

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

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

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

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

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

MEMORANDUM

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

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

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

ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY given in the Laboratories of the College, six days each week during the three Sessions of 1869-70, and has passed an examination with credit.

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

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

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

October, 1876

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

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

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

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

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

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

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

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

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

(Signed) JOHN PERCY, M. D., F. R. S.
Lecturer on Metallurgy.
London, 6th July, 1872

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

(Signed) WARRINGTON W. SMYTH,
Lecturer on Mineralogy.
London, 1st October, 1871.

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

(Signed) ANDREW RAMSAY, LL.D., F.R.S.
Lecturer on Geology.
London, 2nd October, 1871.

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

(Signed) T. M. GOODEVE,
Lecturer on Applied Mechanics.
London, 8th July, 1872.

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London, October 10, 1870.

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

MEMORANDUM

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Professor
London, October 10, 1870.

ASSOCIATE ROYAL SCHOOL OF MINES.

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

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

October, 1876

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London, 8th July, 1872.

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London, October 10, 1870.

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(Signed)

J. H. EDGAR, M. A.

Lecturer on Mechl. Drawing.

London, October 30, 1871.

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

(Signed)

E. FRANKLAND,

Professor

London, October 10, 1870

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(Signed)

E. FRANKLAND,

Professor.

ROYAL COLLEGE OF CHEMISTRY,

London, June 19, 1871

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

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

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Lecturer on Metallurgy.

London, 6th July, 1872.

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(Signed)

WARRINGTON W. SMYTH.

Lecturer on Mineralogy.

London, 1st October, 1871.

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

(Signed)

ANDREW RAMSAY, LL.D., F.R.S.

Lecturer on Geology.

London, 2nd October, 1871.

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T. M. GOODEVE,

Lecturer on Applied Mechanics.

London, 8th July, 1872.

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T. H. HUXLEY.

London, 8th July, 1872.

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(Signed)

WARRINGTON W. SMYTH,

Lecturer on Mining.

London, 8th July, 1872.

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(Signed)

ALBERT EDWARD, P.

London, July 10th, 1871.

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

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

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

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

MEMORANDUM

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

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

ASSOCIATE ROYAL SCHOOL OF MINES.
Professor
London, October 10, 1871.

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

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

October, 1876
It is hereby certified that Mr. G. M. Dawson has attended the course of lectures on Mining during the Session 1871-72, and has passed an examination in the highest degree satisfactory.
WARRINGTON, W. SMYTH (Signed)
Lecturer on Mining
London, 8th July, 1872.

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

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London, October 10, 1870.

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

London, October 30, 1871.

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(Signed) E. FRANKLAND,
Professor

London, October 10, 1870

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Professor.

ROYAL COLLEGE OF CHEMISTRY,
London, June 19, 1871

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

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

London, 16th July, 1872

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

London, 1st October, 1871.

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

London, 2nd October, 1871.

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London, October 10, 1870

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London, October 30, 1871

MEMORANDUM

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October, 1876
London, 8th July, 1872

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(Signed) JOHN PERCY, M. D., F. R. S.
Lecturer on Metallurgy.
London, 6th July, 1872

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

(Signed) WARRINGTON W. SMYTH,
Lecturer on Mineralogy.
London, 1st October, 1871.

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

(Signed) ANDREW RAMSAY, LL.D., F.R.S.
Lecturer on Geology.
London, 2nd October, 1871.

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

(Signed) T. M. GOODEVE,
Lecturer on Applied Mechanics.
London, 8th July, 1872.

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

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

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

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

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

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

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

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

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

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

MEMORANDUM

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

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

FRANKLAND (Signed)
Professor
London, October 15, 1870.

ASSOCIATE ROYAL SCHOOL OF MINES.

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

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

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

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

October, 1876

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

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

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

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

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

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

(Signed) FREDERICK GUTHRIE,
Professor of Physics.

London, October 10, 1870.

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

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

London, October 30, 1871.

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

(Signed) E. FRANKLAND,
Professor

London, October 10, 1870

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

(Signed) E. FRANKLAND,
Professor.

ROYAL COLLEGE OF CHEMISTRY,
London, June 19, 1871

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

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

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

London, 6th July, 1872

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

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

London, 1st October, 1871.

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

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

London, 2nd October, 1871.

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

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

London, 8th July, 1872.

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

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

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

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

London, 8th July, 1872.

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

(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.

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

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

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

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

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

MEMORANDUM

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

ASSOCIATE ROYAL SCHOOL OF MINES.

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

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

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

October, 1876

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

WARRINGTON W. SMYTH (Signed)
Lecturer on Mining
London, 21st July, 1872.

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

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

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

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

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

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

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

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

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

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

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

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

(Signed) JOHN PERCY, M. D., F. R. S.
London, 6th July, 1872. Lecturer on Metallurgy.

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

(Signed) WARRINGTON W. SMYTH,
London, 1st October, 1871. Lecturer on Mineralogy.

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

(Signed) ANDREW RAMSAY, LL.D., F.R.S.
London, 2nd October, 1871. Lecturer on Geology.

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

(Signed) T. M. GOODEVE,
London, 8th July, 1872. Lecturer on Applied Mechanics.

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

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

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

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

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

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

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,
Registrar.

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

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

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

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

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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

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

(Signed by the Students of the Class.)

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

DEAR DR. DAWSON,

It will give me much pleasure on any occasion, on which it may be supposed useful, to bear my favorable testimony to your son, Mr. George M. Dawson, whose acquaintance I had the pleasure to make, while he delivered a course of Lectures on Chemistry in Morrin College. Of his scientific attainments, it would be as presumptuous as it is unnecessary for me to say anything. To these he has ample testimony, from those better qualified to judge. But I may be allowed to state the very favorable impression which he produced among us, as a Teacher, able to communicate his knowledge on scientific subjects with precision and simplicity, and so as to gain the attention and commend himself to the understandings of those studying under him. And I would like further to state, that in my frequent personal intercourse with him, I had constant occasion to note and to admire his excellent temper and sound judgment.

Believe me, Dear Dr. Dawson,

Very truly yours,

JOHN COOK, D.D.,

Principal of Morrin College, Quebec, 4th Nov., 1876.

Dr. Dawson, Principal of McGill College, &c.

EXTRACT FROM A LETTER OF SIR C. LYELL, (JUNE, 5th 1874,) RELATING TO THE "REPORT ON THE LIGNITE TERTIARIES."

"The style is so clear, and the paper on the Lignite formations, without being overloaded with details, gives so entirely all the features of the formations which he has been studying, that I look forward to his playing a great part in the Geology of the future."

FROM THE DIRECTOR OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN, WITH REFERENCE TO A REPORT ON A MINING PROPERTY.

I am well acquainted with Mr. George M. Dawson. He attended all the classes at the Royal School of Mines during three years. In every branch he distinguished himself in the highest degree, and he gained the esteem of every one who knew him.

I have the highest opinion of his ability and integrity, and I know his range of knowledge to be unusually extensive. He also served on the Geological Survey of England for a summer as an amateur, and proved in the field that he easily understood and could take part in all the operations of the Survey in Cumberland.

(Signed) AND. RAMSAY,

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

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

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

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

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

(Signed) D. R. CAMERON.

Late North American Boundary Commissioner.

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

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

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

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

Late Chief Astronomer N. A. Boundary Com.

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

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

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

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

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

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

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

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

I shall greatly rejoice in his success.

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

Murchison Medallist.

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

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

(Signed) JAMES HALL.

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

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

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

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

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

Your obedient servant,

(Signed)

F. V. HAYDEN,

United States Geologist,

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,
Registrar.

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

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WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

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

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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

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

(Signed by the Students of the Class.)

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

DEAR DR. DAWSON,

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It will give me much pleasure on any occasion, on which it may be supposed useful, to bear my favorable testimony to your son, Mr. George M. Dawson, whose acquaintance I had the pleasure to make, while he delivered a course of Lectures on Chemistry in Morrin College. Of his scientific attainments, it would be as presumptuous as it is unnecessary for me to say anything. To these he has ample testimony, from those better qualified to judge. But I may be allowed to state the very favorable impression which he produced among us, as a Teacher, able to communicate his knowledge on scientific subjects with precision and simplicity, and so as to gain the attention and commend himself to the understandings of those studying under him. And I would like further to state, that in my frequent personal intercourse with him, I had constant occasion to note and to admire his excellent temper and sound judgment.

Believe me, Dear Dr. Dawson,

Very truly yours,

JOHN COOK, D.D.,

Principal of Morrin College, Quebec, 4th Nov., 1876.

Dr. Dawson, Principal of McGill College, &c.

EXTRACT FROM A LETTER OF SIR C. LYELL, (JUNE, 5th 1874.) RELATING TO THE "REPORT ON THE LIGNITE TERTIARIES."

"The style is so clear, and the paper on the Lignite formations, without being overloaded with details, gives so entirely all the features of the formations which he has been studying, that I look forward to his playing a great part in the Geology of the future."

FROM THE DIRECTOR OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN, WITH REFERENCE TO A REPORT ON A MINING PROPERTY.

I am well acquainted with Mr. George M. Dawson. He attended all the classes at the Royal School of Mines during three years. In every branch he distinguished himself in the highest degree, and he gained the esteem of every one who knew him.

I have the highest opinion of his ability and integrity, and I know his range of knowledge to be unusually extensive. He also served on the Geological Survey of England for a summer as an amateur, and proved in the field that he easily understood and could take part in all the operations of the Survey in Cumberland.

(Signed) AND. RAMSAY,

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

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

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

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

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

(Signed) D. R. CAMERON.

Late North American Boundary Commissioner.

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

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

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

Late Chief Astronomer N. A. Boundary Com.

FROM PROF. T. H. HUXLEY, F.R.S., SECY. ROYAL SOCIETY, (AUG. 28th, 1876.)

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

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

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

(Signed) T. H. HUXLEY, Secy. R. Society,

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

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

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

I shall greatly rejoice in his success.

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

Murchison Medallist.

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

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

(Signed) JAMES HALL

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

SIR,

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

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

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

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

Your obedient servant,

(Signed)

F. V. HAYDEN,

United States Geologist,

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

(Signed) RIPON Lord President of the Council.

(Signed) TRENHAM REEKS, Registrar.

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

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

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

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

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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

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

(Signed by the Students of the Class.)

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(Signed)

F. V. HAYDEN,
United States Geologist,

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

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

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

MEMORANDUM

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

ASSOCIATE ROYAL SCHOOL OF MINES.

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

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

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

October, 1876

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

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

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

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

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

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

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

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

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

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

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

(Signed) JOHN PERCY, M. D., F. R. S.
London, 6th July, 1872. Lecturer on Metallurgy.

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

(Signed) WARRINGTON W. SMYTH,
London, 1st October, 1871. Lecturer on Mineralogy.

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

(Signed) ANDREW RAMSAY, LL.D., F.R.S.
London, 2nd October, 1871. Lecturer on Geology.

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

(Signed) T. M. GOODEVE,
London, 8th July, 1872. Lecturer on Applied Mechanics.

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

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

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

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

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

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

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,
Registrar.

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

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Montreal, Oct. 7th, 1876.

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Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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EXTRACT FROM A LETTER OF SIR C. LYELL, (JUNE, 5th 1874.) RELATING TO THE "REPORT ON THE LIGNITE TERTIARIES."

"The style is so clear, and the paper on the Lignite formations, without being overloaded with details, gives so entirely all the features of the formations which he has been studying, that I look forward to his playing a great part in the Geology of the future."

FROM THE DIRECTOR OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN, WITH REFERENCE TO A REPORT ON A MINING PROPERTY.

I am well acquainted with Mr. George M. Dawson. He attended all the classes at the Royal School of Mines during three years. In every branch he distinguished himself in the highest degree, and he gained the esteem of every one who knew him.

I have the highest opinion of his ability and integrity, and I know his range of knowledge to be unusually extensive. He also served on the Geological Survey of England for a summer as an amateur, and proved in the field that he easily understood and could take part in all the operations of the Survey in Cumberland.

(Signed)

AND. RAMSAY,

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

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

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

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

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

(Signed) D. R. CAMERON,

Late North American Boundary Commissioner.

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

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

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

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

Late Chief Astronomer N. A. Boundary Com.

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

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

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

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

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

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

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

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

I shall greatly rejoice in his success.

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

Murchison Medallist.

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

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

(Signed)

JAMES HALL.

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

SIR,

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

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

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

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

Your obedient servant,

(Signed)

F. V. HAYDEN,

United States Geologist,

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

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

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

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

MEMORANDUM

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

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

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

ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in Practical Chemistry given in the Laboratories of the College, six days each week during the three Sessions of 1869-70 and 1870-71 and acquired a good knowledge of the principles and practice of the subject.

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

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

October, 1876

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

WARRINGTON W. SMYTH (Signed)
Lecturer on Mining
London, 26 July 1872.

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

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

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

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

(Signed) FREDERICK GUTHRIE,
Professor of Physics.

London, October 10, 1870.

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

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

London, October 30, 1871.

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

(Signed) E. FRANKLAND,
Professor

London, October 10, 1870

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

(Signed) E. FRANKLAND,
Professor.

ROYAL COLLEGE OF CHEMISTRY,
London, June 19, 1871

(Signed) W.M. GEO. VALENTIN,
Hon. Secretary.

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

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

London, 6th July, 1872

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

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

London, 1st October, 1871

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

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

London, 2nd October, 1871.

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

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

London, 8th July, 1872.

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

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

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

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

London, 8th July, 1872.

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(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.

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London, October 10, 1870.

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(Signed) EDGAR, M. A.,
Lecturer on Mech. Drawing.

London, October 30, 1871.

MEMORANDUM

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

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

(Signed) FRANKLAND,
Professor.

London, October 10, 1870.

ASSOCIATE ROYAL SCHOOL OF MINES.

It is hereby certified that Mr. George M. Dawson (Montreal, Canada) attended the course of instruction in PRACTICAL CHEMISTRY given in the Laboratories of the College six days each week during the three Sessions of 1869-70, 70-71, and 71-72, and has passed an examination in the highest degree satisfactory.

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

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October, 1876

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Lecturer on Mining.

London, 8th July, 1872.

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

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CHEMISTRY, LONDON, ENGLAND.

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London, October 10, 1870.

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Lecturer on Mechl. Drawing.

London, October 30, 1871.

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Professor.

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

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Lecturer on Mining.

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(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.

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

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

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

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

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

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

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(Signed) T. H. HUXLEY, London, 26th July, 1872.

October, 1876

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(Signed) WARRINGTON, W. SMYTH, Lecturer on Mining, London, 26th July, 1872.

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

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(Signed) FREDERICK GUTHRIE,
Professor of Physics.

London, October 10, 1870.

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Lecturer on Mechl. Drawing.

London, October 30, 1871.

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Professor

London, October 10, 1870

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(Signed) E. FRANKLAND,
Professor.

ROYAL COLLEGE OF CHEMISTRY,
London, June 19, 1871

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

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

London, 6th July, 1872

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

London, 1st October, 1871.

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

London, 2nd October, 1871.

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

London, 8th July, 1872.

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

(Signed) T. H. HUXLEY.

London, 8th July, 1872.

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

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

London, 8th July, 1872.

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

(Signed) ALBERT EDWARD, P.

London, July 10th, 1871.

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

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

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

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

(Signed) EDGAR, M. A.
Lecturer on Mech. Drawing
London, October 10, 1870.

MEMORANDUM

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

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

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

Mr. Dawson is a native of Nova Scotia, the oldest surviving son of Principal Dawson, of McGill College, Montreal, and now in his 28th year. He received his early education in Montreal, but did not enter the University except as a partial Student, in consequence of delicate health. In 1869 he entered the Royal School of Mines, London, and took its full course of study extending over three years. He passed in 1872 as Associate of the Royal School of Mines, taking the first place in his class, and the Edward Forbes Medal and Prize in Palæontology and Natural History. He had previously taken the Duke of Cornwall's Scholarship in his Second Year. (See certificates below.) On returning to Canada, he was engaged for a year in Mining Surveys in Nova Scotia, and in lecturing in Morrin College, Quebec.

He was then appointed Geologist and Botanist to the British North American Boundary Commission, in which capacity he served for two years, and prepared an elaborate Report on the Geology and Resources of the country in the vicinity of the 49th parallel, which was published by the Commission. In connection with this work he also prepared a Report on the Lignite Tertiary Formation, a Memoir on the Superficial Deposits of the great interior plains of America, which was published in the Proceedings of the Geological Society of London, of which he is a Fellow, and papers on the Locust Visitation, and on the Fresh-water Sponges of Canada, which were published in the Canadian Naturalist; also a paper on the Fluctuations of the great American Lakes, published in "Nature." On the completion of the Boundary Survey, he received an appointment on the Staff of the Geological Survey of the Dominion, and has been occupied for nearly two years in the Survey of British Columbia.

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

October, 1876

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

(Signed) WARRINGTON, W. SMYTH
Lecturer on Mining
London, 26th July, 1872.

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

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

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

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

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

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

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

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

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

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

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

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

(Signed) JOHN PERCY, M. D., F. R. S.
London, 6th July, 1872. Lecturer on Metallurgy.

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

(Signed) WARRINGTON W. SMYTH.
London, 1st October, 1871. Lecturer on Mineralogy.

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

(Signed) ANDREW RAMSAY, LL.D., F.R.S.
London, 2nd October, 1871. Lecturer on Geology.

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

(Signed) T. M. GOODEVE,
London, 8th July, 1872. Lecturer on Applied Mechanics.

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

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

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

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

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

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

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS,
Registrar.

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

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

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

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

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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

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

(Signed by the Students of the Class.)

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

DEAR DR. DAWSON,

It will give me much pleasure on any occasion, on which it may be supposed useful, to bear my favorable testimony to your son, Mr. George M. Dawson, whose acquaintance I had the pleasure to make, while he delivered a course of Lectures on Chemistry in Morrin College. Of his scientific attainments, it would be as presumptuous as it is unnecessary for me to say anything. To these he has ample testimony, from those better qualified to judge. But I may be allowed to state the very favorable impression which he produced among us, as a Teacher, able to communicate his knowledge on scientific subjects with precision and simplicity, and so as to gain the attention and commend himself to the understandings of those studying under him. And I would like further to state, that in my frequent personal intercourse with him, I had constant occasion to note and to admire his excellent temper and sound judgment.

Believe me, Dear Dr. Dawson,

Very truly yours,

JOHN COOK, D.D.,

Principal of Morrin College, Quebec, 4th Nov., 1876.

Dr. Dawson, Principal of McGill College, &c.

EXTRACT FROM A LETTER OF SIR C. LYELL, (JUNE, 5th 1874,) RELATING TO THE "REPORT ON THE LIGNITE TERTIARIES."

"The style is so clear, and the paper on the Lignite formations, without being overloaded with details, gives so entirely all the features of the formations which he has been studying, that I look forward to his playing a great part in the 'Geology of the future.'"

FROM THE DIRECTOR OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN, WITH REFERENCE TO A REPORT ON A MINING PROPERTY.

I am well acquainted with Mr. George M. Dawson. He attended all the classes at the Royal School of Mines during three years. In every branch he distinguished himself in the highest degree, and he gained the esteem of every one who knew him.

I have the highest opinion of his ability and integrity, and I know his range of knowledge to be unusually extensive. He also served on the Geological Survey of England for a summer as an amateur, and proved in the field that he easily understood and could take part in all the operations of the Survey in Cumberland.

(Signed) AND. RAMSAY,

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

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

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

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

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

(Signed) D. R. CAMERON.

Late North American Boundary Commissioner.

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

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

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

(Signed)

S. ANDERSON, Captain R. E.,

Late Chief Astronomer N. A. Boundary Com.

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

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

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

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

(Signed)

T. H. HUXLEY, Sec'y. R. Society.

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

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

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

I shall greatly rejoice in his success.

(Signed)

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

Murchison Medallist.

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

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

(Signed)

JAMES HALL.

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

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

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

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

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

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Approved, (Signed) RIPON
Lord President of the Council.

London, 27th July, 1872. Entered, (Signed) TRENHAM REEKS,
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(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON
Lord President of the Council.

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I shall greatly rejoice in his success.

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Your obedient servant,

(Signed)

F. V. HAYDEN,
United States Geologist.

DIPLOMA FROM THE COMMITTEE OF PRIVY COUNCIL ON EDUCATION.

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

(Signed) WARRINGTON W. SMYTH, Chairman.

Approved, (Signed) RIPON

Lord President of the Council.

London, 27th July, 1872.

Entered, (Signed) TRENHAM REEKS, Registrar.

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

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

WILLIAM T. LEACH,

Montreal, Oct. 7th, 1876.

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

Quebec, 17th March, 1873.

GEORGE M. DAWSON, Esq.,

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

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

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

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

(Signed by the Students of the Class.)

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MARCH, 1901

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176-178 WELLINGTON ST., OTTAWA, ONT.

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A REVIEW OF TO-DAY.

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OTTAWA, CANADA.

MARCH, 1901.

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Articles or letters intended for insertion must in all cases be accompanied by the real name and address of the writer, but they may be signed with a *nom-de-plume*, if so desired. No notice will be taken of anonymous communications.

Matter intended for insertion in the next number must reach the Editor not later than the 3rd of the month, and a stamped and addressed envelope must accompany all MSS. the return of which is desired in the event of their not being found available for publication.

THE DECLARATION AGAINST TRANSUBSTANTIATION.

THE House of Commons is to be congratulated upon the tone of the debate and the result of the division on Mr. Costigan's motion for the modification of the Declaration against Transubstantiation required of the Sovereign of Great Britain. On the whole, the tenor of the discussion was all that could be desired. The Prime Minister, in a speech remarkable for its breadth of thought, for its unreserved acquiescence in the guarantee of a Protestant succession, and for its confident assertion of the entire loyalty of Roman Catholics to a Protestant monarch, gave to the debate a dignity and elevation which was well maintained by Mr. R. L. Borden, who has already justified the trust reposed in him by the members of the opposition. The speakers on both sides of the House showed a laudable desire to emulate their leaders; with one notable exception,—that of the honourable member for West York. But Mr. Clarke Wallace stood almost alone, several of those who opposed the motion doing so simply because they believed that the Canadian Parliament should not interfere in the matter, and the figures of the division list—125 for the motion, with but 19 against it—give a fair indication of the feeling, not only in the House, but in the country. It has at least been made clear that we in Canada do not believe that words should be put into the mouth of our

Sovereign which "cannot but cause the deepest pain to millions of subjects of his Majesty in all parts of the Empire, who are as loyal and devoted to his Crown and person as any others in his dominions!"

It may be well to point out that the quarrel is not with the Coronation Oath, which can only be administered during the Coronation ceremony, and which, so far as its religious side is concerned, simply binds the Sovereign "to maintain the Laws of God, the true profession of the Gospel, and the Protestant Reformed Religion established by law." Nothing contained in it stigmatizes the Roman Catholic creed as idolatrous, nor does it offend in any way the susceptibilities of the adherents of that religion. But by the tenth clause of the Bill of Rights (1. Wm. & M. Sess. 2, c. 2,) it was enacted that every King and Queen of the realm should thereafter, on the first day of the meeting of the first Parliament of his or her reign, or at his or her coronation, make, subscribe, and audibly repeat the Declaration against Transubstantiation, Adoration of the Virgin, and the Sacrifice of the Mass, contained in the Test Act of 30 Car. 2, Sess. 2, c. 1. It is to this Declaration that exception is taken.

The view which has been put forward in some quarters that the question is not one of which the Canadian Parliament should take cognizance does not commend itself to us. That the Imperial Parliament alone has power to deal with it is of course true, but in that Parliament Canadians are not yet represented, and for the present it is only by resolutions of our own Parliament that we can formally express our opinions on any Imperial questions in which we may be profoundly interested. With some forty-three per cent. of our citizens adherents of the Roman Catholic Church, we have unquestionably a very deep interest in the matter, and it seems to us that the thanks of the country are due to Mr. Costigan for bringing it to the fore at as early a date as possible.

Without entering into the question of the necessity for such a Declaration existing at the time it was framed, there can be no doubt that the retention of the offensive portion of it is now a wanton and gratuitous insult to all Roman Catholics, and imposed, as it is, upon a Protestant King by the Act of a Parliament which was, from the circumstances of the time, unavoidably bitter and intolerant, it becomes the plain and bounden duty of every British Protestant to interest himself in securing its amendment. The adoption of Mr. Costigan's motion by so large a majority will undoubtedly help to concentrate upon the obnoxious clauses the weight of an overwhelming public opinion from all parts of the Empire; thus rendering it practically certain that the present King will be the last occupant of the British throne compelled by law to brand as superstitious and idolatrous the most sacred beliefs and cherished rites of a Church with which millions of his loyal subjects are in communion.

THE COMMONWEALTH

A CANADIAN MINT.

It is much to be feared that in making preliminary arrangements for the establishment in Canada of a branch of the Royal Mint, the Government have acted without due consideration of all the delicate and difficult questions involved, and without a clear idea of the advantages which they hope to gain.

There are still some people who look upon a mint as a genuine factory, which gives real value to the raw material with which it deals. But under a mono-metallic free coinage system, the Government stamp merely certifies to the weight and fineness of the coins, and as no charge is made for the minting, the value of the coined metal is no greater than that of the bullion, whilst the cost to the country of establishing and supporting a mint is very considerable. Every free-coinage mint in the world is carried on at a loss, those in the Australian Colonies, which are so often quoted for our benefit, being no exceptions.

On the Pacific coast a mint is desired in order to attract to Canada the miner from the north, who now takes his gold and his trade to Seattle. We doubt very much whether one man in a hundred, who would otherwise have gone to Seattle, would land in Canada to take advantage of a mint. The great bulk of the gold mined in the north is now bought on the spot by the Banks and the Trading Companies, and although a certain amount is brought out by the miners themselves, it must be remembered that most of them are citizens of the United States, who would, in any event, take passage direct to their own ports.

But the argument which is most frequently pressed into service in favour of a Canadian Mint is one which appeals to our patriotism. Canada, we are told, has now reached a stage in national development when she should have a coinage of her own, struck off at her own mint from her own gold, and at her own cost. Now if all that we want is a Canadian coinage, there are no very serious objections to be urged, although it would be altogether ridiculous to establish a mint here to turn out the very small number of coins which our present currency system could absorb. We could obtain them much more cheaply and expeditiously from England. But if by a Canadian gold coinage we mean a Canadian gold currency, the matter assumes a much more serious aspect. The whole question of a metallic currency *vs* a convertible paper currency based upon metal is opened up, whilst the adoption of a gold currency means the total abolition of our present currency system, and the unsettling of our international financial arrangements. Very few business men would wish to disturb our system of currency, which is safe, cheap, elastic and in every way suited to our requirements, and it is to be hoped that the Government will do nothing to imperil its existence.

LAW AND THE PEOPLE

The current number of the American *Review of Reviews* does not afford pleasant reading for those who are interested in the moral progress of the great American Republic. Under the head of 'The Progress of the World' it discusses the following national topics: The new Kansas Crusade (Mrs. Nation and her axe); the Leavenworth lynching (the burning of a negro at the stake in broad daylight); a similar horror a short time ago in Colorado; the shocking barbarities brought to light in Bellevue Hospital, New York; and the awful sanitary conditions of Sing Sing prison. With reference to the Kansas crusade, the periodical in question makes some obvious remarks in a tone that rather implies that there is not much use in tendering advice to the sovereign people, and that the only thing to do is to let things drift. It says: "The remedy does not lie in any one direction. We are a nation of people having exceptional individuality. We have gloried in private initiative. We have developed the individual at the expense of society. The consequence is that government and law are relatively weak, and private interests of every kind relatively strong." We think the case admits of being put otherwise. The reason why law is weak in the United States, or at least in many parts of it is, that the direct dependence of legal authority on *votes* is at all times too distinctly in view. The sheriff, who has been elected by the votes of his fellow-citizens, is not going to order troops to fire on those citizens if, on a certain occasion, instead of leaving him to hang a criminal, they wish to do the job themselves. To be sure the whole body of the citizens may not be present in the mob; but, without being aware of the Latin maxim: *De non apparentibus et non existentibus eadem est ratio*, he may act on the principle. If the rest of the citizens do not believe in lynching the man, why are not they there to make their views known? We are by no means persuaded that there is a surplus of individuality in the United States. It seems to us to be rather the other way. The idea that a man should, in the execution of his duty, stand up against a mob of electors, hardly enters into anybody's head in that country. The mob visibly represents the sovereign people, and they must have their way whatever they want. Where does the individuality come in?

As regards the gross mismanagement of public institutions, the *Review of Reviews* points to the fact that under the party system little care is taken to choose suitable persons to preside over these institutions, the main object being to reward political supporters. Canadians may, perhaps, strike a self-righteous attitude and thank providence that they are not like these Americans. It might be better to enquire whether we are not tending in the same

direction. Is not the idea growing up in this country too that laws and regulations should bend to popular demands? Is there not here, as there, a morbid shrinking from being 'unpopular?' And as to party politics, can it be said that the abuses known to exist on the other side of the line are unknown on this side? Are our prisons, for example, as scientifically managed as they ought to be? Let anyone who wants to form an opinion on that point read the annual reports of the Inspector of Penitentiaries for the Dominion. Grant that things are not as bad with us as they are on the other side, the question remains—In what direction are they tending? There is no more blinding sin than self-righteousness. Let us beware.

The Art of

A few months ago that well-written periodical, *The Bookman*, Translation made some strong observations on the shockingly incompetent translations of modern writers produced for the press of to-day. "As matters stand," it said, "the average translation would be a farce if it were not something of a crime. There seems to be a general impression that anybody with a pad and a dictionary or two is quite equal to the task of serving up a great French or German masterpiece for English and American readers." We have frequently had occasion to confirm the justice of these remarks. Quite lately a glaring example has fallen under our notice. The *North American Review*, which claims to be a most up-to-date publication, having obtained possession of an unpublished article on *Modern Government* by the great French novelist, Balzac, had it translated for its December number. In such a case one would suppose that the greatest possible care would have been taken with the translation. Instead of that it was placed in the hands of some one whose knowledge of French was so scanty that he speaks of France 'throwing her cavalier,' when the rendering should have been 'throwing her rider,' and of certain men being 'popular rubbish,' when the meaning is 'worn out politicians'; of the Paris mob pillaging 'hotels' when he should have said 'private mansions,' and of somebody as being a 'fool' where the writer plainly meant 'madman.' These are but samples of the errors which the translation displays. It is generally understood that modern language studies are being very vigorously pursued in the United States. If they are, it is a pity that leading periodicals like the *North American Review* cannot get hold of better translators.

We regret to say that owing to Captain Winter's absence in Boston, where he has been lecturing on the South African War before the Boston Historical Society, his second article on 'Our Empire's Land Defences' did not reach our hands in time for publication in this number. It will duly appear in the April issue.

Bad Literature

A matter which is fast becoming a real evil to our national life, but which the press of this country has hitherto regarded with surprising unconcern, is the wide-spread circulation in Canada of the trashy American 'weeklies' and Saturday editions of the 'yellow journals.' On every railway train and at every book-stall we find this poisonous literature, with its vile and hideously in-artistic illustrations, displayed for sale at prices judiciously graded to suit the purses of the needy seekers after mental entertainment. If this sort of thing is to continue unchallenged and unchecked, who can forecast the harm that will be done to the character and culture of the rising generation of Canadians? For, as we know, it is the young, not the middle-aged or old, who are the chief devourers of this pernicious stuff. Not only the lovers of good literature, but all who believe in Canada and the Empire should bestir themselves to check, as far as possible, the sale in Canada of printed matter which pours contempt upon Britain and British interests the world over. The greater the number of these American prints sold in Canada, the smaller the market for our own excellent publications, like the Saturday editions of *The Globe*, *The Mail and Empire*, *The Montreal Star* and others—all papers having an elevating influence upon their readers, and making for the best interests of our national life. We understand the difficulty of governmental action, but would not a stiff import duty do somewhat to ameliorate the evil? We hope to deal with the subject at greater length at an early date.

National

Mendicancy

A very strong protest should come from all parts of the country against the action of the Mayor of Ottawa, who recently wrote a begging letter to Mr. Andrew Carnegie, asking for help to establish in Ottawa, either a free public library or a technical training school for the use of the whole Dominion. Without warrant or authorization from Council or citizens, he has placed the Capital City of Canada in the humiliating position of having gone, cap in hand, to solicit alms from a wealthy and liberal stranger. With the Mayor's desire to see a public library established in Ottawa, all will cordially sympathize, but his method of obtaining it will meet with the reprobation of most self-respecting Canadians. The heartiest thanks of all are due to Mr. Carnegie for his prompt and generous response, and courtesy to him will probably compel the acceptance of his kindness. But we trust that never again will a Mayor of Ottawa so far forget what is due to the dignity of the country as to petition a foreigner for money to supply the needs of the Capital.

THE ART OF POETRY

A PARADOX, like an epigram, is an entertaining form of expression and often it enfolds much truth. It is pure paradox, for example, to assert that the art of poetry is greatest when it is least, yet the reduction of the assertion from the paradoxical condition to that of reasoned demonstration is no such difficult matter. We realize its truth to some extent when we reflect that it is possible to have very fine poetry in the form of prose and very arid prose in the form of poetry. There are the mere mechanics of poetic expression which are used by every craftsman in the art, and sometimes, as by Edgar Allan Poe, with astonishing effect, and there is the mighty poetic spirit which, in its indifference to form, seizes the easiest worthy measure available as a medium for the expression of its fiery life. At the one extreme we find the clear, upwelling fountains of vital poetic power, such as Homer, Shakespeare and Whitman; at the other the dilettante formalists and bric-à-brac makers of our magazines. Ranged along the line, at a lower level than the highest, we discover such representatives of the spontaneous poetic spirit as Shelley, Burns and Byron, and on about the same plane such expert and brilliant workers in poetic form, not to go outside our own tongue, as Pope and Tennyson and Poe.

The distinction here suggested between poetic artists of the spirit and poetic artists of the form, if I may so phrase it, though real, is in no sense absolute; and these few remarks are intended to be no more than suggestive. Their simple purpose is to present anew, in as clear a light as possible, the truth that in art, as in life, it is the spirit that quickeneth, and that the forms of art without the spirit are as sounding brass and tinkling cymbals. The power of poetic passion is one thing and the art of poetic expression is often something else; and the latter is but too easily mistaken for the former.

'With me,' said Poe, in his essay on *The Poetic Principle*, 'poetry is not a purpose but a passion.' Yet he tells us with what mathematical exactitude and attention to detail he set about the composition of *The Raven*. There was certainly, on his own showing, much more of purpose than of passion in the composition of that extraordinary poem. He tells with what cool deliberation he appraised the value of each suggestion of sentiment, of each suggestion of colour, of each note and tone in its elaborate structure. It was as if a mathematician had decided to be a poet, and by virtue of sheer intellectual power had mysteriously accomplished spiritual results. For, it may at once be said, the essential thing in poetry is not æsthetic merely, is not merely a matter of beauty—it is something more, it is spiritual. It is that central movement of the soul which, fusing thought and feeling in a happy union, fires the listening spirit with the same delicious rapture. When Hamlet rants so gloriously and leaps into Ophelia's grave, he touches the supreme height of poetry, though there is nothing technically æsthetic in the passage. But we too are in that grave with the passionate lover. We too are ready to shout that forty thousand brothers could not make up our sum of love.

Hold off the earth awhile
Till I have caught her once more in my arms.
Now pile your dust upon the quick and dead,
Till of this flat a mountain you have made
To o'er-top old Pelion, or the skyish head
Of blue Olympus,

'But whose velvet, violet lining *she* shall press, ah nevermore!' sang Poe, mellifluously. The æsthetic values of the 'velvet' and the 'violet,' and the sentimental value of the '*she* shall press, ah, nevermore!' he informs us were carefully considered. Considered, not as the fit and natural expression of simple, spontaneous emotion, but as calculated to suggest an intellectual perception of a given emotional condition.

Shakespeare, the mirror of the soul of things, is the great natural poetic artist of the world. Where his poetic feeling is strongest, that is to say, his art is simplest and at the same time greatest. If it were not superfluous, numerous passages might be cited in evidence. A single illustration will be sufficient for our purpose. When poor old heart-broken Lear stumbles in with the body of the dead Cordelia in his arms, how his simple words pierce to the very quick of feeling:

She's gone forever!—
I know when one is dead and when one lives;
She's dead as earth.
Cordelia! Cordelia! stay a little.

Where is the art here? There is no art. It is the very cry of nature. It is simple, genuine emotion, uttering itself as divine poetry. 'Simplicity,' said Whitman, 'is the sunshine of the light of letters'; and if this perfect enunciation of the law of poetic art be accepted, then is there nothing to be added.

What has been said of Shakespeare is almost equally true of Whitman, and is also true in their degree of those natural artists in verse whom I have mentioned, Byron, Burns and Shelley. On the other hand, the poet of form is at his best when there is least of feeling to express. Tennyson is full of examples of this. His appeal is not to the emotional nature, but to the æsthetic sense and intellect. His charm is mainly verbal, the charm of beautiful phrases. It consists in:

Jewels, five-words-long,
That on the stretch'd forefinger of all Time
Sparkle forever.

It is seen in such a passage as:

There is sweet music here that softer falls
Than petals from blown roses on the grass,
Or night-dews on still waters, between walls
Of shadowy granite in a gleaming pass,
Music that gentlier on the spirit lies
Than tired eye-lids upon tired eyes.

It is in such magic lines as these that Tennyson, great artist that he was, rose highest. But beside this dainty, charming, lovely verse place some full expression of natural poetic feeling, such as the following passage from Whitman's *Mystic Trumpeter* a passage similar in æsthetic sentiment to the lines from the *Lotus-Eaters*, and the difference is obvious:

Blow trumpeter, free and clear, I follow thee,
While at thy liquid prelude, glad, serene,
The fretting world, the streets, the noisy hours of day withdraw,
A holy calm descends like dew upon me,
I walk in cool, refreshing night the walks of Paradise.
I scent the grass, the moist air and the roses;
Thy song expands my numb'd imbonded spirit, thou freest,
launcest me,
Floating and basking, upon heaven's lake.

Tennyson, indeed, presents marked analogies to a poet with whom he might not readily be compared. The eighteenth and the nineteenth centuries had very many features in common, though it would be outside the scope of this brief paper to point out what they were. The most acclaimed English poet of the eighteenth century and the justly admired laureate of the nineteenth had also some very striking resemblances.

In the temper and technical perfection of their art, Pope and Tennyson were very near to one another, though the spirit and artistic form in each was modified by his age. If Tennyson is more graceful, Pope is more robust. The philosophy of *In Memoriam* recalls that of the *Essay on Man*. The lines :

That God which ever lives and loves,
One God, one law, one element,
And one far off divine event,
To which the whole creation moves.

remind us of that wonderful passage in the *Essay*, now become integral with our language, in which occur the well-known lines :

All nature is but art unknown to thee,
All chance, direction which thou canst not see,
All discord, harmony, not understood,
All partial evil, universal good.

In Memoriam is more graceful, gracious, tender and sympathetic, but the thought in the *Essay*, whether it be Pope's thought or Bolingbroke's, is far more profound. The latter, expressing the time-spirit, exhibits the hard glitter and polish of the most artificial period in English letters. The former mirrors the humaner tendencies of our day, with its gentle scepticism, its melancholy faith, still trusting to the 'larger hope.' The resemblances in the two poets—it requires no insight to discern their differences—are further seen in their both having thrown off a good deal of light and dainty verse, too good for *vers de société*, too slight for serious tributes to the muse, and in the selection by each of a subject already treated for his great work. Pope made a most successful translation of the *Iliad*. Tennyson took the *Morte d'Arthur* and transformed it into the enchanting and enchanted *Idyls*. Whether Tennyson will be more to the readers of a hundred years hence than Pope is to us to-day, it would be idle to pretend to say. But when the inevitable change comes o'er the spirit of the new century's dream, the charm of the *Idyls* and of *Maud* and *In Memoriam* we may be sure will not be the same. And what will remain will be those simple truths of thought, those simple truths of feeling, which are above all art and all beauty, which art and beauty indeed 'ever follow, longing, fain, love-sick.'

But art has many mansions, many windows, many exemplars. The poetic artist, dowered largely with a sense of form and less liberally with the creative spirit, who has to woo the muse assiduously and often to be thankful for paltry gifts, is a necessary factor in the great evolution. We cannot have the spirit without the form, though the spirit is the maker of forms and is above them. And when the artist in words strives after and achieves some new beauty of expression, he at once gives pleasure to his contemporaries and unconsciously imparts quality and buoyancy to the medium in which the favoured child of the gods shall exercise his power. And his labour shall bring its own reward. For on him also in time shall dawn the vision, and he will realize that somewhere, somehow, he too will be permitted to mount the winged charger and range the kingdoms of thought in that ecstasy which is one with mastery.

So it is seen that where the spirit of poetry is greatest, the conscious laboured art is least, and the poetic art is most gloriously exalted; and thus is our hardy paradox redeemed from the realm of absurdity, from the ignis-fatuuus land where paradoxes most do glimmer, and set burning at one of the many altars in the temple of eternal truth.

J. H. BROWN.

PREFERENTIAL TRADE.

THE Imperial Federation movement was probably started about the year 1880. In fact the name had been invented, and occasionally used, previous to that year. Whatever notions may have been entertained regarding the object of the new movement, it does not appear that when it began, anyone gave expression to the idea that the various communities living within the bounds of the British Empire should favour each other in matters of trade, by means of legislation for that purpose expressed in their various tariffs. Even in the speeches which were made by the gentlemen who founded the Imperial Federation League in 1884, it is not possible to find any suggestions looking to 'preferential trade,' as part of its proposed policy. The nearest approach to anything of the kind is to be found in an article written by the Right Hon. W. E. Forster, who was the first President of the League, but who, most unfortunately for its success, died before it had completed the second year of its existence. Forster expressed himself as follows :

There is much to be said in favour of an Imperial Zollverein. It is a most tempting proposal, both to those who care for Free Trade, and to the advocates of an Imperial Union, but the difficulties are manifest. They can only be surmounted by a general policy; either by the universal abolition of Excise and Customs, or by similar Excise and Customs duties throughout the Empire. There must be no indirect taxation, or it must be levied everywhere upon the same articles and to the same amount.

For over nine years the Imperial Federation League in England carried on a vigorous agitation in favour of closer British union, and in the eight volumes of its Journal from 1886 to 1893 inclusive, are recorded the proceedings at its annual gatherings, as well as at the more frequent meetings of its Council and Executive Committee. A careful examination of these will convince any one that the League never adopted the plan of benefitting Imperial trade by tariff preferences to British as against foreign countries. It was otherwise with the Imperial Federation League in Canada, which, on the 24th March, 1888, adopted the following resolution :

That the Imperial Federation League in Canada make it one of the objects of their organization to advocate a Trade Policy between Great Britain and her Colonies by means of which a discrimination will be made in favour of one another, and against foreign nations; and that our friends in Parliament are hereby called upon to move in support of this resolution, at the earliest possible moment.

In this resolution the principle of what has since been known as 'Preferential Trade' is distinctly laid down. It is to be assumed that the proposal was duly communicated to the authorities of the parent League, but any discussion as to its merits seems to have been prevented by a recognition of the fact that it was, at that time and for ten years afterwards, an impossible policy. It was found that Great Britain had entered into treaties, both with Belgium and the Zollverein, according to which any goods, the produce or manufacture of the latter countries, 'shall not be subject in the British Colonies to other or higher duties than those which are or may be imposed upon similar articles of British origin.' Against these treaties the Imperial Federation League in England took the strongest ground, and urged that their existence tended to the disintegration of the Empire, was a cause of reproach to the United Kingdom, and an obstacle to the complete unity of the British Empire. These energetic representations were made by a

else.' There is nothing to be ashamed of in this, for it expresses a simple and a fundamental fact. Nature builds on this foundation. The personal pronouns are all symbols of separation.

When I hear, therefore, that some men are poor, and that some are rich, I feel that this is precisely what might have been expected from the working of nature's law. Men are unequal in power, and, under any regime of free competition, they develop unequally. The man of foresight and resolution thrives, so far as worldly prosperity is concerned, in a far greater degree than the man of narrow views and feeble will. The result of free play of individualities is, therefore, that some few ascend to the heights of social and financial power, some occupy middle positions, and some maintain a more or less arduous struggle for the means of existence. In a class apart we must put those who, wholly unfit for the conditions of modern life, sink into the wretchedness of absolute poverty.

Now, I am far from saying that the picture thus sketched is pleasing in all its aspects, and I am also far from saying that it might not be improved in some of its details; but I confess to extreme apprehension as to the effects of any scheme which would aim at making any weaker sentiment than individual ambition the motive power of social progress. It does not become mankind to sit down under remediable evils. But neither is it wise on the part of mankind to seek the removal of evils by overturning the institutes of nature. I know I shall be accused by some of abusing the word nature in these remarks, and perhaps of assuming the very point which needs to be proved. If so, I can only appeal to common experience. What motives are in point of fact the strongest, the most persistent, the most unflinching in our common humanity? I do not ask what motives are ethically the highest, or what motives give us, by their activity, greatest sense of spiritual exaltation, or what look best on paper, but what, day in and day out, do most work whether in cutting ice, sawing wood or writing poetry. Who can deny that the strongest motives are those which impel a man to self-expression, to the enlargement in some form or another of his own personality—the motives which have self for their centre and take all they can get in the way of circumference. It may be said that to talk in this way is to preach a gospel of selfishness. I do not so consider it. It is one thing to affirm that self-regarding motives are the strongest and the most to be depended on for doing the world's work, and quite another to bid men individually to stifle the higher promptings which from time to time impel them to interest themselves in the well-being of others. The developed individuality will in nearly every case establish a great variety of social relations for itself and, in many of these, non-competitive motives and sentiments will assert themselves, and higher modes of life be realized. Is it not so with us all? We live in the main competitively, but our competitive life is not our whole life, nor is it our best life. It is the fact that life is in the main competitive that gives savour and value to that part of it which is non-competitive.

A recent writer in the *Atlantic Monthly* has made some remarks on this subject which I may be allowed to quote:

It were idle to deny to the socialist that he is right, and more right, indeed, than most of us, in seeing that there is a great wrong somewhere; but it would be impossible beyond this point to make any claim for him, except that he is honestly trying to create in the world a wrong we have not as yet, that shall be large enough to swallow the wrong we have. The term socialism stands for many things in its present state, but so far as the average socialist is concerned he may be defined as an idealist who turns to materialism—that is to mass—to carry his idealism out. * * * The principle that an infinitely helpful society can be produced by setting up a row of infinitely helpless individuals is socialism, as the average socialist practices it. The average socialist is the type of the eager but effeminate reformer of all ages, because he seeks to gain by machinery things nine-tenths of the value of which to men consists in gaining them for themselves. Socialism is the attempt to invent conveniences for heroes, to pass a law that will make being a man unnecessary, to do away with sin by framing a world in which it would be worthless to do right—because it would be impossible to do wrong.

Let us come back now for a moment to the man with fourteen millions of dollars a year of income from his investments. Let us consider him theoretically and practically. Theoretically such a man could destroy the enormously valuable properties which are the foundation of his modest competence; or by taking a great deal of trouble and getting much expert assistance, he might possibly waste the whole of it in riotous living. So the King of England might paralyse legislation by vetoing all the bills presented for his assent; and so a hundred other things might happen which, in spite of their being theoretically possible, no one ever gives a thought to. Our fourteen million man certainly has a large fund to draw upon for his personal expenditure; but, until we know what his personal expenditure is we cannot safely attack him on that score. I spoke of considering the man practically. By that I meant taking his life history and trying to ascertain whether the world is richer or poorer for his having lived in it; how labour within his sphere of influence is remunerated now, and how it was remunerated at the outset of his business activity; what, if any, public institutions have been benefited by him, and what, finally, his general character as a man and a citizen has been. The means for undertaking such an enquiry are absent as the name of the gentleman is withheld; but such is the enquiry that ought to be made before we allow ourselves to be unduly disturbed at the thought that this one man is master of so much. For my part, I feel that so vast a mass of social capital is safer in the custody of the man who succeeded in having it inscribed in his own name, than it would be in the hands of an average popular assembly. One thing is certain, it is greatly to the interest of men of wealth that society should not starve, considering that the amplitude of their dividends depends on a vigorous rate of consumption. Every man looks out for his own investments, and, so far as these are concerned, tries to keep business moving.

Between the extremes to which Mr. Campbell has drawn our attention there exist all possible gradations. Placing the millionaires on the right, we see on the far left a large army of labourers earning what must be regarded as scanty wages, and beyond them a helpless residue of non-labourers, or occasional workers only, whose condition is one of great misery, and too often of degradation. There, indeed, is an evil to be corrected if it can be done; but to say that this misery exists at one end of the scale *because* there is a vast amount of wealth at the other, or because large masses of wealth or property are inscribed in comparatively few names, is to advance a con-

clusion for which there is no proof. It would be quite as logical to say that the reason there is great wealth at one end of the scale is that there is great poverty at the other. The truth, I think, is that if there were less poverty at one end of the scale there would be still more wealth at the other. At the same time the problem of poverty is one which demands the increasing attention of society until it is understood and mastered. Every cause that contributes to the production of poverty of the helpless type should be carefully studied, and the precise range of its influence established. Some of the causes of poverty are physical, some are moral or intellectual; some, let us say, are social. Let us ascertain by a scientific analysis of a number of typical cases what influence is to be assigned to each class of causes. The State for the last two or three generations has been doing nearly all the work of popular education. How is it doing it? Do the schools to any extent help to make paupers? Do the universities? How many men end their lives in poverty because they began them in some kind of fraud? To what extent are the remedial measures which society has undertaken rendered fruitless and futile by the abuses of party politics? We appoint men to offices which give them great possibilities of influence over certain classes of the population? Do we appoint the right men? If we appoint the right man, do we take enough time from party wrangling to give his suggestions the consideration they deserve. How about the whole matter of prison administration? Is it rational, is it scientific, is it curative? Or is it none of these, but merely perfunctory and more or less contributory to party ends? I think it is a mistake to lump all our social problems, and view them as *one* great problem; for, if we do so, we are certain to miscall the one problem, inasmuch as each man sees it in a light of his own. Better far is it to adopt the method and motto of science—borrowed from a wise people of old—“*divide et impera*”—“analyse and get the mastery.”

W. D. LESUEUR.

TRADE WITH AUSTRALIA One of the first tasks which will devolve upon the Australian Federal Ministry will be the preparation of the Federal tariff, though what the nature of this will be is at present somewhat uncertain. Most, if not all, of Mr. Barton's cabinet are Protectionists, but with New South Wales included in the Confederacy, it is not probable that a high protective tariff will be imposed. In fact, it is by no means certain that on this particular point the Ministry really represents Australian opinion, which is supposed to favour a tariff for revenue only. But a tariff of some kind there will certainly be, and steps should at once be taken to secure for Canada reciprocal advantages in Australian markets. Is there any real reason why Australia and Canada should not have practical free trade each with the other? Sooner or later the British Empire will find it necessary to adopt complete free trade within its borders, and a common tariff—whether protective or revenue—against the rest of the world. If Canada and Australia can arrange something of the kind between themselves, the matter will to that extent be simplified.

THE WHEAT LANDS OF THE CANADIAN NORTH WEST.

SOME twenty years ago Mr. J. W. Taylor, at that time United States Consul at Winnipeg, published in the *Pioneer Press* of St. Paul, Minnesota, a report on the wheat lands of the North West. In this report he said: ‘In the Hudson Bay Territory (the Canadian North West), outside of the old provinces, 200,000,000 acres are adapted to wheat raising.’ The world's annual consumption of wheat at present is, in round numbers, about two thousand million bushels. Assuming Mr. Taylor's figures to be correct, an average yield of only 10 bushels for each of these 200,000,000 acres would produce all the wheat now consumed!

Canada, as a matter of fact, now produces less than five per cent of the wheat supply of the world, and only about twenty-five per cent. of this is exported. To attempt to explain why this is so does not come within the scope of this paper, the object of which is simply to show that we can, and in the near future will, produce a very much larger proportion of the wheat consumed by bread-eating people. The present price of wheat and the enormous tolls levied by transportation companies now restrict production. An increase in the former or a reduction of the latter would immediately increase the production of wheat in North West Canada.

Throughout Eastern Canada there is much land yet uncultivated which is suitable for the growth of wheat. North of the Canadian Pacific Railway there is an immense region—much of it unexplored—which will in a very few years become one of the most productive parts of Canada. A triangle formed of lines drawn between Ottawa and Winnipeg, Winnipeg and the north end of Lake Winnipeg and the latter point and Ottawa, includes an area much larger than the present cultivated parts of Ontario, the greater proportion of which is well adapted to the growth of cereal crops of all kinds. British Columbia, too, will always be able to produce the wheat required for consumption within its own borders, no matter how its population may increase. In this paper, however, I shall confine myself to the region to the west and north west of Winnipeg.

As regards Manitoba and the North West Territories, though a multitude of explorers and settlers have reported upon particular areas, little or nothing has been added to our knowledge of that vast wheat-growing area since the publication of *Manitoba and the Great North West*. Twenty years of practical experiment by settlers from all parts of the world have proved that the estimates of wheat-producing land I then made were correct, and I can say to-day with even greater certainty than then that ‘there is actually no limit to the (possible) wheat crop of the North West.’ The late Dr. G. M. Dawson reported in 1874 that in the Red River Valley alone there were 3,400 square miles, or approximately 2,176,000 acres of land suitable to the growth of wheat, and at the very modest estimate—for that region—of seventeen bushels per acre, over 40,000,000 bushels could be produced annually in that district. That the production in the Red River Valley has not yet reached that figure is due solely to the fact that much of the land is yet withheld from cultivation because it is in the

hands of railway companies or land speculators, the two great drags on the agricultural development of the North West.

Twenty years ago I wrote: 'Between Winnipeg and Edmonton, a distance by cart-road of 980 miles, the various settlers affirm that where they are located is the best land in the country.' At the time this was written little was known, except from my own reports, of the region along the present line of the Canadian Pacific (not then located) and between it and the International Boundary. It is now admitted by everyone that so far as the soil is concerned there is no appreciable part of that great area lying between the North Saskatchewan River and the International Boundary which is unsuited for the profitable growing of wheat. West of Moosejaw, however, the supply of water is in some districts, at present uncertain. Between Moosejaw and Medicine Hat, good crops are frequently grown without the artificial application of water to the soil, proving that water alone is necessary to transform what was formerly called a 'desert' into a wheat-producing region. How this may best be done cannot now be discussed, but that it will be done is certain. A simple system of dams that will hold the melted snow in gullies and deep ponds, instead of allowing it to be dissipated into shallow lakes, would immediately insure annual wheat crops in a vast area which the uncertain rainfall now renders unfit for cultivation.

South west of Medicine Hat the climatic conditions are very different from those to the north west of that point. To the south west the rainfall is not great, but there is absolutely no danger from early frosts. The federal and local governments are now inaugurating irrigation systems that will transform that immense region, bounded on the north by the Canadian Pacific Railway and on the south by the International Boundary, into one vast wheat field.

It is a remarkable fact that while in Ontario two or three grains are usually found in a cluster of wheat, three or four are found in Manitoba, and from four to six between that province and the far North West. That the production of bushels per acre must vary in like ratio is evident, and where we have in Ontario fifteen bushels per acre, twice that amount of grain is harvested for the same quantity of straw in the North West.

In early times—twenty years ago—and to a lesser extent now, early frosts destroyed much wheat in what is popularly known as the 'Edmonton District.' That the failure of wheat crops from this cause has greatly diminished is due principally to the fact that varieties of grain suitable to the climate are now more generally planted than formerly. The continual cultivation of the land has also done, and will do much to counteract the effect of the light local frosts peculiar to that region, the loosening of the soil by cultivation freeing a large quantity of warm earth that must be cooled before anything growing on the surface can be frozen. Suitable seed, cultivation and scientific fall planting will cause the disappearance of summer frosts.

Between the North Saskatchewan and the headwaters of the Churchill River is another great district well adapted to the cultivation of wheat, and in isolated parts of it wheat is now grown for local consumption. North of Edmonton there is the Peace River District and the valleys of the Athabasca and Upper Mackenzie rivers, not yet well explored, but which are known to produce wheat of the finest

quality. Samples brought by the writer from the Peace River in 1875 were awarded the highest prize at the Centennial Exhibition in 1876, and wheat is grown every year in the Mackenzie Valley as far north as Lat. 62°.

Much of this area is as yet too remote from the markets of the world to allow of wheat being produced for export and is omitted from the following estimate of wheat lands now available for cultivation in the North West. For the purposes of the present paper none but the provinces of Manitoba, Assiniboia, Alberta and Saskatchewan will be considered. The area of these provinces is:

Manitoba,	-	47,360,000	sq. acres.
Assiniboia,	-	57,728,000	"
Alberta,	-	67,704,000	"
Saskatchewan,		69,376,000	"
Total		242,168,000	"

Of these 240,000,000 acres, by far the greater proportion is suitable for the production of wheat, but if only 50 per cent. could be so utilized, 120,000,000 acres can at any time be sown. The yield throughout this area is between 15 and 35 bushels per acre, according to the soil and the rainfall, but however these may vary, these four provinces could every year be made to produce all the wheat now used in the manufacture of white bread. If the possible production of the districts north of Alberta and Saskatchewan and north east of Manitoba were added to these figures, none but those who have studied the question and know the country could believe that the conclusions that must be drawn were trustworthy.

The whole question cannot be fully gone into here, but enough has, I believe, been written to convince the most skeptical, that with wheat, as with forest products, 'the future is with us.'

JOHN MACOUN.

MEDITATIONS IN METRE

I. MOODS.

How close lies Friendship unto Feud
The distance 's not worth mention;
Three little letters change our mood
And make Content, *Contention*.

II. MODEST DESIRES.

A noble house, a spacious park,
Health, friends and books, a handsome wife,
A well bred horse or two—and mark,
I'm well content with niggard life !*

III. LIBERTY.

Nemo liber est, qui corpori servit.—Seneca.

• "Call no man free who to the flesh
Is slave!" A noble sentiment—
But one that doesn't quite refresh
The inner man the while 'tis Lent !

PETER PEREGRINUS.

*Is this an 'unconscious reminiscence'?—P.P.

THE LEADEN HEEL.

"Justice Hath a Leaden Heel."

I RICHARD Merivale, write this in my cell in Newgate. And if any man doubt whether the thing I write be true, I will say this:—I am to die at cock-crow, and a dying man speaks truth if he never spake aught but lies before. Since, then, time is short, I will waste no words in beginning, but go straight to my tale.

I was bred to crime in the streets of this city, not half a mile from the prison where I now lie. My father,—mother I never knew,—had a small shop where thieves were wont to come and traffick their gains; and there I fell among all manner of evil men, and became such an one as they.

When a lad of barely eighteen years I was pressed for service during a drunken bout in Wapping, and came to my senses on board a frigate in the Channel, bound for the Mediterranean. I had no liking for the sea; and because I had been bred to no trade,—being indeed unused to any kind of honest work,—I could not take kindly to that hard life. My spirit chafed at the harsh tyranny of our officers, and my stomach was sore with sickness and loathed the vile food. To make my case the worse, as we came into the open water we met rough weather with choppy seas, so that I was consumed with misery and rage, and thought only how I might escape.

Watching my chance, I left the ship at Lepanto in Greece, and fled inland into the highlands, which in that part are very rough and sparsely peopled. And there I lived; a wild life enough, and dared not show my face on the coast, lest I should fall in with English seamen, and be hanged as a deserter. Truly, I might as easily have hanged then as now, and much blood the less to my reckoning.

I found it scarcely easier to come by an honest living here than in England; and in time I threw in my lot with a band of robbers, mostly natives of the hills, young men like myself and wild spirits. Making our stronghold among these secret hills, we raided the villages, to the peasants' terror; and, growing bolder, we would descend upon the towns on the lowland slopes beneath.

It chanced one day that a herdsman from the nearest village, who was himself half brigand and had many secret dealings with our band, brought us tidings of a state convoy which was that night to cross the mountain pass some three miles further north, bearing gold to the Montenegrin Prince. Sallying out at dusk we met them where the path lay narrow and deep between steep walls of rock. We fell upon them,—they were few and unprepared; we won the gold, a mighty treasure, and slew all, save a few grooms who fled. All save one,—a Greek and a good swordsman, who fought fiercely, until disarmed he fell a prisoner to my sword. A heavy thunder storm had now blown up, and was about to break over us. Clouds, black and big with rain, had gathered overhead; the roar of thunder, low and hoarse, came rolling up from the southern hills, to be echoed and re-echoed from slope to slope,—the mountain pines the while groaning in the rising wind. With all haste we conveyed our booty to a small narrow cave hard by; while we ourselves sought the shelter of a deserted dwelling some two hundred yards down the hill, or thereabouts. And before we left that cave, I,—being

now drunk with blood and with the sight of the gold,—took him that I had made prisoner, and hanged him over the cave entrance, and as a bitter jest I bade the dead man look well to our treasure. Now nearer rolled the thunder and we sped down the slope. I turned once and looked to the cave. As I looked, for the space of a moment, the moon rode high over the dark storm clouds and it glistened brightly on a dead face and drawn grinning lips. A dead, mocking face, white against a world of blackness, this I saw—and fled on faster.

Two hours or more we passed in that ruined lodge, drinking, gambling and making merry over our great taking; while the sky shook with deep thunder claps, and the torrents from that great rainfall swept down the mountain side. Then, the storm having passed by, and all being once more quiet, we set out to fetch the hidden gold and to convey it to our secret fortress. The clouds had cleared, and in the light of the moon we saw that the cave was empty, the treasure vanished, and not a trace left. Then one cried that the dead man too had gone; and indeed he hung there no longer, only the rope and the noose dangling uncut. Whereat some crossed themselves and looked fearfully, but I cursed more deeply than before.

After this that I have told our band fell on evil days. Eight of our number were taken and marched down to the coast in chains, there to hang or to perish more horribly at the galley. And hate and fear sprang up between us that were left, so that we fought and slew our comrades, until of that whole company but five remained. Then, since there was at that time a great price set on our heads, I betrayed the rest to their doom, and was for that freely pardoned.

Eight years had passed since I fled from the ship at Lepanto, and I was now a man grown and bearded,—having little look of the boy that I was at that day. So it came that none questioned or doubted me when I took ship back to English shores, having indeed a great longing to set foot again in London after so great a while.

Here the rest of my gains were quickly spent, and I made many shifts for a living; serving as groom, as carrier, or running with links for some gay lord at night, keeping in no place long. After many strange turns I became lackey to a great man from foreign parts, from Greece 'twas said; a man whose untold riches and noble parts had set all tongues agog. It chanced to come to my master's ears that I had sojourned in Greece, and knew that tongue. From that day he set me near him, and from his serving man, I came to be in sort his secretary, dealing with such of his affairs as lay still in his native land. Whether it was that my master put trust in me, or for what reason I cannot say, but I served him honestly for nigh upon a year.

When the year had closed it chanced that my master had by him some rare and lovely pearls,—in these and in choice stones of every sort he had often dealings. These pearls, a rich fortune for any man, rested in the desk, within his private closet, and good store of gold beside. I had no rest, day nor night, with a longing to finger these riches. A craving for my old evil life came back upon me. At length, tormented with this desire, I laid plans to slay my master and fly with the jewels.

I chose a time when he wrote late, and all save him and myself were abed. Then I crept quietly into

the Greek lord's room, a dagger ready to plunge into his back. He sat at the desk, a hanging lamp lighting his page, for the rest the room was dim. As I reached his chair he turned suddenly and faced me; the light from above shining full upon him. At the instant I fell back in horror. The face, now pale with terror, with the starting eyes, was the face that had hung livid in the moonlight over that cave in far Albania;—and there,—oh! horror!—was the purple ring round the strangled neck. And while I stared, cold and palsied, at the awesome thing, the lips grew blue and frothy, the eyes set in a rigid stare. The dead man moved stiffly towards me, then fell forward, forward at my feet,—stark. Then stayed I for nothing, but shaking and cold with sweat, I fled, scarce knowing where I went, feeling only this terror behind me....

At daybreak a constable took me. I was charged with the murder of my master,—found strangled in his room. And now for that crime I am to die, though,—Heaven be my witness—not a finger did I lay upon him in the room that night when he died. Yet I durst raise no voice against my doom, nor question its justice; for I may not forget that foul deed done one stormy night in the hills..... The wheel has come full circle. God have mercy on my soul.

PHOEBE CROMPTON.

INTERPRETATIONS.

"I have followed the stars in their courses,
Seen the shaping of worlds yet to be,
I have measured the infinite forces,
That rule through eternity
All things with unerring precision,
Yet neither in science nor vision
Hath a God been revealed unto me."

Thou fool that hast eyes, yet they see not,
How can God show himself to the blind?
What are motion and force, if they be not
Revelment in Nature of mind?
Her laws are the thoughts that God willeth,
Who into each atom instilleth
Endless life, linked with love unconfined.

"I have traced back humanity's history
To the single primordial cell,
And stripping the past of its mystery,
I know how the changes befell
Through continual strife for existence,
Blind efforts o'ercoming resistance,
Yet no signs of a God can I tell."

Thou art ignorant from thy confession,
For the presence of God is marked well,
Lacking Him there could be no progression,
Hate's struggles produce but a Hell.
Earth's noblest God chooseth and leadeth,
And the race that obeyeth and heedeth
Is upraised by the love they compel.

WILLIAM WILKIE EDGAR.

THE LATE DR. DAWSON.

Dr. George M. Dawson, C. M. G., F. R. S., director of the Geological Survey of Canada, whose death occurred on Saturday, March the second, seemed, at an early period of life, to have taken all knowledge for his province, in Lord Bacon's phrase. He had that insatiable curiosity which is one of the marks of a superior mind, and is ever at work in men who distinguish themselves in literature or science. "Man as I am," says the Latin poet, "I am indifferent to nothing human." Dawson, with equally wide sympathies, was eager to acquaint himself, not only with what had been said and done in the past, but with the general movement of life from day to day. As a man of science his reputation was world-wide, but his vast stores of information on all kinds of subjects outside his own department, made him the most versatile and interesting of companions. Ask him the composition of the Hungarian House of Magnates, the flora and the fauna of Manchuria, the present state of the old Catholic movement in France, or the size of the Yerkes telescope, and he would answer you with the same accuracy and familiar ease with which he would discuss the geological formation of the Ottawa valley, or Prof. Darwin's correction of Newton's theory of gravitation.

His industry was constant and indefatigable. Work was to him a joy. 'Nulla dies sine linea' might have been placed as a motto over his chamber, though it but feebly expresses the unremitting application he gave to business and to study. His swift apprehension made it easy for him to acquire knowledge, but he was not one of those whose erudition is merely a fortuitous accumulation of miscellaneous and ill digested facts. His scientific instinct led him to put each fact in its proper place and note its relations. This clear, logical faculty of orderly arrangement was not his highest gift. Many men have that who have nothing better. Their intellectual fire is well nigh choked with the fuel. Dawson's mind irradiated and transfused the mass, causing it to glow with living energy. Every great intelligence, it has been said, is furnished with a great memory. The converse is not equally true, but it was true in this instance. The man of science was also a thinker, who reflected deeply upon the ultimate constitution of things and the fundamental problems of life. His views were therefore central. He fastened instinctively upon the essential principle, seldom being drawn into error by unduly emphasising the secondary and accidental aspects of a subject.

In private life Dr. Dawson was the most genial and charming of men. A careless nurse let him fall in childhood and the fall broke his back. Keenly sensitive as he was by nature he felt the deformity deeply and abstained from going into that society which his mental gifts and graces well fitted him to adorn. Notwithstanding that he was bereft of the fair proportions of normal manhood, and was, like the royal hunchback, sent into this breathing world but half made up, he displayed great vitality in early life and often astonished the companions of his exploring expeditions by the vigour and endurance he showed in walking and riding. But the mal-formation of his chest prevented proper expansion of the lungs and this coupled with a more sedentary life gradually impaired his active powers and rendered him liable to a dangerous onset of pulmonary or bronchial trouble. The end came in that way after years of suffering.

Yet physical weakness and disease never depressed his bright spirits. His constant cheerfulness was a source of surprise to all who knew him, more especially to those who reflected upon the fortitude required to bear his bodily infirmities with patience. In conversation he was witty and humorous to a degree, while at the club or at a public dinner, his sallies were wont to keep the table in a roar. A quick wise smile lit up his countenance when indulging in good-natured badinage, of which he was very fond; and when talking upon serious subjects his eye flashed with the intelligence which made his most trivial discourse luminous. Rare and beautiful spirit, we shall not soon look upon your like!

R. W. SHANNON.

Ottawa, March 6th, 1901.

Reviews of Books

NOTE—All books to be reviewed must be sent to the Literary Editor, 460 Besserer Street, Ottawa.

AN ORIENTAL ROMANCE.

Is it the dim memory of some prehistoric fatherland that causes the hearts of the Teutonic peoples to become readily captive to the magic of Oriental romance? Upon what other hypothesis can the spell and fascination ever exerted over us by the records of life and manners in the East be explained? We all confess the charm that holds us in sweet bondage when we explore the personal history and surroundings of our ancestors, and the enchantment we speak of here seems to be traceable to the same emotional source. No matter who the author may be, Southey, Tom Moore, Sir Edwin Arnold, or the august Mr. Kipling, if he but choose the 'voluptuous East' for his theme our interest is responsive at once to its challenge. We seem to feel

its witchery glide
Through every sense ;

We would fain scent

the perfume breathing round,
Like a pervading spirit ;

And hear

the still sound
Of falling waters, lulling as the song
Of Indian bees at sunset, when they throng
Around the fragrant Nilica, and deep
In its blue blossoms hum themselves to sleep.

In the volume now before us (1) Mrs. Steel succeeds in presenting some of the most interesting phases of modern life in India. With the subtle art of the true romancist she keeps her own personality out of the focus of the reader's vision, and lets her characters work out the story in the simplest and most natural way. And yet she is not careless of what the artists call 'atmospheric effect.' If a scene is evolved in the progress of events which would be bare or thin without a back-ground of local colour, she rarely fails to supply it in such a way that we feel it could not be altered but for the worse.

In this behalf, she has two prime qualities for successful work ; an intimate knowledge of the country chosen as the theatre of her romance, and a fine gift of 'impressionism.' She always suggests more than she expresses, but the reader is a dull one indeed who fails to apprehend her meaning.

The story opens in the old military town of 'Eshwara,' in British India. The name of the place is thus explained by one of the *dramatis personæ* at p. 7:— "Esh-dwarra—or, in another tongue, Bab-y-lon—is 'the Gate of God,' though Babylon stands for something else nowadays, doesn't it?" And here the contact of two great civilizations, the native and the European, is exploited with a never-flagging fascination. In the opening chapter, entitled 'A Shadow,' the writer supplies us with a good example of what we have called her impressionism :—

In order to reach it [the Fort] they had to pass the solitary visible occupant of the wide, sunlit courtyard. This was a man—of what rank, education, occupation, none could tell—who having raised a square of two-inch-high mud wall between his twice-born purity and the world, was preparing his daily food. Naked, save for his waist-cloth, and the thread of the twice-born over his left shoulder, he was isolated even from his kindred. Alone with himself and his God. . . .

The noon was almost shadowless ; yet even so, as he led the way, Captain Dering, from sheer habit, swerved to step further from the sacred square. Doing so his foot slipped an instant on the lower step. He gave an impatient exclamation and passed on. A minute later the door of the Fort clanged behind the little party, cutting short an English laugh.

Then, not till then, the man in that square of purity showed signs of life. He rose quietly, almost unconcernedly, took the half-baked cake from the embers, the leaf-platter of curds, the vessel of milk, and going down to the river's edge, flung his dinner into it, to feed the fishes.

In the stumble, the plume-like fringe of Vincent Dering's high peaked turban had sent a shadow to overtop the two-inch barrier between one man and his fellows.

In the fourth chapter there is a fine scene, insphering the contact of the two civilizations under the stress of strong emotion, where the old Jesuit Priest, Father Ninian, meets Gorakh-nâth, the *jogi*, on the river-bank :—

Father Ninian turned ; so for a space they stood face to face, representatives of the two great supernaturalisms of the world ; the one which has held the West, the one which has held the East.

The old man's face, at first, returned to kindly human tolerance ; for his fifty years of Eshwara had widened his sympathies. But, as he stood before the *jogi*, it hardened, and the priestly arrogance of the naked ash-smeared figure, stretching a right hand in claim over the sanctifying power of the river, was reflected in Father Ninian's as he spread his left hand upwards, and turned on his heel with the words, "*Vade retro Satanas!*"

But, as the sequel shows, Gorakh-nâth and his creed are not to be so summarily disposed of.

The heroine of the story is Erda Shepherd,— "the tall girl with the red-brown hair. Bronze eyebrows, too, and bronze eyes—nice ones." She is a woman-missionary, and a doctor withal ; but neither her zeal nor her science prevents her dear heart from beating out the measures of love for Lancelot Carlyon, a typical English officer of good standing—an inch and a half over six feet, he modestly avers. Now there are some obstacles to be overcome before these two notable people arrive at their goal of united joy, not the least awkward one to surmount being the fact that Miss Shepherd is engaged to be married to one David Campbell, also a missionary. But what right has the missionary to forestall the soldier? His part is to follow the army, not precede it ; and we are all glad to know that when the heroine put on her wreath of orange-blossoms she sought out Lancelot and not David.

A Government work—a canal—is to be opened with great pomp and circumstance and all Eshwara is agog to greet the Vice-roy and his retinue—The Hosts of the Lord. Amongst the various personages who come to be present at the function, is Roshan Khân, a native, holding a commission in one of Her Majesty's regiments. He sees Laila Bonaventura, a beautiful Eurasian girl and a ward of Father Ninian ; and for him to see her was to love her. But she has given her heart to dashing Captain Dering ; and in saving the latter from the wiles of Mrs. Smith, whose husband was too busy in building the great canal to look after his better-half—a woman of a type in Indian society Kipling has familiarized us with—she so inflames Roshan Khân's jealousy that he breaks his allegiance to the Crown and foments a native rising against

the British. The time was propitious, for the *Vaisakh* festival was being enacted, and the devotees were at the fever heat of excitement. Of course the rising is quelled, but not before Laila and Dering are killed—the former by Roshan Khân's own hand. But they are amply avenged by Father Ninian, who, although done to death himself by the traitor in a hand-to-hand fight with rapiers, yet manages to give a fatal *reprise* for the *riposte* which let out his own brave life's blood. And so ends a romance, the strength and suasion of which fully justifies the extended notice it has received at our hands.

The faults of the book are, first, that too many characters are marshalled upon the stage in the éclaircissement of the plot; and, secondly, that the transitions in the scenes are so sudden that the slow-minded reader is apt to become bewildered. Nevertheless Mrs. Steel is to be regarded as one of the strongest writers of fiction at the present day.

C. M.

CONCERNING 'TOMMY AND GRIZEL.'

There must have been few readers who, in lingering sadly over the last pages,—just because they were the last,—of *Sentimental Tommy* did not find their sigh of regret end in a deep breath of hope in respect of a sequel, looming on the near horizon. For in his closing pages Mr. Barrie might be said to have assumed a coquettish attitude towards the eligible magazine editor, and it was a foregone conclusion that in *Century*, *Harper*, or *Scribner* we should soon follow into the graver concerns of mature life the enchanting children of Thrums.

Personally, so complete was our trust, and so exalted our sense of gift, that we would not even take the advance morsels of the coveted dainty proffered us in the lucky periodical which secured the serial rights of *Tommy and Grizel*, but shut our eyes to the alluring pages. We would read it leisurely, luxuriously, easy-chair wise, idle-day fashion, under 'storm outside and firelight within' conditions, in 'the time and place and loved one all together' manner.

We have so read it; and if any lingering positive-ness of sensation remains in the inert mass of our dulled, crushed feelings it is that of the little old woman who, after her experience at the hands of the practical-joking pedlar, gave utterance to the distracted plaint "Lawk-a-mercy, this be none of I." For we have beheld our dear Tommy impaled upon a fence-spike, and hanging there as a spectacle to gods and men, not only without grief and indignation, but actually with resignation and even relief. Our equanimity is not due to the fact that Mr. Barrie's hand has lost its cunning; nay, rather has that hand grown subtler and more consummate in its skill and power since it forces us to justify him in his destruction of our worshipped hero. Nor, on the other hand, have we suddenly grown unsympathetic, inhuman and cruel. It is simply that we find in Mr. Barrie's book, what we oftentimes see in reality but not so frequently it must be confessed in novels,—so much the worse for authors,—that life is a sadly uncertain, inconsequential sort of thing, that heroes have a tendency to develop traits the most unheroic, and that our idols for the most part have feet of clay. The 'stoutness' with which Lady Pippinworth taunted Tommy is

an allegory of the softening process of the finer contours of our moral aspirations, not in the stress of fierce temptation, but in the deadly dulness of life's trivial round. With the stage of physical embonpoint comes the despairing acquiescence of the mind in the dominance of self. Not till then do we realize the truth of Schopenhauer's sad commentary upon the bad drawing of the human figures in Nature's beautiful landscapes.

The book is at once an assertion and a repudiation of gloomy Scotch Calvinistic fatalism, and reminds us of the article on Predestination and Election in the Anglican Book of Common Prayer. It may be said to present its author in the double light of his early training and his subsequent development as a modern novelist. Tommy is the consistent product and result of Tom Sandy's 'magerfulness,' and the lies of Jean Myles. Unerringly do the sleuth-hounds of hereditary tendency keep on his trail, and finally pin him to the earth,—literally, the park fence. One might say the whole motive of the book was to exemplify the inexorableness of heredity were it not for the picture of glorious Grizel, who, rising steadily above inherited weaknesses, and hurtful suggestion, succeeds so magnificently, if so pathetically, in her yearning 'to be good.' Like many another noble soul she had to take final refuge from the *idol* in the *ideal*. Tommy must have cheapened himself pretty thoroughly to even her tender, unjudging regard. For he was not only weak; he was at times despicable. In the scene with Aaron Latta, where he touches upon his mother's feelings, our sentimental friend comes perilously near shewing himself a thorough going little cad; and the rugged, honest, Sphinx-like Scotchman shines forth brilliantly by contrast, in his outburst of fury and contempt.

The author's treatment of Lady Pippinworth is a triumph of artistic characterization. Her personality is as meagre and spare as her figure. Never for a moment is she suffered to blur the distinctness of the principal figures upon the stage, although her part has so much bearing on the later scenes. She seems to be but the avenging shadow of Tommy's own worst self, flitting with a mocking laugh into the wood depths, as he succumbs to his throttling collar, and resigns himself to his fate with the reflection: "It serves me right."

Mr. Barrie has well fulfilled his part and promise. If the result is not satisfactory to the reader whose expectations of the book ran otherwise, it at least reproduces the history of most sequels in the associated lives of human beings. That the humour and pathos and the tragedy of human experience be effectually brought to the surface, is all that we can ask at the hand of the novelist.

G. J. D. P.

AN IMMORTAL WORK.

Writing over half a century ago, in the preface to his edition of *The Decline and Fall of the Roman Empire*, Dean Milman said:

The great work of Gibbon is indispensable to the student of history. The literature of Europe offers no substitute for *The Decline and Fall of the Roman Empire*. It has obtained undisputed possession, as rightful occupant, of the vast period which it comprehends. However some subjects which it embraces may have undergone more complete investigation, on the general view of the whole period, this history is the sole undisputed authority to which all defer, and from which few appeal to the original writers, or to more modern compilers.

M. Guizot, writing some years before Milman, said:

(1) *The Hosts of the Lord*. By Flora Annie Steel, Toronto; The Copp, Clark Company, Limited.

The extent and harmony of design is unquestionably that which distinguishes the work of Gibbon from all other great historical compositions. He has first bridged the abyss between ancient and modern times, and connected together the two great worlds of history.

After stating that he had submitted Gibbon's researches to the most rigorous examination, and indicating how he had done so, M. Guizot continues :

I then felt that his book, in spite of its faults, will always be a noble work—and that we may correct his errors and combat his prejudices, without ceasing to admit that few men have combined, if we are not to say in so high a degree, at least in a manner so complete, and so well regulated, the necessary qualifications for a writer of history.

Niebuhr says of the work :

It is probably the greatest achievement of human thought and erudition in the department of history.

We have collated these opinions here for two reasons, first, that we might thereby do honour to the memory of a man whom we have always regarded as one of the greatest geniuses in English literary history; and, secondly, to show that sound criticism need not be fearful of forecasting the future now and then.

All students of history are aware that the closing half of the nineteenth century was a period of unparalleled achievement both in respect of original research and exegesis. The labours of such men as Mommsen and Gregorovius, Jirecek and Krumbacher have brought us so closely in touch with Imperial Rome as to minimize time and space, and almost make us feel that the life of that august civilization was but a thing of yesterday. What a tribute is it, then, to the scholarship of an Englishman of the eighteenth century to find that all their discoveries have not seriously affected his authority, or displaced the main conclusions at which he arrived! Pleasing, too, is it to know that the editor of a new edition of his work, just brought out, is able to verify the critical judgments of his earlier editors, above quoted, by deliberately giving us his original text intact. A fact which if it is eloquent of anything at all conveys at least this much to our minds, viz., that Gibbon's work in respect of the later epochs of Roman history, is to rank for all time as of equal authority with the works of Livy and Tacitus, which deal with the earlier periods of that history. His book, indeed, may be viewed as a sequel to theirs. What a triumph for one who was forced to take up the thread of the narrative after the lapse of centuries!

An examination of Gibbon's qualities as an historian is instructive in many ways. Doubtless his perfection of form explains his very general favour with the ordinary reader of history; and in this respect he stands as a warning to that school of historical writers (*pace* the shade of Mr. Freeman!) who despise the graces of rhetoric, and present the results of their researches as a 'fortuitous concourse of atoms,' painful to students and abhorred of all who only read to be entertained. But style alone will not give the historian immortality, or perhaps we should say that the pure stylist lives, if he lives at all, as a *littérateur* rather than as a historian. (Dare we mention in this connection the name of Lord Macaulay?) On the other hand, knowledge and perfect literary expression conjoined carry the writer of history a long way on the astral journey; and when to these qualities is added the supreme gift of ability to discern cause and effect in human conduct, you have the historical genius whole and entire. And this was the genius of Edward Gibbon.

How Gibbon acquired all his marvellous erudition

is an abiding mystery even to those who have followed carefully the record of his life. His early education was of a desultory character owing to his delicate health. When he was entered at Magdalen College, Oxford, at the age of fifteen, he had "a stock of erudition that might have puzzled a doctor, and a degree of ignorance of which a school boy would have been ashamed." He never proceeded to a degree at Oxford for reasons which are well known, and upon which we have no space to enlarge. To speculate upon the methods by which geniuses compass knowledge is an idle task at the best. It were better for us to endeavor to absorb that knowledge instead of exploiting its source.

The new edition of Gibbon's masterpiece we speak of here is that of Professor Bury, and is published in seven volumes by Methuen, London. C. M.

MORE 'INDEX LEARNING'

Verily, we are living in the Dictionary and Encyclopædia Age! The latest contribution to the literature which 'turns no student pale' in its compassing is Messrs. Sonnenschein & Co's *Dictionary of Quotations: French and Italian*, By Thomas P. Harbottle and Col. P. H. Dalbiac. This is but one of a series of dictionaries of quotations from foreign authors to be published for the benefit of English readers who are not familiar with 'outlandish tongues.' Remembering the 'Autocrat's' fun at the expense of the man who was learned so far as the first volume of the *New American Cyclopædia* gave him a royal road to knowledge, we are disposed to say that it would be vastly better for English readers who have not studied the foreign languages to be obliged to skip the few quotations therefrom to be met with in English works than to be subjected to the temptation of parading a pseudo-knowledge picked up in a cheap and second-hand way. Then there is a further mischief that these compilations do to the interests of sound learning, viz., they have a tendency to induce writers to save time and research by utilizing passages quoted therein—very often inaccurately—instead of going to the original for them. However, it is due to this particular publication to say that its quotations have been very carefully edited. A certain critic has taken exception to the phrasing of Buffon's famous observation on 'style' as it appears in the work before us, viz.: "Le style est l'homme même;" but we think a reference to the text of the *Discours sur le style*, will convince the critic that the editors are right. The complete sentence in the *Discours* is: 'Ces choses sont hors de l'homme, le style est l'homme même.' C. M.

Education for the Twentieth Century. By John Millar, B. A., Deputy Minister of Education for the Province of Ontario.

The essay is carefully written, and will well repay perusal by all who are interested in the subject, and who is not? The writer is particularly happy in his remarks upon "character building"—a matter which has hitherto received little or no attention in the public school systems of Canada.

We have received the following books which will have extended notice in later issues of *The Commonwealth*:

A Garden of Simples. By Martha Bockée Flint: Charles Scribner's Sons, New York.

In the Acadian Land. By Robert R. McLeod: Bradlee Whidden, Boston.

Canada under British Rule, 1760—1900. By Sir John G. Bourinot: The Copp, Clark Co., Toronto.

IMPERIAL DEFENCE

Lieut. Col. Geo. T. Denison's able address on 'Imperial Defence,' delivered at the recent meeting of the Toronto branch of the British Empire League, should receive very careful consideration throughout Canada. Col. Denison points out that of all civilized countries none are so ill prepared to meet danger as are the British Colonies, and that this is the inevitable consequence of the fact that, relying as of old upon the protecting arm of the mother country, we spend each year upon defences about one-tenth in proportion to population—of the amounts expended by other countries. Our expenditure on the militia in 1898-99 was \$2,212,000, or about forty cents per head; in the same year Great Britain spent on her army and navy some \$220,000,000 or \$5.40 per head. On this army and navy we mainly rely for our defence, and we appear to be quite willing to allow Great Britain to pay for them. But it is obvious that this cannot continue. We are an integral part of the Empire, with as much interest in its strength and safety as the people of Great Britain, and with an equal right to expect that the whole power of the Empire will be at our disposal in case of need. But equal rights imply equal duties and equal responsibilities, and if it is our right to look to the Imperial army and navy for protection, it is certainly our duty to help to pay for them.

But Col. Denison, if we understand him aright, looks more towards individual action on the part of Canada, at any rate in military matters, than to any direct contribution to the cost of the Imperial army. He advocates a considerable increase in the militia,—in fact, he would be inclined to double the strength of the active force—whilst he would also double the number of days spent in drill, devoting the extra time to careful instruction in rifle practice. With the suggestions as to increased drill and rifle practice, nearly everyone will agree. If we are to have a militia force at all, it should certainly be made as efficient as possible, and there can be no doubt that as a whole it is sadly in need of more systematic training. But with regard to some of his other proposals there will undoubtedly be a difference of opinion. Col. Denison says:

Canada should also take upon her own shoulders the defence and maintenance of Halifax, Esquimaux and Quebec, on a proper scale. St. John should be fortified, also Sydney, where our great iron interests are being inaugurated. Sydney should be strongly guarded as a most important coaling station. All this should be done thoroughly. We should maintain a mixed force of cavalry, artillery, infantry, engineers, army service corps, army medical corps, etc., all complete, and enrolled under conditions by which they could be promptly despatched wherever the common interests of our Empire required their services, and be retained while the necessity lasted.

Arms, munitions and stores of all kinds should be gathered and constantly maintained in proper quantities, and factories for their manufacture would add greatly to our national strength.

That Canada should be primarily responsible for her own local defences may be perfectly true, and the necessity for the special measures advocated by Col. Denison may be urgent. But, after all, these are questions for experts; they should form part of a well considered plan of Imperial Defence, and it is evident that some time must elapse before such a plan can be matured. In the mean time, Canada is quite able to make a direct contribution towards the cost of the Imperial forces, and this she should do at once. As Col. Denison puts it "We cannot expect to be a free people unless we are willing to make the sacrifices that all nations must make if they desire to preserve their national existence."

G. B.

Letters to the Editor

PLEONASM IN THE PRAYER BOOK.

Sir,—Canon Low, in his very interesting 'causerie' which appeared in the February number of THE COMMONWEALTH, attributes the duplication of terms which occurs so often in the prayer book to the revival, in Reformation times, of the study of the Hebrew language. Canon Low says: "I conclude that the author of the opening exhortation and the other additions to the prayer book of 1549 was so saturated with Hebrew learning, that he fell instinctively into the Hebrew mode of expression."

Now, I think that you will find that such expressions were not in the least due to the acquaintance of the compilers with the Hebrew tongue, but that they are examples, or, at any rate the outcome, of the bilingualism which was so common in early English, instances of which are numerous.

Mr. Earle, in his *Philology of the English Tongue*, says:

It is a very expressive feature in regard to the early relations of English with French. Words run much in couples, the one being English, and the other French; and it is plain that the habit was caused by the bilingual state of the population

Here are some examples:

Act and deed. Head and chief.
Aid and abet. Uncouth and strange—*Chaucer*.
Let or hindrance. Nature and kind—*ibid*.
Disese and Wo—*Chaucer*.
Huntinge and Venerye—*ibid*.
Steedes and Palfreys—*ibid*.

also,

He was a wel good wrighte, a carpentere. *Chaucer*.

and,

"By forward and by composicioun." *ibid*.

Professor Meiklejohn, in his note on the following line from the *Prologue*,

Trouthe and honour, fredom and curteisye,
says,

From 1066 down to perhaps the end of the 14th century the Norman French were trying to make themselves intelligible to Englishmen, and Englishmen to the Norman French and thus French and English words came to grow in pairs, the one to explain the other as a kind of living vocabulary. *And thus we find in the prayer book the phrases: acknowledge and confess, assemble and meet together, dissemble nor cloak, humble and lowly.*

Mr. Earle points out, moreover, that these bilingualisms grew into a habit of phrase, for we find some examples of them in which both words are of one national source.

The above seems a clear and reasonable explanation of these couplets,—whereas that given by Canon Low is, at least in my judgment, far-fetched. Many great English writers have been saturated with Greek learning, but we do not find Grecisms in their works.

H. J. H. PETRY.

Bishop's College School,
Lennoxville, P. Q., Feby. 28th, 1901.

At the Sign of the Book.

'Tis pleasant, sure, to see one's name in print;
A book's a book, although there's nothing 't'nt.

Byron: *English Bards &c.*

In the January number of the *National Review*, in the course of a very interesting paper on James Anthony Froude, Leslie Stephen says that "Froude is, perhaps, the most eminent man of letters of his generation who has not become the subject of a biography." But this fact may not be an unmixed evil if Mr. Froude's life is to be compassed after the manner in which he himself set out Carlyle's. True, his idol-breaking was attributable to his adherence to a particular theory of writing history rather than to a deliberate inversion of the kindly adage: *De mort Vis nil nisi bonum*; but irrevocable injury was done to Carlyle's memory despite the good intention of his biographer. Concerning this matter, Mr. Stephen says:

"Froude was, I believe, as loyal to his master's memory as he had been affectionate to him in his life. The loyalty did not prevent him from forcing the shades as well as the lights, and he was quite right to delineate both in his portrait. What he did not see was, that the merit which, for him, altogether overbalanced the faults, was not a merit at all for the outside world. He could excuse the harshness of a despot, whose rule he loved, but to people who objected to the despotic rule altogether, the excuse was an aggravation."

Some New York critics are girding at Mr. Bliss Carman for allowing himself to degenerate into the methods of the 'Teatable School of Poetry.' They are particularly incensed over a certain poem in the *Last Songs of Vagabondia* in which Mr. Carman sings about a lurid 'poster girl' depicted in the act of reading a book. Thus he babbles of her:—

With her head in the golden lilies,
She reads and is never done.
Why her girlish face so still is
I know not under the sun.

A possible solution of the damsel's unremitting study is that she is trying to extract some meaning from one of Mr. Carman's end-of-the-century outpourings. And then, again, the poet might succeed in reading the riddle of his sphinx if he exploited her visage under the rays of the moon instead of subjecting it to the hazard of tan and freckles under the noon-day glare. After reading this production in its entirety, and discovering that his fine frenzy ultimately makes of the poster girl a 'Doric maiden' and of himself 'a young Greek god,' we are assured that Mr. Carman's chastening is not ill-deserved. We suspect that the drooping flower of the poet's genius needs to be refreshed by the bracing atmosphere of its native soil.

Mr. Charles G. D. Roberts has a fine sketch of animal life in *Outing* for February. It is not *d'un nouveau genre*, like his recent story, *The Heart of the Ancient Wood*. It is a simple portrayal of the resoluteness of the maternal instinct in the wild beast, done after the orthodox manner. It is called *Wild Motherhood*. . . . Marshall Saunders' *Tilda Jane*, a clever study of child-life running through the *Youth's Companion*, is winning the applause of all its readers. As a whole, Miss Saunders' recent work demonstrates that in choosing fiction as her field of literary effort, she has not chosen ill. . . . Mr. Duncan Campbell Scott has been engaged for some time past in writing a biography of Governor Simcoe. It will be amongst the fall announcements of the book trade. . . . Professor A. B. DeMille's *Literature in the Century* (Vol. II of the Linscott Company's 'Nineteenth Century Series') is receiving generous praise at the hands of the critics. . . . The same may be said of Mr. Knox Magee's maiden venture in the field of fiction: *With Ring of Shield*. . . . The late Dr. Theodore Rand's posthumous *Song-Waves* will not enhance his literary reputation; but the motifs of the poems comprised therein will increase the respect of his country for the moral worth of the man who wrote them. . . . Mr. A. R. Carman, author of *The Preparation of Ryerson*

Embury, is at present writing from Paris a series of letters for the *Montreal Star*, entitled: *Europe Mirrored through Canadian Eyes*. . . . Mr. J. H. Brown has two excellent articles, entitled *The Thought Body*, and *Our Thought World*, in recent issues of *Mind*.

Miss A. C. Laut is not going to let the grass grow under her feet while she walks the literary ways. Before the earliest echo of popular applause over her first splendid performance, *Lords of the North*, has died away, she is well advanced with another novel. We understand that the forthcoming book will not be a historical romance, but will deal with the operations of modern commercial ethics upon a mind of keenly altruistic proclivities—in short, it will be a psychological study.

Dr. Gilbert Parker will have lots of literary company the while he continues a member of the British House of Commons. The London *Academy* recently printed a list of members who were connected with literature, either as authors or publishers, and the aggregate mounts up to the half-century mark. Among his fellow-members of the former guild are John Morley, W. H. Lecky, James Bryce, and Sir R. C. Jebb, among the latter are Sir George Newnes and L. Harnsworth. We wonder if the clash of extra-mural interests will operate within the august arena of Parliament, and so cause author and publisher to range themselves against each other when the division-bell rings.

We hear that Mr. Franklin Gadsby is writing a series of stories of Ottawa life for English publishers. The 'smart set' will please take notice of this announcement. "A chiel's amang you takin notes, &c." Mr. Gadsby has just been appointed to the editorial chair of *The St. John Telegraph*. He will not leave Ottawa, however, until after the prorogation of Parliament.

Speaking of the late Dr. Rand's *Treasury of Canadian Verse* the *Outlook* (N. Y.) says: "For a number of years past Canada has produced some of the best, if not the best, of the younger singers of this continent; their work has been so constantly read in the United States that they have come to be regarded in many instances as Americans. Mr. Carman, Mr. Roberts, Mr. Lampman, and Mr. D. C. Scott are a few among the many poets of Canadian birth who have evidenced the possession of the real poetic gift by verse of a high quality." Now Dr. Rand's preface to the *Treasury* explains why some examples of Mr. W. W. Campbell's fine work do not appear therein; and surely the *Outlook* should have known of *Beyond the Hills of Dream*, recently published by the well-known American firm of Houghton, Mifflin & Co., which alone merits Mr. Campbell's inclusion in the *Outlook's* little galaxy, although by no means exhausting the best of his poetic exhibits. Furthermore, we are personally aware that Mr. Campbell is extensively read and appreciated in the United States. But possibly Mr. Campbell is too fervid a singer of British Imperialism 'to come to be regarded as an American.' And if this conjecture be well founded, why should the hearts of his compatriots be sad?

Admirers of Miss Mary Johnson's *To Have and to Hold* will be glad to know that this very absorbing book has been successfully dramatized by Mr. Ernest F. Boddington. At the opening performances in Baltimore all the seats for the week were sold in advance. Mr. Boddington has also dramatized *Prisoners of Hope*.

To purchase peace at the hands of correspondents who adjure us to reveal the identity of the writer of *An Englishwoman's Love Letters* (which, of course, we have all along known), we will now strip the cloak of secrecy from Mr. Murray's commendable scheme to make a book sell on its merits, and aver, without fear of refutation, that the letters were originally written by Mrs. Carrie Nation, and then polished up rhetorically by Harry Thurston Peck. Who but the latter could endue them with their 'little literary touches'? So, good readers, we have let the cat out of the bag; but, if you only bethink yourselves, you have all along suspected that the perfervid lady from Kansas and Professor Peck were responsible for this bouquet of 'heart to heart' talk. They are so very 'un-English,' you know!

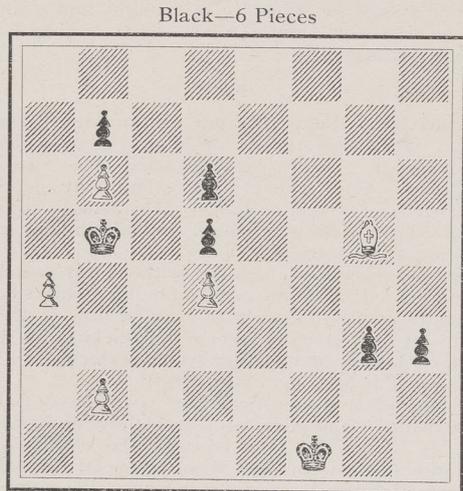
CHARLES MORSE.

CHESS

All communications on this subject should be addressed to "The Chess Editor, The Commonwealth, Ottawa."

PROBLEM NO. 9.—BY J. G. CAMPBELL.

NOTES TO GAME NO. 3



Black—6 Pieces

White—6 Pieces.

White to play and draw.

Problem No. 10 (C. A. L. Bull, Natal)—3 R 1 Kt 2 / R 4 p kt 1 / 3 P 1 p 1 B / 1 r 2 k 3 / 1 Kt 2 p 3 / K 7 / 5 Q 2 / 8. Mate in two.

Problem No. 11 (B. G. Laws)—4 Kt 3 / b K P p 2 p 1 / 5 P 2 / 2 p 1 k p 2 / 3 R 4 / 8 / 2 Q 2 P 2 / 8 /. Mate in three.

Problem No. 12 (Dr. S. Gold)—8 / 8 / 8 / 5 Kt R 1 / 5 Kt Q 1 / 5 P 1 K / 6 P 1 / 3 R 1 b 1 k /. Sui-Mate in four.

Problem No. 13 (J. H. Blackburne)—8 / 2 Q 5 / 2 P Kt p 2 K / B 3 R 3 / 1 P 1 k 4 / 8 / 4 P 2 P / 8 /. Mate in three.

Problem No. 14 (Max Feigl)—5 Kt kt 1 / K 2 p 4 / 1 Kt 2 P 3 / 4 k p Q 1 / 1 B 3 p 2 / 5 P 2 / 3 P 4 / 5 b 2 /. Mate in two.

We take pleasure in recommending to those of our readers who require a first class chess monthly magazine the new "Checkmate," published by J. H. Graham, Prescott, Ont. Terms \$1.00 per annum. From our personal knowledge of the editor we are confident that he will publish nothing that is not of the highest excellence, either in the way of literature, news, games, problems or end games. We are flattered by observing that in his first numbers he has used some matter from our Chess page.

GAME NO. 3.

This game, which we copy from the New Orleans Times-Democrat, with Alapin's notes translated by the latter from the Deutsches Wochensach, of Berlin, is of much theoretic interest as it contains an example of the latest analysis of the great Russian theorist Alapin.

Ruy Lopez

WHITE	BLACK	WHITE	BLACK
R. Ph. Meitner	Mr. S. Alapin	R. Ph. Meitner	Mr. S. Alapin
P to K 4	1 P to K 4	K Kt to Q 2	13 P to Kt 6!
Kt to KB 3	2 Kt to QB 3	R P x P	14 Q to K Kt 5
B to Kt 5	3 Kt to B 3	Q to B 6	15 Kt to R 4 (g)
Castles	4 B to QB 4 (a)	Kt to KB 3 (h)	16 Kt x P
P to QB 3 (b)	5 Castles	Q Kt to Q 2 (i)	17 Kt to K 7 (ch)
P to Q 4	6 B to Q Kt 3! (c)	K to R	18 K to B 5
B to K Kt 5	7 P to Q 3	K R to Kt	19 B x P
B x Q Kt	8 P x B	Q to QB 4	20 Kt to K 7!
Q to QR 4 (d)	9 P to KR 3 (e)	Kt to B (j)	21 Q to R 4 (ch)
Q x P (B 3)? (f)	10 P x B!	K Kt to R 2	22 Kt to Kt 6 (ch)
Q x R	11 Q to Q 2!	Kt x Kt	23 B x Kt
P to Q 5	12 P to Kt 5	Anything	24 Q x Kt, mate.

- (a) This is held unfavourable.
- (b) The move given by the books as the supposed confutation of Black's fourth move. White considered, also, 5 Kt to Q B 3, 5 Kt x P!, 5 B x Kt, and 5 P to Q 3, respectively.
- (c) Far stronger than the book-play, 6 * * P x P?
- (d) With 9 P x P, P x P; 10 Q x Q, R x Q; 11 Kt x P, B to Q R 3!; Black would at least have no disadvantage; viz: 12 R to K?, Kt x P!, and Black gets the better game; or 12 Kt x P (Q B 3)?, B x R; 13 Kt x R, B to Q Kt 4!; 14 Kt to Q R 3, B to Q 2; 15 R to Q R x Kt; 16 P to K 5, P to K R 3; 17 B to K R 4, P to K Kt 4; etc.
- (e) Simpler, indeed, would be 9 * * P x P!; 10 P x P, P to Q B 4; ex. gr.: 11 P to K 5, Q to Q 2!; 12 Q x Q, Kt x Q; 13 P to P, P x P; 13 B to K 7, R to K; 15 B x P, P x Q P; 16 Kt to Q 2, B to Q Kt 2; etc., and Black stands well.
- (f) With 10 B x Kt!, Q x B; 11 Q x P (B 3), White could at least maintain some Pawns, whereupon, Black after 11 * * Q R to Q Kt; 12 P x P!, Q to K B 4!, would have to find his prospects in the two Bishops with a good attacking position.
- (g) 15 * * Q x P (Kt 3)? would be had on account of 16 Q x B!, etc.
- (h) White had nothing better, 16 K to R 2 is answered by 16 * * Kt x P!
- (i) 17 Kt to R 2 is followed by 17 Q to K 7!, with the better game.
- (j) It is clear that 21 Q x Kt is frustrated by 21 * * Q to R 4 (ch).

GAME NO. 4.

Upon examining the above elegant game (No 3), we decided to spring the novelty upon our favourite antagonist; an opportunity occurred the same evening at the Ottawa Club, and inwardly smiling we started in to pulverize him. The result is appended. We do not at present recommend Alapin's resuscitated defence, except against a weaker opponent than we encountered.

Ruy Lopez

WHITE	BLACK	WHITE	BLACK
J. E. A.	J. E. N.	J. E. A.	J. E. N.
P—K 4	1 P—K 4	Q x K P ch	21 P—K B 3
Kt—K B 3	2 Kt—Q B 3	Q—K 4	22 R—R
B—Kt 5	3 P—Q R 3	K R—Q	23 Q—K (?)
B—R 4	4 Kt—K B 3	Q—Kt 4 ch	24 K—B
Castles	5 B—B 4	B x B P	25 R—K Kt
P—Q 3	6 Q—K 2 (?)	Q—B 4	26 Q—B 2
B—K Kt 5	7 Castles	Q—R 6 ch	27 K—K
Kt—Q B 3	8 P—Q 3	B x R P	28 R—Kt 5
Kt—Q 5	9 Q—Q sq	B—B 5 (!)	29 B—K 3
P—B 3	10 P—Kt 4	B x B	30 Q x B
B—B 2	11 B—K 3	Q—R 5 ch	31 K—B
Kt x Kt	12 P—Kt	Q—R 8 ch	32 R—Kt
B—K R 4	13 K—Kt (!)	Q—R 6 ch	33 K—B 2
Q—Q 2	14 R—Kt sq	Q—B 4	34 R—Kt 5 (!)
P—Q 4 (!)	15 P x P	Q—B 3	35 R—K B
P x P	16 B—Q Kt 5	P—K R 3	36 R—Kt 3
Q—B 4	17 B—B 5	B—B 3 disch	37 K—Kt
P—K 5 (!)	18 Q P x P	Q—R 5	38 B x B
P x P	19 Kt x P (!)	P x B	39 Q—K B 3
Kt x Kt	20 P x Kt	R—Q 2	40 R—Kt 4

NOTES TO GAME NO. 4

On our 3rd move we made a slight improvement on Mr. Alapin by P—Q R 3 making a retreat for our B at R 2 which we think a better place than Kt 3. Our opponent, however, by his unorthodox move of P—Q 3 disconcerted all our nicely arranged plans and soon got us into an unpleasant and awkward position. He managed to retain the upper hand all through the game and though it was not finished, owing to the lateness of the hour, White would doubtless have won by his extra Pawns after forcing the exchanges of Q and R. The positions throughout were of absorbing interest.

The Commonwealth

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THE NEXT NUMBER WILL APPEAR ON 15th APRIL.

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OUR EMPIRE'S LAND DEFENCE (No. 2) by Captain C. F. Winter, R. C. R.

CANADIAN VERSE WRITERS, by L. J. Burpee.

ODDITIES IN PLACE NAMES, by Geo. Johnson, F. S. S., Dominion Statistician.

CANADA'S RELATIONS WITH THE UNITED STATES, by R. W. Shannon, M. A.

THE PRIZE STORY.

BOOK REVIEWS.

AT THE SIGN OF THE BOOK, by Dr. Charles Morse.

NOTES AND QUERIES.

IN MY STUDY, by Rev. Canon Low, D. D.

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SHORT STORIES

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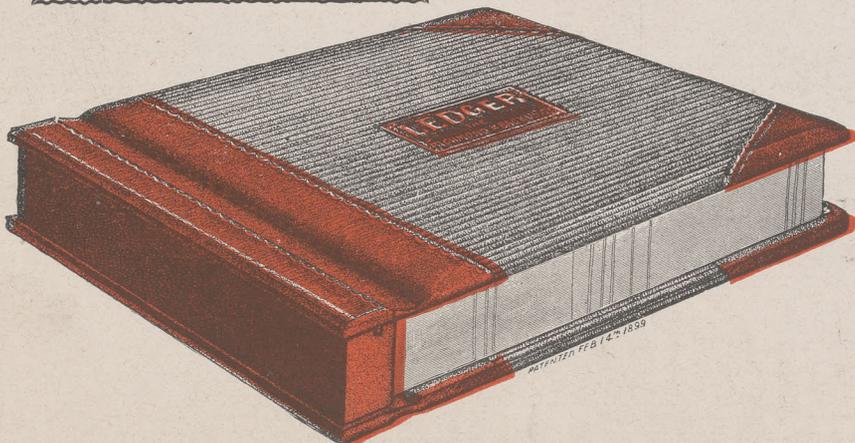
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Lees - 5 April 1901. Hohe*

The Dominion of Canada, and, indeed, the scientific world at large, has sustained no ordinary loss in the death of Dr. George Dawson, C.M.G., F.R.S., F.G.S., Director of the Geological Survey of Canada, which recently took place at Ottawa.

George Mercer Dawson, son of the late Sir William Dawson, in his lifetime Principal of McGill University, Montreal, was born at Pictou, Nova Scotia, on the 1st August, 1849, and had not therefore completed his fifty-second year at the date of his untimely decease. He received his early education at Montreal, and in 1869 entered the Royal School of Mines, London, where he speedily distinguished himself, carrying off the Duke of Cornwall's prize in his second year and also the Edward Forbes gold medal in palaeontology. In 1872, he passed with high honours as an associate member. Shortly after this he returned to Canada, and in 1873 was appointed geologist and botanist to the commission for fixing the international boundary between the Lake of the Woods and the Rocky Mountains. In 1875 he joined the staff of the Geological Survey of Canada, of which he eventually became the head. His duties during this period lay chiefly in the then almost unknown wilderness of the North West Territories and Northern British Columbia, which he explored with that thoroughness characteristic of all his work. The full and clear reports which he made to his government from time to time, to-day form the basis of our knowledge of that distant region known as the Yukon Territory, the capital of which fitly bears his name.

In 1892 he was selected by Her Majesty's Government, in conjunction with Sir George Baden-Powell, to enquire into the conditions of seal life in Behring Sea. He visited the resort of the seals in the North Pacific Ocean, and spent some time in investigating the habits of those mysterious animals. The report of these Commissioners proved of the utmost assistance to our Counsel at the Arbitration subsequently held in Paris, where in his own quiet and unassuming way, Dr. Dawson rendered yeoman's service to the British cause. He also did much good work at various times in connection with the Alaska boundary dispute, which unfortunately, he did not live to see terminated.

Dr. Dawson was also eminent as a naturalist, a botanist and a geographer. In short, to him might most aptly be applied Johnson's eulogy of Goldsmith that 'he touched nothing he did not adorn'. Learned bodies, a list of which would be too long to reproduce here, counted him among their members. Nor were esteem and regard for Dr. Dawson confined to the scientific world. Many persons unable to follow him in his intellectual pursuits, and but little interested, it might be, in the results of his professional labours, yielded to none in their admiration and affection for one of the most unselfish and charming of men



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the utmost importance to the Government of the Admiralty
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for one of the most successful and charming of men

Hornton Lodge,

Kennington W., 19 March, 1901.

Dear Mr. Pope:-

I am very much obliged to you for your letter of the 3rd March.

I was deeply grieved to see the announcement of the death of Dr. Dawson. I had the greatest regard for him and know that in his own line he had few equals in the world. I wrote at once to Lord Minto, the Governor General, who is an old friend of mine. I have no doubt he would let Mrs. Dawson see my letter as it might be a pleasure to her. I can only repeat to you what I said in effect to the Governor General. It is not possible to overrate the services which Dr. Dawson rendered us in the Behring Sea Arbitration. I consulted him throughout on many questions of difficulty and never found his judgment to fail, and he was one of the most unselfish and charming characters that I ever met. I consider it a great pleasure to have known him.

Yours faithfully,

Alverstone.

Lord Alverstone

J. Pope, Esq.,

P.S. If any memorial is proposed to his memory I trust I may be permitted to subscribe.

Horton Lodge,
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Lord Alcester
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