Coast range into the Skeena valley. They are mainly formations of continental origin and carry coal seams, but also include sediments of marine origin and volcanics.

Very early Tertiary times were characterized by widespread orogenic disturbances in the Cordillera. The Rocky mountains were formed and there was much folding and faulting in places in the interior, followed by intense erosion. Tertiary sediments, partly of continental deposition with seams of lignite and partly of marine deposition, occur at many points throughout the interior of the Cordillera and on Vancouver island. Lava flows capping some of these sediments cover broad stretches of the interior plateau.

In Pleistocene time nearly the whole of the Cordillera with the exception of a large area in Yukon was subjected to glaciation, and glaciation still persists in the mountainous regions. Volcanics of recent age are found in areas of limited extent.

An episode of great economic importance in the geological history of the West was the intrusion of the granitic rocks of the Coast Range batholith and of acid rocks at different points in the interior, particularly in the southern part of British Columbia in Mesozoic time. Many of the more important mineral deposits of British Columbia, such as the copper deposits of Hidden Creek, Britannia, and Allenby mountain, the gold-silver deposits of Salmon River district and the silver-lead deposits of the Slocan, had their origin in solutions given off by the magmas of these acid intrusives.

The lead-zinc deposit of the Sullivan mine lies in sedimentary rocks of Precambrian age. The Cretaceous and Tertiary formations carry seams of coal and lignite of great importance. There are economic deposits of other minerals in great variety throughout the Cordillera, and British Columbia is one of the leading mineral-producing provinces of Canada. The gold of the once famous Klondike region was found in placers of an unglaciated area and the gold of the Cariboo district occurs mainly in Tertiary placers that were unaffected or little affected by glaciation.

Appendix.— Geology of the Great Lakes Area[1].

The Great Lakes system, forming for a distance of one thousand miles the boundary between the United States and Canada, is commonly thought of as a permanent feature of the continent which has always existed and which will always remain in its present state. To the geologist, however, the existence of these lakes appears unnatural and accidental, their age very youthful, and their present character far from permanent. How and when they originated, what changes have taken place in their outline and drainage, and what future changes may be expected, are questions concerning which much detailed information is available.

Somewhere about a million or a million and a half years ago great ice sheets began to form on either side of Hudson bay, and, increasing in size, spread out in all directions until on the south they reached the mouth of the Ohio river. These continental glaciers scoured off the soil, polished and grooved the bedrock, and by irregularly scattering this eroded material, dammed up river channels and disorganized the old drainage systems. The result was the production of thousands of lakes, making the vast territory around Hudson bay one of the great lake regions of the world. The glacial period did not consist of a single advance of the ice sheets. There were at least four separate advances, separated by long inter-glacial periods during which mild climates prevailed. The last glacier commenced its retreat from the Niagara region about thirty-five thousand years ago.

[1] By F. J. Alcock, PhD., Geological Survey, Ottawa.