

minerals, have not been established. The Pacific coast islands, with the exception of Vancouver island and the Queen Charlotte group, are small and dot the western coast of British Columbia from Dixon entrance to the southern boundary of the province. Vancouver island is 285 miles long and from 40 to 80 miles broad, covering an area of about 13,500 square miles, the mountain range which forms its backbone rising again to form the Queen Charlotte islands farther north. These islands figure largely in the mining, lumbering and fishing industries of the west.

On the eastern coast of the Dominion are the island province of Prince Edward Island, the island of Cape Breton (an integral part of Nova Scotia), Anticosti and the Magdalen group, included in the province of Quebec, and the islands of Grand Manan and Campobello, part of the province of New Brunswick, in the bay of Fundy. Prince Edward Island is 2,184 square miles in area, Cape Breton, 3,120 and Anticosti of about the same extent. Fishing activities in these eastern islands are important, while agriculture in Prince Edward Island and mining in Cape Breton are among the chief occupations of the inhabitants.

Manitoulin island in lake Huron and the Thousand Island group in the St. Lawrence river, at its outlet from lake Ontario, are the more important islands of the inland waters.

II.—GEOLOGICAL FORMATION.

1.—Historical Outline and Geological Divisions.¹

Introduction.—From the geological point of view, Canada's central and eastern parts are of extreme old age, forming probably the largest area of Archæan or pre-Cambrian rocks in the world. At the same time, comparatively recent geological events have rejuvenated the region, impressing upon it many of the characteristics of youth, as a result of which the Dominion presents impressive contrasts in geological structure and physical features.

When the officials of the Geological Survey commenced to study the geology of eastern Canada, they found that the more ancient and crystalline rocks, the nucleus or protaxis about which the remainder of the continent was built up, extended north-eastwards and north-westwards on each side of James bay and Hudson bay. The American geologist, Dana, called this Canadian Archæan with its spreading arms a V-formation, but when it became evident that the ancient rocks extended also along the north side of Hudson bay, the Viennese geologist, Suess, gave to this vast area the name of the Canadian Shield, a term which has been accepted by subsequent writers. In the centre of the Shield there was in early times a depression filled by a shallow sea and now occupied by Hudson bay.

A second Archæan protaxis is situated 500 miles south-west of the edge of the Shield, that of the Selkirk and Gold Range mountains in British Columbia. This is long, narrow, and somewhat interrupted, running from south-east to north-west, parallel to the coast. The *débris* resulting from the destruction of the mountainous Archæan areas piled up in the shallow seas around, and on their flanks and in the wide trough between them marine Palæozoic rocks were laid down. Later, Mesozoic sediments were deposited upon them, practically completing the outline of Canada and extending south into what is now the United States.

Together with this growth in area went the upheaval of mountains, first in Archæan times, when apparently the whole surface of the Shield was covered by

¹Adapted from articles by R. W. Brock, M.A., LL.D., University of British Columbia, and Wyatt Malcolm, M.A., Dept. of Mines, Ottawa, in the Canada Year Book, 1921.