Sandford Fleming: Beginnings

By Jean Murray Cole

Seven days before his 18th birthday Sandford Fleming began his lifelong habit of keeping a diary, recording his daily activities and all the high points of his life. That his journals survived (now preserved in the Library and Archives of Canada) makes available to us an intimate glimpse into his remarkable life. Much has been written about Fleming and his career, especially his mapping the westward route of the Canadian Pacific Railway in the 1870s, and prior to that, the Intercolonial from Quebec through the Maritime provinces. He is known worldwide for his role in establishing standard time with the prime meridian at Greenwich, England. Less is known about what led up to these notable achievements.

Fleming's diaries of the early years, 1845 - 1853 (being published this fall by Dundurn Press), provide a vivid picture of how this young man grew and developed as he left his Scottish home, moved to a new land, and sought to establish himself in his chosen profession. Fleming, at age 18, had served for four years as an apprentice to John Sang, a prominent surveyor in his home town, Kirkcaldy, in Fifeshire. When he left for Canada with his older brother David, he already had experience surveying railway lines between Edinburgh, Perth and Dundee. It was good preparation for his life in the new world where the idea of rail lines across long distances was beginning to take hold, although as it turned out it was some time before he actually found promising employment.

Fleming brought with him references to several key professional colleagues. Edward Ellice, a London Governor of the Canada Company, provided him with a reference to Thomas Mercer Jones who was directing the

Young Sandford Fleming 1845.
Photo credit **Hutchison House Museum.**

development of that company's million-acre Huron Tract, but when the newcomer contacted him Jones reported that the surveys were nearly completed and offered him only a few small copying jobs. Sir Allan MacNab promised his help but left on a trip to Britain, forgetting all about it. Casimir Gzowski, superintendent of roads for the Toronto Board of Works, told him to go back to Scotland; there was no future for him in Canada. Only John G. Howard, city surveyor and prominent architect, encouraged him. Howard assured Fleming that he had been far worse off when he first arrived and suggested that he write the Canadian surveyor's exams in Montreal to get himself established, at the same time providing introductions amongst his colleagues.

After spending some time in Hamilton where his father had connections, and finding that prospects looked no better there than in Toronto, Fleming returned to Peterborough where he did some work for the well-known local surveyor Richard Birdsall, but largely augmented his earnings by working in a local store. He decided to take the initiative himself, hoping that there would be a market for a large map of Peterborough. He hired a chain bearer and set to work in the middle of the winter to survey the town. He quickly learned that he was not dressed for two feet of snow in February and acquired a pair of long boots (seven dollars) and "a coat of Beaver one side and strong Canadian blue cloth on the other, made for surveying men." (Later when surveying the Toronto Harbour in winter, Fleming and his friend Frederic Passmore often wore skates while chaining. For summer surveying on the bay he made himself a floating wooden chain "7 chains long" to measure the water surface). He engraved his Peterborough map on stone at Scobie and Balfour's lithographing plant in Toronto and printed 235 copies to sell in and around the area.

Fleming was a talented artist, as sketches from his early diaries reveal, and he followed up the Peterborough chart with similar productions of Cobourg and the District of Newcastle, and several engravings of such landmarks as St James Cathedral, in Toronto, and Victoria College, Cobourg, which also brought him some income. His name was becoming known and several Toronto architects engaged him to produce perspective drawings of their building designs.

Many of the leading professional men in the city were involved with the Mechanics' Institute and Fleming joined this group, for a time conducting night classes in drawing, geometry and arithmetic. He thought there was a need for a forum for exchange of ideas amongst his colleagues and, along with his architect friends F.F. Passmore and Kivas Tully, called together the nucleus group to form the (now Royal) Canadian Institute. After a somewhat uneven start (at one meeting only Fleming and Passmore were present and they passed resolutions and arranged to call the next meeting without a pause and got things back on track), the Institute's Saturday night meetings became an important fixture among Toronto's professional men, and later their families too. The members of the Institute established a museum committee and began collecting artifacts, and founded the Canadian Journal to publish papers delivered at their sessions, both of which were pet projects of Fleming.

In May 1848 Fleming was engaged to work half time for six months for J. Stoughton Dennis, surveyor of public lands, who had an office in Weston, while he prepared to write his surveyors' exams in Montreal the following spring. Dennis started him on a project that was to occupy much of his time - and his patience - for the next three years and three months, a large scale map of Toronto, bordered with sketches of the city's prominent buildings. There were many frustrations, but Fleming persevered, combining this work with numerous other undertakings, including perspective drawings of Kivas Tully's design for the new Trinity College on Queen Street, and Frederic Cumberland's plan for the Toronto Normal School among others. Other major assignments were the survey of the new Garrison and Military Reserve, a large tract of land on Queen Street West, a major study of the Toronto Harbour and later an imaginative plan for the waterfront including parkland and a museum along with the proposed railway terminal.

Fleming's railway career began shakily. He was reported in 1847 to have been appointed assistant engineer of the Peterborough-Port Hope Railway, but that project was soon abandoned and did not materialize until ten years later, then in another form - a line to Millbrook with later branch lines to Peterborough and Lindsay. In May 1849, when in Montreal to write his surveyors' exams, he made a presentation to the railway committee of the Legislative Assembly, and went up to see the Lachine Railway. There was much interest in railways - investigations into possible routes and companies set up, only some of which carried out their plans. In June 1851 he worked briefly on a survey of the Toronto to Kingston railway, while putting the finishing touches on his massive Toronto map.

In late October 1851 there was talk of a Northern Railway and in December Fleming was engaged by Judge Brown of Ogdensburg, N.Y., to survey Gloucester Harbour for the St. Lawrence and Lake Huron Railway Company. By January 7, 1852, he was celebrating his twenty-fifth birthday with "cake and hot scotch," camped on the shores of Sturgeon Bay with his survey party and a few invited friends. He still had work to do on his Garrison and Military Survey in Toronto, but from this time on Fleming's interests were concentrated more and more on railways. In March, still juggling the two jobs, he was contacted by Charles L. Schlatter, of Ogdensburg, chief engineer of the St. Lawrence and Huron, to extend his work at Gloucester Harbour to provide a larger plan of the Nottawasaga area and Georgian Bay. In the midst of all this, a Central Railway was proposed and he joined a deputation of prominent potential investors in July that followed an overland route in carriages to Peterborough, via Scarborough, Markham, Pickering, Brooklin and Lake Scugog, that could provide an

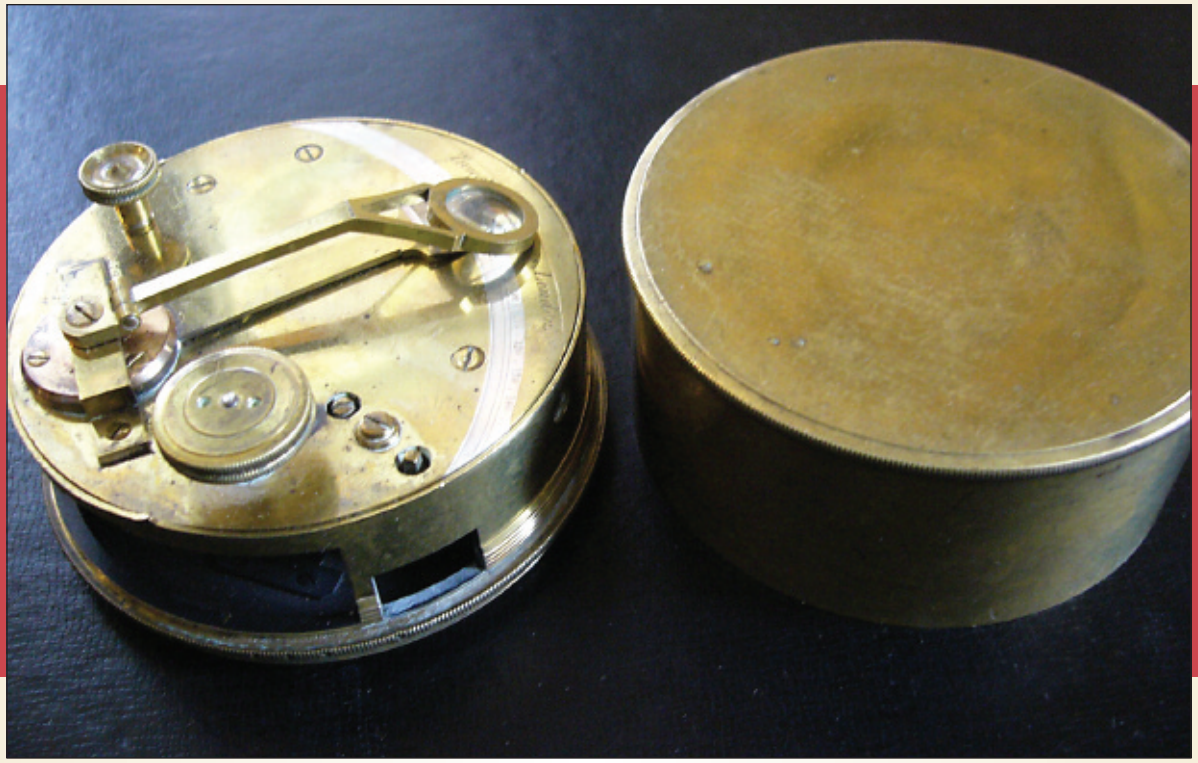
alternative to the water route via Lake Ontario that was then generally taken.

That summer, what was to become the Northern Railway, originally known as the Ontario, Simcoe and Lake Huron Railway, was under the direction of chief engineer Frederic Cumberland, of Toronto, and he named Sandford Fleming and Alfred Brunel assistant engineers to conduct the actual survey work. Within months Brunel left, leaving Fleming in charge in the field, and by 1855 Fleming was named chief engineer, replacing Cumberland. Fleming's small diaries, carried in his pocket, were crammed with often difficult-to-read notes on the progress of the work and interesting comments on the conditions, expenses, pay schedules and other details.

Fleming's social life was as active as his professional life. From boyhood he had engaged in many pursuits: family parties, church socials, his chess club, sketching outings and engraving his own drawings. He loved to be at the center of things and was frequently the instigator of special happenings. This carried on throughout his life and even after the death of his wife Jeanie Hall, the Peterborough girl he had met soon after his arrival in Canada. He gathered his children and grandchildren together for celebrations, often taking on two grandchildren at a time in chess matches. His parents and six younger siblings had joined the two older Fleming boys in Canada in 1847, eventually moving to Craigleith, near Collingwood, which became another family meeting place. His youngest brother, John, also became a surveyor and accompanied Henry Youle Hind on his western expeditions, producing an impressive collection of paintings and drawings now held by the Toronto Public Library, Special Collections.

Friendships were important and in these early diaries there are many. There are uncounted evenings in Toronto with the short notation "Logic!" often with Frederick Passmore, a frequent companion at work and play. Together in 1852 these two spent a week surveying the new-style Little Lake Cemetery, Peterborough, laying out its curving roadways defining the contours of the beautiful waterside site, and then went off to the "back lakes" with a guide on a canoe trip via Sturgeon Lake and Bobcaygeon to Beaverton, and then headed back to Toronto by steamer across Lake Simcoe.

Another long-time friend was John Sang, his Kirkcaldy mentor, who kept in touch over the years. His helpfulness is clear from the record of the days leading up to Sandford's departure in April 1845 - days in Sang's office making the surveying tools he would need to have with him to pursue his craft. Sang presented him with a pocket sextant as a farewell gift (now in the collection of Hutchison House Museum, Peterborough), but the youth spent many days, aided by Sang's advice, making a pair of compasses, chains, brass scales and brass parallel rules, all duly recorded in some detail in his diary.



Pocket Sextant - Photo credit: Robert Laing, Hutchison House Museum volunteer.

His friendship with George Monro Grant came later, in Halifax, when Fleming was working on the Intercolonial railway, and Grant accompanied him on his first westward exploration for the C.P.R. in 1872, recording the journey in his popular book "Ocean to Ocean". After Grant became Principal of Queen's University in 1877 he brought Fleming onto the scene there and Fleming served for 35 years as Chancellor of Queen's, from 1880 until his death in 1915.

Fleming was ever inventive. As a boy he sketched many ideas in the notebook he kept before starting his diaries, including a picture of wooden roller blades much like the design of those used by many trail skaters today. In preparation for departure he concocted "a machine for taking portraits" and produced pictures "very like" his mother and father and others. Later, in 1846, when living with his Peterborough cousin Dr. John Hutchison, in Canada, he made an "electrifying machine" providing a new kind of light in the year before Thomas Edison (1847-1931) was born. He was still thinking about light two years later, looking for a powerful magnetic battery to combine with wires and charcoal points which he thought could be "easily adapted to lighting streets or churches."

Fleming's early diaries reveal the many sides of this remarkable young man, and give a clear picture of the qualities that brought him success in his later years. His enthusiasm, his always optimistic spirit, his persistence, his enjoyment of life and his willingness to put forth effort to achieve his goals made him well prepared to face any difficulties he encountered as he started out in his profession. All are amply demonstrated in these journals.

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www.hydro9.co.za

November 16 to 19, 2009

ASPRS/MAPPS 2009 Specialty Conference
"Digital Mapping – From Elevation to Information"
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www.asprs.org/sanantonio09/index.html

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118th AOLS Annual Meeting
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