

extent and economic features, its crumbling sandstones and shales underlying the prairies of western Canada and containing beds of coal at many places. During the Laramie period, a transition era between the Mesozoic and the Tertiary, were elevated the Rocky mountains, the latest and therefore the highest of the mountain ranges of Canada.

By this time the continent was complete within its main outlines; but during the Tertiary sediments were deposited in several small western basins, while in southern British Columbia volcanic eruptions covered thousands of square miles with lava or ashes. Thereafter the climate grew colder, and with the Pleistocene or Quaternary began the Glacial Period, which continued for a long time but was relieved by at least one inter-glacial period characterized by a warm climate. At the close of the Glacial Period the surface of the northern part of the continent had been profoundly modified, "the vast accumulations of loose materials, due to ages of weathering, being scoured away from the central parts of the glaciated areas, leaving bare, rounded surfaces of fresh rock, while nearer the edges of the ice-sheets, boulder clay was spread out or long loops of moraine were heaped up, blocking the valleys and transforming the whole system of drainage." During the subsequent thawing of the ice-sheets, the melting ice in the upper part of the valleys of the northward-flowing Canadian rivers formed glacial lakes in which sheets of silt or sand were deposited, forming what are now thousands of square miles of the most fertile lands of Canada. Also, as a consequence of the heavy load of ice, which at some points was two miles thick, the land sank some hundreds of feet, leaving thousands of square miles beneath the sea when the ice-sheets began to thaw. Relieved of its burden of ice, the sunken portions of the continent rose again, exposing wide belts of marine clay on the coastal plains. Many of the richest soils and the flattest plains of Canada owe their fertility and their smoothness to the process just described. Thus the geologically recent episode of the Ice Age "modified the old topography and hydrography of Canada, giving to one of the oldest lands under the sun its singularly youthful aspect."

Geological Divisions.—As a result of the process of geological development just described, the Canada of to-day may be divided into five main regions, each with distinctive characteristics of formation and present resources. A generally accepted division is as follows:—

1. The Appalachian or Acadian region, occupying the Maritime provinces and the mountainous southeastern side of the province of Quebec.
2. The Canadian Shield or Laurentian Plateau, the vast upland surrounding Hudson bay and stretching through twenty degrees of latitude to the Arctic circle and in places four or five degrees beyond it.
3. The St. Lawrence Lowlands of southern Quebec and Ontario, extending south-west from the city of Quebec to the Detroit river.
4. The Interior Continental Plain, contained between the western edge of the Canadian Shield and the Rocky mountains.
5. The Cordilleran region, extending from the Rocky mountains to the Pacific coast.

In addition two other less important regions may also be noted:—1. The Arctic Archipelago, including the islands of the Arctic ocean north of Hudson bay, and 2. The Lowlands of James and Hudson bays. These last two regions, while distinct as to formation and peculiarities, are yet of insufficient importance and interest to warrant the further more detailed mention given to the five principal regions.