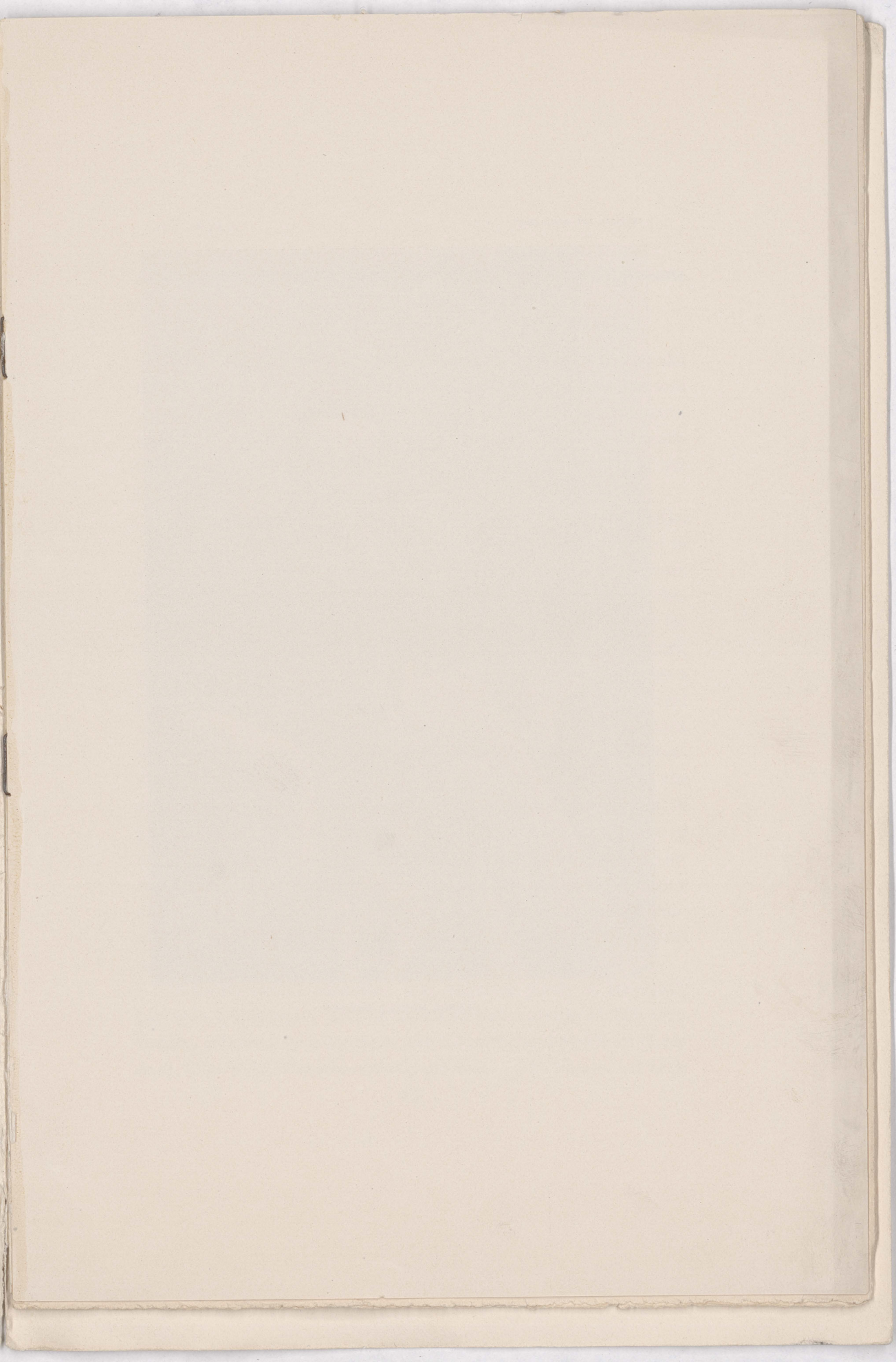


George Mercer Dawson













GEORGE MERCER DAWSON



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## GEORGE MERCER DAWSON

GEORGE M. DAWSON, C.M.G., LL.D., F.R.S., Director of the Geological Survey of Canada and an editor of the *American Anthropologist*, died on March 2, in his fifty-second year, of acute bronchitis, after an illness of but a few hours. In his death Canada loses her leading scientist, and North America one of her foremost geologists.

George Mercer Dawson was born at Pictou, Nova Scotia, August 1, 1849. His father, Sir J. William Dawson (who died in 1899), long known as principal of McGill University and still more widely known as the author of standard works on geology, archeology, and related topics, was Canada's most eminent scientist for decades; his mother, Lady Dawson (Margaret A. Y. Mercer), representative of a distinguished Edinburgh family, still occupies a prominent place in that scientific and educational circle in Montreal which grew up under the influence of her honored husband. Born with the best physical and intellectual endowments, young Dawson suffered a nearly fatal accident (involving a fracture of the spine) in infancy, which arrested bodily growth and resulted in permanent deformity; yet the misfortune was so far counteracted by early treatment and training, and so far overcome later by inherent vigor, that its victim achieved distinction in his maturity as one of Canada's hardest explorers, while his intellectual accomplishments could hardly have been enhanced by any physical advantages.

Dawson's earlier education was acquired partly in Montreal, partly in Edinburgh; later he took a partial course in McGill University, followed by a course in the Royal School of Mines (London), 1869-1872, where he not only graduated with honors but took



Dr Boas deserves especial mention) were published annually up to the institution of the more formal survey in 1896.

While several of Dr Dawson's titles and the prefatory remarks in some of his papers imply that his ethnologic researches were subsidiary to his geologic work, and while his busy life never afforded opportunity for monographic treatment of Canada's aborigines, it is nevertheless true that he made original observations and records of standard value, that much of his work is still unique, and that his contributions, both personal and indirect, materially enlarged knowledge of our native tribes. It is well within bounds to say that, in addition to his other gifts to knowledge, George M. Dawson was one of Canada's foremost contributors to ethnology, and one of that handful of original observers whose work affords the foundation for scientific knowledge of the North American natives.

Primarily a geologist, Dawson did his work in such wise as to aid in the solution of fundamental problems in archeology, and so to illumine various aspects of anthropology. When he returned from the Royal School of Mines to the land of his nativity, he found the geologists of Canada and the United States at issue concerning the later periods and episodes of geologic history. The differences were natural; they grew out of the fact that each group of earth-students began with the phenomena of their respective fields—those of Canada with late-glacial, aqueo-glacial, and glacial deposits only, those of the United States with earlier glacial deposits chiefly—and extended inference too far into the neighboring field; yet the differences were none the less unfortunate and obstructive of progress. Young Dawson wisely avoided controversy, but gradually extended observation over the more northerly field, gradually systemized knowledge of the Pleistocene history of the northland, gradually brought the stern logic of facts to bear on the general interpretations, and in this manner contributed more than any associate—probably more than any contemporary—toward harmonizing the discrepant readings of the



records of rocks and ice. Today the leading geologists of Canada and northern United States are practically at one as to the later episodes of earth-making; they are in substantial agreement as to the geologic time-scale by which the antiquity of man on the western hemisphere is to be measured; and for this happy condition they are indebted to no one more than the sagacious and far-sighted student whose untimely end they are united in mourning.

Time was when progress was mainly material, and when he who made two blades of grass to grow where one grew before was a great human benefactor; now horizons have widened, and progress has changed its course so far that he who sows ideas and harvests knowledge is coming to be reckoned among the greatest of benefactors. Of such was Dawson's work; gaining broader knowledge of his country than any predecessor, he gathered the wide-spreading strands in single grasp; writing treatises on geologic history among the most masterly ever penned, he was able to look from the past through the present and into the future far more clearly than most of his fellows; so his surveys of natural resources and possible utilizations contributed in unexcelled degree to the welfare of his nation and others, while the light of his knowledge and the radiance of his example have raised in due measure the intellectual plane of the western world.

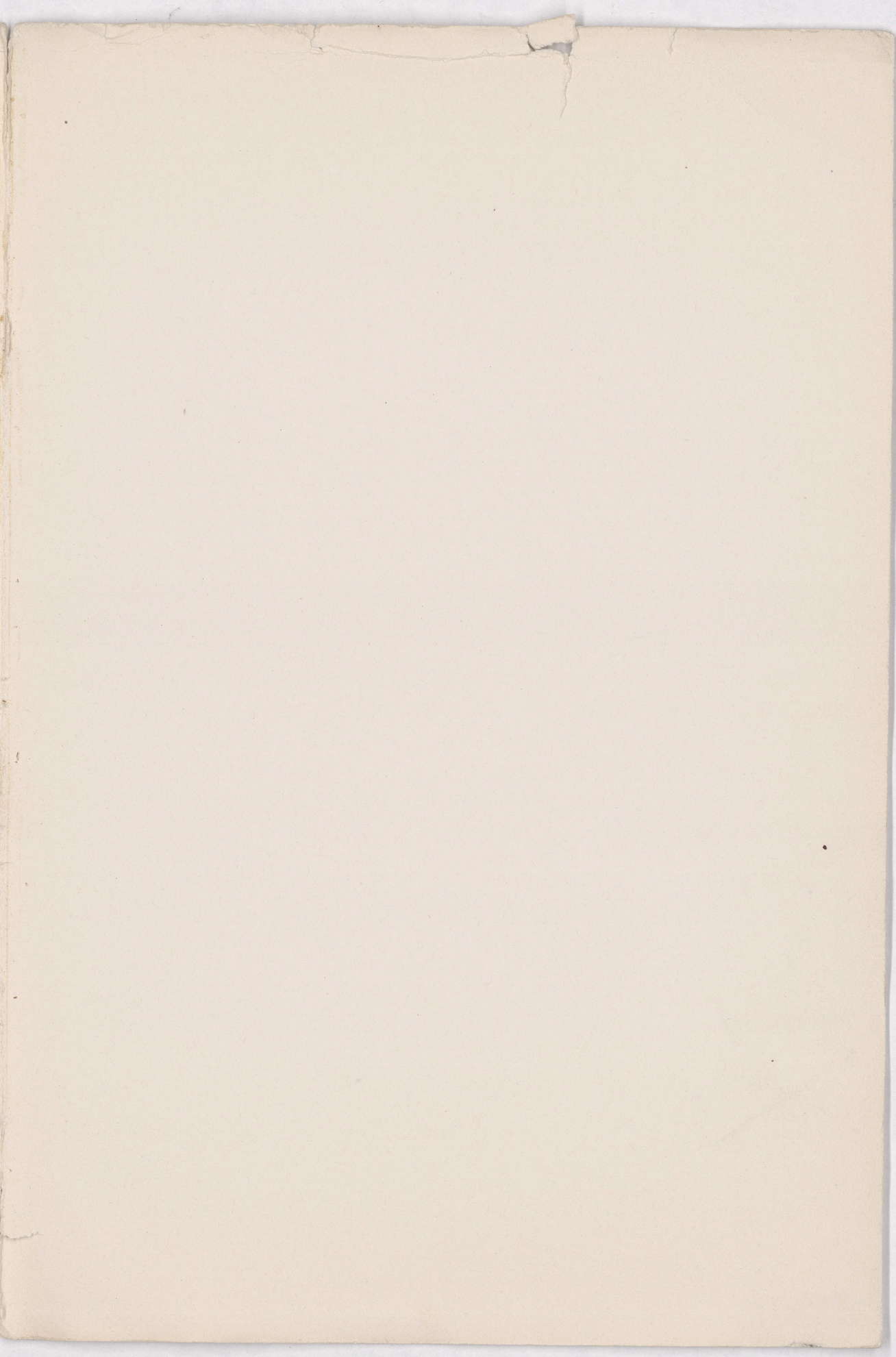
Dawson was one of the men who left the world better because he lived in it.

W J M.

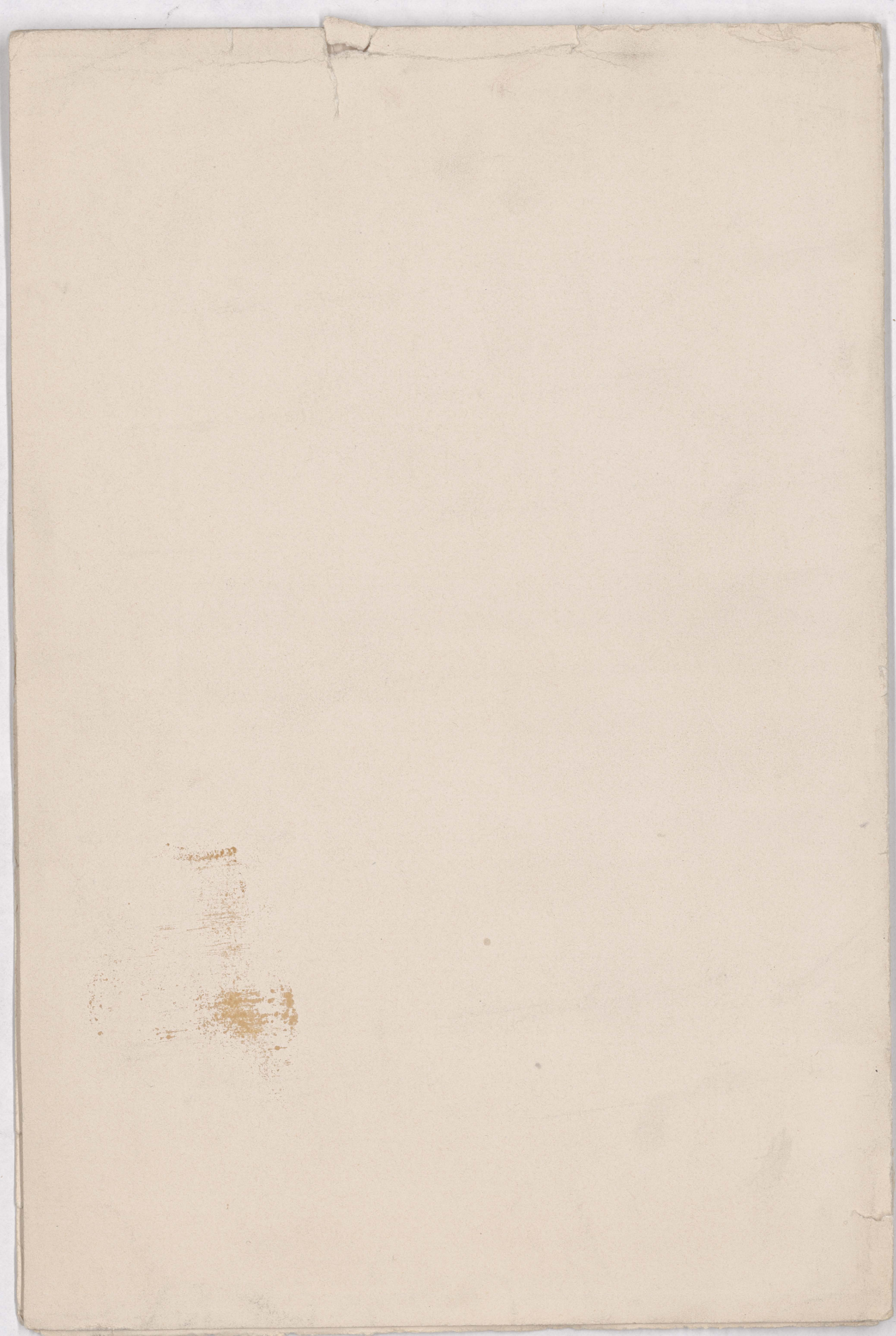














It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of Instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

(Signed) E. FRANKLAND,  
Professor.

ROYAL COLLEGE OF CHEMISTRY,  
London, June 19, 1871  
(Signed) WM. GEO. VALENTIN,  
Hon. Secretary.

It is hereby certified that Mr. G. M. Dawson has studied in the METALLURGICAL LABORATORY, during six months, from the first of October 1871, to the 31st of March 1872. His attention was directed to the assaying of ores of Iron, Lead, Tin, Gold, Silver, Copper and Zinc; and the alloys of Gold and Silver, by the wet and dry methods. He attended with regularity and worked with commendable perseverance and industry. His results were frequently tested and found to be correct.

(Signed) JOHN PERCY, M. D., F. R. S.  
Lecturer on Metallurgy.

London, 6th July, 1872

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on MINERALOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH.  
Lecturer on Mineralogy.

London, 1st October, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on GEOLOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) ANDREW RAMSAY, LL.D., F.R.S.  
Lecturer on Geology.

London, 2nd October, 1871.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on APPLIED MECHANICS, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. M. GOODEVE,  
Lecturer on Applied Mechanics.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on NATURAL HISTORY, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mining.

London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.



1861-7

Dr. J. W. Dawson  
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Ethnological Map (1887)

Comprehensive Description of the Indian Tribes of British Columbia and an

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GEORGE M. DAWSON, D.S., A.R.S.M., F.G.S., F.R.S.C., Assistant Director



(Private.)

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 George M. Dawson, D.S., A.R.S.M., F.G.S., F.R.S.C. Assistant Director*



GEORGE MERCER DAWSON, D.Sc.,  
Ottawa,  
Canada.

F.G.S., A.R.S.M., F.R.S.C. Assistant Director, Geological Survey of Canada. Much important and valuable work, more especially in geology and ethnology, as in the following summary statement. During his thirteen years of service on the Geol. Survey (Canada) has been chiefly engaged in working out the Geology of the North-West Territory and British Columbia. Placed in charge of the Yukon Expedition, 1887. Author of numerous papers, chiefly geological, but including geographical, ethnological and other observations, published in the Quart. Journ. Geol. Soc., Trans. Roy. Soc. Canada, Canadian Naturalist, &c. These deal more especially with the superficial geology of the regions explored, but some describe foraminifera and other microscopic organisms. Author of fifteen reports published by the Geological Survey of Canada, and joint author (with Dr. Selwyn) of a Descriptive Sketch of the Physical Geography and Geology of Canada, and (with Dr. W. F. Tolmie) of Comparative Vocabularies of the Indian Tribes of British Columbia.

T. H. Huxley.      J. William Dawson.      H. Woodward.      R. Etheridge.  
W. Carruthers.      T. G. Bonney.      W. B. Dawkins.      A. Geikie.  
W. Whitaker.      W. Topley.      J. Rae.      T. R. Jones.      E. Frankland.  
P. H. Carpenter.      [Warrington W. Smyth.]—*W. H. Flower.*      *H. G. Seeley.*  
*John Beddoe.*      [*J. Ball.*]



SIR JOHN CONROY, Bart., M.A.,  
Arborfield Grange,  
Reading.

and numerous other valuable contributions to Bacteriology and Pathology.

John Simon. William Bowman. James Paget. J. B. Sanderson.  
J. Hutchinson, J. Tyndall. T. L. Brunton. G. Johnson.  
Joseph Lister. S. Wilks. George M. Humphry.—*T. H. Huxley.*

F.C.S. Lecturer on Physics and Chemistry, Keble College, Oxford. An assiduous Student of Experimental Science, and author of the following papers:—"On the Dioxides of Calcium and Strontium" (Journ. Chem. Soc., 1873); "On the Polarization of Light by Crystals of Iodine" (Proc. Roy. Soc., 1876); "Absorption-Spectra of Iodine" (Proc. Roy. Soc., 1876); "On the Light reflected by Potassium Permanganate" (Phil. Mag., 1878); "The Distribution of Heat in the Visible Spectrum" (Phil. Mag., 1879); "Experiments on Metallic Reflexion" (Proc. Roy. Soc., 1871, 1879, 1883).

A. V. Harcourt. J. H. Gladstone. H. McLeod. W. Odling.  
W. T. Thiselton Dyer. R. B. Clifton. H. B. Dixon. E. Frankland.  
B. Price. J. J. Sylvester. E. B. Poulton. [F. Guthrie.]  
[Warrington W. Smyth.]—*A. Schuster.* *W. Crookes.* *W. H. Preece.*  
*D. E. Hughes.*



R.S.  
Candidates

THE ROYAL SOCIETY,

BURLINGTON HOUSE,

April 1, 1891.

In compliance with the Statute (Chap. I, Sect. 6), we herewith forward to you the list of Candidates for Election into the Royal Society, and the names of the Fellows proposing the same.

M. FOSTER, }  
RAYLEIGH, } *Secretaries.*



FRANK EVERS BEDDARD,  
M.A. (Oxon.),  
13, Castlebar Road,  
Ealing.

Lecturer on Comparative Anatomy, Guy's Hospital. Prosector to the Zoological Society. Author of the following papers:—"Report on the Isopoda, collected by H.M.S. 'Challenger'" (Parts xxxiii., xlvi.); "Nephridia of Acanthodrilus and of Perichoeta" (Proc. Roy. Soc., 1886-87); "Structure of Megascolea" (Trans. Roy. Soc. Edin., 1883); "Minute Anatomy of the Ovary of Echidna;" "Subdivision of the Coelom in Birds and Reptiles" (Proc. Zool. Soc., 1886-88); "Visceral and Muscular Anatomy of Scopus" (*ibid.*, 1885); "Anatomy of various little known Types of Birds" (*ibid.*). With other Papers on Comparative Anatomy in Ann. and Mag. Nat. Hist., Ibis, and Quart. Journ. Micros. Sci.

W. H. Flower.	P. L. Sclater.	E. Ray Lankester.	P. H. Pye-Smith.
St. George Mivart.	S. Wilks.	F. W. Pavy.	J. B. Sanderson.
E. B. Poulton.	G. J. Romanes.	W. C. McIntosh.	R. H. Traquair.
H. Woodward.			

CHARLES EDWARD BEEVOR,  
M.D. (Lond.),  
33, Harley Street,  
W.

F.R.C.P. Physician. Dr. Beevor has, in conjunction with Mr. Horsley, contributed the following papers to the Philosophical Transactions and Proceedings of the Royal Society:—"A Minute Analysis of the Various Movements produced by stimulating in the Monkey different Regions of the Cortical Centre of the Upper Limb, as defined by Prof. Ferrier" (Phil. Trans., 1887); "A further Minute Analysis by Electric Stimulation of the so-called Motor Region of the Cortex Cerebri in the Monkey" (Phil. Trans., 1888); "An Experimental Investigation into the Arrangement of the Excitable Fibres of the Internal Capsule" (Phil. Trans., 1890); "On the Results of



Dr G. W. Dawson was born at Melbourn N.S. Aug 1849 - in '55 his father the late Sir W. Dawson removed to Montreal, & the wide valleys & grounds, leased to that Royal, then all uncultivated for forest, made a delightful playground & amusement for the intelligent boy. The birds' nests the deep - delicate where parent shells & the faunet in the blue clay, the wash water way where leaves & twigs cover everests with lime, & became petrifications, the curled flowers, the lively brook where minnie plants & the gossamer navigated & glared & shies constructed.

All these interests, & the father ever ready to explain & encourage him - at 10 - 9 & 8 went to the Holy School for one year & took a high place in his class, but rapidly volunteered on a hughenaring pond, carried on at lunch hour & resulting in his spending the afternoon hours in wet clothing brought in to special trouble that resulted in years of ill health - pain & deformation spinal deformity.

With the exception of a short time at a musical school - his was taught - by tutors his education was carried on by tutors for the first 8 or 9 yrs. While this cut him off from some advantages it gave opportunity for his keen & active mind to apply itself steadily to subjects which interested him & to master & grasp & exactly pursue subjects of interest & attention - Surrounded by books - chemical apparatus - pencils & pencils, the days were ~~gone~~ too long & photography, bookbinding, painting, Royal Canadian studies & chemismaking - were among the many occupations he amused himself with - He received to almost knowledge, rather than to study. Every new fact or idea he acquired was at once put into its place & profus relations in his orderly mind - He was always cheerful - amusing & popular - often by flocking round him & invariably submitting to his unobtrusive leadership -



Bayly & Goring Cranes <sup>at Caracas</sup> - Calced them two &  
Erichs. Translucence felt - had to be put at  
early hours to quiet them - brought home to work  
when they lucid on a gallery - <sup>I arranged work</sup> <sup>included by them</sup>  
early <sup>at Caracas</sup> <sup>at some work</sup> <sup>at Caracas</sup> <sup>at some work</sup>  
but <sup>at Caracas</sup> <sup>at some work</sup> <sup>at Caracas</sup> <sup>at some work</sup>  
G. M. D. - promptly dug them up - removed their  
stomachs, & tested them for Arsenic & other poisons  
dreadful results persuaded the house, but  
had to be borne in the sacred cause of justice.

I am not sure of justice was clearly made out, or  
not; but we always firmly believed that had G.  
Erichs had met a cruel & untimely fate, at the hands  
of the "black" men - alas.

~~When quite a lad - (late)~~

<sup>Eric</sup> Made a voyage to England in sailing ship  
Lighthouse, he & another young fellow only passengers  
attended himself studying navigation with Captain  
Coehner to make preliminary explorations among  
the coast of the island of St. Vincent & the  
his Capt. - promised Arrive & unsatisfactory - 20th  
simply dismissed him - & navy about the schooner  
at the moment himself - This in the sea of water  
he got no chart even for the Brit. - Admiralty - with  
the ship until - & remembered he had received orders



He suffered much pain at times, & desire of  
of various kinds, but never was heard to complain  
He accompanied his father on expeditions which  
quite a lad to Murray Bay Staggins - Gaffi - &  
by his helpful ways, & quick insight - was a person  
of confidence.

At 19 he had recovered his health & took a  
partial course at the Gill for 1 year. During which  
he wrote ~~composed~~ for a prize offered for the best  
poem on Jacques Cartier who's teacher pronounced  
his the best - he had never received from any student  
but The following year ( ) he entered  
the School of Mines in London.

Like his father pursued the unusual combination  
of scientific mind - literary ability & administrative  
capacity - & was even more versatile - Ethnology  
Botany - Zoology - navigation - drawing.

Had the ability of the

Men of letters & swift eye - most delicate sense  
of honor never granted a private letter or paper - never  
spoke carelessly or detractingly of any one - His words were  
never simple clear & devoid of any exaggeration, & story



Navigating ship - in Pacific

and hit about 2 crews

Green & Nov

Navigating ship - in Pacific

Feet - Charles



FROM THE TRANSACTIONS OF THE ROYAL SOCIETY OF CANADA

SECOND SERIES—1902-1903

VOLUME VIII

SECTION IV

GEOLOGICAL AND BIOLOGICAL SCIENCES

GEORGE MERCER DAWSON

WITH BIBLIOGRAPHY

By PROF. B. J. HARRINGTON

AND

DR. H. M. AMI

FOR SALE BY

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BERNARD QUARITCH, LONDON, ENGLAND

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1902







XII.—*George Mercer Dawson.*

By B. J. HARRINGTON.

(Read May 26, 1902.)

Twenty years have elapsed since the inauguration of the Royal Society of Canada, and in that time many of those who were wont to gather with us have been called to the majority. Sir William Dawson, our first President, died in 1899, ripe in knowledge and in years, but no one then thought that he would so soon be followed by his distinguished son, Dr. G. M. Dawson. To the latter, years of usefulness and honour seemed to remain; but how little do we know of what lies before us! Life is ever uncertain, and Dr. Dawson realized this when he wrote:

“Life is a bubble on the sea,  
The ocean of eternity;  
It floats awhile in glittering pride,  
It may o'er many billows ride.  
There comes a moment, none knows why,  
No cloud o'erspreads the summer sky,  
Some little breath, some hidden thing,  
Perhaps a spirit on the wing,  
Touches the orb — it melts away,  
The sea receives its little spray; —  
No mark, no memory left behind.  
The everlasting sea, the wind — flow on.”

Dr. Dawson was the second son of the late Sir J. W. Dawson, and was born on the 1st of August, 1849, in Pictou, Nova Scotia. In 1855 his father, who had for some years been acting as Superintendent of Education for Nova Scotia, received the appointment of Principal of McGill University, Montreal, and with his family took up his residence there. Instead of the magnificent structures of to-day, there were then on the college grounds only two “unfinished and partly ruinous buildings, standing amid a wilderness of excavators' and masons' rubbish, overgrown with weeds and bushes. The grounds were unfenced and pastured at will by herds of cattle, which not only cropped the grass, but browsed on the shrubs, leaving unhurt only one great elm, which still stands as the ‘founder's tree,’ and a few old oaks and butternut trees”<sup>1</sup>. Surroundings of this kind were not ideal from a university point of view, but made an instructive environment for an intelligent boy. The numerous wild flowers, the birds' nests, the fossil

<sup>1</sup> Fifty Years of Work in Canada — Autobiographical Notes by Sir William Dawson, p. 98.



shells in the blue clay, the waste waterway, where leaves and twigs became "petrifications," the lively brook where mimic fleets could be navigated and dams constructed—these and many other objects of interest were there, and with the guidance and encouragement of an ever-ready father, the boy's inborn love of nature was daily stimulated and increased.

At ten years of age Dawson entered the Montreal High School, remaining there for one year and taking a high place in his classes. Subsequently, however, owing to ill-health, his education was carried on for the most part under tutors; and while this system, no doubt, cut him off from some advantages, it gave him on the other hand wider opportunities for pursuing and mastering subjects which had special attractions for him. Surrounded by books, chemical apparatus, paints and pencils, the days were never too long, and photography, book-binding, painting magic lantern slides, and even cheese-making, afforded him fascinating occupation and amusement. One who knew him well at that time says: "He seemed to absorb knowledge rather than to study, and every new fact or idea acquired was at once put into its place and proper relations in his orderly mind. He was always cheerful, amusing and popular, other boys flocking around him and invariably submitting to his unconscious leadership."

At the age of eighteen, Dawson entered McGill College as a partial student, attending lectures on English, Chemistry, Geology, &c., during the session of 1868-9. The summer of 1869 was spent at Gaspé and much time devoted to dredging for foraminifera, which with material from other sources formed the basis of his first scientific paper, published in the *Canadian Naturalist* in 1870, and in the *Annals and Magazine of Natural History* of the following year. While a student at McGill he wrote a poem on Jacques Cartier which, while but a boyish effort was thought very well of by his instructors and gave evidence of his keen love of nature and poetic instinct. The view from the summit of Mount Royal, whither Cartier was conducted by the red men of Hochelaga, is thus described:

"Far on the western river lay,  
Like molten gold, the dying day.  
Far to the east the waters glide  
Till lost in twilight's swelling tide;  
While all around, on either hand,  
Spread the broad, silent, tree-clad land;  
And in the distance far and blue  
Long swelling mountains close the view."

In 1870 Dawson went to London and entered the Royal School of Mines, at that time on Jermyn street. He was fond of the sea, and on



this occasion made the passage in a sailing ship, he and another young man being the only passengers. During the voyage he amused himself making observations on the surface life of the ocean, and the phenomena of phosphorescence. He also studied navigation under the captain, and the knowledge then acquired afterwards stood him in good stead when he had to navigate a schooner along the dangerous coasts of British Columbia and the Queen Charlotte Islands.

At the School of Mines he took the full course of study, extending over three years, and passed as an associate. At the end of his second year, he carried off the Duke of Cornwall's scholarship, given by the Prince of Wales, and on graduation stood first in his class, obtaining the Edward Forbes Medal and Prize in Palæontology and Natural History, and the Murchison Medal in Geology. During his course he paid special attention to the study of geology under Ramsay, Huxley and Etheridge, but also devoted much time to chemistry and metallurgy, under Frankland and Percy respectively, and to mining under Warrington Smyth. Even in his holidays he was never altogether idle, and during most of the summer of 1871 he was attached to the British Geological Survey, and worked with the late J. Clifton Ward in the Cumberland Lake-District. While in England he made many warm friends, with some of whom he corresponded regularly for years afterwards.

On returning to Canada in 1872, he was engaged for some months examining and reporting upon mineral properties in Nova Scotia, and subsequently went to Quebec, where he delivered a course of lectures on chemistry at Morrin College, which was attended by a large and appreciative class. In 1873 he was appointed Geologist and Botanist to Her Majesty's North American Boundary Commission, which had been constituted to fix the boundary line between British North America and the United States, from the Lake of the Woods to the Rocky Mountains, and which had been carrying on its labours for about a year. From early boyhood Dawson had been keenly interested in travel and exploration, and in the Canadian Northwest he saw a region ready to yield up a rich harvest of discovery. There was the charm of novelty afforded by a well-nigh untrodden field, and the many hardships to be encountered only seemed to lend attractions to the expedition. In those days no Canadian Pacific trains rolled across the continent. Fort Garry, now the fast-growing city of Winnipeg, with more than 40,000 inhabitants, was then practically the last outpost of civilization, and the great prairies had to be traversed on horseback or on foot, provisions and equipment of every kind being carried in Red River carts, drawn by oxen or ponies with shaganappy harness. The two years of Dawson's connection with the Boundary Commission were for



him years of incessant activity, but the results of his work were of great scientific value. They were embodied in a report addressed to the head of the Commission, Major (now General) D. R. Cameron, R.A., and published in Montreal in 1875.<sup>1</sup> The volume, which is now looked upon as "one of the classics of Canadian geology," is a model of what such reports should be—scientific facts being clearly and succinctly stated and the conclusions logically drawn. The main geological result arrived at was the examination and description of a section over 800 miles in length across the central region of the continent, which had been previously touched upon at a few points only, and in the vicinity of which a space of over 300 miles in longitude had remained even geographically unknown. The report discussed not merely the physical and general geology of the region, and the more detailed characteristics of the various geological formations, but also the capabilities of the country with reference to settlement. The whole edition was long ago distributed, and the volume is now exceedingly scarce and difficult to obtain. While attached to the Boundary Commission, Dawson made large collections of natural history specimens, which were forwarded to England and found a home in the British Museum, as well as at Kew and elsewhere. The British Museum obtained no less than seventeen species of mammals not previously represented in its collections.

More or less in connection with the above work were published papers on the "Lignite Formations of the West," the "Occurrence of Foraminifera, Coccoliths, etc., in the Cretaceous Rocks of Manitoba," on "Some Canadian Species of Spongillæ," on the "Superficial Geology of the Central Region of North America," on the "Locust Invasion of 1874 in Manitoba and the Northwest Territories," etc.

When the work of the Boundary Commission was brought to a close, Dawson received an appointment on the staff of the Geological Survey of Canada and began in that connection the long series of explorations of the Northwest and British Columbia, which brought such great credit to himself and his country. In 1883 he was made an Assistant Director of the Survey, and later, on the retirement of Dr. Selwyn, in 1895, became head of the department, a position which he occupied until the time of his death on the 2nd of March, 1901. Throughout his connection with the Survey his reports were always of a high order, bearing evidence of his striking powers of observation and deduction. Though thoroughly scientific, they always took account of the practical and economic side of geology, and accordingly com-

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<sup>1</sup> Report on the Geology and Resources of the Region in the vicinity of the Forty-ninth Parallel, from the Lake of the Woods to the Rocky Mountains, with Lists of Plants and Animals collected and Notes on the Fossils.



manded the attention and confidence of mining capitalists, mine managers and others interested in the development of the mineral resources of the country. When in the field, geology was, of course, the principal object of his investigations, but his wide knowledge of collateral sciences enabled him not merely to collect objects of natural history in an intelligent and discriminating way, and to discuss the flora and faunas of different districts, but also to make important observations on the habits and languages of Indian tribes, to keep continuous meteorological records and to determine latitudes and longitudes. We accordingly find that his reports generally conclude with a series of most valuable appendices, giving special information which could not well be included in the body of the document.

In an elaborate notice of his report on the Queen Charlotte Islands, published in Petermann's *Mittheilungen* (Vol. 27, 1881), the writer, after calling attention to the fact that the report dealt not merely with the geology of the islands, but also with their topography, natural history, climate and ethnology, says: "One is amazed at the rich results which he brought back in all these branches, especially as he had only one assistant, Mr. Rankine Dawson, and remained in the islands only two and a half months, from the 12th of June to the end of August, and that in most unfavourably wet weather."

In addition to his field books proper, he kept copious journals which contain much interesting information. He had a habit too, of jotting down notes and sometimes verses on scraps of paper or on the backs of telegraph forms. In the wilds of British Columbia, for example, he writes:

"Contorted beds, of unknown age,  
 My weary limbs shall bear,  
 Perhaps a neat synclinal fold  
 At night shall be my lair.  
 Dips I shall take on unnamed streams,  
 Or where the rocks strike, follow  
 Along the crested mountain ridge  
 Or anticlinal hollow;  
 Or gently with the hammer stroke  
 The slumbering petrification,  
 That for a hundred million years  
 Has been debarred from action.  
 \* \* \* \* \*

We can fancy him, too, sitting by his lonely camp fire on the shores of the Pacific and penning the following lines:

"To rest on fragrant cedar boughs  
 Close by the western ocean's rim,  
 While in the tops of giant pines  
 The live-long night the sea-winds hymn,  
 And low upon the fretted shore  
 The waves beat out the evermore."



In common with British subjects in all parts of the world, he was deeply stirred by the occurrences of the South African war, and after the battle of Paardeberg (February 25th, 1900), in which his fellow countrymen played so conspicuous a part, he wrote as follows:—

“ We know to-day our tale of dead,  
Spent on the sun-baked windy plain,  
Our best, who left us without dread,  
But may not now return again.  
But pride is mingled with our tears,  
The seed grows to the stately tree;  
We know that in the tide of years  
We sow for empire yet to be.  
Our loss our gain — nor sorrow felt  
As rising in the east we see  
The day flood all the waiting veldt.  
But fathers, mothers, sisters, wives,  
Your loss is more than you can bear;  
For you those young, exultant lives  
Gone out, is darkness everywhere.  
We grieve with you, we stand to aid.”  
\* \* \* \* \*

And yet his view of the war was not a wholly one-sided one, his fairness and his admiration for the Boer being evidenced by the following lines:

“ The silent Boer that lies a clod,  
He was a father or a son  
Upon his dry, grey Transvaal sod  
Among the rocks that we have won.  
His narrow soul was true and strong,  
To fend us from his home and kraal  
He gave his life — we know him wrong,  
But find him worthy after all;  
And when in days to come the song  
Of later harvests shall be sung  
He will have part in that South land  
As elder brother, true and strong.  
Each spring that rises on the veldt  
Will cast its wreath of self-sown flowers,  
Will breathe its fragrance and be felt  
About his grave as over ours.  
Not all is lost if life be spent,  
For it is good to truly die,  
To give to that extreme extent  
If so be freedom lives thereby.  
The things not seen, beyond the veil,  
Have harvest also full and true,  
And loss we reckon but by tale  
Is measured there — to each his due.”

Dr. Dawson's geological work was carried on chiefly in the region of the great prairies of the Northwest and British Columbia, but he was thoroughly informed as to the geology of all parts of the Dominion. In the Northwest he paid particular attention to the relations of



the Cretaceous and Laramie formations; and he discovered the presence in the Cretaceous of Southern Alberta of an important series of rocks — the Belly River group — which, he says, “must be considered on the whole as a fresh-water formation.” The Kootanie group was also recognized by him as constituting a portion of the early Cretaceous in the Rocky Mountain region. His study of a large area in the interior plateau region of British Columbia established the existence there of a great series of mica-schists and gneisses supposed to be of Archæan age, and succeeded by Cambrian, Ordovician, Silurian and Carboniferous strata; while in the Cordilleran region of the same province he described the occurrence of great deposits of contemporaneous volcanic rocks, in various stages of metamorphism. While working in connection with the Boundary Commission also, he studied the crystalline rocks in the Lake of the Woods district, and concluded that a considerable portion of the Huronian formation there consists of metamorphosed volcanic rocks. He was a careful student of glacial phenomena and, according to Dr. G. J. Hinde,<sup>1</sup> was the first to describe the glacial origin of the Missouri Coteau, and in the interior of British Columbia, he has shown that at one period of the Ice Age there was a confluent ice-mass, the surface of which stood at a level of 7,000 feet above the sea, and that it must have been at least from 2,000 to 3,000 feet in thickness. He further established the fact that the movements of the glacier ice in this region were not only to the south and southeast, and through the transverse valleys and gaps of the coast ranges to the ocean, but that it had also a northerly flow, and passed down the valleys of the Pelly and Lewes branches of the Yukon river. Dr. Dawson also maintained that the northern part of the great plains had been submerged, and that their glaciation was in the main due to floating ice.

With regard to his ethnological work we cannot do better than quote from Mr. W. J. McGee’s appreciative notice in the *American Anthropologist*. Mr. McGee says: “While several of Dr. Dawson’s titles and the prefatory remarks in some of his papers imply that his ethnological researches were subsidiary to his geological work, and while his busy life never afforded opportunity for monographic treatment of Canada’s aborigenes, it is nevertheless true that he made original observations and records of standard value, that much of his work is still unique, and that his contributions, both personal and indirect, materially enlarged knowledge of our native tribes. It is well within bounds to say that in addition to his other gifts to knowledge, George M. Daw-

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<sup>1</sup> Geol. Magazine, May, 1897.



son was one of Canada's foremost contributors to ethnology, and one of that handful of original observers whose work affords the foundation for scientific knowledge of the North American natives.

Dawson's most notable contribution to ethnology was undoubtedly his memoir on the Haida Indians of the Queen Charlotte Islands, but he also published "Notes on the Indian Tribes of the Yukon District and Adjacent Northern Portion of British Columbia," a valuable memoir entitled "Notes and Observations on the Kwakiol People of Vancouver Island," "Notes on the Shuswap People of British Columbia," and other papers.

When in 1884, the British Association appointed a committee to study the physical characters, languages and social conditions of the Northwestern tribes of Canada, Dr. Dawson was made a member, and it devolved upon him to organize and administer the work of the committee. The work was carried on for years with much success and small money expenditure, and when, in 1896, an Ethnological Survey of Canada was instituted, Dawson was chosen as the head of the survey committee.

Not the least of his services to his country were those in connection with the Behring Sea Arbitration. He was one of the commissioners, and was sent by the British Government to the North Pacific Ocean to enquire into the conditions of seal life there. Subsequently, his evidence and forcible arguments undoubtedly secured for the British side of the case a much more favourable finding than would otherwise have been obtained. Lord Alverstone (now Lord Chief Justice of England) writing of him in this connection says: "It is not possible to overrate the services which Dr. Dawson rendered us in the Behring Sea Arbitration. I consulted him throughout on many questions of difficulty and never found his judgment to fail, and he was one of the most unselfish and charming characters that I ever met. I consider it a great pleasure to have known him." In recognition of his services on the Arbitration Dr. Dawson was made a C. M. G.

He received the degree of D. Sc., from Princeton in 1887, and that of LL.D. from Queen's University in 1890, from McGill University in 1891, and from Toronto University some years later. In 1891 he was awarded the Bigsby Gold Medal by the Geological Society for his services in the cause of geology, and was also elected a Fellow of the Royal Society. In 1893, he was elected President of the Royal Society of Canada, and in 1897 was President of the Geological Section of the British Association for the Advancement of Science at the Toronto meeting. In 1897 he was awarded the gold medal of the Royal Geo-



graphical Society. In 1900, he was President of the Geological Society of America, and gave his retiring address at the Albany meeting in December, choosing as his subject "The Geological Record of the Rocky Mountain Region in Canada." This address was published as a bulletin of the Geological Society of America, and will be prized as giving a summing up of his latest views on some of the problems connected with the complex geology of the west. Many other distinctions which cannot be enumerated here fell to his lot, and he won for himself the esteem and confidence of his fellow-countrymen in all parts of the Dominion. Nowhere was he more beloved than in British Columbia — the province in which he had done so much of his best work, and in which, he sometimes said to the writer, he would like to spend his last days.

After the Toronto meeting of the British Association, in 1897, he accompanied a party of the members on a trip across the continent, and all were struck with the warmth of the welcome everywhere accorded to him. "Among the many distinguished visitors," wrote the *Victoria Colonist*, "by whose presence Victoria has been honoured during the past few days, none holds a higher or more deserved place in the esteem of Canadians than George M. Dawson. In one sense he is the discoverer of Canada, for the Geological Survey of which he has been the chief, has done more than all other agencies combined to make the potentialities of the Dominion known to the world. He has been engaged in the work so long that he can look back over it with the profound satisfaction which comes from the knowledge that his judgment on points of extreme interest and value has been justified by events. The development of Kootenay, the hydraulic mines of Cariboo, and the gold mines in the Yukon are all foretold in the interesting pages of Dr. Dawson's earlier reports. Therefore, when we find in the voluminous products of his pen, wherein the results of his observations are recorded, anticipations of great mineral development in parts of the province that are as yet unexplored, we feel almost as if such developments were guaranteed. A careful observer, a conservative reasoner, a skilful writer, Canada possesses in Dr. Dawson a public servant the value of whose services can never be over-estimated. His name carries authority with it on any subject on which he speaks. That a long career may be before him is the hope of all, for we all know how much that means to the Dominion."

Dr. Dawson was a ready and prolific writer and a brilliant conversationalist. His quiet humour was infectious, and any dinner party which numbered him among the guests was sure to be a merry one.



He seemed to have an inexhaustible fund of information, not merely about his own special lines of work, but covering the widest range of subjects. The marvel was how in his busy life he had acquired so much and such varied knowledge. For one of apparently delicate constitution, his powers of enduring prolonged physical exertion were as remarkable as his capacity for continuous mental activity. He was at work at his office until two days before his death, the immediate cause of which was capillary bronchitis. The secret of Dr. Dawson's widespread popularity, no doubt, lay in his downright unselfishness and in his sunny and sympathetic nature.

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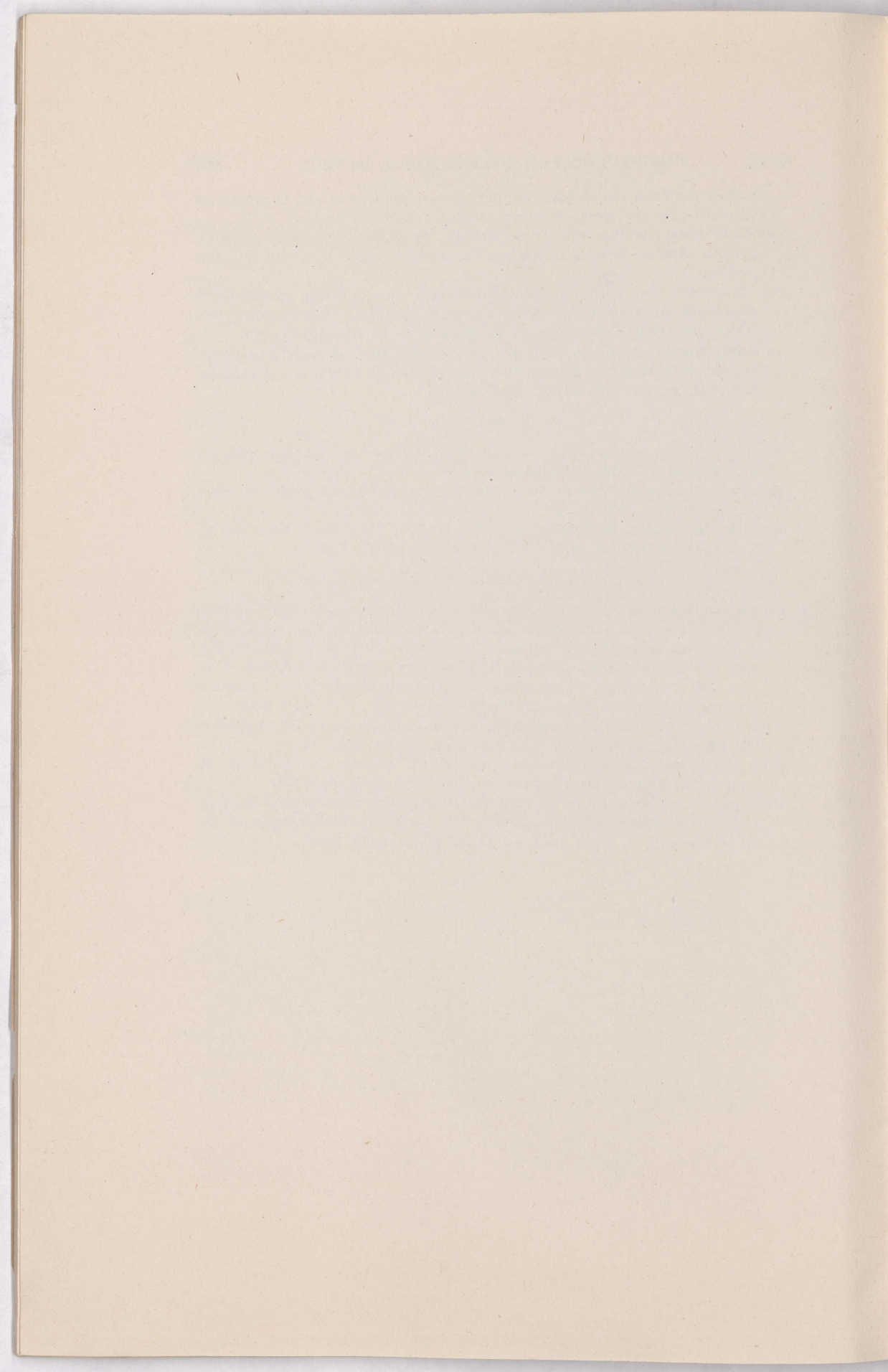
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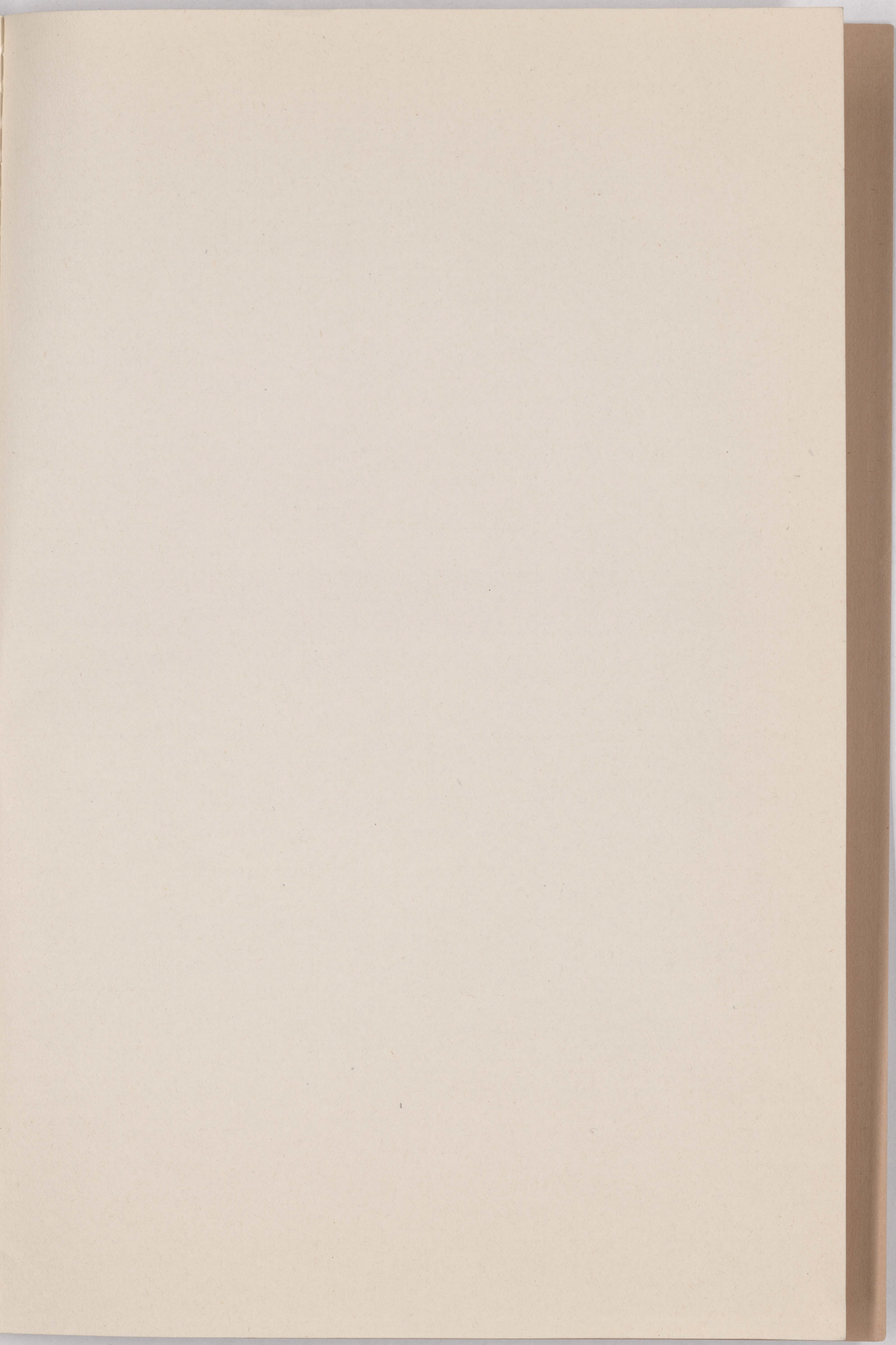
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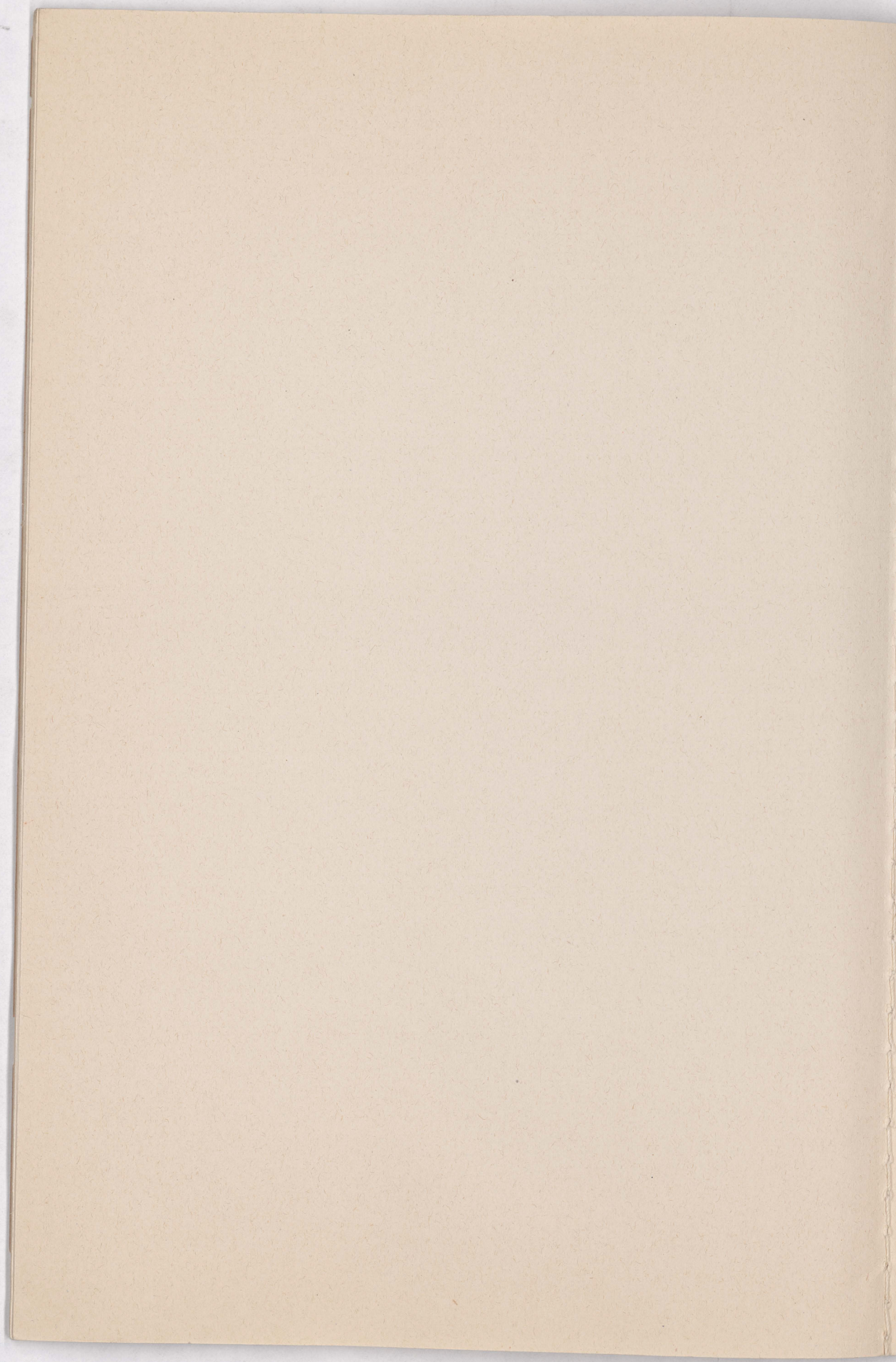




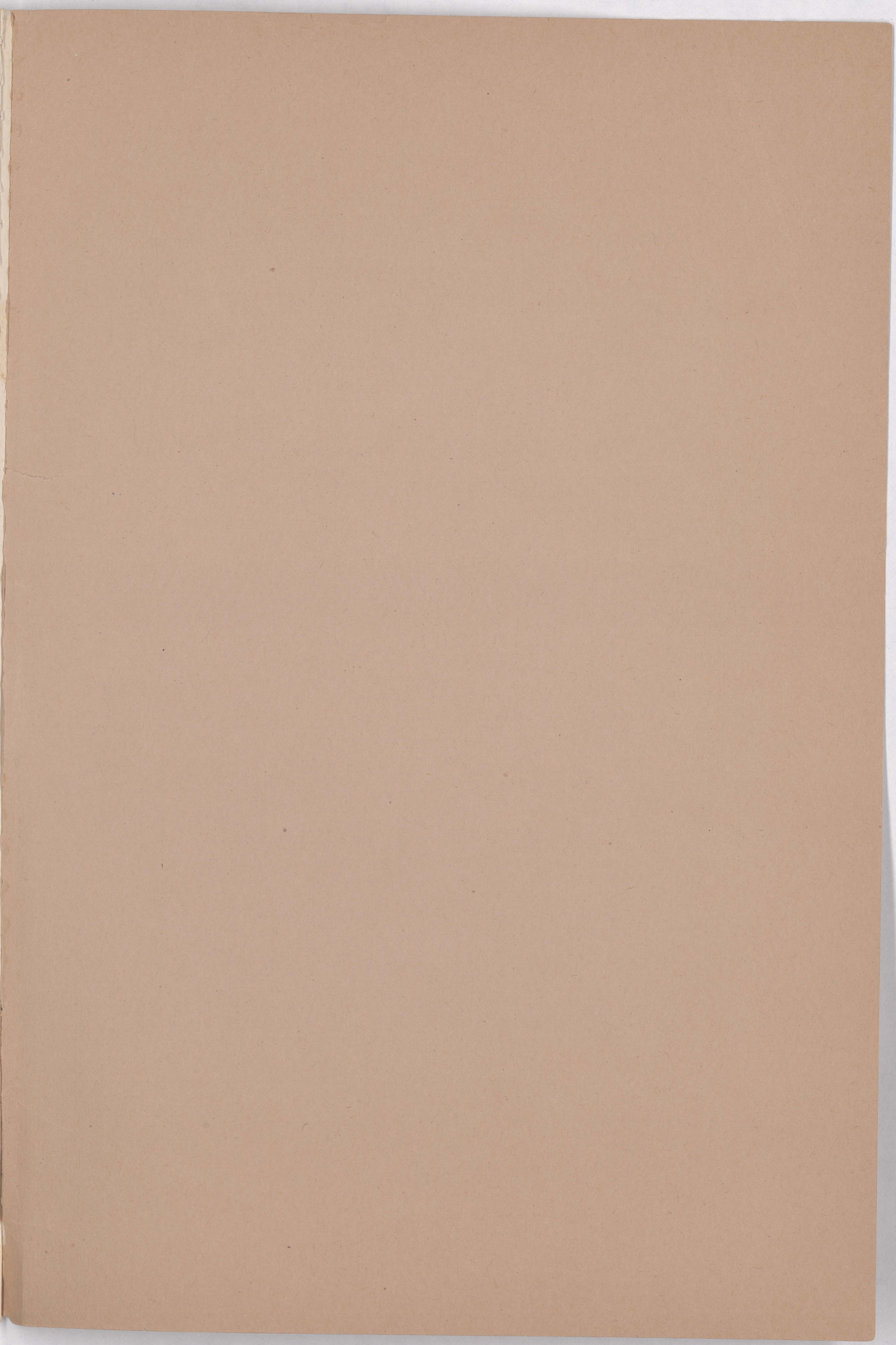




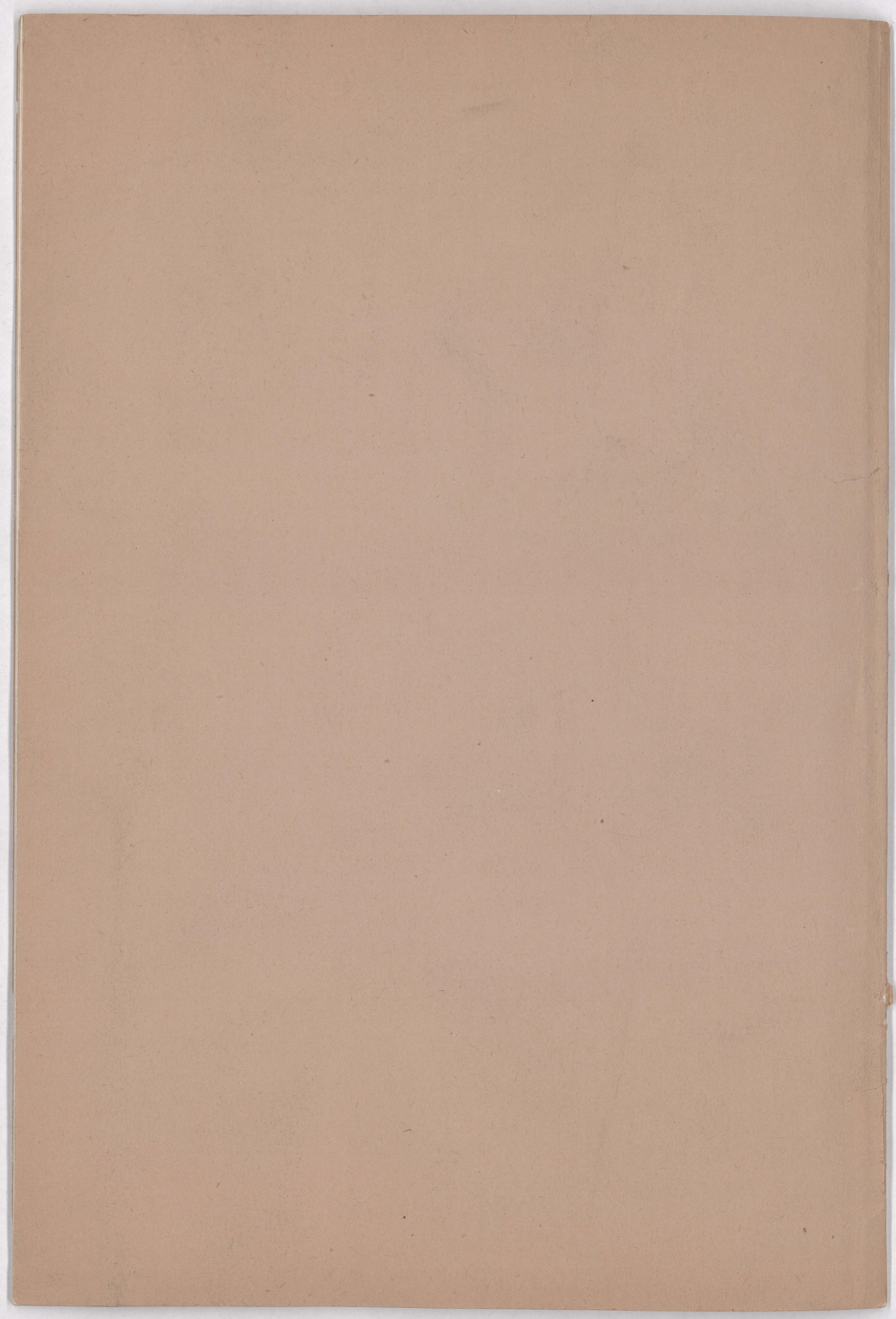














CERTIFICATE FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on PHYSICS during the Session 1869-70, and has passed an examination with credit.

(Signed) FREDERICK GUTHRIE  
Professor of Physics  
London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING during the Sessions 1869-70 and '70-71 and has passed an examination in the highest degree satisfactory.

(Signed) EDGAR, M. A.  
Lecturer on Mechl. Drawing  
London, October 30, 1871.

# MEMORANDUM

*With reference to Mr. GEORGE M. DAWSON, F.G.S.*

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on CHEMISTRY during the Session 1869-70, and has passed an examination in the highest degree satisfactory.

(Signed) FRANKLAND  
Professor  
London, October 10, 1870.

## ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY given in the Laboratories of the College six days each week during the three Sessions of 1870-71, 1871-72, and 1872-73, and has passed an examination in the highest degree satisfactory.

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec. He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

While attending the School of Mines, Mr. Dawson devoted especial attention to Geology and Palæontology, under the able tuition of Ramsay, Huxley and Etheridge, and to Chemistry and Metallurgy in the Laboratories of Frankland and Percy. In connection with his work on the Boundary Commission he has given much time and study to the special geology and fossils of the principal North American formations. He is also a good microscopist and a skilful draughtsman. His merits as a careful observer and accurate and lucid describer may be judged of by his published Reports, while his personal character and relations with his Colleagues are referred to in the Testimonials attached. It is to be observed that most of these testimonials were given with reference to his candidature for the office of Palæontologist to the Geological Survey of Canada, for which, however, the greater part of them were received too late.

(Signed) T. H. HUXLEY  
October, 1876  
London, 3th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON, W. SMYTH  
Lecturer on Mining  
London, 3th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

(Signed) ALBERT EDWARD, P.  
London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on PHYSICS, during the Session 1869-70, and has passed an examination with credit.

(Signed) FREDERICK GUTHRIE,  
Professor of Physics.

London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING, during the Sessions 1869-70 and '70-71 and has passed an examination, in the highest degree satisfactory.

(Signed) J. H. EDGAR, M. A.  
Lecturer on Mechl. Drawing.

London, October 30, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on CHEMISTRY, during the Session 1869-70, and has passed an examination, in the highest degree satisfactory.

(Signed) E. FRANKLAND,  
Professor

London, October 10, 1870

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of Instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

(Signed) E. FRANKLAND,  
Professor.

ROYAL COLLEGE OF CHEMISTRY,  
London, June 19, 1871

(Signed) WM. GEO. VALENTIN,  
Hon. Secretary.

It is hereby certified that Mr. G. M. Dawson has studied in the METALLURGICAL LABORATORY, during six months, from the first of October 1871, to the 31st of March 1872. His attention was directed to the assaying of ores of Iron, Lead, Tin, Gold, Silver, Copper and Zinc; and the alloys of Gold and Silver, by the wet and dry methods. He attended with regularity and worked with commendable perseverance and industry. His results were frequently tested and found to be correct.

(Signed) JOHN PERCY, M. D., F. R. S.  
Lecturer on Metallurgy.

London, 6th July, 1872

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on MINERALOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mineralogy.

London, 1st October, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on GEOLOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) ANDREW RAMSAY, LL.D., F.R.S.  
Lecturer on Geology.

London, 2nd October, 1871.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on APPLIED MECHANICS, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. M. GOODEVE,  
Lecturer on Applied Mechanics.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on NATURAL HISTORY, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mining.

London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.



It is hereby certified that Mr. George Mestor Dawson has attended the course of lectures on Physics, during the Session 1869-70, and has passed an examination with credit.

FREDERICK GUTHRIE (Signed)  
Professor of Physics.  
London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on Mechanical Drawing during the Sessions 1869-70 and 70-71 and has passed an examination in the highest degree satisfactory.

EDGAR M. A. (Signed)  
Lecturer on Mech. Drawing.  
London, October 30, 1871.

# MEMORANDUM

*With reference to Mr. GEORGE M. DAWSON, F.G.S.*

It is hereby certified that Mr. George Mestor Dawson has attended the course of lectures on Chemistry, during the Session 1869-70, and has passed an examination in the highest degree satisfactory.

FRANKLAND (Signed)  
Professor.  
London, October 10, 1870.

## ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in Practical Chemistry given in the Laboratories of the College six days each week during the three Sessions of the year 1870-71.

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec. He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

While attending the School of Mines, Mr. Dawson devoted especial attention to Geology and Palæontology, under the able tuition of Ramsay, Huxley and Etheridge, and to Chemistry and Metallurgy in the Laboratories of Frankland and Percy. In connection with his work on the Boundary Commission he has given much time and study to the special geology and fossils of the principal North American formations. He is also a good microscopist and a skilful draughtsman. His merits as a careful observer and accurate and lucid describer may be judged of by his published Reports, while his personal character and relations with his Colleagues are referred to in the Testimonials attached. It is to be observed that most of these testimonials were given with reference to his candidature for the office of Palæontologist to the Geological Survey of Canada, for which, however, the greater part of them were received too late.

T. H. HUXLEY (Signed)  
London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on Mining during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

WARRINGTON W. SMYTH (Signed)  
Lecturer on Mining.  
London, 8th July, 1872.

It having been duly reported that George Mestor Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, during the Sessions of 1870-71 and 1871-72.

ALBERT EDWARD R. (Signed)  
London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on PHYSICS, during the Session 1869-70, and has passed an examination with credit.

(Signed) FREDERICK GUTHRIE,  
Professor of Physics.

London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING, during the Sessions 1869-70 and '70-71 and has passed an examination, in the highest degree satisfactory.

(Signed) J. H. EDGAR, M. A.  
Lecturer on Mechl. Drawing.

London, October 30, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on CHEMISTRY, during the Session 1869-70, and has passed an examination, in the highest degree satisfactory.

(Signed) E. FRANKLAND,  
Professor

London, October 10, 1870

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of Instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

(Signed) E. FRANKLAND,  
Professor.

ROYAL COLLEGE OF CHEMISTRY,  
London, June 19, 1871  
(Signed) Wm. GEO. VALENTIN,  
Hon. Secretary.

It is hereby certified that Mr. G. M. Dawson has studied in the METALLURGICAL LABORATORY, during six months, from the first of October 1871, to the 31st of March 1872. His attention was directed to the assaying of ores of Iron, Lead, Tin, Gold, Silver, Copper and Zinc; and the alloys of Gold and Silver, by the wet and dry methods. He attended with regularity and worked with commendable perseverance and industry. His results were frequently tested and found to be correct.

(Signed) JOHN PERCY, M. D., F. R. S.  
Lecturer on Metallurgy.

London, 6th July, 1872

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on MINERALOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH.  
Lecturer on Mineralogy.

London, 1st October, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on GEOLOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) ANDREW RAMSAY, LL.D., F.R.S.  
Lecturer on Geology.

London, 2nd October, 1871.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on APPLIED MECHANICS, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. M. GOODEVE,  
Lecturer on Applied Mechanics.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on NATURAL HISTORY, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mining.

London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Metcalf Dawson has attended the course of lectures on PHYSICS, during the Session 1869-70, and has passed an examination with credit.

FREDERICK GUTHRIE, (Signed)  
Professor of Physics  
London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING, during the Sessions 1869-70 and 70-71 and has passed an examination in the highest degree satisfactory.

EDGAR, M. A. (Signed)  
Lecturer on Mech. Drawing  
London, October 30, 1871.

## MEMORANDUM

*With reference to Mr. GEORGE M. DAWSON, F.G.S.*

It is hereby certified that Mr. George Metcalf Dawson has attended the course of lectures on CHEMISTRY, during the Session 1869-70, and has passed an examination in the highest degree satisfactory.

ASSOCIATE ROYAL SCHOOL OF MINES.  
Professor  
London, October 10, 1870.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of the Session 1870-71, and has passed an examination in the highest degree satisfactory.

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec. He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

While attending the School of Mines, Mr. Dawson devoted especial attention to Geology and Palæontology, under the able tuition of Ramsay, Huxley and Etheridge, and to Chemistry and Metallurgy in the Laboratories of Frankland and Percy. In connection with his work on the Boundary Commission he has given much time and study to the special geology and fossils of the principal North American formations. He is also a good microscopist and a skilful draughtsman. His merits as a careful observer and accurate and lucid describer may be judged of by his published Reports, while his personal character and relations with his Colleagues are referred to in the Testimonials attached. It is to be observed that most of these testimonials were given with reference to his candidature for the office of Palæontologist to the Geological Survey of Canada, for which, however, the greater part of them were received too late.

T. H. HUXLEY, (Signed)  
London, 8th July, 1872.  
October, 1876

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

WARRINGTON, W. SMYTH, (Signed)  
Lecturer on Mining  
London, 8th July, 1872.

It having been duly reported that George Metcalf Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

ALBERT EDWARD, F. (Signed)  
London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on PHYSICS, during the Session 1869-70, and has passed an examination with credit.

(Signed) FREDERICK GUTHRIE,  
Professor of Physics.

London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING, during the Sessions 1869-70 and '70-71 and has passed an examination, in the highest degree satisfactory.

(Signed) J. H. EDGAR, M. A.  
Lecturer on Mechl. Drawing.

London, October 30, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on CHEMISTRY, during the Session 1869-70, and has passed an examination, in the highest degree satisfactory.

(Signed) E. FRANKLAND,  
Professor

London, October 10, 1870

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of Instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

(Signed) E. FRANKLAND,  
Professor.  
ROYAL COLLEGE OF CHEMISTRY,  
London, June 19, 1871  
(Signed) WM. GEO. VALENTIN,  
Hon. Secretary.

It is hereby certified that Mr. G. M. Dawson has studied in the METALLURGICAL LABORATORY, during six months, from the first of October 1871, to the 31st of March 1872. His attention was directed to the assaying of ores of Iron, Lead, Tin, Gold, Silver, Copper and Zinc; and the alloys of Gold and Silver, by the wet and dry methods. He attended with regularity and worked with commendable perseverance and industry. His results were frequently tested and found to be correct.

(Signed) JOHN PERCY, M. D., F. R. S.  
Lecturer on Metallurgy.

London, 6th July, 1872

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on MINERALOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mineralogy.

London, 1st October, 1871.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on GEOLOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

(Signed) ANDREW RAMSAY, LL.D., F.R.S.  
Lecturer on Geology.

London, 2nd October, 1871.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on APPLIED MECHANICS, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. M. GOODEVE,  
Lecturer on Applied Mechanics.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on NATURAL HISTORY, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,  
Lecturer on Mining.

London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.



It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on Physics during the Session 1869-70, and has passed an examination with credit.

FREDERICK GUTHRIE (Signed)  
Professor of Physics  
London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on Mechanical Drawing during the Sessions 1869-70 and 70-71 and has passed an examination in the highest degree satisfactory.

M. A. EDGAR, M. A. (Signed)  
Lecturer on Mech. Drawing  
London, October 30, 1871.

## MEMORANDUM

*With reference to Mr. GEORGE M. DAWSON, F.G.S.*

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on Chemistry during the Session 1869-70, and has passed an examination in the highest degree satisfactory.

ASSOCIATE ROYAL SCHOOL OF MINES.  
London, October 10, 1870.  
Professor

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY given in the Laboratories of the College six days each week during the three Sessions of

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec. He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

While attending the School of Mines, Mr. Dawson devoted especial attention to Geology and Palæontology, under the able tuition of Ramsay, Huxley and Etheridge, and to Chemistry and Metallurgy in the Laboratories of Frankland and Percy. In connection with his work on the Boundary Commission he has given much time and study to the special geology and fossils of the principal North American formations. He is also a good microscopist and a skilful draughtsman. His merits as a careful observer and accurate and lucid describer may be judged of by his published Reports, while his personal character and relations with his Colleagues are referred to in the Testimonials attached. It is to be observed that most of these testimonials were given with reference to his candidature for the office of Palæontologist to the Geological Survey of Canada, for which, however, the greater part of them were received too late.

T. H. HUXLEY (Signed)  
London, 8th July, 1872.  
October, 1876

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on Mining during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

WARRINGTON W. SMYTH (Signed)  
Lecturer on Mining  
London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.

ALBERT EDWARD, F. (Signed)  
London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY, LONDON, ENGLAND.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on PHYSICS, during the Session 1869-70, and has passed an examination with credit.

(Signed) FREDERICK GUTHRIE,  
Professor of Physics.

London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING, during the Sessions 1869-70 and '70-71 and has passed an examination, in the highest degree satisfactory.

(Signed) J. H. EDGAR, M. A.

London, October 30, 1871.

Lecturer on Mechl. Drawing.

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(Signed) E. FRANKLAND,

London, October 10, 1870

Professor

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of Instruction in PRACTICAL CHEMISTRY, given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

(Signed) E. FRANKLAND,

Professor.

ROYAL COLLEGE OF CHEMISTRY,  
London, June 10, 1871

(Signed) WM. GEO. VALENTIN,  
Hon. Secretary.

It is hereby certified that Mr. G. M. Dawson has studied in the METALLURGICAL LABORATORY, during six months, from the first of October 1871, to the 31st of March 1872. His attention was directed to the assaying of ores of Iron, Lead, Tin, Gold, Silver, Copper and Zinc; and the alloys of Gold and Silver, by the wet and dry methods. He attended with regularity and worked with commendable perseverance and industry. His results were frequently tested and found to be correct.

(Signed) JOHN PERCY, M. D., F. R. S.

London, 6th July, 1872

Lecturer on Metallurgy.

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(Signed) WARRINGTON W. SMYTH.

London, 1st October, 1871.

Lecturer on Mineralogy.

It is hereby certified that Mr. George Mercer Dawson has attended the course of lectures on GEOLOGY, during the Session 1870-71, and has passed an examination in the highest degree satisfactory.

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London, 2nd October, 1871.

Lecturer on Geology.

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(Signed) T. M. GOODEVE,

London, 8th July, 1872.

Lecturer on Applied Mechanics.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on NATURAL HISTORY, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING, during the Session 1871-72, and has passed an examination in the highest degree satisfactory.

(Signed) WARRINGTON W. SMYTH,

London, 8th July, 1872.

Lecturer on Mining.

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(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.



CERTIFICATES FROM THE ROYAL SCHOOL OF MINES AND FROM THE ROYAL COLLEGE OF CHEMISTRY LONDON ENGLAND.  
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FREDERICK GUTHRIE (signed)  
Professor of Physics  
London, October 10, 1870.

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MECHANICAL DRAWING during the Sessions 1869-70 and 70-71 and has passed an examination, in the highest degree satisfactory.  
LONDON, OCTOBER 30, 1871.

# MEMORANDUM

*With reference to Mr. GEORGE M. DAWSON, F.G.S.*

ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and acquired a good knowledge of qualitative and quantitative analysis.

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec. He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

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October, 1876

It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on MINING during the Session 1871-72, and has passed an examination in the highest degree satisfactory.  
WARRINGTON W. SMYTH (signed)  
Lecturer on Mining  
London, 8th July, 1872.

It having been duly reported that George Mercer Dawson stood at the head of the Students at the examination for 1870-71, he is hereby authorized to hold one of the Duke of Cornwall's Exhibitions of £30 per annum, for two years, namely for the Sessions of 1870-71 and 1871-72.  
ALBERT EDWARD P. (signed)  
London, July 10th, 1871.



FROM MAJOR CAMERON, R. A., LATE N. AMERICAN BOUNDARY COMMISSIONER, (SEPT. 9th, 1876.)

As Mr. George M. Dawson, who was recently Geologist to the North American Boundary Commission, is a candidate for the office of Palæontologist on the Canadian Geological Survey, it is my pleasing duty to say in his behalf that I have never met a gentleman better entitled to consideration on the score of love of his profession, indefatigable zeal, official bearing, and conscientious regard for public interests.

Although my knowledge of the science of which I believe him to be an able master, would not justify my passing a personal opinion upon his merits in this respect, I may nevertheless unhesitatingly urge their excellence; for the results of his labors during the boundary-marking expedition—embodied in his elaborate published Report—have elicited here, since my return to England, expressions of very high praise from most eminent Professors.

The Report to which I refer, discloses an extensive and familiar knowledge of the subject; and the hurry and difficulties of the circumstances under which it was made, are evidence that Mr. Dawson is endowed with rare power of quick and accurate observation and of generalization, and that he is possessed of great energy and endurance.

(Signed) D. R. CAMERON.

Late North American Boundary Commissioner.

FROM CAPT. ANDERSON, R. E., LATE CHIEF ASTRONOMER NORTH AMERICAN BOUNDARY COMMISSION, (SEPT. 13th, 1876.)

I have much pleasure in testifying to the eminent fitness of Mr. George M. Dawson, for the position of Palæontologist to the Geological Survey of Canada.

For upwards of two years I was employed in the North American Boundary Commission with Mr. Dawson, and had the best opportunities of observing his skill and ability as a Geologist, Naturalist and Palæontologist, together with his zeal and devotion to research in the Field. The best evidences of Mr. Dawson's ability are his published works, which have now a world-wide reputation.

(Signed) S. ANDERSON, Captain R. E.,

Late Chief Astronomer N. A. Boundary Com.

FROM PROF. T. H. HUXLEY, F.R.S., SEC'Y. ROYAL SOCIETY, (AUG. 28th, 1876.)

I was well acquainted with Mr. George M. Dawson, during the period of his Studentship at the Royal School of Mines in London; and I am glad to be able to speak in the highest terms of the intelligence and power of work which he displayed, and which led to his becoming one of our most distinguished associates.

Mr. Dawson's large knowledge of Natural History, Palæontology and Geology, has not been allowed to lie idle since his student days, and it is my belief that he only needs opportunity to attain scientific eminence.

I should therefore be very glad to see him appointed to the office of Palæontologist to the Geological Survey of Canada, for which I understand him to be a candidate. Mr. Dawson's scientific qualifications for the place are unquestionable, and my knowledge of his character leads me to entertain a strong conviction, that he would discharge its duties conscientiously and energetically.

(Signed) T. H. HUXLEY, Sec'y. R. Society.

Professor of Natural History, Royal School of Mines, London.

FROM DR. BIGSBY, F.R.S., LATE OF THE BOUNDARY COMMISSION OF BRITISH NORTH AMERICA, AUTHOR OF "THESAURUS SILURICUS," AND OF SEVERAL MEMOIRS ON NORTH AMERICAN GEOLOGY, (SEPT. 18th, 1876.)

Having had for some years, intercourse with Mr. George M. Dawson, while he was a diligent and successful student of certain branches of Geology at the Royal School of Mines, I feel assured that he would fill the important office of Palæontologist to the Geological Survey of Canada, to your complete satisfaction. Mr. George M. Dawson, a young man of high endowments, has had extraordinary educational advantages. Of these he has well availed himself, and the result we have in his recent Memoir on the Geology of Western America, a memoir which has been received with great approbation, as abounding in valuable facts, well stated and excellently arranged.

I shall greatly rejoice in his success.

(Signed) JOHN J. BIGSBY, M.D., F.R.S., &c.

Murchison Medallist.

FROM PROFESSOR JAMES HALL, STATE GEOLOGIST AND PALÆONTOLOGIST OF NEW YORK, SEPTEMBER 16, 1876.

Learning that Mr. George M. Dawson is a candidate for the position of Palæontologist upon the staff of the Geological Survey of the Dominion, I beg leave to offer my expressions in his favor. From the training and discipline which he has received, and from his successful competition for honors in the School of Mines, as well as from his published reports and scientific papers, I consider him not only competent to fill the position, but also the most competent person within the Dominion who will be likely to become a candidate for the place.

(Signed) JAMES HALL.

FROM DR. F. V. HAYDEN, DIRECTOR OF THE UNITED STATES SURVEY OF THE WESTERN TERRITORIES, (SEPT. 11th, 1876.)

SIR,  
I understand that Mr. George M. Dawson of Montreal, Canada, is a candidate for the vacant position of Palæontologist to the Geological Survey of Canada; and, though a Geologist, engaged in similar pursuits in an official capacity under the United States Government, I beg permission to offer my cordial endorsement of his fitness, and my wish that he may receive the appointment.

It has been necessary for me, in connection with my explorations of the north western portion of the United States, to study with much care Mr. Dawson's report of the 49th Parallel, as well as his other writings, and I have always been strongly impressed with their breadth and thoroughness. The fairness and justice with which he treats the labors of other Geologists, forms an important moral element in his writings.

I am confident that there is no person available at the present time who combines so many qualifications for the position as Mr. Dawson, and should the Survey secure his services, I feel assured that the Palæontology would be prepared in a conscientious and creditable manner.

Hoping for the good of the Survey and the advancement of science, that Mr. Dawson's application may be successful, I beg to remain,

Your obedient servant,

(Signed)

F. V. HAYDEN,

United States Geologist.



DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

It is hereby certified that Mr. G. M. Dawson has passed the examinations which entitle him to be an ASSOCIATE OF THE ROYAL SCHOOL OF MINES.

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,

Registrar.

FROM VENERABLE ARCHDEACON LEACH, LL.D., VICE-PRINCIPAL AND DEAN OF THE FACULTY OF ARTS, MCGILL UNIVERSITY.

In 1868, Mr. George M. Dawson, attended my Lectures on "English Language and Literature." His attention and conduct were all that could be desired, and I remember having then the conviction that his superior intelligence gave promise of success and distinction in whatever profession or course of study he might engage. I am well acquainted with Mr. Dawson, and should find it difficult to tell, were I to try, how highly I esteem him on other accounts than his great intellectual abilities. I allude to his disposition and gentlemanly manners, and his excellent moral character.

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

ADDRESS FROM MEMBERS OF CLASS IN CHEMISTRY, IN MORRIN COLLEGE, QUEBEC.

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

Associate of the Royal School of Mines, (London.)

DEAR SIR.—The members of the class to which you have delivered the present course of lectures on Chemistry, being about to separate, are desirous before doing so, of unitedly expressing to you their high sense of satisfaction with the amount of information imparted.

The deeply important subject which has engaged our attention was comparatively new to many of us, and we consider ourselves fortunate in having been introduced to an interesting though somewhat difficult study by a gentleman who combines in an extraordinary degree, deep knowledge of his subject with an attractive facility in communicating that knowledge to others.

Wherever you go, or in whatever field your rich talents may find exercise, we desire that you should carry with you our best wishes for your future prosperity and success, and hope that some of our country's institutions of learning may permanently secure your valuable services for the popular exposition of a science so much bound up with the future welfare of Canada as Chemistry.

(Signed by the Students of the Class.)

FROM REV. DR. COOK, PRINCIPAL OF MORRIN COLLEGE, QUEBEC.

DEAR DR. DAWSON,

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AND. RAMSAY,

Geol. Survey of England and Wales, Jermyn Street, 13th January, 1873.



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I shall greatly rejoice in his success.

(Signed) JOHN J. BIGSBY, M.D., F.R.S., &c.

Murchison-Medallist.

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(Signed)

F. V. HAYDEN,  
United States Geologist.



## DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

It is hereby certified that Mr. G. M. Dawson has passed the examinations which entitle him to be an ASSOCIATE OF THE ROYAL SCHOOL OF MINES.

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,  
Registrar.

FROM VENERABLE ARCHDEACON LEACH, LL.D., VICE-PRINCIPAL AND DEAN OF THE FACULTY OF ARTS, MCGILL UNIVERSITY.

In 1868, Mr. George M. Dawson, attended my Lectures on "English Language and Literature." His attention and conduct were all that could be desired, and I remember having then the conviction that his superior intelligence gave promise of success and distinction in whatever profession or course of study he might engage. I am well acquainted with Mr. Dawson, and should find it difficult to tell, were I to try, how highly I esteem him on other accounts than his great intellectual abilities. I allude to his disposition and gentlemanly manners, and his excellent moral character.

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

ADDRESS FROM MEMBERS OF CLASS IN CHEMISTRY, IN MORRIN COLLEGE, QUEBEC.

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

Associate of the Royal School of Mines, (London.)

DEAR SIR.—The members of the class to which you have delivered the present course of lectures on Chemistry, being about to separate, are desirous before doing so, of unitedly expressing to you their high sense of satisfaction with the amount of information imparted.

The deeply important subject which has engaged our attention was comparatively new to many of us, and we consider ourselves fortunate in having been introduced to an interesting though somewhat difficult study by a gentleman who combines in an extraordinary degree, deep knowledge of his subject with an attractive facility in communicating that knowledge to others.

Wherever you go, or in whatever field your rich talents may find exercise, we desire that you should carry with you our best wishes for your future prosperity and success, and hope that some of our country's institutions of learning may permanently secure your valuable services for the popular exposition of a science so much bound up with the future welfare of Canada as Chemistry.

(Signed by the Students of the Class.)

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