

Part One: Historical Highlights

Communications and Control

By Larry Collins

Early Days



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One hundred years ago, distance had already shrunk more than men could once have dreamed. Scientists had learned that electrical impulses could travel over wires. Samuel Morse, an artist-turned-inventor, had devised a method of sending dots and dashes by wire which could be decoded into words. His immortal phrase, “What hath God wrought?” had been sent from Washington to Baltimore in 1845.

On the morning of December 19, 1846, the first Canadian telegraph message was transmitted between Hamilton and Toronto. The first chit-chat between the two telegraphers revealed that the proper dignitaries were not on hand.

“Well”, tapped Hamilton, “advise Mr. Gamble (the President of the Toronto, Hamilton, Niagara and St. Catharines Electro-Magnetic Telegraph Co.) that Mr. Dawson will speak to him at half-past one.”

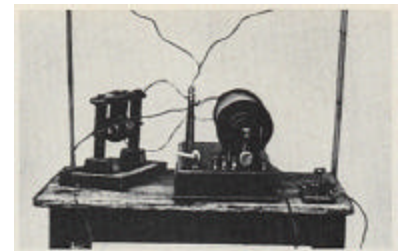
At the appointed time, the official exchange occurred. From there, telegraph spread through Ontario, Quebec and the Maritimes. A young Englishman named Frederick Newton Gisborne dreamed of a trans-Atlantic cable linking North America and Europe. He went broke trying to build a telegraph line across Newfoundland’s rugged terrain. But Gisborne made history in 1852 by laying North America’s first under-water cable from New Brunswick to Prince Edward Island.

It was a U.S. entrepreneur, Cyrus Field, who finally brought the trans-Atlantic cable ashore at Heart’s Content on the shores of Newfoundland in 1866 after nearly 10 years of trying.

On the West Coast, Perry Collins forged 850 miles of telegraph line northwest from New Westminster, B.C., in an attempt to link Old World and New through Russia. Then completion of the trans-Atlantic cable made his Overland Telegraph redundant.

In 1874, the Northwest Mounted Police rode west across the Prairies to keep law and order. To keep in touch with them, the government decided a telegraph line must be built, along the route of the proposed Canadian Pacific Railway.

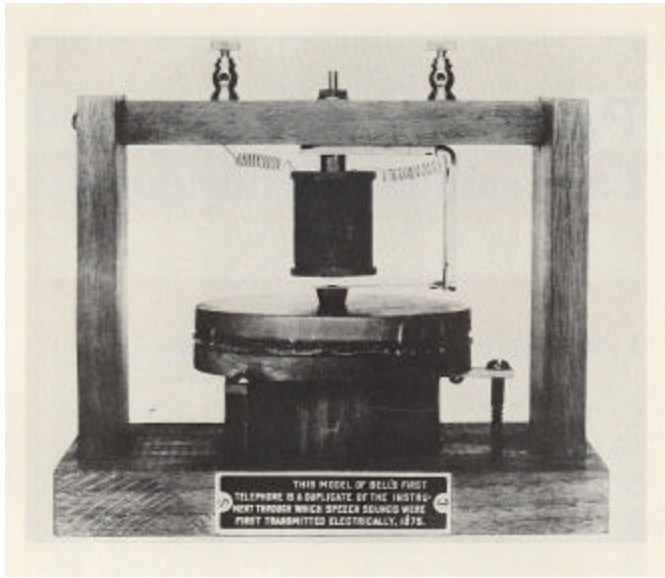
But telegrams, still arriving in dots and dashes, were running into competition. On March 10, 1876, Alexander Graham Bell had spoken the words, “Mr. Watson, come here, I want you,”



Replica of early laboratory transmitter built by Marconi. Photo courtesy of Canadian Marconi Company.

and his assistant had come running from another room. The telephone had been born.

Bell was in Boston, where he went every winter to teach deaf children, when his historic message was heard. However, it was at the family home near Brantford, Ontario, that he had conceived the idea of the telephone and it was there, in the summer of 1876, that the device underwent its final test. On August 10, Bell set up a receiver in Paris, Ontario, and, over borrowed telegraph lines, listened to voices from the Dominion Telegraph Company office in Brantford eight miles away. It was the world's first, one-way long distance call.



Bell's first electric speaking telephone, constructed in 1875. Photo courtesy of Bell Canada Telephone Historical Collection.

Canada's first telephone exchange was established in Hamilton in 1878 with seven lines and 50 subscribers. The phone itself was a wooden, hand-held telephone with a circular dual-purpose mouthpiece projecting from one side. The caller talked through the mouthpiece, then put it to his ear to listen to the reply.

That same year, telephones appeared in Newfoundland, New Brunswick, Winnipeg and Victoria. In 1883, the Northwest Mounted Police used the first telephones in Regina.

Alex Bell was no businessman. In 1877, he had turned over 75 per-cent of his patents to his father, Melville Bell,

and the rest to Boston manufacturer Charles Williams, who was to supply 1,000 telephones to the Canadian Market. Then the younger Bell went back to teaching the deaf.

It was soon obvious that Williams could never supply Canada's need for phones. Another Brantford man, James Cowherd, set up Canada's first telephone factory and had churned out 2,398 of the instruments by 1881.

In 1879, Melville Bell decided to sell his company. Finding no Canadian takers, he sold to National Bell of the U.S. In 1880, Bell Telephone Company of Canada was chartered and Charles Fleetford Sise, a hardnosed former ship's captain from Boston, was sent to Montreal to run it.

By 1884, telephone and telegraph messages, carried by electricity on strands of wire strung on wooden poles, had almost linked Canada from Atlantic to Pacific. Canadians, as they would always be, were in the forefront of communications technology. But who could know that less than 100 years later, messages would be bounced off satellites high above the earth and circle the globe in a fraction of a second?

From Sea to Sea

In 1886, on a mild rainy day in December, a telegraph message was sent from New Westminster, B.C., to Canso, N.S. The message took only three minutes to traverse the all-Canadian route,

established by Canadian Pacific, which had completed the trans-continental railway a year earlier.

Despite the striking advances of the telephone, telegraph was still the main method of communication in Canada. During the 1870s, Thomas Edison had produced the quadruplex, a method of sending two telegrams each way at the same time on one wire. By the early 1900s, that load had been increased to six messages in each direction. About the same time, the teleprinter made it possible to rip a typed message off the wire.

The fight to provide telegraph service had seen many companies rise and disappear. In the late 1870s, two giants predominated. Montreal Telegraph had 20,000 miles of wire with lines from Halifax to Windsor and into the United States. The network of its competitor, Dominion Telegraph, included Montreal, Quebec, Ottawa, Saint John and Halifax. They were cutting each other's throats-and their own-with low rates. Casting a predatory eye upon this scene from across the border was a Canadian-born business man named Erastus Wiman who had already been wheeling and dealing in many enterprises.

Wiman got himself named president of Great North Western Telegraph Company, based in Winnipeg. He soon had options on Dominion's and Montreal's lines and by 1881, Great North Western controlled all the important wires in Canada.

At that point, Wiman made a bid for the fledgling CPR telegraph system, the only opposition. But this time he ran into William Van Horne, CPR general manager, who refused to sell. By 1900, CP was well on its own way to a monopoly of telegraphy when it ran into the power of the press.

Since the early days of the telegraph, U.S. newspapers had been aware of its potential for fast news gathering. During the 1880s, newspaper editors in Canada also depended on the telegraph for their news. After the CPR completed its coast-to-coast network it got exclusive rights to carry Associated Press despatches across Canada. A few years later, in 1907, it informed the three Winnipeg dailies they would no longer get a summary of the news from Montreal. They would have to buy AP news by leased wire from Minnesota and dip into their own pockets to bring in Canadian news from the east.

Enraged, the editors joined together to form their own Western Press Association. The CPR retaliated by increasing press rates. The editors went to Prime Minister Wilfrid Laurier who, in 1910, cancelled the newsgathering rights of telegraph companies. In 1911, the Canadian Press, a co-operative news gathering agency was formed, transmitting the news along telegraph wires. That amicable arrangement would last for many years.