

Section 6.—A Selection of Canadian Achievements in Science and Technology, 1800-1964*

There can be nothing *authoritative* or *definitive* about any list of Canadian achievements in science and technology, since even the ground rules for selecting individual items are based, at best, on a cross-section of personal opinions. The compilation offered here is thus admittedly tentative and arbitrary, almost by definition—or rather, by lack of definition. After all, what exactly is *technology*? What do we mean by *achievements*? And, perhaps the most vexing question of all, when is an achievement *Canadian*?

The invention of the telephone is a case in point. The patent was issued to Alexander Graham Bell (a Scotsman) on Feb. 16, 1876, for work done the previous year in Boston (a city in the United States), but Bell himself is said to have fixed the date and place of the invention as the summer of 1874 at his father's house in Brantford, Ontario (in Canada). It was two years later, Aug. 10, 1876, that the famous first telephone message was sent a distance of 8½ miles over wires lent by the Dominion Telegraph Company, between Brantford and Paris (Ontario). This was the crucial experiment by which Bell proved that the telephone could be of commercial value. The question may well be asked: What role does the accident of geography play in a great achievement when the basic work was done elsewhere?

It should also be made quite clear that the list of achievements merely mentions typical landmarks in the vast panorama of scientific, agricultural and industrial progress in Canada. The vital role played by inventors and innovators in the development of a modern nation becomes obvious even to the superficial reader of the accomplishments set out in the list; but the brilliant contributions of these individuals must not blind us to the extremely valuable work of thousands of eminent Canadians who devoted their lifetime to science, medicine, engineering, education, research administration, exploration, etc., and who happened to be involved in the *gradual* solution of a great variety of problems rather than concentrating on the *spectacular* solution of a single one.

On the whole, most of the outstanding Canadian accomplishments are linked with the transportation and communication facilities that are the life-lines of this vast country with its small population. Many individual items were developed elsewhere but Canadians put them together and adapted them to Canadian conditions. Canada's railways, airlines, radio and television networks, the St. Lawrence Seaway and the Trans-Canada Highway are existing monuments to the ability of Canadians to meet the challenge of their tremendous, rigorous and complex country.

- 1796** John McIntosh, while clearing his farm near Dundela, Ont., found and transplanted several apple trees; the delicious red apples from one of these became famous and McIntosh gave them his own name. His son, Allan, developed the variety which is now grown in many parts of North America.
- 1804** David Fife, farming near Peterborough, Ont., developed the first Canadian wheat to be resistant to rust. His plant-breeding efforts were the fore-runners of large-scale, systematic, government-sponsored agricultural experiments. Rapid development of high-quality grain production, especially in Western Canada, made it possible for Canada to become one of the world's leading wheat exporters.
- 1847** Daniel Massey, a farmer near Cobourg, Ont., bought a small foundry and started manufacturing basic farm tools. This was the humble beginning of Massey-Ferguson, one of Canada's best-known establishments and one of the world's leading farm-machinery manufacturers. In addition to its great contribution to Canadian agriculture and industry, the Massey family became prominent in the cultural development of the country.
- 1851-52** C. N. Tripp of Woodstock, Ont., started to develop the "gum beds" along Black Creek (some 30 miles southeast of Sarnia) to recover asphalt. His discovery of oil in this region led to the drilling of the world's first commercial oil well by Hamilton industrialist James M. Williams at what is now Oil Springs, Ont. Ever since that time, Canada has been in the forefront of all phases of oil exploration, drilling, pumping, pipeline building, and refining.
- 1852** Frederick Newton Gisborne, having developed a method of insulating a wire so that it would be impervious to saltwater corrosion, successfully laid an undersea telegraph cable from

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