, historians and antiquarians, each zealous of improvement in his own particular sphere of knowledge or science."

At the first ordinary meeting, held 19th Jan. 1863, he read the second paper communicated to the new society, on "Nocturnal Life of Animals in the Forest," which gives a delightful account of our forest life at night. Then followed each year other papers by him, which are listed at the end. He served as second vice-president from Oct. 1863 to Oct. 1864, and then was first vice-president for three years, till Oct. 1867, he having by that time departed from the province.

On 2nd June, 1863, there were published in London by Day & Son, two large finely-colored lithographs, $11\frac{1}{4}$ x 16 inches, after his watercolour paintings of "The Forest Road: Summer and Winter," the former a camping scene, the latter with a horse-sled in the foreground. They are still among the best published representations of our woodland scenery, and are scarce.

He was caribou-shooting and salmon-fishing in Newfoundland in the summer of 1863, and returned to Halifax in July. He was an able artist and keenly interested in art, and in Nov. of that year, he, Capt. Lyttleton (a fine artist) and Capt. W. Chearnley brought together a picture exhibition in the drill-room at Halifax, at which he showed his two beautiful watercolours beforementioned, which had just been engraved in London, and other sketches, principally relating to moose-hunting. It may be mentioned that he considered Lyttleton our best local artist of that period.

In Aug. 1866 he, with an Indian, Glode, journeyed by canoe to Tobiaduc Brook, several miles westward of Lake Rossignol, Queens Co.,* and made a careful investigation of beaver houses there, from which he constructed two beautiful models,

* From an expression in a lecture of Gen. Hardy, one is led to believe that his last night in our woods was when they camped at the outlet of Lake Rossignol on this expedition.

with sketch, and samples of cuttings, foodsticks and bedding, one of which is in the Provincial Museum, Halifax, and the other he presented to the Zoological Society of London. The Halifax model was shown at the Exposition Universelle, Paris, in 1867, and attracted marked attention. In Dec. 1866, he read an able paper on the Beaver in Nova Scotia. (See Trans. N. S. Inst. Nat. Sc., vol. 2, pt. 1. pp. 17-25; also "Forest Life in Acadie," 1869, p. 172). From time to time he also contributed sporting sketches to "The Field" and "Land and Water."

For five and a half years he had been Inspector of Warlike Stores and Firemaster at Halifax, and subsequently in 1866 and 1867 was Inspecting Officer of the Nova Scotian Militia Artillery. In August, 1867, to the great regret of all who knew him, he finally left Halifax to return to England, at the age of thirty-six, after fifteen and a half years' residence here. He took with him many trophies of the chase, mounted by Andrew Downs. He always considered his sojourn here as the most eventful and pleasant period in his life, and his mind never ceased to dwell upon the impressions he had then gained.

With his heart still deep in our pine forests, he published in 1869 at New York, his most familiar work, and the one in which he is at his very best, "Forest Life in Acadie: Sketches of Sport and Natural History in the Lower Provinces of the Canadian Dominion," with twelve plates, all but one from his pencil, but not done justice to by the engraver. In this delightful volume his style leaves nothing to be desired, for it is a fine literary work apart from its other qualities. It still must rank as the best-written book that has yet appeared on woodland sport in Nova Scotia, and has a charm about it which is derived from the fine character and talents of its author.

The volume contains sketches of the country, of the forests and streams, of the moose and caribou and the hunting of them; careful accounts of the beaver, otter, and other important animals, of the fish and fishing, camping, the progress of the seasons, and other miscellaneous valuable observations on natural history, the nocturnal life of animals in our forest, etc. There is an interesting account of a moose hunt with old Joe Cope, about Big Indian Lake between the Head of St. Margaret's Bay and Mount Uniacke, also of a

caribou hunt, in December, to the north of Parrsborough, and of moose-calling near Beaver Bank, being guided by John Williams on the two last expeditions. Some of the chapters had originally appeared, over the nom-de-plume "Alces," in "The Field" and "Land and Water." He refers frequently, under the name of "The Old Hunter," to that king of local sportsmen, Capt William Chearnley, whose name is indelibly associated with the history of sport in this province; and in after years he carried on an extensive correspondence with Chearnley until the latter's death in July 1871.

After leaving Halifax in 1867, he was stationed at Dover, Gibraltar, Chatham, Aldershot, and Queenstown. He obtained his majority on 5th July, 1872, and his lieutenant-colonelcy on 16th Jan., 1875, and was promoted to colonel on 16th Jan., 1880, finally retiring on full pay, 29th May, 1880, with the honorary rank of major-general. He then went to pass the concluding years of his life at 3 Victoria Park, Dover, England, and resided in that garrison town until his death.

There he took a foremost part in all good works. In 1901-02, during the latter part of the South African War, he and his daughter Lucy were intimately connected with a convalescent home at Dover, at which invalid Colonial soldiers, mostly Canadians (about 90), from Shorncliffe Camp, went to recuperate. They again did a vast amount of good work among the soldiers and invalids of the Great War.

About 1900 Lord William Seymour told me that General Hardy was still alive and keenly interested in Nova Scotia and our Institute, and desired to be remembered to some of my family with whom he had been associated in sport. This renewed an acquaintance by correspondence, which evidenced how vivid were all his recollections of those old days. He still cherished an earnest desire to revisit Nova Scotia, to see its forests and rivers and other well-remembered scenes, his surviving friends and the Indians, and to once more fish and shoot here; but this wish he was not able to gratify. On 30th Oct., 1903, he renewed his connection with the Institute, being elected a corresponding member in consideration of his past services and continued interest, and as being its last surviving original member.

Latterly he lived a rather retired and often invalid life, his health being somewhat broken by a severe attack of influenza in March, 1913. For some years before the late war, his work had been almost entirely connected with the topic of nature study and attempts to promote it as a most useful factor in the education of a child's mind. To this end he had yearly gatherings and exhibitions at St. James's Parish Hall, Dover. He also occasionally lectured, and about 1910 delivered a most interesting and instructive address, now before me, entitled "In Evangeline's Land," which contained vivid descriptions of Nova Scotia, its productions, scenery and sport, and of its Indians and their legends, interspersed with anecdotes.

Being a talented artist, much of his time was devoted to painting scenes connected with Nova Scotian forests and lakes, their wild life, and the pursuit of sport; and his annual Christmas card was one of his sketches, accompanied by a booklet on some meditative subject. He was closely associated with St. James's parish, Dover, and took great interest in the restoration of the old Castle Church.

On the outbreak of the Great War in 1914, the residences in Victoria Park were taken for military purposes, and he moved to 40 Leyburne Road. There, after having been in indifferent health for some months, he passed away on 11th April, 1919, in his eighty-eighth year, but in entire possession of all his faculties, and with still his characteristic sunny boy-like disposition, which made him beloved by everyone who knew him. Up to the very last he wished he could "go back" to Nova Scotia. The same day died his great friend, Col. Samuel Parr Lynes, R. A., who as a lieutenant in the gunners, had fished and hunted and paddled with him in Nova Scotia in 1857 and 1858, and who corresponded with him regularly. Hardy's remains, covered with the nation's flag, on which were his busby and sword, were borne on a six-horse gun-carriage, and laid to rest in a moss- and flower-lined grave in St. James's Cemetery, next to his deceased son. A cross of birch-bark and porcupine-quill work, made by the widow of his favourite Indian guide, John Williams, is appropriately placed to his memory in the parish church.

Summing up his character, we find he was a devout Christian gentleman, of a deeply religious mind, always doing

philanthropic and other good works; and his gentle courteous manners were those of the old school. As has been stated, he never lost the spell which Nova Scotia had cast upon him. In fact, he always cherished affection for places and persons with which he had been associated, and never forgot an associate, however humble. His old Micmac guides, the noted John Williams,* Joe Cope, Francis Paul, Christopher Paul, and others, were never forgotten and often referred to, as well as those of his own class. The Indian welcome as he paused at the wigwam's entrance, "Come in, Hardee, bon soul", echoed sweetly in his ears for fifty years, with the remembrance of the weird night-cry of the loon on the lake, and the spiritual evensong of the hermit thrush.

He was a keen sportsman of the clean English school, elated by the excitement of the chase, but never taking an unfair advantage of an animal. His chief delight was moose-hunting and fly-fishing for salmon and trout. His name will go down in our sporting annals with those of his friend Col. W. Chearnley, Dr. J. B. Gilpin, Charles Hallock, Lt. Francis Duncan, Dy. Asst. Com. Gen. F. C. Blunt, F. H. D. Vieth, F. W. Blaiklock, Capt. Champagné L'Estrange, Hon. Charles Alexander, E. G. Stayner, Charles A. Stayner, Dr. B. W. C. Deeble, the erratic Lt. J. M. Macgowan, A. P. Silver, some relatives of my own, and other well-known local sportsmen, men of varying temperament but each with the deep-seated love of clean sport.

As is often the case with true sportsmen, an intense love of all nature seems to have been very largely at the bottom of Hardy's love for sport and the forest. Sport without its wild surroundings would have been much less attractive to him. Through all his books runs that love of Nature—not for sport alone, but for herself—which was always a power in his life, and remained so till death. His opportunities for studying the habits of animals in the forest were second to none, and he described with rare discrimination and the utmost accuracy what he observed. He was thus an accurate field naturalist, but he had not the skill in drawing up technical descriptions which Dr. J. B. Gilpin possessed. He was

* Honest John Williams, most expert of Micmac guides, died at the Indian Reservation near Shubenacadie, N. S., about 1890 or 1893. He was one of the guides selected to go to the woods with Prince Arthur in 1869.

rather prejudiced against such popular American writers as Long, Roberts, and Thompson-Seton, considering them to be "animal romancers" and their writings valueless to the true naturalist. His knowledge of the Indian, his character and his legends, was remarkably thorough.

He was an amateur artist of most distinct talent, working in watercolours, oils, and pencil, but mostly in the first, and continuing to do so to the very last. As his subjects, he took mostly woodland, lake and river scenery in the wilds of Nova Scotia, and sporting incidents, largely relating to the moose, all most truthfully represented and with distinct artistic skill in composition. The engraved examples in his books do not at all do justice to his brush; and the best published specimens of his work are the two fine, coloured lithographs published in 1863. I have a photograph of a camp scene on a lakeside which is remarkably good.

As a writer he possessed a charming, polished style, which lends a literary flavour to his sporting sketches, and makes some of them almost classics in their way. The accounts of his adventures are entirely free from traces of the boastful strain so common in some writers in modern American sporting magazines; and he tells of his failures, as well as of his successes, in a manner devoid of egotism. No doubt "Forest Life in Acadie," his more mature work, shows him at his best. He occasionally essayed poetry, and his unpublished stanzas, "A Brook of the Northern Woods," as usual referring to this country, show considerable merit.

Although Hardy was in Nova Scotia before my time, yet his name and that of the hot-headed but warm-hearted Irishman, Col. Chearnley, were constantly heard by me as a boy, from veteran sportsmen of my family, when anecdotes and reminiscences of forest and stream were being narrated, until I grew to have a veneration for them; and it now gives me distinct gratification to put on record these few notes on Hardy's life. His son, Capt. E. C. Hardy, has his journals and other papers, and will no doubt prepare a memoir that will do full justice to his accomplished father.

Writings of General Campbell Hardy.

- 1855.—Sporting Adventures in the New World; or, Days and Nights of Moose-hunting in the Pine Forests of Acadia. 2 vols. 12 mo. London, Hurst and Blackett, 1855.

Vol. 1, xii + 304 pp., with coloured frontispiece, "Moose-hunting" (his first moose at Scraggy Lake, March, 1853); Vol. 2, viii + 299 pp., with coloured frontispiece, "The Bivouac" (camp at Scraggy Lake, March, 1853). "A Catalogue of the Birds of Nova Scotia," pp. 291-299.

- 1863.—Nocturnal Life of Animals in the Forest. (Read 2 Feb. 1863). Trans. N. S. Inst. Nat. Sc., vol. 1, pt. 1, pp. 11-19, Halifax, 1863.

Notes on nocturnal life of animals and birds in Nova Scotia.

- 1864.—On the Capelin (*Mallotus villosus*). (Read 7 Dec. 1863). Trans. N. S. Inst. Nat. Sc., vol. 1, pt. 2, pp. 4-13, Halifax, 1864.

Describes this fish and its habits as observed in Newfoundland in 1863.

- 1864.—Sketches in Our Neighbourhood: an afternoon with Downs. Acadian Recorder (newspaper), Halifax, 1864.

The first published notice of Andrew Downs and his zoological garden at head of Northwest Arm, Halifax. Reprinted in Hardy's "Reminiscences of a Nova Scotia Naturalist," pp. xiii-xx.

- 1865.—On Provincial Acclimatization. (Read 5 Dec., 1864). Trans. N. S. Inst. Nat. Sc., vol. 1, pt. 3, pp. 15-30, Halifax, 1865.

Deals with a subject which has not received much attention of late, but which at that time was much discussed, and for forwarding which there were societies in London, Paris, etc.

- 1866.—Nova Scotian Conifers: Part 1. (Read 3 May, 1866). Trans. N. S. Inst. Nat. Sc., vol. 1, pt. 4, pp. 120-130, Halifax, 1866.

Describes the Black Spruce, White Spruce, Hemlock Spruce, and Balsam Fir. Part 2 never appeared.

- 1867.—On the Beaver in Nova Scotia. (Read Dec., 1866). Trans. N. S. Inst. Nat. Sc., vol. 2, pt. 1, pp. 17-25, Halifax, 1867.

Description of beaver dam and houses at Tobiaduc Brook, Queens Co., N. S., Aug., 1866, and of the general habits of the animal, from careful personal observation.

1869.—*Forest Life in Acadie: Sketches of Sport and Natural History in the Lower Provinces of the Canadian Dominion.* Sm. 8vo, ix + 371 pp.; 11 plates and vignette (all after Hardy's drawings, except the coloured plate of trout by Dr. J. B. Gilpin). New York, D. Appleton & Co., 1869.

His best-known and most scholarly work. Contains some papers contributed to "The Field" and "Land and Water," in the '60's, over the nom-de-plume "Alces."

1908.—*Reminiscences of a Nova Scotian Naturalist: Andrew Downs.* (Read 11 March, 1907). *Trans. N. S. Inst. Sc.*, vol. 12, pt. 1, pp. xi-xxix, Halifax, Aug., 1908.

Provincial Museum, Halifax, N. S.,
28th January, 1921.

PROFESSOR ERNEST HAYCOCK; 1867-1918.

Professor Ernest Haycock, M. A., was born at Westport, Digby Co., Nova Scotia, on 29th May, 1867, and died at Wolfville, N. S., on 13th April, 1918, aged 51 years. He came of United Empire Loyalist stock, and was a son of Maurice and Eliza (Peters) Haycock. He secured his early education in the public schools, and for a time sailed on a fishing vessel. He attended Acadia University, Wolfville, where he graduated B.A. in 1896, and then went to Harvard University, where he obtained his B.A. in 1897 and M.A. in the next year, being instructed in geology by Prof. W. M. Davis.

From 1898 to 1910 he was instructor in chemistry, mineralogy, and geology at Acadia University; and in the latter year was appointed professor in the same subjects, succeeding Prof. Coldwell, and held that chair with ability until his death.

He became an associate member of the Nova Scotian Institute of Science on 17th May, 1899, and in April of the succeeding year read his first paper, "Records of Post-Triassic Changes in Kings County, N. S.," which was soon followed by a number of others, all of which showed him to be a systematic, well-trained observer, a good geologist, and a clear writer.

On 29th May, 1901 he organized the Kings County Branch of the Nova Scotian Institute of Science, which was formed primarily to meet the needs of such Kings County members as were unable to attend meetings of the parent society, and who believed that much personal encouragement and stimulus could be derived from the meetings of such an affiliated society. Prof. Haycock was its president during its existence, and was the moving spirit in all its activities, until it held its last session in 1903-4. (See Proc. N. S. Inst. Sc., vol. 10, pp. xcvi and cix.)

In the summer of 1902 he was engaged, under Arthur Webster, in field-work for the Geological Society of Canada, on the western coast of Vancouver Island, B. C., from the Strait of Juan de Fuca to within a short distance of the northern end of this island, on which he prepared a report. (Rept. Geol. Sur., 15, 76-92A). In the summer of 1903 similar work was done under Dr. Ellis in Charlotte Co., N. B., (Rept. Geol. Sur., 15, 150AA); and in the seasons of 1904, 1905 and 1906 he was engaged in filling in the geology for the mining and topographical maps of the Lièvre River and Templeton phosphate district in Labelle and Wright Co's, Quebec, and preparing a report thereon. (Rept. Geol. Sur., 16, 232-250A). Subsequent to that he seems to have restricted his activities to university work.

In 1897 he married Miss Annie Priscilla Hall of Granville, N. S., who had encouraged him to take a university training, and by whom he had a son, Maurice. She died on 16th April, 1904, a loss which he deeply felt. On 27th Feb. 1913 he married Mrs. Mabel Patriquin (*nee* Card).

H. P.

MAYNARD BOWMAN; 1843-1918.

Maynard Bowman, B.A., public analyst, of Halifax, was born at "Spa Springs," Windsor, N. S., on 11th Jan., 1843, and died suddenly at 146 South St., Halifax, on 20th Aug., 1918, in the 76th year of his age. He was a son of Charles Broughton and Elizabeth (Maynard) Bowman, and on his father's side came of a prominent Windsor family, while on his mother's side he was a grandson of Capt. Thomas Maynard, R.N., of "Grenadier Fort," Halifax.

He was educated at Thomas Curren's school, the Collegiate School, and King's College, receiving his B.A. degree in 1862. At King's he was under the instruction of one of the most able chemists we have ever had in this Province, Prof. Henry How. He then took an eighteen months' course in chemistry at Glasgow University, Scotland.

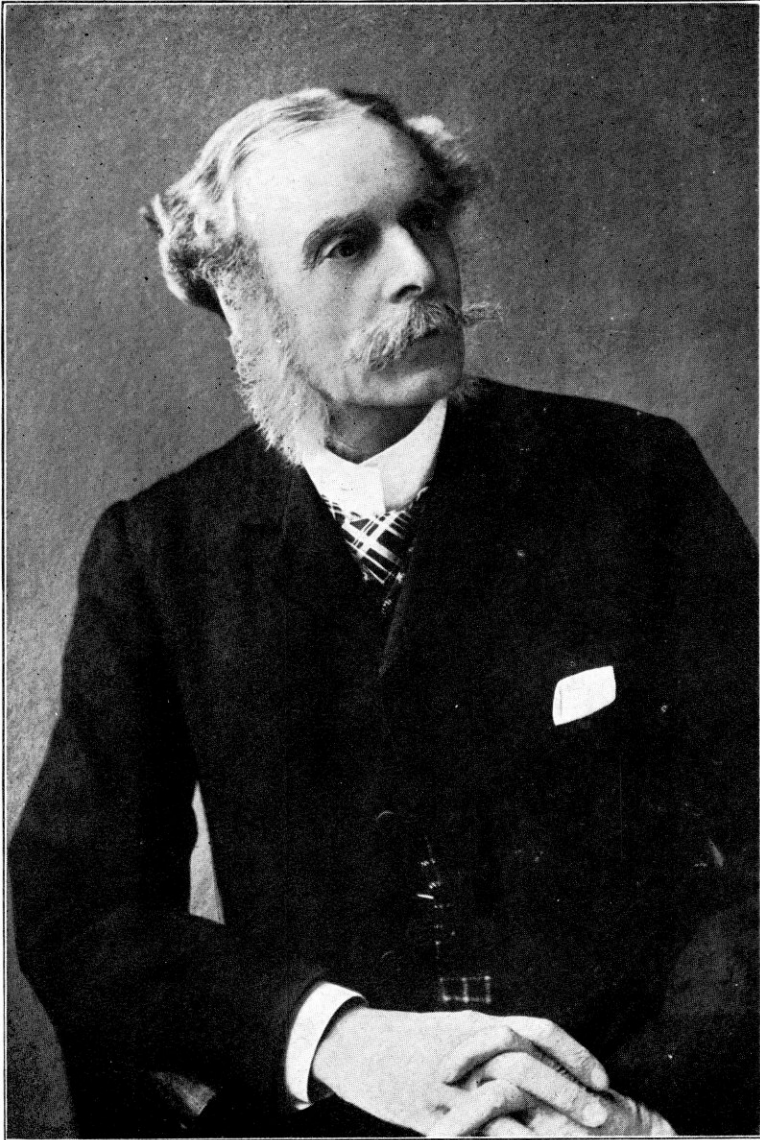
At first he entered business in Halifax, and then was employed in the office of the Dept. of Railways and Canals, Ottawa. On 29th March 1882 he became official public analyst for Nova Scotia and Prince Edward Island, which position he occupied with ability for thirty-five years. Latterly he became recognized in England and America as an authority on testing wood-pulp.

He married in 1864 Ann Elizabeth, daughter of James DeWolfe Fraser of Windsor. He left five children, the sons being Charles B. of Lethbridge, Alberta, Maynard J. F. of Halifax, and Rev. Benjamin A. of Bermuda.

In Jan., 1884, he was elected a member of the Nova Scotian Institute of Science, and at the time of his death was the oldest ordinary member. On 8th Oct. 1884 he became a member of the council, and served in that capacity continuously for thirty-two years, until 13th Nov. 1916, when his health was failing. He was librarian for thirteen years, Oct. 1889 to Nov. 1903, at a period when the library was beginning to grow rapidly; and treasurer for nine years, Nov. 1907 to Nov. 1916. In recognition of his services he was elected a life member. Although he contributed no papers to the Institute, yet he always took a very deep interest in its work and was a constant attendant at its meetings.

He was a very devout member of the Church of England, and his name will always be associated with St. Luke's parish and that of All Saints', which succeeded it. He will be remembered as a man of sterling qualities of character, genial and kindly, with a quiet demeanour and a fine courtesy, which made him respected and heartily liked. His noticeably dark hair gave him a youthful appearance, which made it hard to realize he had reached three-score years.

H. P.



MAJOR-GENERAL CAMPBELL HARDY, R. A., Sportsman, Naturalist, Artist and Writer; Author of "*Forest Life in Acadie*," etc.; last surviving original member of the Nova Scotian Institute of Science. Born 1831; Died 1919.

See Biographical Sketch, pp. vii-xvi.