

valleys eventually led to the coast. Hence, it was in these lower latitudes that major geographical exploration was focused immediately following Confederation. Reconnaissance surveys were carried out by government parties in the 1870s and by 1880 the Geological Survey of Canada (in those days a comprehensive scientific survey) was probing and mapping the region between Edmonton and the coast. Such early maps were a *pot-pourri* assembled from new traverses by field surveyors, information from exploration by Alexander Mackenzie a century earlier and the reports of Indians. It was in those years that such features as the Peace River appeared on the map for the first time with reasonable accuracy, and then was recorded the first systematic description of that river's canyon, now, nearly 80 years later, the site of a large hydro-electric development.

It is to the need for accurate location of railway routes and the subdivision of prairie farm lands that is owed the very rapid reconnaissance mapping of the area between Lake Superior and the mountains. As air travellers today cross the prairies in a few hours, they can discern below one of the most distinctive of man's imprints on the earth's surface, the uniform pattern of squares and of meridians, range-lines and townships placed there by land surveyors in the closing years of the nineteenth century. On the sure foundation of this early work there has followed series after series of topographic and other maps, and the work continues with increasing refinement.

Elsewhere, what might be termed the 'pre-scientific' era of geographical exploration continued longer. Because of early work by government geologists and surveyors (Ogilvie in the Yukon and Mackenzie areas, Low in Ungava and Bell, the Tyrrells and others south and west of Hudson Bay) and by others before them, the major features south of the Arctic Circle were outlined by the early years of the present century. It was already apparent that the need was now for more systematic, comprehensive surveys and for a steadily expanding, government-sponsored scientific study of the whole country

Farther north, scientific surveys were longer delayed, in the remoter regions until as late as the mid-1940s. Prior to this, notable contributions to the exploration of the Arctic islands by non-Canadians were made by Nares of the British Admiralty (1875); Sverdrup of Norway (1898-1902), working among the more easterly of the islands, has left reminders of the range and thoroughness of his work in many Norwegian place names; and Peary and others explored Ellesmere Island in 1906 and 1909. Amundsen by his voyage (1903-06) from Atlantic to Pacific along an arctic route finally completed the Northwest Passage. His arrival in the Western Arctic coincided with the first journey there by Stefansson, who continued active exploration until 1918. It was he who added the last of the major discoveries to the map of Arctic Canada and who initiated the major participation by Canadians in northern exploration. He combined great ability as a traveller with the advantages of scientific training. At about the same time, an able and determined Canadian seafarer, Captain J. E. Bernier, began a long series of exploratory voyages in the Eastern Arctic.

The era of the large polar expeditions to Northern Canada ended with the First World War and from the 1920s on there began less wide-ranging and more systematic studies of topography, geology, biology, magnetism and other disciplines, greatly aided by improved technology, including the use of aircraft and radio. Formal government participation now became more usual, particularly in broad surveys, while the gifted amateur undertook detailed studies of limited areas.

The burst of government activity in the North during the 1920s, although short-lived, carried a small but very able group of field scientists even beyond the mainland. No attempt to map the whole area could be made but the location of a few places was fixed astronomically and the general arrangement of the chief land masses determined more surely. The modest degree of precision can be judged from a statement in 1930 that "the most easterly point of Baffin Island is in approximately longitude 62° W and on or near the Arctic Circle" A few years before the location of Cape Dorchester, one of the main features on the west coast of that island was shifted about 60 miles southward and a large new bay introduced, this by a visiting American expedition. In those days there was scarcely a point on the map of Northern Canada which could not benefit from the attention of such