

Bear lakes. The north consists of a series of low prongs, like the Melville and Boothia peninsulas, flanked by channels and islands. The centre of the Shield has been depressed and is occupied by Hudson Bay and its arms and outlets. The whole makes up a knobbly, rocky plateau with old worn-down mountains above and enclosed plains beneath its general surface.

The rocks of the Shield comprise two series, the Archæan and Proterozoic, including very ancient sedimentaries, together with igneous intrusions, and metamorphic belts. The Archæan rocks are dominantly crystalline in the form of massive domes of from 1,200 to 1,400 feet high; they also embrace small sedimentary depressions. The Proterozoic rocks are mainly sedimentary and often lie in wide, shallow basins, 600 feet or more below the surrounding uplands. The more important of these are the Coppermine, Thelon, Athabasca and Dubawnt plains in the northwest, the Port Arthur lowland in the southwest, and the Mistassini plain and Ungava trough in the east. The Proterozoics were frequently squeezed up into ranges of fold mountains such as the Bear and Snare Mountains south of Great Bear Lake, the Slave and Nonacho Mountains south of Great Slave Lake, the Athabasca and Tazin Mountains, east of Lake Athabasca, the Cuyuna and Penokean Mountains to the north and south of Lake Superior, the La Cloche Mountains north of Lake Huron and, finally, the Ungava Mountains in central Labrador.

The Shield may be subdivided on the basis of changes in the trend of rocks from place to place. In the south there lies the Grenville province, with an over-all trend from southwest to northeast. North of a line through Lake Nipissing and Lake Mistassini, occurs the Superior province with a west-east trend. It extends north from Lake Superior to about the Nelson River west of Hudson Bay and Great Whale River east of the Bay. The Ungava province occupies the northeast, with a west-southwest to east-northeast trend. Its counterpart is the Churchill province, between Lake Winnipeg and the Dubawnt plain, with a southwest to northeast trend. Finally, in the far northwest is the Slave province where the rocks trend from south-southwest to north-northeast.

The whole of the Shield has been glaciated. Current opinion favours Baffin Island and the high eastern rim of the Shield as the main source of ice; the ice sheets spread out, however, far to the west and south, pushing across to the Rockies, practically to the confluence of the Mississippi and Ohio Rivers, and to Long Island. The ice deepened pre-existing valleys, scooped out some of the softer plains, wore down ridges and spread quantities of debris. As it melted away it created huge frontal lakes, such as the predecessors of the Great Lakes, of the western lakes, and of the various 'clay belts', that now occupy hollows in the Shield. These lakes left behind extremely valuable lacustrine clays and beach gravels that have given the Shield the few agricultural areas it possesses. Post-glacial rivers, too, have benefited from the ice-cut or ice-ponded lakes, obtaining a large volume and a steady flow that make them ideal for hydro-electric development.

Shield structures the world over are peculiarly favourable to metal formation. Thus the Canadian Shield is Canada's principal source of iron, gold, nickel and radio-active metals and has also important supplies of copper, lead and zinc. Recent strides made in the exploitation of these mineral deposits as well as in the development of the vast forest and water-power resources of the area have attracted settlement as never before. The new communities afford important markets for the agricultural produce of the western provinces and the manufactured goods of Ontario and Quebec, and thus the resources of the Shield constitute a factor in cementing together the eastern and western portions of the country. In the north, however, climatic conditions and inaccessibility have prevented extensive colonization.