

## **ALL IN DUE TIME: (SIR) SANDFORD FLEMING ARRIVES IN HALIFAX**

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### **ABSTRACT**

Through the greater part of the nineteenth century and early twentieth century the life and work of (Sir) Sandford Fleming's encompassed many different worlds, and often on a global scale. He developed the model for Universal Standard Time. Considered a "larger-than-life" figure of extraordinary passion and vision, he became a highly-skilled railroad engineer. He also had a passion for telegraph systems. In the parlance of the 19th century, he was known as an "Empire builder," and was knighted in 1897 as a distinguished inventor and scientist. In the twentieth century, Fleming became known as a "promoter" and "networker" par excellence.

Fleming conversed and worked with everyone from indigenous guides and men constructing railways through the hinterland, to politicians and bureaucrats funding railways, as well as boardroom shareholders and investors, university academics, and on occasion, royalty in an opera box in Paris!

Sir Andrew MacPhail once said of Fleming that he may not have been the greatest engineer who ever lived; he was merely "the greatest man who ever concerned himself with engineering."<sup>1</sup> For Fleming, engineering was the link between science and society and integral to his view of knowledge and the use of technology.<sup>2</sup> He saw railways and telegraph cables as part of an overall system of global transportation and communications leading to his model of Universal Standard Time.

This commentary focuses on a period in Fleming's life and times when he had arrived in Halifax in late 1863, a time when, later in 1867, the Dominion of Canada was formed and created an urgent need to link the provinces via a railway service, for both communications and defense. In Halifax, Fleming established important friendships and associations that led to him spending many summers in the province with his family and being involved in several large projects.

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<sup>1</sup> Time and Sandford Fleming. *The Royal Bank of Canada Monthly Letter* 59 (8), August 1978.

<sup>2</sup> Blaise, Clark (2000). *Time Lord*. Alfred A. Knopf Canada, Toronto. p. 49.

## ARRIVAL IN CANADA AND EARLY ACTIVITIES IN ONTARIO

On 19 January 1863, members of the Nova Scotian Institute of Natural Science (now known as the Nova Scotian Institute of Science) gathered for the first time in Halifax to share recent research activities in the province.<sup>3</sup> Two years later, (Sir) Sandford Fleming (1827-1915) joined the Institute. Prior to arriving in Halifax, in 1863, Fleming had been residing in Toronto with his young family where he had been working on the construction of the Ontario, Simcoe and Huron Railroad line (later renamed the Northern Railway Company) – starting as an assistant engineer in 1852, and then later appointed Chief Engineer, until the end of 1862.

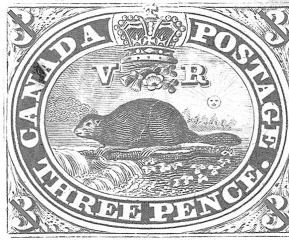
Early in 1863, Fleming accepted a commission from the pioneering Scotch settlers in the isolated Red River Colony (near today's Winnipeg) to seek the interest of the British government in a plan to construct a pioneer road, a telegraph line, and then a railway link from the eastern provinces to the settlement and on to British Columbia – referred to as the Red River Memorial. He left for London in May, but his consultative efforts were not a success.<sup>4</sup>

Fleming's trip to Great Britain was one of 44 transatlantic voyages that he made in his lifetime after emigrating to Canada from Kirkcaldy, Scotland in 1845 at the age of 18. After settling briefly in Peterborough, Ontario, he later obtained his land surveyor's license and moved to Toronto (pop. 20,000) where he became one of Canada's first lithographers.

<sup>3</sup> The Institute's first president was the mayor of Halifax at the time, lawyer and politician, Philip C. Hill (1821-1894). He would later also become the 3rd Premier of Nova Scotia (1875-1878). The proceedings of the Nova Scotian Institute of Natural Science (published from 1863 to 2013) are hosted online by Dalhousie University Libraries. <https://dalspace.library.dal.ca/handle/10222/11192>. Now known as the Nova Scotian Institute of Science, its proceedings can also be found online. <https://ojs.library.dal.ca/nsis>

A review of the membership list from 1863-1874 encompasses men in politics and law, educators in science and engineering, academics, artists and architects, as well as church ministry, the military and the business community.

<sup>4</sup> On 23 March 1863, Sandford Fleming had presented the wishes of the Red River Settlement to the Right Hon. Charles Stanley, Viscount Monck, Governor General of British North America, as published in the *Memorial of the People of Red River to the British and Canadian Governments, with remarks of the Colonization of Central British North America, and the Establishment of A Great Territorial Road from Canada to British Columbia, 1863*. He was advised to proceed to Britain with his concerns and proposal. The first transcontinental railway across Canada, the Canadian Pacific Railway (CPR), did not commence until 1881.



**Fig 1 The Three Pence Beaver Canada postage stamp designed by Sandford Fleming and issued on 23 April 1851.**

With new-found colleagues, he helped establish the Canadian Institute in June 1849 – with sixty-four members attending their first annual general meeting. Later it was named the Royal Canadian Institute for Science (RCIS). Fleming lived to celebrate its 50th anniversary. The Institute was formed for “the encouragement and general advancement of the Physical Sciences, the Arts and the Manufacturers in this part of our dominions.”<sup>5</sup> The society’s journal (started in 1852) was the first in Canada to be widely distributed internationally.<sup>6</sup> During this time, Fleming was also commissioned by James Morris, the Province of Canada’s first postmaster general, to design a postage stamp – which became the three pence Beaver stamp – issued on 23 April 1851 (Fig 1).

A year later, he began work as an assistant railroad engineer with the Ontario, Simcoe and Huron Railroad. Eleven years earlier, at the age of 14, Fleming had apprenticed for four years with the Scottish railway engineer John Sang, learning the skills of land surveying and railway engineering in Scotland.

Within three years of starting his work with the Simcoe and Huron railroad, Fleming married Peterborough resident, Ann Jane “Jean” Hall. Her mother, Ann Jane Albro, was born in Dartmouth, Nova Scotia in 1811, while her father was the Scottish born, Ontario MP James Hall. Fleming and Jean had nine children, six of whom lived into adulthood.<sup>7</sup>

<sup>5</sup> Burpee, Lawrence J. (1915). *Sandford Fleming Empire Builder*. Oxford University Press, Toronto. p. 37.

<sup>6</sup> Ibid, pp. 38-39. The journal was first known as *The Canadian Journal* but later, from 1852-1855, its title was changed to *The Canadian Journal, A Repertory of Industry, Science, and Art*, and then in 1856 to *The Canadian Journal of Science, Literature, and History*.

<sup>7</sup> Sandford Fleming (age 28) married Ann Jane (Jean) Hall (1831-1888) on 3 January 1855, in Peterborough, Ontario, Sandford and Jean would have nine children of which



**Fig 2 Sandford Fleming as a young man, 1855-1860. Unknown photographer. Library and Archives Canada.**

## MOVING TO HALIFAX

When Fleming (Fig 2) returned from Britain in the summer of 1863, the Province of Canada (Ontario/Quebec), along with Nova Scotia and New Brunswick, were preparing to fund a preliminary survey for the possibility of an Intercolonial Railway (ICR) line from Quebec through New Brunswick to Nova Scotia.

The American Civil War had been raging since 1861, which brought “considerations of national security and nation-building to the fore.” A rail line was now being sought for an all-Canadian route from Nova Scotia through New Brunswick that would bypass the state of Maine.<sup>8</sup> In the words of historian Donald Creighton, there was “a brooding apprehension of trouble.” At the time, many Maritimers and Canadians had a growing anxiety as to what might be the outcome of the civil war and its implications for the British provinces.<sup>9</sup> There was also a growing sense of urgency to unite the British colonies into a federation for defence and communication purposes.

six would survive into adulthood – five sons, Frank “Franky” Andrew (8 Nov. 1855-22 July 1913), Sandford Hall ‘Bob’ (20 Nov. 1858-15 July 1945), Paul Sandford (29 Dec. 1865- 28 Feb.1866), Walter ‘Arthur’ L. (6 Oct. 1869-22 Dec. 1941), Hugh Percy (10 Jan. 1871-1942), and four daughters – Mary Ethel ‘Minnie’ (3 Sept. 1859-1945), Lily Francis (6 June 1861-1953), Jeanie (8 July 1863-1873), and Alice ‘Maude’ (19 Sept. 1867-16 July 1868).

<sup>8</sup> Creet, Mario (1993). “Synopsis Sandford Fleming’s Canada.” Unpublished manuscript. Queen’s University Archives, Kingston. p. 3.

<sup>9</sup> Creighton, Donald (2012). *The Road to Confederation: The Emergence of Canada, 1863-1867* (Reissue). Oxford University Press, Toronto. p. 91.

Earlier in 1862, Fleming had become aware of the British Government's interest and willingness to co-operate with the provinces to construct a rail transportation link between Quebec and Halifax. He subsequently submitted a proposal to government officials in August of that year that outlined his ideas for the expansion of roadways, telegraph lines and railways from the Atlantic to the Pacific, entitled *Suggestions on the Inter-Colonial Railway, and the construction of a highway and telegraph line between the Atlantic and Pacific oceans, within British territory, respectfully submitted to the government of Canada, 5 August 1862*.<sup>10</sup>

In writing the proposal, Fleming had gleaned intelligence from the findings and reports of the earlier western prairie expeditions by Captain John Palliser (1857-1858-1859), Henry Youle Hind (1857-1858)<sup>11</sup> and Simon James Dawson (1857-1858-1859). Using such data, Fleming calculated that a transcontinental railway could be accomplished at a projected cost of “not less than \$100,000,000.” to build 2000 miles of track from Ontario to the Pacific coast and it would take about 25 years.<sup>12</sup> Ironically, by the time Donald Smith laid the “last spike” for the Canadian Pacific Railway (CPR) in November 1885 at Craigellachie, British Columbia, Fleming's earlier projected costs and time-line had turned out to be remarkably accurate. Fleming's vision and proposal of August 1862 was considered timely in addressing the sense of political urgency that was emerging.

By 9 September 1863, Fleming recorded in his diary that, “Messrs Tilley [Premier of New Brunswick] and Tupper [Provincial Secretary and later Premier of Nova Scotia] informed me that they had decided, subject to approval of their governments, to appoint me to act on behalf of Nova Scotia and New Brunswick ... to proceed at once with a preliminary survey.”<sup>13</sup>

With confirmation received from New Brunswick and Nova Scotia, by mid-December 1863, Fleming was in Halifax to begin preliminary

<sup>10</sup> Copies of many of Sandford Fleming's papers (and books) can be accessed at The Online Books Page. Enter Sandford Fleming and follow the links by title. <https://bit.ly/42hMsUc> (Accessed February 10, 2022).

<sup>11</sup> Sandford Fleming's younger brother, John Arnot (1835-1876), had also traveled as a surveyor with Henry Youle Hind (1823-1908) on his two prairie expeditions. Hind would later move to Windsor, Nova Scotia in 1866. He became a member of the Nova Scotian Institute of Natural Science in 1869.

<sup>12</sup> Ibid.

<sup>13</sup> Elliott, Andrew (2017). *Highlights from Sir Sandford Fleming's Diaries*. Library and Archives Canada Blog. <https://bit.ly/40WquF8> (Accessed June 1, 2022).

survey work for the ICR line. As early as 1849, Royal Engineer, Major Robinson (with Edmund Henderson and Major Pipon) had conducted a preliminary survey for a possible rail line route (known as the ‘Chaleur Bay Route’). Fleming would review their intelligence, as well as other possible routes.

By 14/15 December, Fleming left from Halifax to Truro by rail, and then by a carriage trail up and through the Cobequid hills, to Folly Lake, down through the Wentworth Valley, and on to Amherst and the New Brunswick border. For the next fifteen days, he continued by either horse-and-wagon or sleigh, on through the wintered bush and snow-filled forested trails heading north and west through New Brunswick to Rimouski, Quebec. He had planned to make his way back to Ontario for Christmas – to Craigeleith in the Blue Mountains region of Ontario, on the southern shores of Georgian Bay, near Collingwood, where his parents lived and where his wife and the children were planning to be. However, due to poor weather, he spent Christmas en-route. When he arrived on New Year’s Day, he was joyfully greeted by his expectant wife Jean and their growing family of two sons (Frankie and Bob) and two daughters (Minnie and Lily), and his parents, Andrew and Elizabeth. He wrote in his diary that he had taken the, “Morning train to Collingwood, Stage to Craigeleith – Father and Mother had all their children around them ... they thought I was in New Brunswick and were astonished and glad to see me ... very cold and stormy.”<sup>14</sup>

After a few weeks of rest and family time, by early March 1864, Fleming met in Montreal with the survey group leaders he had hired for the preliminary survey work for the ICR line, assigning them various work tasks and the routes to survey. He then made plans for them to hire survey crews – this time beginning at Rivière du Loup, Quebec, the terminus of the Grand Trunk Railway, where supplies and equipment for the crews would be assigned. It ultimately took eleven months and four days to complete all their reconnaissance work, covering over 600 miles of wilderness between Rivière du Loup and Truro.

After dispatching the crews, Fleming snowshoed ninety miles overland through the wintered forests to Restigouche, and then made his way down to Fredericton to report on the progress to government officials. By late April (1864), he returned to Quebec to report

<sup>14</sup> Ibid.

on the progress of the survey efforts to government officials for the Province of Canada. He then left for Halifax – first by rail to Boston and then by steamer, to begin work on another project – as chief engineer with the Nova Scotia Railway (NSR) on a 51-mile extension from Truro-to-Pictou Landing, known as the ‘Pictou Branch’ line. The line had been authorized earlier in March by Nova Scotia’s Conservative government.

The vision for the Pictou Branch rail line was to enable boat passengers arriving at Pictou to proceed by rail to Truro and then on to Halifax. It was hoped that there would eventually be a connection to New Brunswick and the west. Pictou was no stranger to railways, for in September 1839 the first railway in Nova Scotia was opened there. It was a short line from Albion Mines (Stellarton) to New Glasgow for the purposes of transporting coal and occasional passengers.<sup>15</sup>

While obtaining room and board in Halifax, Fleming began his search for a residence for his family (Fig 3). At the time, the city was undergoing a period of renewal, expansion, and rapid population growth – from 15,000 residents in 1841, to 30,000 by 1871.<sup>16</sup> A commercial rebuilding of the downtown core was also under way in the early 1860s (after large fires in 1857, 1859 and 1861).<sup>17</sup> Economically, Nova Scotia was the largest fish producer in British North America outside of Newfoundland, the mainstay being dried cod. The province’s extensive mineral resources were also being mined. Over “Twenty-seven new collieries opened between 1863 and 1867,” accounting for 15 per cent of the province’s exports.<sup>18</sup>

## MARITIME UNION

By early spring (1864), local newspapers had been reporting that a Charlottetown Conference of Maritime premiers and “unofficial delegates” from the Province of Canada was being planned to meet

<sup>15</sup> The first public railway had officially opened in Canada in July of 1836 with the Champlain and St. Lawrence Railroad operations. A history of railway companies in Nova Scotia can be reviewed at Smith, Ivan. “History of Railway Companies in Nova Scotia.” <https://nshdpi.ca/is/rail/railways.html>

<sup>16</sup> Buggy, S. (1980). Building Halifax 1841-1871. *Acadiensis* 10(1): 90-112. <https://bit.ly/3Hx8DxQ> (Accessed May 25, 2022).

<sup>17</sup> Ibid, 93.

<sup>18</sup> Conrad, Margaret. (2020). *At the Ocean's Edge. A History of Nova Scotia in Confederation*. University of Toronto Press, Toronto. p. 279.



**Fig 3** The first residence in Halifax for Sanford Fleming’s family was at 2549-2553 Brunswick Street. Now designated as a HRM Historic Site and current location of Shelter Nova Scotia. Google Maps, 17 January 2022.

in September to discuss Maritime Union. Two Canadians – the Irish born-Canadian politician, Thomas D’Arcy McGee, and his friend, now a Halifax resident, Scottish born-Canadian Sanford Fleming, both felt there was a need for delegates to get better acquainted in person before the September meeting, as both sensed there existed a degree of mistrust between the upper Canadians and downeast Maritimers.

Fleming had first met McGee in Toronto in the winter of 1861-62 when he heard him speak at a packed St. Lawrence Hall.<sup>19</sup> McGee had chaired an earlier Intercolonial Convention in Quebec, and strongly advocated for the construction of the Intercolonial Railway (ICR) line. He was no stranger to Nova Scotia either, having made four earlier trips to the province. “No Canadian politician knew more about the Maritimes, or more about Maritime politicians, than D’Arcy McGee ... .”<sup>20</sup> By early August 1864, one hundred Canadians from the Province of Canada, including assemblymen, members of the Legislative Council, journalists, and other interested citizens, led by Thomas D’Arcy McGee and James Ferrier of the Legislative Council for the

<sup>19</sup> Wilson, David A. (2008). *Thomas D’Arcy McGee, Vol. 1, Passion, Reason, and Politics 1825-1857*. McGill-Queens University Press, Montreal.

<sup>20</sup> *Ibid*, 170.



Province of Canada, arrived in Halifax. For many in the visiting delegation it was their first trip to the Maritimes.

In Halifax, Fleming organized, with others, a long list of social festivities for the delegation, and "... as the banquets were held, the drink flowed and the music played, newspaper men in the company of prominent politicians and businessmen sent glowing reports to their reader back home."<sup>21</sup> The visit concluded with a great banquet for the Canadian visitors held on Saturday 13 August with the Honourable Joseph Howe as the last speaker. In essence, the "... the tour was in itself an exercise in the coming together of British America."<sup>22</sup> Many of the delegates would later get reacquainted at the Charlotte-town Conference in September.

### THE START OF THE RAILWAY

On 4 February 1865, Fleming submitted information gathered by his survey crews in New Brunswick, outlining a number of possible routes for the ICR – 3 Frontier routes along the N.B./Maine border area (felt to be too close to the U.S. border); 9 Central routes through the middle of the province (which was still sparsely populated), and 3 Gulf routes following the northeastern Gulf side of the province to the Bay Chaleur (passing through a number of towns and Acadian villages). The before-mentioned Bay Chaleur route, first identified by Major Robinson in 1849, was ultimately selected as the best route. It continues today as the line traveled by CN and Via Rail. There were also six possible routes from Truro to the New Brunswick border that Fleming had identified from an earlier 65-page report by surveyor Francis Shanly on possible routes for a rail line.<sup>23</sup>

In March 1865, Fleming was still searching for a family home in Halifax and wrote to his ten-year old son Franky telling him how much he missed his family and that he was looking to let a house in

<sup>21</sup> Wilson, David A. (2008). p. 203.

<sup>22</sup> Creighton, Donald (2012). p. 95.

<sup>23</sup> In January 1865, Francis Shanly had submitted a 65-page report and financial summary on survey routes and costs on the Truro to Moncton and Windsor to Annapolis lines for C. J. Brydges of the Grand Trunk Railway, who had hoped to build the ICR. Due to no final commitment from provinces, Brydges decided he couldn't wait for the ICR to start and planned instead to extend his Grand Trunk line in Ontario to Chicago. He hired Shanly as Chief-in-Engineer. Sandford Fleming would later publish his perspective on the choice of a route through N.B. in *Report on the Intercolonial railway exploratory survey, made under instructions from the Canadian government in the year 1864. Printed by order of the Legislative Assembly.*

Halifax soon, hopefully “with a big yard for gardening.”<sup>24</sup> In early 1866 Fleming finally found a house at 2549-2553 Brunswick Street in Halifax for his family. There, they lived until 1870 before moving to Ottawa.<sup>25</sup>

In early April (1865), news reached Halifax that General Robert E. Lee had surrendered his 28,000 Confederate troops to Union General Ulysses S. Grant, effectively ending the American Civil War. Only a few days later, tragic news also reached Halifax that United States President Abraham Lincoln had been assassinated on the evening of 14 April by a Confederate sympathizer, John Wilkes Booth, at Ford’s Theatre in Washington, D.C.

By October 1865, while monitoring feedback on a possible route for the Intercolonial Railway (ICR) line, Fleming also began to express concerns to Premier Charles Tupper’s provincial government about the time it was taking with various contracts to complete the 52-mile line from Truro to Pictou (including five Way Stations). He felt that if matters continued as they were, it was highly unlikely the line would be completed on time and on budget (expected to be 1 May 1867). It was during this time, on 4 October (1865), that Fleming also became a member of the Nova Scotia Institute of Natural Science.

While Fleming waited for his family to arrive in Halifax, he was authorized by Tupper’s government to become the Chief Engineer on the Pictou rail project and to carry out what he thought would be the best action plan, within the budget’s estimate (Fleming had quoted \$2,116,500 = \$32,561,538.46 in 2019 dollars) to complete the work. This was considered controversial at the time because Tupper had ignored the provincial statute that called for public tendering, Fleming nevertheless undertook the responsibility with vigor and confidence that came no doubt from his earlier experience of working for ten years (1852 to 1862) on the Northern Railway in Ontario.

On 28 February 1866, shortly after his family’s arrival in Halifax, tragedy struck the Fleming family when three-month old son Paul Sandford died. Fleming wrote in his diary, “This morning about 4 o’clock after rallying a little ... our dear child at last passed quietly away ... . This is the first death that has really come home to me –

<sup>24</sup> Elliott, Andrew (2017).

<sup>25</sup> The first Fleming residence located on Brunswick Street near North Street was believed to be sold in 1873 after Blenheim Lodge was ready to move into. It is currently home to Shelter Nova Scotia.

part of us is now really in another world.”<sup>26</sup> From his formative boyhood years, Fleming had maintained a lifelong Christian faith in the Presbyterian tradition.<sup>27</sup> Upon arriving in Halifax, he attended the newly opened St. Matthew’s Presbyterian Church on Barrington Street (now St. Matthew’s United Church, across from the Old Burying Ground). There Fleming developed a close friendship and kindred spirit with the Rev. George Munro Grant.<sup>28</sup>

On the 12 April 1867, the British government established the Canada Railway Loan Act, providing the terms of financial assistance for the overall construction and management of the proposed ICR. By 31 May 1867, the Truro-Pictou Landing rail line was completed as Fleming had promised in his contract. On that day, Fleming invited a large group of over 400 invited guests and officials to take the rail from Richmond/Halifax to Fisher’s Grant in Pictou County to celebrate. He later published *Opening of the Pictou Railway, Nova Scotia. Observations, Correspondence, etc.*<sup>29</sup>

On 1 July 1867, the Confederation of the Dominion of Canada was formed. From Halifax, Fleming wrote in his diary, “Up at 5 o’clock, very cloudy and rainy ... putting up flags etc. Clouds cleared away. Halifax very gay, a perfect sea of flags. Beautiful day. The demonstration went off splendidly.”<sup>30</sup> On the 19 September 1867, Fleming’s daughter Alice ‘Maude’ was born.

By December 1867, with British financial assistance in place, the Intercolonial Railway (ICR) line was officially created – in fact, its construction was a part of the terms of the British North America Act, 1867 (now referred to as The Constitution Act 1867). Fleming was appointed Engineer-in-Chief to oversee the construction

<sup>26</sup> Elliott, Andrew (2008).

<sup>27</sup> In 1879, Fleming would also publish *Short Daily Prayers for Busy Households*. See Burpee, Lawrence J. (1915) Sandford Fleming Empire Builder. Oxford University Press, Toronto. p. 152.

<sup>28</sup> Fleming would later invite Grant on his first western expedition through the Canadian Rockies between July and October of 1872, in which they would travel over 5,000 miles seeking a feasible rail route through the Rockies. Grant would go on to write a record of their adventures in *Ocean to Ocean* (1873), which became a best-seller. Later in 1877, Grant was installed as Principal at Queen’s College (now Queen’s University) in Kingston, Ontario. He and Fleming would cross the Rockies once again in 1883 – a trip that almost cost them their lives. Fleming would later be appointed as the Chancellor of Queen’s in 1880, serving until his death in 1915.

<sup>29</sup> See The Online Books Page. <https://bit.ly/42hMsUc> (Accessed 2 May 2023).

<sup>30</sup> Elliott, Andrew (2008).

details for the rail line route that was chosen. It would be the Dominion of Canada's first national infrastructure project.<sup>31</sup>

Fleming established his office at 158 Hollis Street in Halifax and began immediately organizing the operational logistics for the ICR project. Covering over six-hundred miles, he first divided up the chosen route into four districts and then sub-divided them into twenty-five divisions, starting with, "A" at Rivière du Loup, Quebec and ending with "Z" in Truro, Nova Scotia. Each division was placed under a district engineer, responsible directly to Fleming. Resident engineers were appointed to each division, reporting to the district engineer, and each resident engineer had his "necessary" assistance.<sup>32</sup> The work would ultimately involve more than ninety engineers, thirty-two contractors with over 5400 men and boys working six days a week.<sup>33</sup>

In February of 1868, Fleming became a member of Halifax's North British Society which had over 400 members at the time, including his friend, the Reverend George M. Grant.

Later in April, while working on the ICR project, Fleming heard the disturbing news that his friend, Thomas D'Arcy McGee, had been assassinated on 7 April (1868) in Ottawa on the doorstep of the boarding house where he was staying. Shortly after, with the completion of the Truro-Pictou Landing rail project, and survey work continuing from Truro through New Brunswick, and still feeling the grief over the loss of their son Paul, and now the loss of D'Arcy McGee, Fleming wrote in his diary on 22 May 1868, "To England on S.S. *Washington* [with] Jeanie, Frank & Bob and baby (Maude)." It was a two-month holiday break of travel, visiting his birthplace in Scotland, and then later to Paris to visit the pavilion exhibits that were still displayed on the 1867 World Fair's Champ-de-Mars 172 acre site.

<sup>31</sup> The ICR line connecting Halifax to Rivière du Loup, where it joined the Grand Trunk, was 902.84 km (561 mi.) in length. It was completed on 1 July 1876 at a cost of \$35,000,000 (close to a billion dollars in 2023). It had a number of branches: a branch 32 miles long to Windsor, a branch 52 miles long from Truro to Pictou, a branch 11 miles long to Pointe-du-Chêne, a branch 89 miles long to Saint John, a branch 9 miles long to Chatham, and a branch, projected, 4 miles long to Dalhousie. For more detail see *The Intercolonial and the European and North American Railways, a Brief History*. At the blog: johnwood1946. <https://bit.ly/3HBLiuT> (Accessed 3 May 2023). The ICR operated until 1918 when it was folded into the newly formed Canadian National Railways (CNR).

<sup>32</sup> Underwood, Jay (2011). *Fleming's Army*. Railfare DC Books, Pickering Ontario. p. 14.

<sup>33</sup> *Ibid.* Appendix Four, "The Contractors." p. 205-207.



**Fig 4 Fleming's Ottawa residence which he named Winterholme. Photographer William James Topley. Library and Archives Canada, William James Topley Collection, PA-026478.**

Back in Canada, D'Arcy McGee was later given a state funeral in Montreal in one of the largest funerals ever held in the country, attended by an estimated crowd over over 80,000 (in a city of 105,000). Sadly, on their return trip to Halifax, the Fleming's 10-month old daughter, Maude, died on 16 July.<sup>34</sup>

## BACK TO OTTAWA AND RETIREMENT

In 1869, Fleming purchased a residence in Ottawa that he named *Winterholme* (Fig 4) and moved his family there from Halifax to be closer to the political decision-makers concerned with construction of the ICR and where he also knew there would be emerging plans for a railway to the Pacific. Fleming's son, Walter 'Arthur,' was born in October 1869.

While residing in Ottawa in the spring of 1871, Fleming was appointed Engineer-in-Chief for the proposed Canadian Pacific Railway (CPR) by Prime Minister John A. Macdonald's federal Conservative government. British Columbia was planning to join confederation in July and the promise of a railway had been written into the agreement

<sup>34</sup> Reported in the *Presbyterian Witness*, 26 July, 1868. Death was also recorded in the *N.S. Registry of Deaths* on 29 July 1868, aged 10 months (b. 19 Sept. 1867) – also reported in the *Halifax Reporter*, 1 Aug., 1868.



**Fig 5** Blenheim Cottage, South End, Halifax. Though not credited, the gentleman standing to the right is believed to be Sandford Fleming. c. 1873, Royal Engineers. Nova Scotia Archives. Number 7029 (Piers 75)/negative N-1455.

Fleming was expected to start work immediately on identifying preliminary routes to the Pacific, with an expected completion by 1881 (he also remained Engineer-in-Chief of the Intercolonial Railway for five more years).

The railway through the Rockies to the Pacific would later become an engineering marvel, making the ICR project look like a stroll in the park. Through it all, Fleming's connection to Halifax remained strong as a result of his purchase of 260 acres of land in 1870 on the western side of the Northwest Arm known as the Dingle Lands property.<sup>35</sup>

Early in 1872, Fleming purchased a summer residence on the eastern side of the Northwest Arm, in the south end of Halifax off Oxford Street, that he named *Blenheim Cottage* (Fig 5). It was where he and

<sup>35</sup> After dividing some of the Dingle Lands into lots for his family, Fleming donated 100 acres to the Nova Scotia Lieutenant Governor in Trust for City of Halifax in 1908 and commissioned the construction of a Memorial Tower in 1908 for the 150th anniversary of representative government being established in Nova Scotia (1758-1908). On 14 August 1912, the lands officially became known as the Sir Sandford Fleming Park. An excellent overview entitled "Sir Sandford Fleming Park and the Memorial Tower: A Brief and Not at All Definitive History," can be located on the Halifax Public Libraries' web site. <https://bit.ly/3ALSrEP>



Fig 6 An Intercolonial Railway poster. Public domain.

his family spent many of summers and where he “retired” following his knighthood in 1897.

Later in that summer of 1872, Fleming organized his first five-member expedition west to determine the best route for the railway that Sir John Macdonald had promised British Columbia.<sup>36</sup> The expedition started in July from Toronto with a plan to cross the Prairies and through the Rockies. They traveled 8,552 km (5,314 miles) by horses, wagons, canoe and by foot, arriving in Victoria, B.C. on 9 October. Besides his son Frank (16), his good friend, the Rev. George Grant, also accompanied them as secretary to the expedition and wrote a book the following year that became a bestseller, detailing the experiences of their journey called *Ocean-to-Ocean, Sandford Fleming’s Expedition Through Canada in 1872*.

On 1 July 1876, the ICR line was completed allowing for passenger rail service from Halifax to Quebec (Fig 6).

<sup>36</sup> In June 1883, Fleming received a telegram from George Stephen, President of CPR, asking him to head to British Columbia to review A.B. Roger’s survey work to determine a usable pass through the Selkirk Mountains. By August he began his second expedition west. The Revd. George Grant would accompany him once again, as did his sixteen year old son, Sandford “Bob” Jr.



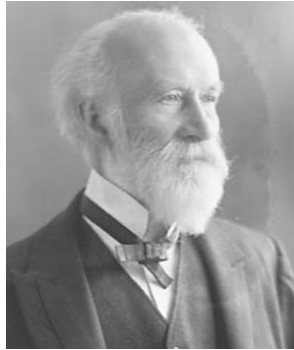
**Fig 7** Sandford Fleming's Globe, 1885. Notman Studio. Nova Scotia Archives. 1983-310 number 5421.

Exhausted from the work of being both the Engineer-in-Chief for the ICR, as well as for the proposed Canadian Pacific Railway (CPR), Fleming took his family to Europe that summer for a rest and vacation. It was on that trip, when he had missed a train in Ireland due to time schedules, that led to his model for the creation of the world's time zones which he first proposed in February 1879 at a meeting of the Royal Canadian Institute entitled *Time-reckoning and the selection of a prime meridian to be common to all nations*. It outlined his formative ideas for a global model for standard time zones set to a subordinate single world time (Fig 7).



**Fig 8** Lord Strathcona, the Honourable Sir Donald A. Smith, laying the Last Spike for the completion of the transcontinental CPR railway on 7 November 1885. (Courtesy Alexander Ross/Library and Archives Canada – C-003693)





**Fig 9** Sir Sandford Fleming, April 1902. Photographer, William James Topley. Topley Collection, Library and Archives Canada.

In 1882, Fleming became a founding member of the Royal Society of Canada. Besides advocating for a model of time reform, it was during this time that he also began to advocate for a trans-Canada undersea telegraph cable link from Britain, across the Pacific to Australia and New Zealand, known informally as the *All Red Line*. It had been a dream of Fleming's since the first trans-Atlantic cable occurred in August 1858 from Newfoundland to Ireland. When it was completed in 1902, Fleming was regarded as the father of the Pacific cable scheme.

In 1883, Fleming conducted a second expedition across the prairies and through the Rockies. A year later, his global model for standard time zones was accepted at the Prime Meridian Conference in October 1884 (attended by twenty-six countries), becoming one of the greatest achievements of standardization in the nineteenth century.

The following year (1885), Fleming (age 58) appeared at the very centre of the iconic “Last Spike” photo taken at Craigellachie, British Columbia on 7 November, seen wearing a large top-hat to witness Lord Strathcona, the Honourable Sir Donald A. Smith, laying the last spike for the completion of the transcontinental CPR railway (Fig 8). By that time, Fleming was also a director of CPR.

Four years later (1888), Fleming was widowed when his beloved Jeanie died while visiting their daughter in France. Knighted in 1896, Sir Sandford Fleming (Fig 9) lived to 88, dying of pneumonia in Halifax on 22 July 1915 while on a summer visit to his daughter Minnie and her family at the Dingle cottage, across the Northwest

Arm from his own beloved Blenheim Cottage. He was later buried at Beechwood Cemetery, Ottawa.

In 2023, Fleming's legacy of universal standard time is now why we can look at our watches and calculate time on the far side of the earth. If he were alive today, no doubt he would thoroughly relish being involved in the debate on a global model for establishing Lunar Time!

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