Mountain, the gold-silver deposits of Salmon River district, the silver-lead-zinc ores of the Slocan, and the Sullivan ore body, the largest silver-lead-zinc mine in the world. Other mineral deposits include coal, which occurs in the Rocky Mountains and on Vancouver Island in beds of Cretaceous and also of Tertiary age, iron ores in Vancouver and Queen Charlotte Islands, placer gold in Yukon and in the Cariboo country in gravels of Tertiary age, and numerous other mineral occurrences.

**The Arctic Archipelago and Hudson Bay Lowland.**—The Arctic Archipelago includes the islands lying north of the Canadian Shield. They have a land area of over 500,000 square miles. Except for a northward extension of the area of the rocks of the Canadian Shield, the islands for the most part are a series of plateaux formed of gently dipping strata.

The main Precambrian belt extends through Baffin Island to Ellesmere Island. Its rocks consist chiefly of granite and granite-gneiss intrusive into various types of gneisses and schists. Palæozoic strata, including Cambrian, Ordovician, Silurian, Devonian, and Carboniferous beds, cover most of the remaining area. Triassic rocks occur on the Sverdrup Islands and a number of areas are underlain by Tertiary beds some of which are coal-bearing. Coal is also associated with some of the Upper Carboniferous strata at a number of places.

The Hudson Bay Lowland bordering the west side of Hudson Bay has a length in a northwest direction of 800 miles, a width of from 100 to 200 miles and an area of 120,000 square miles. It rises from sea-level with a scarcely perceptible gradient to a height of about 400 feet. It is underlain by flat-lying rocks most of which are of Palæozoic age ranging from Ordovician to Devonian. An area of Mesozoic beds carrying lignite occurs in the Moose River Region.

The seas in which the Palæozoic rocks which are now exposed in the Arctic Archipelago, the Hudson Bay Lowland, and the St. Lawrence Region were deposited extended at times widely over the Canadian Shield. Palæozoic outliers are known on Lake St. John, Lake Nipissing, and Lake Timiskaming in the south, and on Lake Nicholson west of Hudson Bay. These outliers are mere remnants which have survived the erosion of Mesozoic and Tertiary time.

## PART III.—SEISMOLOGY

That branch of science which treats of earthquakes has received considerable attention in Canada during recent years. It has been generally recognized that earthquakes are frequent in regions of adjustment of strata and are characteristic of the newer mountain and coast regions where steep level-gradients occur. The energy radiated from an earthquake in the form of elastic waves in the earth is, however, recorded on sensitive seismographs up to great distances, even to the antipodes of the earthquake. Seismological researches, while regularly recording the routine statistical data regarding earthquakes, seek also to determine particular causes. Moreover, they endeavour to ascertain the physical properties of the earth's crust and interior as revealed by the peculiarities in the 'time-distance curves' for earthquakes.

For further information on this subject, see pp. 7-9 of the 1943-44 edition of the Year Book. A description of the Cornwall-Massena Earthquake, Sept. 5, 1944, is given in the 1945 edition, pp. 24-26.