

From the Popular Science Monthly 1875, (with additions).

SKETCH OF PRINCIPAL DAWSON.

JOHN WILLIAM DAWSON was born at Pictou, Nova Scotia, in 1820. He received his early academic training in the College of Pictou, then one of the best Institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native province, thus early manifesting a taste for original scientific inquiry.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed two important papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labours he published several elaborate Reports on the Schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was called to the position which he still holds, that of Principal and Professor of Natural History in McGill College and University, an Institution which, situated in Montreal, the commercial capital of Canada, draws its students from all parts of the Dominion. The University has prospered under his management beyond the most sanguine expectations of its friends and promoters.

The raising of McGill College to its present position would have been work enough in itself for these years, but in addition to this Dr. Dawson has had under his care the Protestant Normal School. From his position there, he has had a great deal to do with the moulding and controlling of the school system of the country. After many years' faithful work, he withdrew (in 1870) from the active duties of the Normal School, retaining however, a connection with it as Chairman of its Committee of management.

His special work in connection with the University and the Normal School took up much of that time which would have otherwise been devoted to original investigations in his favorite science.

A review of his more important scientific labors will show us how much may be done even in the midst of engrossing educational occupations. As early as 1830 Dr. Dawson began to make collections of the fossil plants of the Nova Scotia coal formation. In 1841 he contributed to the Wernerian Society of Edinburgh his first scientific paper, on the species of field-mice found in Nova Scotia. In 1843 he communicated a paper on the rocks of Eastern Nova Scotia to the Geological Society of London; this was followed in 1844 by a paper on the newer coal formation. In 1845, besides exploring and reporting on the iron mines of Londonderry, Nova Scotia, he published a paper on the coal formation plants of that province.

During the winter of 1846-'47, while studying in Edinburgh, he contributed to the Royal Society of that city, papers on the "Formation of Gypsum," and on the "Boulder Formation," and an article to Jameson's *Edinburgh Philosophical Journal*, on the "Renewal of Forests destroyed by Fire." The facts embodied in the last were subsequently employed by him in combating the exaggerated periods of time assigned to such changes by European geologists.

From 1847 to 1849 we find him, with the same never-flagging zeal, pursuing his geological researches, and giving the results to the world in frequent papers. The most important of these are: 1. "On the Triassic Red Sandstones of Nova Scotia and Prince Edward Island;" 2. "On the Coloring Matters of Red Sandstones;" 3. "On Erect Calamites found near Pictou;" 4. On the "Metamorphic Rocks of Nova Scotia." He also published his "Handbook of the Geography and Natural History of Nova Scotia," and delivered courses of lectures on Natural History and Geology in the Pictou Academy, and in Dalhousie College, Halifax, and reported to the Nova Scotia Government on the coal-fields of Southern Cape Breton.

In 1852, in company with Sir Charles Lyell, he made a re-examination of the Joggins section, and visited the remarkable deposit of Albertite at Hillsborough, New Brunswick. A memoir soon appeared on the former district, giving a more full exposition than any previous one of the structure and mode of formation of a coal-field. The Albert Mine was also made the subject of a paper. In the further study of the Joggins section, microscopic examinations were made of coal from all its beds, as well as of coal

from other sources, the results being published in papers on the "Structures in Coal," and on the "Mode of Accumulation of Coal."

It was during the visit to the Joggins, just referred to, that the remains of *Dendrorepeton Acadianum* and *Pupa vetusta* were found. With the exception of *Baphetes planiceps*, which Dr. Dawson had discovered in the year previous at Pictou, but had not described, *Dendrorepeton Acadianum* was the first reptile found in the coal formation of America; *Pupa vetusta* was the first known Palæozoic land snail. These discoveries were followed by the finding and describing of several other reptiles, and of the first carboniferous millipede (*Xylobius sigillaria*). About this time, also, a second report on the Acadia iron mine was prepared, and an elaborate series of assays of coal made for the General Mining Association.

In 1855 he published the first edition of his "Acadian Geology," a complete account, up to that date, of the geology of the Maritime Provinces of British North America. In 1856, though now trammelled by the arduous duties incumbent upon the principal of a University, he still continued his geological work in his native province, and prepared a description of the Silurian and Devonian rocks. During the same summer he visited Lake Superior, and wrote a paper and report on the copper-regions of Maimanse and Georgian Bay, in which he discussed the geological relations of the then little known copper-bearing rocks of the North Shore of Lake Superior, and the origin of the deposits of native copper.

In the two following years he made a number of contributions to the *Canadian Naturalist* and the *Journal* of the *Geological Society*, and commenced the study of the Post-pliocene deposits of Canada. In 1859 his "Archaia," or studies of creation in Genesis, appeared, a work showing not only a thorough knowledge of Natural History, but also considerable familiarity with the Hebrew language and with biblical literature.

In 1860 Dr. Dawson issued a supplementary chapter to his "Acadian Geology." He also continued his work in fossil botany and in the Post-pliocene, publishing several papers on these subjects, as well as desultory researches on such subjects as the "Flora of Mount Washington," "Indian Antiquities at Montreal," "Marine Animals of the St. Lawrence," "Earthquakes in Canada," "Classification of Animals," etc.

In 1863 he issued his "Air-Breathers of the Coal Period," a complete account of the fossil reptiles and other land animals of the coal of Nova Scotia. This publication was followed, in 1864, by a "Handbook of Scientific Agriculture." It was in 1864, moreover, that Dr. Dawson made what may be considered as one of the most important of his scientific discoveries—that of *Eozoon Canadense*. This fossil had already been noticed by Sir William Logan, but Dr. Dawson to whom Sir William submitted his specimens, was the first to recognize its Foraminiferal affinities, and to describe its structure. Previous to this the rocks of the Laurentian age were looked upon as devoid of animal remains, and called "Azoic." Dr. Dawson now substituted the term "Eozoic."

In 1865 Dr. Dawson, at the meeting of the British Association at

Birmingham, gave illustrations of his researches on the "Succession of Palæozoic Floras," the "Post-pliocene of Canada," and the "Structure of Eozoon."

In 1868 appeared the second edition of "Acadian Geology," enlarged to nearly 700 octavo pages, with a great number of illustrations from the author's drawings; and which still remains the standard work on the geology of the Maritime Provinces, while it also treats of many of the more difficult problems of general geology.

While in England, in 1870, Dr. Dawson lectured at the Royal Institution. He also read a paper on the "Affinities of Coal Plants" before the Geological Society, and one on the "Devonian Flora" before the Royal Society. The same year his "Handbook of Canadian Zoology" appeared, being followed in 1871 by a "Report on the Silurian and Devonian Flora of Canada," and a "Report on the Geological Structure of Prince Edward Island," in which he was ably assisted by Dr. Harrington. His studies of the Devonian plants were begun as early as 1858, and Gaspé, St. John's, and Perry in Maine, were twice visited in order to collect material to aid in their prosecution.

His "Notes on the Post-pliocene of Canada" were published in 1873. From them we learn that the number of known species of Post-pliocene fossils had been raised, principally by his labors, from about thirty to over two hundred. We also find that Dr. Dawson is still what he has always been, a staunch opponent to the theory of general land glaciation. "The Story of the Earth and Man," issued in 1873, was a republication of papers published in the *Leisure Hour* in 1871 and 1872. It gives a popular view of the whole of the Geological ages, presented in a series of word-pictures, and with discussions of the theories as to the origin of mountains, the introduction and succession of life, the glacial period and other controverted topics. A report on the "Fossil Flora of the Lower Carboniferous Coal Measures of Canada," and communications to the Geological Society of London, on the probable Permian age of beds overlying the coal-measures of Nova Scotia, and also occurring in Prince Edward Island; on recent facts as to the mode of occurrence of Eozoon in the Laurentian rocks, and on the Phosphates in the Laurentian rocks, are still more recent labors. A course of six lectures delivered in New York in the winter of 1874-'75 has been largely circulated both in America and England, under the title "Science and the Bible;" and in 1875 there also appeared in London and New York, a popular illustrated *résumé* of the facts relating to Eozoon and other ancient fossils, entitled "The Dawn of Life." At the Detroit meeting of the American Association, Prof. Dawson, as Vice-President of Section B, delivered an address in which he vigorously combated the doctrine of evolution as held by its more extreme supporters.

Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

ADDENDA TO 1895.

1875 to 8—Revised and in part rewrote "Archæia" and published it in London and New York, under the name "Origin of the World." Prepared "Supplement to Acadian Geology," and revisited several parts of Nova Scotia to collect new facts. Collected and published additional Fossil Reptiles from the South Joggins, and published papers on carboniferous plants and other fossils; also some further work as to Eozoon.

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1882.—Invited by Lord Lorne, Governor-General of Canada, to aid in the organization of the Royal Society of Canada as its first President; a gigantic labour encompassed with difficulties, and which occupied much time. Elected President of American Association for its meeting in Montreal, on which occasion the Peter Redpath Museum was opened with a conversazione provided by the President. Honoured by Her Majesty with C. M. G. Awarded Lyell Medal of London Geological Society, for important discoveries in geology.

1883.—Travelled in the North-West, and prepared notice of the geology for the Geological Society. Delivered address as retiring President at the American Association in Minneapolis; subject, "Unsolved Problems in Geology." Went over to England and attended the meeting of the British Association at Southport in the interest of the meeting in Montreal in 1884. Left in November with wife and daughter for Italy, Egypt and Syria, where spent the winter, and wrote articles for *Leisure Hour* and *Geological Magazine* on these countries.

1884.—Attended meeting of British Association in Montreal, and took an active part in its organization and proceedings. On this occasion received the honour of Knighthood. Found lady applicants for admission to college. Endeavoured with aid of Rev. Dr. Wilkes and Rev. Canon Norman to provide means for their education. The problem solved by the handsome

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It was during the visit to the Joggins, just referred to, that the remains of *Dendroperpeton Acadianum* and *Pupa vetusta* were found. With the exception of *Baphetes planiceps*, which Dr. Dawson had discovered in the year previous at Pictou, but had not described, *Dendroperpeton Acadianum* was the first reptile found in the coal formation of America; *Pupa vetusta* was the first known Palæozoic land snail. These discoveries were followed by the finding and describing of several other reptiles, and of the first carboniferous millipede (*Xylobius sigillariæ*). About this time, also, a second report on the Acadia iron mine was prepared, and an elaborate series of assays of coal made for the General Mining Association.

In 1855 he published the first edition of his "Acadian Geology," a complete account, up to that date, of the geology of the Maritime Provinces of British North America. In 1856, though now trammelled by the arduous duties incumbent upon the principal of a University, he still continued his geological work in his native province, and prepared a description of the Silurian and Devonian rocks. During the same summer he visited Lake Superior, and wrote a paper and report on the copper-regions of Maimanse and Georgian Bay, in which he discussed the geological relations of the then little known copper-bearing rocks of the North Shore of Lake Superior, and the origin of the deposits of native copper.

In the two following years he made a number of contributions to the *Canadian Naturalist* and the *Journal of the Geological Society*, and commenced the study of the Post-pliocene deposits of Canada. In 1859 his "Archæia," or studies of creation in Genesis, appeared, a work showing not only a thorough knowledge of Natural History, but also considerable familiarity with the Hebrew language and with biblical literature.

In 1860 Dr. Dawson issued a supplementary chapter to his "Acadian Geology." He also continued his work in fossil botany and in the Post-pliocene, publishing several papers on these subjects, as well as desultory researches on such subjects as the "Flora of Mount Washington," "Indian Antiquities at Montreal," "Marine Animals of the St. Lawrence," "Earthquakes in Canada," "Classification of Animals," etc.

In 1863 he issued his "Air-Breathers of the Coal Period," a complete account of the fossil reptiles and other land animals of the coal of Nova Scotia. This publication was followed, in 1864, by a "Handbook of Scientific Agriculture." It was in 1864, moreover, that Dr. Dawson made what may be considered as one of the most important of his scientific discoveries—that of *Eozoon Canadense*. This fossil had already been noticed by Sir William Logan, but Dr. Dawson to whom Sir William submitted his specimens, was the first to recognize its Foraminiferal affinities, and to describe its structure. Previous to this the rocks of the Laurentian age were looked upon as devoid of animal remains, and called "Azoic." Dr. Dawson now substituted the term "Eozoic."

In 1865 Dr. Dawson, at the meeting of the British Association at

Birmingham, gave illustrations of his researches on the "Succession of Palæozoic Floras," the "Post-pliocene of Canada," and the "Structure of Eozoon."

In 1868 appeared the second edition of "Acadian Geology," enlarged to nearly 700 octavo pages, with a great number of illustrations from the author's drawings; and which still remains the standard work on the geology of the Maritime Provinces, while it also treats of many of the more difficult problems of general geology.

While in England, in 1870, Dr. Dawson lectured at the Royal Institution. He also read a paper on the "Affinities of Coal Plants" before the Geological Society, and one on the "Devonian Flora" before the Royal Society. The same year his "Handbook of Canadian Zoology" appeared, being followed in 1871 by a "Report on the Silurian and Devonian Flora of Canada," and a "Report on the Geological Structure of Prince Edward Island," in which he was ably assisted by Dr. Harrington. His studies of the Devonian plants were begun as early as 1858, and Gaspé, St. John's, and Perry in Maine, were twice visited in order to collect material to aid in their prosecution.

His "Notes on the Post-pliocene of Canada" were published in 1873. From them we learn that the number of known species of Post-pliocene fossils had been raised, principally by his labors, from about thirty to over two hundred. We also find that Dr. Dawson is still what he has always been, a staunch opponent to the theory of general land glaciation. "The Story of the Earth and Man," issued in 1873, was a republication of papers published in the *Leisure Hour* in 1871 and 1872. It gives a popular view of the whole of the Geological ages, presented in a series of word-pictures, and with discussions of the theories as to the origin of mountains, the introduction and succession of life, the glacial period and other controverted topics. A report on the "Fossil Flora of the Lower Carboniferous Coal Measures of Canada," and communications to the Geological Society of London, on the probable Permian age of beds overlying the coal-measures of Nova Scotia, and also occurring in Prince Edward Island; on recent facts as to the mode of occurrence of Eozoon in the Laurentian rocks, and on the Phosphates in the Laurentian rocks, are still more recent labors. A course of six lectures delivered in New York in the winter of 1874-'75 has been largely circulated both in America and England, under the title "Science and the Bible;" and in 1875 there also appeared in London and New York, a popular illustrated *résumé* of the facts relating to Eozoon and other ancient fossils, entitled "The Dawn of Life." At the Detroit meeting of the American Association, Prof. Dawson, as Vice-President of Section B, delivered an address in which he vigorously combated the doctrine of evolution as held by its more extreme supporters.

Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

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In 1847, was united in marriage to Margaret A. Y. Mercer, daughter of George Mercer, Esq., of Edinburgh; in all respects a worthy helpmeet and adviser in all the varied circumstances of life, and who has ever been prepared to discharge with grace and dignity and in a Christian spirit the duties of her position, whether of a public, social or domestic character. We have five surviving children, Dr. George Mercer Dawson, C.M.G., F.R.S., &c., Director of the Geological Survey of Canada; Wm. Bell Dawson, M.A., C.E., Engineer in charge of Tidal and Current Surveys for Canada; Dr. Rankin Dawson, M.A., M.R.C.S.E., L.R.C.P. (Lond.) a medical practitioner in England; Anna Lois, wife of Dr. B. J. Harrington, F.G.S., Professor of Chemistry and Mineralogy in McGill University; Eva, wife of Hope Tweeddale Atkin, Esq., of Birkenhead, England.

DEGREES, TITLES, MEMBERSHIPS, &C.

M. A. (Edin.) 1856; LL. D. (Edin.) 1884.
 LL. D. (McGill) 1857.
 D. C. L. (Bishop's College) 1881.
 Superintendent of Education, Nova Scotia, 1850.
 Fellow Geol. Society of London, 1854.
 Principal McGill University, 1855.
 Fellow of Royal Society, London, 1862.
 Lyell Medal of Geological Society, 1881.
 First President Royal Society of Canada, 1882.
 Created C. M. G., 1882.
 President, American Association, 1882-3.
 Created Knight Bachelor, 1884.
 President, British Association, 1886.
 President, Geological Society of America, 1893.
 Honorary President, Natural History Society of Montreal.
 Vice-President, British and Foreign Bible Society.
 President, Montreal Auxiliary Bible Society.
 Fellow Acad. Arts and Sciences, Boston.
 Fellow Am. Philos. Society, Phila.
 Fellow Geol. Soc'y of America.
 Associate Academie Internationale de Geographie Botanique.
 Hon. Fellow Edinr. Geological Society.
 Hon. Mem. Nat. Hist. Socy, N. Brunswick.
 Hon. Mem. Lit. & Phil. Socy, Manchester.
 Hon. Mem. Maryland Academy.
 Hon. Mem. New York Acad. Science.
 Hon. Mem. Philos. Socy, Princeton.
 Hon. Mem. Philos. Society, Leeds.
 Hon. Mem. Boston Soc'y Nat. History.
 Hon. Mem. Geographical Soc'y of Australia.
 Hon. Mem. N. Scotia Soc'y Mining Engineers.
 Hon. Mem. Canadian Soc'y Civil Engineers.

- Hon. Mem. Geol. Association, Liverpool.
- Hon. Mem. Essex Institute, Salem.
- Hon. Mem. Societe Belge de Geologie, Palaeontologie, &c.
- Hon. Mem. Brooklyn Institute.
- Hon. Mem. North Western Historical & Literary Society, Iowa.
- Cor. Mem. Ac. Nat. Science, Phila.
- Cor. Mem. Portland Soc'y Nat. History.
- Cor. Mem. Nova Scotia Institute.
- Cor. Mem. Geol. Soc'y, Manchester.
- Cor. Mem. Lyceum Nat. History, New York.
- &c., &c.

A complete list of books and scientific papers will be found in the
 "Bibliography of the Royal Society of Canada, Ottawa, 1895."

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M. A. (Edm.) 1870; L. D. (Edm.) 1871

L. M. (M.D.) 1872

L. C. L. (Baron) 1873

Superintendent of Education, New South Wales

Fellow Geol. Society of London 1874

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From the Popular Science Monthly 1875, (with additions).

SKETCH OF PRINCIPAL DAWSON.

JOHN WILLIAM DAWSON was born at Pictou, Nova Scotia, in 1820. He received his early academic training in the College of Pictou, then one of the best Institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native province, thus early manifesting a taste for original scientific inquiry.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed two important papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labours he published several elaborate Reports on the Schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was called to the position which he still holds, that of Principal and Professor of Natural History in McGill College and University, an Institution which, situated in Montreal, the commercial capital of Canada, draws its students from all parts of the Dominion. The University has prospered under his management beyond the most sanguine expectations of its friends and promoters.

The raising of McGill College to its present position would have been work enough in itself for these years, but in addition to this Dr. Dawson has had under his care the Protestant Normal School. From his position there, he has had a great deal to do with the moulding and controlling of the school system of the country. After many years' faithful work, he withdrew (in 1870) from the active duties of the Normal School, retaining however, a connection with it as Chairman of its Committee of management.

His special work in connection with the University and the Normal School took up much of that time which would have otherwise been devoted to original investigations in his favorite science.

A review of his more important scientific labors will show us how much may be done even in the midst of engrossing educational occupations. As early as 1830 Dr. Dawson began to make collections of the fossil plants of the Nova Scotia coal formation. In 1841 he contributed to the Wernerian Society of Edinburgh his first scientific paper, on the species of field-mice found in Nova Scotia. In 1843 he communicated a paper on the rocks of Eastern Nova Scotia to the Geological Society of London; this was followed in 1844 by a paper on the newer coal formation. In 1845, besides exploring and reporting on the iron mines of Londonderry, Nova Scotia, he published a paper on the coal formation plants of that province.

During the winter of 1846-'47, while studying in Edinburgh, he contributed to the Royal Society of that city, papers on the "Formation of Gypsum," and on the "Boulder Formation," and an article to Jameson's *Edinburgh Philosophical Journal*, on the "Renewal of Forests destroyed by Fire." The facts embodied in the last were subsequently employed by him in combating the exaggerated periods of time assigned to such changes by European geologists.

From 1847 to 1849 we find him, with the same never-flagging zeal, pursuing his geological researches, and giving the results to the world in frequent papers. The most important of these are: 1. "On the Triassic Red Sandstones of Nova Scotia and Prince Edward Island;" 2. "On the Coloring Matters of Red Sandstones;" 3. "On Erect Calamites found near Pictou;" 4. On the "Metamorphic Rocks of Nova Scotia." He also published his "Handbook of the Geography and Natural History of Nova Scotia," and delivered courses of lectures on Natural History and Geology in the Pictou Academy, and in Dalhousie College, Halifax, and reported to the Nova Scotia Government on the coal-fields of Southern Cape Breton.

In 1852, in company with Sir Charles Lyell, he made a re-examination of the Joggins section, and visited the remarkable deposit of Albertite at Hillsborough, New Brunswick. A memoir soon appeared on the former district, giving a more full exposition than any previous one of the structure and mode of formation of a coal-field. The Albert Mine was also made the subject of a paper. In the further study of the Joggins section, microscopic examinations were made of coal from all its beds, as well as of coal

from other sources, the results being published in papers on the "Structures in Coal," and on the "Mode of Accumulation of Coal."

It was during the visit to the Joggins, just referred to, that the remains of *Dendroperpeton Acadianum* and *Pupa vetusta* were found. With the exception of *Baphetes planiceps*, which Dr. Dawson had discovered in the year previous at Pictou, but had not described, *Dendroperpeton Acadianum* was the first reptile found in the coal formation of America; *Pupa vetusta* was the first known Palæozoic land snail. These discoveries were followed by the finding and describing of several other reptiles, and of the first carboniferous millipede (*Xylobius sigillaria*). About this time, also, a second report on the Acadia iron mine was prepared, and an elaborate series of assays of coal made for the General Mining Association.

In 1855 he published the first edition of his "Acadian Geology," a complete account, up to that date, of the geology of the Maritime Provinces of British North America. In 1856, though now trammelled by the arduous duties incumbent upon the principal of a University, he still continued his geological work in his native province, and prepared a description of the Silurian and Devonian rocks. During the same summer he visited Lake Superior, and wrote a paper and report on the copper-regions of Maimanse and Georgian Bay, in which he discussed the geological relations of the then little known copper-bearing rocks of the North Shore of Lake Superior, and the origin of the deposits of native copper.

In the two following years he made a number of contributions to the *Canadian Naturalist* and the *Journal of the Geological Society*, and commenced the study of the Post-pliocene deposits of Canada. In 1859 his "Archaia," or studies of creation in Genesis, appeared, a work showing not only a thorough knowledge of Natural History, but also considerable familiarity with the Hebrew language and with biblical literature.

In 1860 Dr. Dawson issued a supplementary chapter to his "Acadian Geology." He also continued his work in fossil botany and in the Post-pliocene, publishing several papers on these subjects, as well as desultory researches on such subjects as the "Flora of Mount Washington," "Indian Antiquities at Montreal," "Marine Animals of the St. Lawrence," "Earthquakes in Canada," "Classification of Animals," etc.

In 1863 he issued his "Air-Breathers of the Coal Period," a complete account of the fossil reptiles and other land animals of the coal of Nova Scotia. This publication was followed, in 1864, by a "Handbook of Scientific Agriculture." It was in 1864, moreover, that Dr. Dawson made what may be considered as one of the most important of his scientific discoveries—that of *Eozoon Canadense*. This fossil had already been noticed by Sir William Logan, but Dr. Dawson to whom Sir William submitted his specimens, was the first to recognize its Foraminiferal affinities, and to describe its structure. Previous to this the rocks of the Laurentian age were looked upon as devoid of animal remains, and called "Azoic." Dr. Dawson now substituted the term "Eozoic."

In 1865 Dr. Dawson, at the meeting of the British Association at

Birmingham, gave illustrations of his researches on the "Succession of Palæozoic Floras," the "Post-pliocene of Canada," and the "Structure of Eozoon."

In 1868 appeared the second edition of "Acadian Geology," enlarged to nearly 700 octavo pages, with a great number of illustrations from the author's drawings; and which still remains the standard work on the geology of the Maritime Provinces, while it also treats of many of the more difficult problems of general geology.

While in England, in 1870, Dr. Dawson lectured at the Royal Institution. He also read a paper on the "Affinities of Coal Plants" before the Geological Society, and one on the "Devonian Flora" before the Royal Society. The same year his "Handbook of Canadian Zoology" appeared, being followed in 1871 by a "Report on the Silurian and Devonian Flora of Canada," and a "Report on the Geological Structure of Prince Edward Island," in which he was ably assisted by Dr. Harrington. His studies of the Devonian plants were begun as early as 1858, and Gaspé, St. John's, and Perry in Maine, were twice visited in order to collect material to aid in their prosecution.

His "Notes on the Post-pliocene of Canada" were published in 1873. From them we learn that the number of known species of Post-pliocene fossils had been raised, principally by his labors, from about thirty to over two hundred. We also find that Dr. Dawson is still what he has always been, a staunch opponent to the theory of general land glaciation. "The Story of the Earth and Man," issued in 1873, was a republication of papers published in the *Leisure Hour* in 1871 and 1872. It gives a popular view of the whole of the Geological ages, presented in a series of word-pictures, and with discussions of the theories as to the origin of mountains, the introduction and succession of life, the glacial period and other controverted topics. A report on the "Fossil Flora of the Lower Carboniferous Coal Measures of Canada," and communications to the Geological Society of London, on the probable Permian age of beds overlying the coal-measures of Nova Scotia, and also occurring in Prince Edward Island; on recent facts as to the mode of occurrence of Eozoon in the Laurentian rocks, and on the Phosphates in the Laurentian rocks, are still more recent labors. A course of six lectures delivered in New York in the winter of 1874-75 has been largely circulated both in America and England, under the title "Science and the Bible;" and in 1875 there also appeared in London and New York, a popular illustrated *résumé* of the facts relating to Eozoon and other ancient fossils, entitled "The Dawn of Life." At the Detroit meeting of the American Association, Prof. Dawson, as Vice-President of Section B, delivered an address in which he vigorously combated the doctrine of evolution as held by its more extreme supporters.

Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

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Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

In 1847, was united in marriage to Margaret A. Y. Mercer, daughter of George Mercer, Esq., of Edinburgh; in all respects a worthy helpmeet and adviser in all the varied circumstances of life, and who has ever been prepared to discharge with grace and dignity and in a Christian spirit the duties of her position, whether of a public, social or domestic character. We have five surviving children, Dr. George Mercer Dawson, C.M.G., F.R.S., &c., Director of the Geological Survey of Canada; Wm. Bell Dawson, M.A., C.E., Engineer in charge of Tidal and Current Surveys for Canada; Dr. Rankin Dawson, M.A., M.R.C.S.E., L.R.C.P. (Lond.) a medical practitioner in England; Anna Lois, wife of Dr. B. J. Harrington, F.G.S., Professor of Chemistry and Mineralogy in McGill University; Eva, wife of Hope Tweeddale Atkin, Esq., of Birkenhead, England.

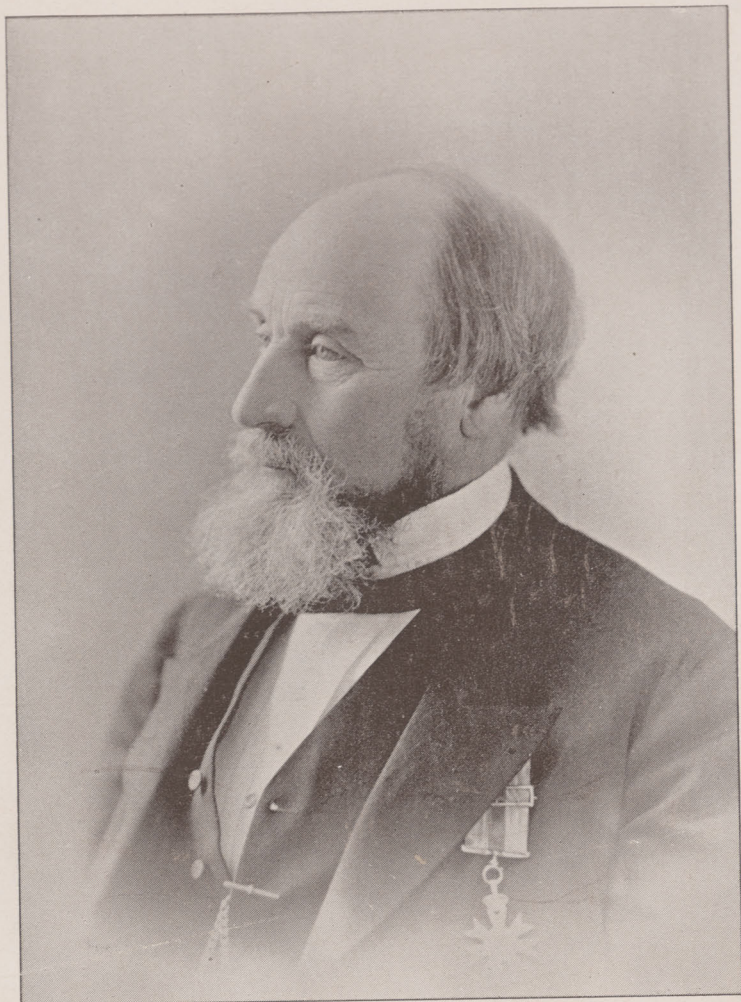
DEGREES, TITLES, MEMBERSHIPS, &c.

M. A. (Edin.) 1856; LL. D. (Edin.) 1884.
 LL. D. (McGill) 1857.
 D. C. L. (Bishop's College) 1881.
 Superintendent of Education, Nova Scotia, 1850.
 Fellow Geol. Society of London, 1854.
 Principal McGill University, 1855.
 Fellow of Royal Society, London, 1862.
 Lyell Medal of Geological Society, 1881.
 First President Royal Society of Canada, 1882.
 Created C. M. G., 1882.
 President, American Association, 1882-3.
 Created Knight Bachelor, 1884.
 President, British Association, 1886.
 President, Geological Society of America, 1893.
 Honorary President, Natural History Society of Montreal.
 Vice-President, British and Foreign Bible Society.
 President, Montreal Auxiliary Bible Society.
 Fellow Acad. Arts and Sciences, Boston.
 Fellow Am. Philos. Society, Phila.
 Fellow Geol. Soc'y of America.
 Associate Academie Internationale de Geographie Botanique.
 Hon. Fellow Edinr. Geological Society.
 Hon. Mem. Nat. Hist. Socy, N. Brunswick.
 Hon. Mem. Lit. & Phil. Socy, Manchester.
 Hon. Mem. Maryland Academy.
 Hon. Mem. New York Acad. Science.
 Hon. Mem. Philos. Socy, Princeton.
 Hon. Mem. Philos. Society, Leeds.
 Hon. Mem. Boston Soc'y Nat. History.
 Hon. Mem. Geographical Soc'y of Australia.
 Hon. Mem. N. Scotia Soc'y Mining Engineers.
 Hon. Mem. Canadian Soc'y Civil Engineers.

Hon. Mem. Geol. Association, Liverpool.
 Hon. Mem. Essex Institute, Salem.
 Hon. Mem. Societe Belge de Geologie, Palaeontologie, &c.
 Hon. Mem. Brooklyn Institute.
 Hon. Mem. North Western Historical & Literary Society, Iowa.
 Cor. Mem. Ac. Nat. Science, Phila.
 Cor. Mem. Portland Soc'y Nat. History.
 Cor. Mem. Nova Scotia Institute.
 Cor. Mem. Geol. Soc'y, Manchester.
 Cor. Mem. Lyceum Nat. History, New York.
 &c., &c.

A complete list of books and scientific papers will be found in the
 "Bibliography of the Royal Society of Canada, Ottawa, 1895."

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SIR WILLIAM DAWSON, M.A., LL.D., F.R.S., C.M.G.

SUPPLEMENT TO THE "MCGILL FORTNIGHTLY."

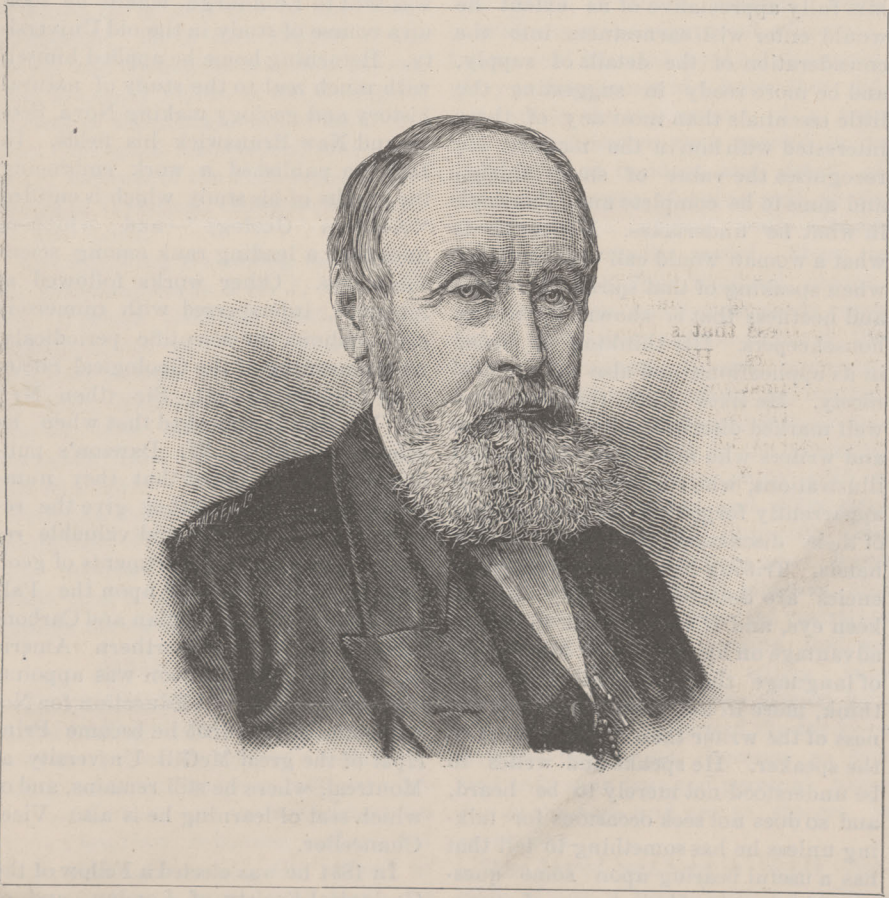
Phrenology

THE
PHRENOLOGICAL JOURNAL
AND
SCIENCE OF HEALTH.

NUMBER 2.]

FEBRUARY, 1890.

[WHOLE NO. 614



PRINCIPAL DAWSON.

NOTABLE PEOPLE OF THE DAY.—No. 28.

SIR J. W. DAWSON.

THAT is a philosophical face, and a face that sends us back nearly a century from our best comparisons to find its like among the old thinkers of the Scotch school. The type is of that strong, voracious, dogmatic sort that stands so prominent in Scottish thinking in the days of Kames, Brown, Stewart, etc. The broad head intimates energy and action, ability to organize large enterprises, to enter into details also. We could easily conceive such a man laying out the plans of an important expedition, and while the object of the expedition ruled his thought and made him fully appreciative of its extent he would enter with earnestness into the consideration of the details of supply, and be more ready in suggesting the little essentials than most any of those interested with him in the matter. He recognizes the value of small things, and aims to be complete and thorough in what he undertakes. Hence he is what a woman would call "particular," when speaking of that spirit of order and neatness that is shown by a few housekeepers. His thinking is broad in its applications, and also of critical nicety. He likes close thinking and well marked discriminations. Talkers and writers who mix their points and illustrations, who run off on side issues apparently forgetting the leading topic of their discussion, fare badly at his hands. Trifling lapses and inconsistencies are detected promptly by his keen eye, and if worth while turned to advantage on his side. He has power of language that indicates itself, we think, more in the clearness and fullness of the writer than in the fluency of the speaker. He speaks and writes to be understood not merely to be heard, and so does not seek occasions for talking unless he has something to tell that has a useful bearing upon some question of interest. He is a man of econo-

mies and does not believe in wasting time or brain in trifling objects. At the same time he should be known for breadth of sympathy and sterling kindness—which are manifested in most cases without anybody's prompting, and in his own manner.

Principal Dawson, as he is called up in Canada, is a gentleman whose scholarship has given him fame in the world of science. He was born at Pictou, Nova Scotia, in October, 1820, probably, if his physiognomy does not lead us to mistake, of Scottish parentage. Having studied at the schools of Pictou, he was sent to Edinburgh where he took up a course of study in the old University. Returning home he applied himself with much zeal to the study of natural history and geology making Nova Scotia and New Brunswick his fields. In 1855, he published a work embracing the results of his study which is entitled "Acadian Geology"—and which at once took a leading rank among scientific books. Other works followed at intervals, interspersed with numerous contributions to scientific periodicals. At the meeting of the Geological Society of London, in 1881, Sir (then Mr.) W. W. Smyth remarked that when he referred to Sir J. W. Dawson's published papers he found that they numbered nearly 120, and they give the results of most extensive and valuable researches in various departments of geology, but more especially upon the Palaeontology of the Devonian and Carboniferous formations of Northern America. In 1850, Mr. Dawson was appointed Superintendent of Education for Nova Scotia, and in 1855 he became Principal of the great McGill University at Montreal, where he still remains, and of which seat of learning he is also Vice-Chancellor.

In 1854 he was elected a Fellow of the Geological Society of London, and of

the Royal Society in 1862. He is a Master of Arts of Edinburgh, and in 1884 he was granted the degree of LL.D. by McGill. In 1881 he was the honored recipient of the Lyell medal for his eminent work and discoveries in geology. In this year also he was created a Companion of the Order of St. Michael and St. George; was selected by the then Governor-General of the Dominion, the Marquis of Lorne, to be the first President of the newly organized Royal Society of Canada, and was also President of the American Association for the advancement of Science in 1881-2. In 1884 he was Knighted by her Majesty. In 1886 he presided at Birmingham over the meeting of the British Association, of which he is now one of the Vice-Presidents. He is also Fellow of the Royal and Geological Societies of London, honorary Fellow of the Geological Society of Edinburgh, and of the Liverpool Geological Association, and honorary member of the Philosophical Societies of Liverpool, Glasgow, Manchester and Leeds.

The following are among the principal published works of Sir J. W. Dawson: *Acadian Geology*, 1855; *Egypt and Syria*, 2nd ed., 1887; *Fossil men and their modern representatives*; 3rd ed., 1888; *Handbook of Zoology*, 1886, 2nd ed., 1888; *Modern science in Bible lands*, 1888; *Origin of the world*, 5th ed., 1888.

Principal Dawson, is one of the stronger supporters of Christianity and his scientific inquiries and publications have made him a recognized champion as against the extreme evolutionists.

SARAH ORNE JEWETT.

IN this era of novel writing and novel reading—which is the bigger craze may need some thought to determine—it is pleasant to be able to indicate a living writer here and there whose stories have a healthful influence, and are not to be reckoned among the ruffraff of preposterous sensation that loads the

bookseller's counters. While it must be said that some of the most useless writers of fiction are women, it is due to the sex to say, that some of the most useful are women, and their work in great part seems to be an attempt to offset the moral damage done by their reckless sisters, to the reading sentiment of the public. Such a tone of face as that in the portrait of Miss Jewett could not be interpreted as belonging to that quality of mind that is ready to barter talent and aspiration for "so much a volume"—to write cheap, flashy, low underlined, machine tales that will sell—because the uneducated masses want them.

There is kindness and humor, spirit and pride in those features; there is evidence of the enjoyment of success, but we read her mistakenly if she would glory in the success of a book that did not contain the expressions of a true and earnest motive, that carried in its elaboration of incident and detail of character, lessons of value, and in its *denouement* a golden truth clearly cut and practically useful. There is much of the old New England character in that face, and it must needs come out in the manner and the doing of the lady. The earnest, sincere, conscientious habit of viewing affairs that belongs to that character rendered her early mature and gave her rank in the community. She could always enjoy with a hearty zest the merry and jolly sides where coarseness and impurity were not allowed place, for her mind loves the healthful reactions of pleasure, and would escape awhile from the restraints of that grave, prosaic routine that an earnest woman naturally enters. Into her books, Miss Jewett has written herself as very few writers of the day have written themselves, because so few deal with such true and personal histories as she does, and are so sincere in expression.

Miss Jewett was born in South Berwick, Maine, a manufacturing village

near the coast. Her father, Dr. Theodore H. Jewett, a physician of wide reputation and practice, died several years ago, leaving a widow and two daughters, who still reside in the pleasant family mansion. Aside from his professional acquirements, Dr. Jewett possessed historical and antiquarian

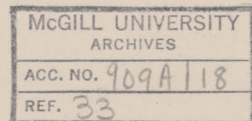
as they drove along the road he recounted to her fragments of family history, anecdotes and observations gathered during his long medical experience. Miss Jewett thus amassed a fund of information from which many of those inimitable character-sketches and those equally admirable reproductions of sea



SARAH ORNE JEWETT

tastes, the natural outgrowth, perhaps, of a residence in one of the most interesting neighborhoods in New England, where almost every foot of ground has its history or its tradition. His daughter, to some extent, no doubt, inherited these tastes. She often accompanied her father on his professional round, and

and shore in and about York, Kittery, and Berwick have been drawn. No one who reads Miss Jewett's stories can fail to perceive how strongly these surroundings impressed themselves upon her own character. To a spiritual and imaginative nature, the grandeur and mystery of the sea furnishes an inexhausti-



BIOGRAPHY.

SIR JOHN WILLIAM DAWSON.

Sir John William Dawson was born at Pictou, N.S., in 1820. He received his early academic training in the College of Pictou, then one of the best Institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native province, thus early manifesting a taste for original scientific inquiry. While a mere schoolboy he made collections of Carboniferous plants from the beds of shale in his native place, and having procured a microscope, made drawings of hydroids, embryo mollusks and medusæ from the waters of Pictou Harbor, which at a later period he used as illustrations for lectures.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed his two first published papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry, microscopic examination of fossils, and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1847 he was united in marriage to Margaret A. Z. Mercer, youngest daughter of George Mercer, Esq., of Edinburgh—a lady who has been in all respects a helpmeet, and who, by her accomplishments, social qualities and high Christian character, has graced and dignified the public and private life of her husband in all the positions in which he has been placed.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova

Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labors he published several elaborate reports on the schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the Improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was invited at the instance of Sir Edmund Head, who had become Governor General of Canada, to the position which he has recently resigned, that of Principal and Professor of Natural History in McGill College and University, which, situated in Montreal, the commercial capital of Canada, draws its students from all parts of the Dominion. The University has prospered under his management beyond the most sanguine expectations of its friends and promoters.

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Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an Honorary Fellow of the Edinburgh Geological Society, an Honorary Member of the Philosophical Society of Glasgow, of the Academy of Sciences of New York, of the Liverpool Literary and Philosophical Society, of the Philosophical Society of Leeds, of the Philosophical Society of Princeton, of the Boston Society of Natural History, and of the Maryland Academy; and is a Fellow or Corresponding Member of several other Scientific societies in various parts of the world.

In 1883, he read before the Royal Society of Canada a memoir on the Cretaceous Floras of the N.W. Territories, which was published with seven quarto plates in its Transactions, and a continuation with four plates appears in the volume of the Transactions, now in the press, followed by several papers in continuation in the same Transactions.

In 1882, he received the Lyell medal of the Geological Society of London, an honor doubly grateful to him as bearing the name of his early patron and friend.

In the same year he was selected by the Marquis of Lorne, Governor General of Canada, to organize the Royal Society of Canada and to be its first President, and in this capacity he had to gather around the Society in friendly and united action the leading scientific and literary men of the different provinces of the Dominion and of the English and French nationalities. In this his extensive personal acquaintance with the prominent men of all parts of the Dominion gave him great advantages; and the undertaking was successfully accomplished and the Society has so far been vigorous and harmonious, and its work and publications have been creditable to Canada. It was after the or-

ganization of the Royal Society that, at the recommendation of the Governor General, he was created C. M. G.

In 1882, he was the President of the American Association for the Advancement of Science, which includes the scientific men of Canada as well as of the United States among its members and officers; and in his address as retiring President at the Minneapolis meeting took up and discussed with much vigor and originality the subject of Unsolved Problems in Geology.

In the early part of 1883 he made a hasty tour along the line of the Canadian Pacific Railway as far as the Rocky Mountains, and published his geological observations in the Journal of the Geological Society, in advance of the expected meeting of the British Association in Montreal. In the autumn of the same year, he attended the meeting of the British Association at Southport, and with Sir Charles Tupper represented Canada in the invitation then formally accepted by the Association. At the meeting and subsequently in the council meetings in Toronto, he took an active part in promoting the arrangements for the meeting, and in meeting the various difficulties which necessarily arose in connection with the new departure. In the winter of 1883-84, he travelled in Egypt and the East, and returned with stories of facts respecting the geology of these countries, some portions of which he has already published in the Geological Magazine, the Transactions of the Victoria Institute and his little book on the relations of the Physical Geography of Egypt and Syria to Bible History, more fully published in 1888, in a volume entitled "Modern Science in Bible Lands." In the spring of 1884, he was present at the Tercentenary of the University of Edinburgh, and received the degree of LL.D. from his Alma Mater. In the autumn of the same year, on occasion of the meeting of the British Association in Montreal, he received the honor of *knighthood*.

In 1886, Sir William was President of the British Association at its meeting in Birmingham, England, taking for the subject of his Presidential Address, "The Geological History of the North Atlantic."

From 1886 to 1892 Sir William, feeling the approach of age and infirmity, and that not many years of activity remained, was much occupied with efforts to bring to successful completion various enterprises connected with the University, so as to be able to have it in as complete a condition as possible, and in preparing for the press his works, "Salient Points in the Science of the Earth" and the "Canadian Ice-Age,"—both intended to sum up his labors in different directions.

In the midst of these efforts—too great, perhaps, for his remaining strength, and impeded by several unforeseen delays and accidents—he was stricken down by an attack of pneumonia, on recovery from which it became necessary practically to relinquish all his educational engagements. Should he be granted a few more years of life, he hopes to devote these mainly to scientific and Christian work.

The following are the more important popular works of which Sir William Dawson is the author, and many of which have gone into several editions:—

Acadian Geology, pp. 694, and Appendix, 100, 8vo.

The Origin of the World, pp. 452.

The Story of the Earth, pp. 408.

Fossil Men, pp. 354.

The Chain of Life in Geological Time, pp. 274.

Life's Dawn on Earth, pp. 239.

Nature and the Bible, pp. 256.

Facts and Fancies in Science, pp. 238.

Modern Science in Bible Lands, pp. 606.

The Geological History of Plants, pp. 220.

Some Salient Points in the Science of the Earth, London, 1893, pp. 499.

The Canadian Ice Age, 1844, Montreal, pp. 300.

In colonial communities, men are often called on to play many parts, and this has given a varied character to the pursuits of the object of this sketch. His early researches prosecuted in the Carboniferous districts of Nova Scotia naturally led him to the study of fossil plants and of the land animals associated with him, and to these pursuits he has always returned whenever possible throughout his life. He used his position as Superintendent of Education, in which capacity he had to visit nearly every part of his native province, to forward his geological pursuits; and when he transferred his residence to Montreal, the necessities of a geological teacher in the midst of Silurian and Laurentian districts obliged him to attend to those formations. At the same time, the interesting Pleistocene formations of the St. Lawrence Valley attracted his attention in connection with early studies of the marine animals of the St. Lawrence, many of which he had collected and studied microscopically almost in his boyhood, and when little attention was given to such pursuits in educational institutions. Still later his studies of fossil plants have been extended into the valuable material collected in the Cretaceous rocks of the Western Territories, more especially by his son, Dr. George M. Dawson. With all this he has been an educational administrator, a teacher, a popular lecturer and writer, and a worker in religious and benevolent enterprises.

It may truly be said of Sir William Dawson, "*nihil leligit quod non ornavit*," and of those who have been associated with him, and of the hundreds of students during his 38 years connection with McGill College, it may be recorded:

"None knew him but to love him,
None name him but to praise."

SAXON WORDS.*

Old Saxon words, old Saxon words, your spells are round us
thrown;
Ye haunt our daily paths and dreams with a music all your
own;
Each one in its own power a host to fond remembrance brings
The earliest, brightest aspect back of life's familiar things.

* Most of our domestic words—words expressive of objects which daily attract our attention—are from the Saxon. Of the sixty-nine words which comprise the Lord's Prayer, only five are not Saxon.

Yours are the *hills*, the *fields*, the *woods*, the *orchards* and the
streams,
The *meadows* and the *bowers* that bask in the sun's rejoicing
beams ;
Mid them our childhood's years were kept, our childhood's
thoughts were rear'd,
And by your household tones its joys were evermore endear'd.

We have roamed since then where the myrtle bloom'd in its
own unclouded realms,
But our hearts return with changeless love to the brave old
Saxon *elms* ;
Where the laurel o'er its native streams of a deathless glory
spoke,
But we passed with pride to the later fame of the sturdy Saxon
oak.

We have marvelled at those mighty piles on the old Egyptian
plains,
And our souls have thrilled to the loveliness of the lovely
Grecian fanes ;
We have lingered o'er the wreck of Rome, with its classic
memories crown'd,
But these touched us not as the mouldering walls with the
Saxon *ivy* bound.

Old Saxon words, old Saxon words ! they bear us back with
pride
To the days when Alfred ruled the land by the laws of Him that
died ;
When in our spirit, truly good and truly great, was shown
What earth has owed, and still must owe, to such as him alone.

There are tongues of other lands that flow with a softer, smooth-
er grace,
But the old rough Saxon words will keep in our hearts their
own true place ;
Our household hearths, our household graves, our household
smiles and tears
Are guarded, hallowed, shrined by them—the kind, fast friends
of years.

Old Saxon words, old Saxon words, your spells are round u
thrown ;
Ye haunt our daily paths and dreams with a music all your own ;
Each one, in its own power a host, to fond remembrance brings
The earliest, brightest aspect back of life's familiar things.

TO "A SWEET GIRL, GRADUATE."

Maiden Academic,
With a gown severe,
Could I ever venture
To adore you, dear.

Ah ! I am astonished.
What do I see there ?
Surely 'tis a rosebud
In your raven hair.

So, my learned lady,
You can love a rose
Just as well and truly
As your Latin prose.

Heart of Aphrodite,
With Athene's brow,
You can love the rose,
I can love *you* now.

L. McMILLAN.

CORRESPONDENCE.

To the Editors of the MCGILL FORTNIGHTLY.

The Committee acting as judges of the five stories
written in competition for the prizes offered by the
MCGILL FORTNIGHTLY report that, in their opinion,
the tale entitled *A Camp Story of the New Brunswick
Lumber Woods* is superior to the others, and recommend
that its writer receive a prize of ten dollars.

CHAS. E. MOYSE.
JOHN COX.
J. G. ADAMS.

MONTREAL, January 27, 1894.

LAW DINNER.

Anyone who happened to be loafing in the Rotunda
of the Windsor at 7.30 p.m. on Monday last might well
have wondered what caused the assemblage of so many
good-looking young men arrayed in evening attire, who
were on view at that time ; however, his amazement at
such a galaxy of male beauty would have ceased when
he was informed that these were the Students in the
Faculty of Law, a most exceedingly studious and mo-
dest body of men, who had temporarily wrenched their
minds away from Roman Law and Civil Procedure, and
having also banished all thought of Court Records and
Plumitifs had met to celebrate their annual banquet.
Yes, strange as the metamorphosis may seem, these were
the same men who may be seen any time soon after the
late dawn of a winter's morning hastening to lectures
with a hungry look in their eyes, as of those seeking
for information, and with the thirst for knowledge and
other things which characterizes the law student.

It must have been of these men whom Chaucer was
thinking when he says of his clerk of Oxford :

"For him was levere have at his beddes heed
"Twenty bokes clad in blak or reed
"Of Aristotle and his philosophye
"Than robes riche, or fithele or gay santrye."

However, as the worthy old poet himself loved good
and pleasant society and to sit at the festive board, for,
as he himself tells us, "his abstinence was little," he
would probably have smiled graciously, could he have
beheld the descendants of his prototype seated around
the tastily decorated tables in the Windsor, enjoying
the delicacies which the menu set forth, while a glance
at the head table occupied by two judges, the Dean and
Prof. McGoun, to say nothing of the awe-inspiring
dignity of the chairman, would have assured *Mr.* Chau-
cer that the younger men were being brought up in
the way they should go.

It is generally supposed that the law student is too
busy to eat, and this may account for the silence which
prevailed over the first part of the evening, broken
only by some mysterious sound like "t'clap," which
examination proved to be the result produced by the
combination of a waiter, peculiar shaped glass affairs
and funny-looking instruments of twisted steel which
none of us had ever seen before.

*By the way, the
law dinner was
a very successful
one.*

(Sir) W. Dawson becomes
the first Logan Professor
of Geology - March, 1872

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From the Popular Science Monthly 1875, (with additions).

Sir William
SKETCH OF PRINCIPAL DAWSON.

JOHN WILLIAM DAWSON was born at Pictou, Nova Scotia, in 1820. He received his early academic training in the College of Pictou, then one of the best Institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native province, thus early manifesting a taste for original scientific inquiry.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed two important papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labours he published several elaborate Reports on the Schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was called to the position ~~which he still holds, that~~ of Principal and Professor of Natural History in McGill College and University, an Institution which, situated in Montreal, the commercial capital of Canada, draws its students from all parts of the Dominion. The University has prospered under his management beyond the most sanguine expectations of its friends and promoters.

Resigned 1893

The raising of McGill College to its present position would have been work enough in itself for these years, but in addition to this Dr. Dawson has had under his care the Protestant Normal School. From his position there, he has had a great deal to do with the moulding and controlling of the school system of the country. After many years' faithful work, he withdrew (in 1870) from the active duties of the Normal School, retaining however, a connection with it as Chairman of its Committee of management.

His special work in connection with the University and the Normal School took up much of that time which would have otherwise been devoted to original investigations in his favorite science.

A review of his more important scientific labors will show us how much may be done even in the midst of engrossing educational occupations. As early as 1830 Dr. Dawson began to make collections of the fossil plants of the Nova Scotia coal formation. In 1841 he contributed to the Wernerian Society of Edinburgh his first scientific paper, on the species of field-mice found in Nova Scotia. In 1843 he communicated a paper on the rocks of Eastern Nova Scotia to the Geological Society of London; this was followed in 1844 by a paper on the newer coal formation. In 1845, besides exploring and reporting on the iron mines of Londonderry, Nova Scotia, he published a paper on the coal formation plants of that province.

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From 1847 to 1849 we find him, with the same never-flagging zeal, pursuing his geological researches, and giving the results to the world in frequent papers. The most important of these are: 1. "On the Triassic Red Sandstones of Nova Scotia and Prince Edward Island;" 2. "On the Coloring Matters of Red Sandstones;" 3. "On Erect Calamites found near Pictou;" 4. On the "Metamorphic Rocks of Nova Scotia." He also published his "Handbook of the Geography and Natural History of Nova Scotia," and delivered courses of lectures on Natural History and Geology in the Pictou Academy, and in Dalhousie College, Halifax, and reported to the Nova Scotia Government on the coal-fields of Southern Cape Breton.

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from other sources, the results being published in papers on the "Structures in Coal," and on the "Mode of Accumulation of Coal."

It was during the visit to the Joggins, just referred to, that the remains of *Dendrerpeton Acadianum* and *Pupa vetusta* were found. With the exception of *Baphetes planiceps*, which Dr. Dawson had discovered in the year previous at Pictou, but had not described, *Dendrerpeton Acadianum* was the first reptile found in the coal formation of America; *Pupa vetusta* was the first known Palæozoic land snail. These discoveries were followed by the finding and describing of several other reptiles, and of the first carboniferous millipede (*Xylobius sigillariæ*). About this time, also, a second report on the Acadia iron mine was prepared, and an elaborate series of assays of coal made for the General Mining Association.

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In the two following years he made a number of contributions to the *Canadian Naturalist* and the *Journal of the Geological Society*, and commenced the study of the Post-pliocene deposits of Canada. In 1859 his "Archaia," or studies of creation in Genesis, appeared, a work showing not only a thorough knowledge of Natural History, but also considerable familiarity with the Hebrew language and with biblical literature.

In 1860 Dr. Dawson issued a supplementary chapter to his "Acadian Geology." He also continued his work in fossil botany and in the Post-pliocene, publishing several papers on these subjects, as well as desultory researches on such subjects as the "Flora of Mount Washington," "Indian Antiquities at Montreal," "Marine Animals of the St. Lawrence," "Earthquakes in Canada," "Classification of Animals," etc.

In 1863 he issued his "Air-Breathers of the Coal Period," a complete account of the fossil reptiles and other land animals of the coal of Nova Scotia. This publication was followed, in 1864, by a "Handbook of Scientific Agriculture." It was in 1864, moreover, that Dr. Dawson made what may be considered as one of the most important of his scientific discoveries—that of *Eozoon Canadense*. This fossil had already been noticed by Sir William Logan, but Dr. Dawson to whom Sir William submitted his specimens, was the first to recognize its Foraminiferal affinities, and to describe its structure. Previous to this the rocks of the Laurentian age were looked upon as devoid of animal remains, and called "Azoic." Dr. Dawson now substituted the term "Eozoic."

In 1865 Dr. Dawson, at the meeting of the British Association at

Birmingham, gave illustrations of his researches on the "Succession of Palæozoic Floras," the "Post-pliocene of Canada," and the "Structure of Eozoon."

In 1868 appeared the second edition of "Acadian Geology," enlarged to nearly 700 octavo pages, with a great number of illustrations from the author's drawings; and which still remains the standard work on the geology of the Maritime Provinces, while it also treats of many of the more difficult problems of general geology.

While in England, in 1870, Dr. Dawson lectured at the Royal Institution. He also read a paper on the "Affinities of Coal Plants" before the Geological Society, and one on the "Devonian Flora" before the Royal Society. The same year his "Handbook of Canadian Zoology" appeared, being followed in 1871 by a "Report on the Silurian and Devonian Flora of Canada," and a "Report on the Geological Structure of Prince Edward Island," in which he was ably assisted by Dr. Harrington. His studies of the Devonian plants were begun as early as 1858, and Gaspé, St. John's, and Perry in Maine, were twice visited in order to collect material to aid in their prosecution.

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Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

BIOGRAPHY.

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Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed his two first published papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry, microscopic examination of fossils, and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1847 he was united in marriage to Margaret A. Z. Mercer, youngest daughter of George Mercer, Esq., of Edinburgh—a lady who has been in all respects a helpmeet, and who, by her accomplishments, social qualities and high Christian character, has graced and dignified the public and private life of her husband in all the positions in which he has been placed.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labors he published several elaborate reports on the schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the Improvement of Agriculture," which went through two editions, and was of much practical utility.

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Feb. 16th. 1894.
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FNIGHTLY.

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to his "Acadian Geology." He also continued his work in fossil botany and in the Post-pliocene, publishing several papers on these subjects, as well as desultory researches on such subjects as the "Flora of Mount Washington," "Indian Antiquities at Montreal," "Marine Animals of the St. Lawrence," "Earthquakes in Canada," "Classification of Animals," etc.

In 1863 he issued his "Air-Breathers of the Coal Period," a complete account of the fossil reptiles and other land animals of the coal of Nova Scotia. This publication was followed, in 1864, by a "Hand-book of Scientific Agriculture." It was in 1864, moreover, that Dr. Dawson made what may be considered as one of the most important of his scientific discoveries—that of *Eozoon Canadense*. This fossil had already been noticed by Sir William Logan, but Dr. Dawson, to whom Sir William submitted his specimens, was the first to recognize its Foraminiferal affinities, and to describe its structure. Previous to this the rocks of the Laurentian age were looked upon as devoid of animal remains, and called "Azoic." Dr. Dawson now substituted the term "Eozoic."

In 1865 Dr. Dawson, at the meeting of the British Association at Birmingham, gave illustrations of his researches on the "Succession of Palæozoic Floras," the "Post-pliocene of Canada," and the "Structure of Eozoon."

In 1868 appeared the second edition of "Acadian Geology," enlarged to nearly 700 octavo pages, with a great number of illustrations from the author's drawings, and which still remains the standard work on the geology of the Maritime Provinces, while it also treats of many of the more difficult problems of general geology.

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Lower Carboniferous Coal Measures of Canada," and communications to the Geological Society of London, on the probable Permian age of beds overlying the coal measures of Nova Scotia, and also occurring in Prince Edward Island; on recent facts as to the mode of occurrence of Eozoon in the Laurentian rocks, and on the Phosphates in the Laurentian rocks, are still more recent labors. A course of six lectures delivered in New York in the winter of 1874-75 has been largely circulated both in America and England, under the title "Science and the Bible;" and in 1875 there also appeared in London and New York a popular illustrated *résumé* of the facts relating to Eozoon and other ancient fossils, entitled "The Dawn of Life." In 1882, an elaborate paper on the "Results of Recent Explorations of Erect Trees containing Animal Remains" appeared in the Transactions of the Royal Society of London, with 9 plates. It was the completion of the work of years in exhuming and studying the remains contained in the erect Sigillariæ of the Nova Scotia coal formations. At the Detroit meeting of the American Association, Prof. Dawson, as Vice-President of Section B, delivered an address, in which he vigorously combated the doctrine of evolution as held by its more extreme supporters.

Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an Honorary Fellow of the Edinburgh Geological Society, an Honorary Member of the Philosophical Society of Glasgow, of the Academy of Sciences of New York, of the Liverpool Literary and Philosophical Society, of the Philosophical Society of Leeds, of the Philosophical Society of Princeton, of the Boston Society of Natural History, and of the Maryland Academy; and is a Fellow or Corresponding Member of several other Scientific societies in various parts of the world.

In 1883, he read before the Royal Society of Canada a memoir on the Cretaceous Floras of the N.W. Territories, which was published with seven quarto plates in its Transactions, and a continuation with four plates appears in the volume of the Transactions now in the press, followed by several papers in continuation in the same Transactions.

In 1882, he received the Lyell medal of the Geological Society of London, an honor doubly grateful to him as bearing the name of his early patron and friend.

In the same year he was selected by the Marquis of Lorne, Governor General of Canada, to organize the Royal Society of Canada and to be its first President, and in this capacity he had to gather around the Society in friendly and united action the leading scientific and literary men of the different provinces of the Dominion and of the English and French nationalities. In this his extensive personal acquaintance with the prominent men of all parts of the Dominion gave him great advantages; and the undertaking was successfully accomplished and the Society has so far been vigorous and harmonious, and its work and publications have been creditable to Canada. It was after the or-

ganization of the Royal Society that, at the recommendation of the Governor General, he was created C. M. G.

In 1882, he was the President of the American Association for the Advancement of Science, which includes the scientific men of Canada as well as of the United States among its members and officers; and in his address as retiring President at the Minneapolis meeting took up and discussed with much vigor and originality the subject of Unsolved Problems in Geology.

In the early part of 1883 he made a hasty tour along the line of the Canadian Pacific Railway as far as the Rocky Mountains, and published his geological observations in the Journal of the Geological Society, in advance of the expected meeting of the British Association in Montreal. In the autumn of the same year, he attended the meeting of the British Association at Southport, and with Sir Charles Tupper represented Canada in the invitation then formally accepted by the Association. At the meeting and subsequently in the council meetings in Toronto, he took an active part in promoting the arrangements for the meeting, and in meeting the various difficulties which necessarily arose in connection with the new departure. In the winter of 1883-84, he travelled in Egypt and the East, and returned with stories of facts respecting the geology of these countries, some portions of which he has already published in the Geological Magazine, the Transactions of the Victoria Institute and his little book on the relations of the Physical Geography of Egypt and Syria to Bible History, more fully published in 1888, in a volume entitled "Modern Science in Bible Lands." In the spring of 1884, he was present at the Tercentenary of the University of Edinburgh, and received the degree of LL.D. from his Alma Mater. In the autumn of the same year, on occasion of the meeting of the British Association in Montreal, he received the honor of *knighthood*.

In 1886, Sir William was President of the British Association at its meeting in Birmingham, England, taking for the subject of his Presidential Address, "The Geological History of the North Atlantic."

From 1886 to 1892 Sir William, feeling the approach of age and infirmity, and that not many years of activity remained, was much occupied with efforts to bring to successful completion various enterprises connected with the University, so as to be able to have it in as complete a condition as possible, and in preparing for the press his works, "Salient Points in the Science of the Earth" and the "Canadian Ice-Age,"—both intended to sum up his labors in different directions.

In the midst of these efforts—too great, perhaps, for his remaining strength, and impeded by several unforeseen delays and accidents—he was stricken down by an attack of pneumonia, on recovery from which it became necessary practically to relinquish all his educational engagements. Should he be granted a few more years of life, he hopes to devote these mainly to scientific and Christian work.

The following are the more important popular works of which Sir William Dawson is the author, and many of which have gone into several editions:—

Acadian Geology, pp. 694, and Appendix, 100, 8vo.

The Origin of the World, pp. 452.

The Story of the Earth, pp. 408.

Fossil Men, pp. 354.

The Chain of Life in Geological Time, pp. 274.

Life's Dawn on Earth, pp. 239.

Nature and the Bible, pp. 256.

Facts and Fancies in Science, pp. 238.

Modern Science in Bible Lands, pp. 606.

The Geological History of Plants, pp. 220.

Some Salient Points in the Science of the Earth, London, 1893, pp. 499.

The Canadian Ice Age, 1844, Montreal, pp. 300.

In colonial communities, men are often called on to play many parts, and this has given a varied character to the pursuits of the object of this sketch. His early researches prosecuted in the Carboniferous districts of Nova Scotia naturally led him to the study of fossil plants and of the land animals associated with him, and to these pursuits he has always returned whenever possible throughout his life. He used his position as Superintendent of Education, in which capacity he had to visit nearly every part of his native province, to forward his geological pursuits; and when he transferred his residence to Montreal, the necessities of a geological teacher in the midst of Silurian and Laurentian districts obliged him to attend to those formations. At the same time, the interesting Pleistocene formations of the St. Lawrence Valley attracted his attention in connection with early studies of the marine animals of the St. Lawrence, many of which he had collected and studied microscopically almost in his boyhood, and when little attention was given to such pursuits in educational institutions. Still later his studies of fossil plants have been extended into the valuable material collected in the Cretaceous rocks of the Western Territories, more especially by his son, Dr. George M. Dawson. With all this he has been an educational administrator, a teacher, a popular lecturer and writer, and a worker in religious and benevolent enterprises.

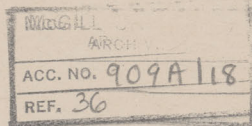
It may truly be said of Sir William Dawson, "*nihil leligit quod non ornavit*," and of those who have been associated with him, and of the hundreds of students during his 38 years connection with McGill College, it may be recorded:

"None knew him but to love him,
None name him but to praise."

SAXON WORDS.*

Old Saxon words, old Saxon words, your spells are round us
thrown;
Ye haunt our daily paths and dreams with a music all your
own;
Each one in its own power a host to fond remembrance brings
The earliest, brightest aspect back of life's familiar things.

* Most of our domestic words—words expressive of objects which daily attract our attention—are from the Saxon. Of the sixty-nine words which comprise the Lord's Prayer, only five are not Saxon.



Yours are the *hills*, the *fields*, the *woods*, the *orchards* and the *streams*,
 The *meadows* and the *bowers* that bask in the sun's rejoicing
 beams ;
 Mid them our childhood's years were kept, our childhood's
 thoughts were rear'd,
 And by your household tones its joys were evermore endear'd.

We have roamed since then where the myrtle bloom'd in its
 own unclouded realms,
 But our hearts return with changeless love to the brave old
 Saxon *elms* ;
 Where the laurel o'er its native streams of a deathless glory
 spoke,
 But we passed with pride to the later fame of the sturdy Saxon
oak.

We have marvelled at those mighty piles on the old Egyptian
 plains,
 And our souls have thrilled to the loveliness of the lovely
 Grecian fanes ;
 We have lingered o'er the wreck of Rome, with its classic
 memories crown'd,
 But these touched us not as the mouldering walls with the
 Saxon *ivy* bound.

Old Saxon words, old Saxon words! they bear us back with
 pride
 To the days when Alfred ruled the land by the laws of Him that
 died ;
 When in our spirit, truly good and truly great, was shown
 What earth has owed, and still must owe, to such as him alone.

There are tongues of other lands that flow with a softer, smooth-
 er grace,
 But the old rough Saxon words will keep in our hearts their
 own true place ;
 Our household hearths, our household graves, our household
 smiles and tears
 Are guarded, hallowed, shrined by them—the kind, fast friends
 of years.

Old Saxon words, old Saxon words, your spells are round u
 thrown ;
 Ye haunt our daily paths and dreams with a music all your own ;
 Each one, in its own power a host, to fond remembrance brings
 The earliest, brightest aspect back of life's familiar things.

TO "A SWEET GIRL GRADUATE."

Maiden Academic,
 With a gown severe,
 Could I ever venture
 To adore you, dear.

Ah! I am astonished.
 What do I see there?
 Surely 'tis a rosebud
 In your raven hair,

So, my learned lady,
 You can love a rose
 Just as well and truly
 As your Latin prose.

Heart of Aphrodite,
 With Athene's brow,
 You can love the rose,
 I can love *you* now.

L. McMILLAN.

CORRESPONDENCE.

To the Editors of the MCGILL FORTNIGHTLY.

The Committee acting as judges of the five stories
 written in competition for the prizes offered by the
 MCGILL FORTNIGHTLY report that, in their opinion,
 the tale entitled *A Camp Story of the New Brunswick
 Lumber Woods* is superior to the others, and recommend
 that its writer receive a prize of ten dollars.

CHAS. E. MOYSE.
 JOHN COX.
 J. G. ADAMI.

MONTREAL, January 27, 1894.

LAW DINNER.

Anyone who happened to be loafing in the Rotunda
 of the Windsor at 7.30 p.m. on Monday last might well
 have wondered what caused the assemblage of so many
 good-looking young men arrayed in evening attire, who
 were on view at that time; however, his amazement at
 such a galaxy of male beauty would have ceased when
 he was informed that these were the Students in the
 Faculty of Law, a most exceedingly studious and mo-
 dest body of men, who had temporarily wrenched their
 minds away from Roman Law and Civil Procedure, and
 having also banished all thought of Court Records and
 Plunitiffs had met to celebrate their annual banquet.
 Yes, strange as the metamorphosis may seem, these were
 the same men who may be seen any time soon after the
 late dawn of a winter's morning hastening to lectures
 with a hungry look in their eyes, as of those seeking
 for information, and with the thirst for knowledge and
 other things which characterizes the law student.

It must have been of these men whom Chaucer was
 thinking when he says of his clerk of Oxford:

"For him was levere have at his beddes heed
 "Twenty bokes clad in blak or reed
 "Of Aristotle and his philosophye
 "Than robes riche, or fithele or gay santrye."

However, as the worthy old poet himself loved good
 and pleasant society and to sit at the festive board, for,
 as he himself tells us, "his abstinence was little," he
 would probably have smiled graciously, could he have
 beheld the descendants of his prototype seated around
 the tastily decorated tables in the Windsor, enjoying
 the delicacies which the menu set forth, while a glance
 at the head table occupied by two judges, the Dean and
 Prof. McGoun, to say nothing of the awe-inspiring
 dignity of the chairman, would have assured *Mr.* Chaucer
 that the younger men were being brought up in
 the way they should go.

It is generally supposed that the law student is too
 busy to eat, and this may account for the silence which
 prevailed over the first part of the evening, broken
 only by some mysterious sound like "t'clop," which
 examination proved to be the result produced by the
 combination of a waiter, peculiar shaped glass affairs
 and funny-looking instruments of twisted steel which
 none of us had ever seen before.

From the Popular Science Monthly 1875, (with additions).

SKETCH OF PRINCIPAL DAWSON.

JOHN WILLIAM DAWSON was born at Pictou, Nova Scotia, in 1820. He received his early academic training in the College of Pictou, then one of the best Institutions of higher education in Nova Scotia, and under the principalship of the Rev. Dr. McCulloch. Here, while prosecuting the regular course of study, he made extensive collections in the natural history of his native province, thus early manifesting a taste for original scientific inquiry.

Having finished his course at Pictou, he entered the University of Edinburgh. After a winter's study he returned to Nova Scotia, and devoted himself with ardor to geological research. He was the companion of Sir Charles Lyell during his tour in Nova Scotia, in 1842, and followed up his researches by studies of the Carboniferous rocks of Nova Scotia, on which he contributed two important papers to the Geological Society of London.

In the autumn of 1846 he returned to the University of Edinburgh, his special objects of study being now practical chemistry and other subjects, of which he had found the necessity in the original work in which he was engaged. On returning to Nova Scotia he pursued his geological investigations with renewed energy.

In 1850 he was appointed Superintendent of Education for Nova Scotia. This office he held for three years, and rendered valuable service to that province at a time of special interest in the history of its schools and educational institutions. He also took an active part in the establishment of a Normal school in Nova Scotia, and in the regulation of the affairs of the University of New Brunswick, as a member of the commission appointed by Sir Edmund Head, then Governor of the Province, for that purpose. In connection with these educational labours he published several elaborate Reports on the Schools of Nova Scotia, and a work on Agricultural Education entitled "Scientific Contributions toward the improvement of Agriculture," which went through two editions, and was of much practical utility.

In 1855 he was called to the position which he still holds, that of Principal and Professor of Natural History in McGill College and University, an Institution which, situated in Montreal, the commercial capital of Canada, draws its students from all parts of the Dominion. The University has prospered under his management beyond the most sanguine expectations of its friends and promoters.

The raising of McGill College to its present position would have been work enough in itself for these years, but in addition to this Dr. Dawson has had under his care the Protestant Normal School. From his position there, he has had a great deal to do with the moulding and controlling of the school system of the country. After many years' faithful work, he withdrew (in 1870) from the active duties of the Normal School, retaining however, a connection with it as Chairman of its Committee of management.

His special work in connection with the University and the Normal School took up much of that time which would have otherwise been devoted to original investigations in his favorite science.

A review of his more important scientific labors will show us how much may be done even in the midst of engrossing educational occupations. As early as 1830 Dr. Dawson began to make collections of the fossil plants of the Nova Scotia coal formation. In 1841 he contributed to the Wernerian Society of Edinburgh his first scientific paper, on the species of field-mice found in Nova Scotia. In 1843 he communicated a paper on the rocks of Eastern Nova Scotia to the Geological Society of London; this was followed in 1844 by a paper on the newer coal formation. In 1845, besides exploring and reporting on the iron mines of Londonderry, Nova Scotia, he published a paper on the coal formation plants of that province.

During the winter of 1846-'47, while studying in Edinburgh, he contributed to the Royal Society of that city, papers on the "Formation of Gypsum," and on the "Boulder Formation," and an article to Jameson's *Edinburgh Philosophical Journal*, on the "Renewal of Forests destroyed by Fire." The facts embodied in the last were subsequently employed by him in combating the exaggerated periods of time assigned to such changes by European geologists.

From 1847 to 1849 we find him, with the same never-flagging zeal, pursuing his geological researches, and giving the results to the world in frequent papers. The most important of these are: 1. "On the Triassic Red Sandstones of Nova Scotia and Prince Edward Island;" 2. "On the Coloring Matters of Red Sandstones;" 3. "On Erect Calamites found near Pictou;" 4. On the "Metamorphic Rocks of Nova Scotia." He also published his "Handbook of the Geography and Natural History of Nova Scotia," and delivered courses of lectures on Natural History and Geology in the Pictou Academy, and in Dalhousie College, Halifax, and reported to the Nova Scotia Government on the coal-fields of Southern Cape Breton.

In 1852, in company with Sir Charles Lyell, he made a re-examination of the Joggins section, and visited the remarkable deposit of Albertite at Hillsborough, New Brunswick. A memoir soon appeared on the former district, giving a more full exposition than any previous one of the structure and mode of formation of a coal-field. The Albert Mine was also made the subject of a paper. In the further study of the Joggins section, microscopic examinations were made of coal from all its beds, as well as of coal

from other sources, the results being published in papers on the "Structures in Coal," and on the "Mode of Accumulation of Coal."

It was during the visit to the Joggins, just referred to, that the remains of *Dendrerpeton Acadianum* and *Pupa vetusta* were found. With the exception of *Baphetes planiceps*, which Dr. Dawson had discovered in the year previous at Pictou, but had not described, *Dendrerpeton Acadianum* was the first reptile found in the coal formation of America; *Pupa vetusta* was the first known Palæozoic land snail. These discoveries were followed by the finding and describing of several other reptiles, and of the first carboniferous millipede (*Xylobius sigillariæ*). About this time, also, a second report on the Acadia iron mine was prepared, and an elaborate series of assays of coal made for the General Mining Association.

In 1855 he published the first edition of his "Acadian Geology," a complete account, up to that date, of the geology of the Maritime Provinces of British North America. In 1856, though now trammelled by the arduous duties incumbent upon the principal of a University, he still continued his geological work in his native province, and prepared a description of the Silurian and Devonian rocks. During the same summer he visited Lake Superior, and wrote a paper and report on the copper-regions of Maimanse and Georgian Bay, in which he discussed the geological relations of the then little known copper-bearing rocks of the North Shore of Lake Superior, and the origin of the deposits of native copper.

In the two following years he made a number of contributions to the *Canadian Naturalist* and the *Journal of the Geological Society*, and commenced the study of the Post-pliocene deposits of Canada. In 1859 his "Archaia," or studies of creation in Genesis, appeared, a work showing not only a thorough knowledge of Natural History, but also considerable familiarity with the Hebrew language and with biblical literature.

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Dr. Dawson was elected a Fellow of the Geological Society of London in 1854, and of the Royal Society in 1862. He is a Master of Arts of Edinburgh, and Doctor of Laws of McGill; and is an honorary or corresponding member of many of the Scientific Societies on both sides of the Atlantic.

ADDENDA TO 1895.

1875 to 8—Revised and in part rewrote "Anchaia" and published it in London and New York, under the name "Origin of the World." Prepared "Supplement to Acadian Geology," and revisited several parts of Nova Scotia to collect new facts. Collected and published additional Fossil Reptiles from the South Joggins, and published papers on carboniferous plants and other fossils; also some further work as to Eozoon.

1879.—Occupied in spring in excavating fossil trees at Joggins, aided by Mr. W. Bell Dawson, and in preparation for Royal Society memoir on these trees and their contents, published in 1882. In June, delivered the Phi Beta Kappa oration at Cambridge, U. S., in presence of a brilliant audience, including Lord Dufferin, who was a guest of the society. This address was published under title "Rights and Duties of Science." Published little book "Links in the Chain of Life," a popular view of the succession of extinct animals and plants.

1880.—Published "Fossil Men and their Modern Representatives," and Revision of Palæozoic Land Snails in American Journal of Science, and prepared "Hand-book of Canadian Geology."

1881.—Invited graduates to a Banquet, on occasion of 25th year of my Principalship. 350 attended and Mr. P. Redpath announced his intention to found a museum. The preparation of our collections for this, and improvement in our College course in arts, occupied much time in this and following year.

1882.—Invited by Lord Lorne, Governor-General of Canada, to aid in the organization of the Royal Society of Canada as its first President; a gigantic labour encompassed with difficulties, and which occupied much time. Elected President of American Association for its meeting in Montreal, on which occasion the Peter Redpath Museum was opened with a conversazione provided by the President. Honoured by Her Majesty with C. M. G. Awarded Lyell Medal of London Geological Society, for important discoveries in geology.

1883.—Travelled in the North-West, and prepared notice of the geology for the Geological Society. Delivered address as retiring President at the American Association in Minneapolis; subject, "Unsolved Problems in Geology." Went over to England and attended the meeting of the British Association at Southport in the interest of the meeting in Montreal in 1884. Left in November with wife and daughter for Italy, Egypt and Syria, where spent the winter, and wrote articles for *Leisure Hour* and *Geological Magazine* on these countries.

1884.—Attended meeting of British Association in Montreal, and took an active part in its organization and proceedings. On this occasion received the honour of Knighthood. Found lady applicants for admission to college. Endeavoured with aid of Rev. Dr. Wilkes and Rev. Canon Norman to provide means for their education. The problem solved by the handsome

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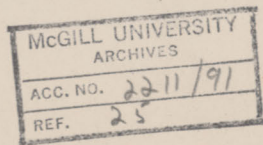
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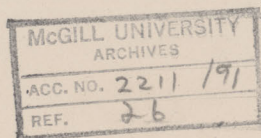
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