The Cordilleran Region.—The Cordilleran Region comprises the mountainous country bordering the Pacific ocean. The part of it which lies in Canada has an average width of 400 miles, a length in a northwest direction of 1,500 miles, and an area of 600,000 square miles. It is made up of three principal zones. On the east is the Rocky Mountain range; along the coast is a broad belt of mountains known as the Coast range, while between these two lies a third or intermediate belt made up of plateaux and mountain ranges. The Rocky mountains have a maximum width of 100 miles and have many peaks with elevations of from 10,000 to 12,000 feet. The Coast range, varying in width from 50 to 100 miles, rises abruptly from the coast to peaks which along the axis of the range reach elevations of from 7,000 to 10,000 feet. The interior plateau and mountain belt is represented in the north by the Yukon plateau, a gently rolling upland broken into a series of flat-topped ridges by valleys several thousand feet deep. In the southern part of British Columbia the interior region is a plateau rising 3,000 to 4,000 feet above sea-level and cut by valleys a thousand or so feet in depth. To the west this plateau either joins the Coast range directly or else is separated from it by the Cascade range and other mountains. To the east between the plateau and the Rocky mountains are a series of ranges separated by northwest-trending valleys. The Selkirk range with peaks over 11,000 feet is the most important of these.

The rocks of the Cordilleran Region range in age from Precambrian to Recent. The Rocky Mountain belt is composed of great thicknesses of Precambrian, Palæozoic, and Mesozoic sediments, in most places unaccompanied by plutonic or volcanic rocks. The Coast range is essentially a complex batholith of granite of late Jurassic or early Cretaceous age cutting and enclosing sediments and volcanic rocks of earlier Mesozoic age. The Interior belt of plateaux and mountain ranges is underlain by Palæozoic, Mesozoic, and Tertiary sediments and volcanic rocks. The pre-Tertiary beds are cut by numerous bodies of plutonic rocks and in several districts strata of Precambrian age are exposed.

The geological history of the Canadian Cordilleran Region may be briefly summarized as follows: In Precambrian time sediments which now are in the form of limestones, gneisses, and schists were deposited in the interior belt. In Yukon these strata are known as the Yukon group and in central British Columbia as the Shuswap group. These have been altered by intrusive rocks and included with them may be metamorphosed phases not only of Precambrian rocks but also of much later rocks. In late Precambrian time a thick series of argillites and related sediments accumulated on the site of the southern Rockies and farther west in the region now occupied by the Purcell mountains. The Purcell series, consisting dominantly of quartzites, has a thickness of over 20,000 feet.

From the Cambrian to the Carboniferous, sedimentation progressed in the Rocky Mountain and Purcell region. Cambrian strata are best known in the Bow and Kicking Horse valleys along the main line of the Canadian Pacific railway, where a total thickness of more than 18,000 feet of Cambrian beds are exposed. Another thick section can be seen in the Mount Robson district along the Canadian National railway. In both these areas the Cambrian beds are succeeded by Ordovician strata. Silurian limestone occurs south of Kicking Horse river, in Yukon, and in the western part of Mackenzie mountains. In Devonian time the whole eastern Cordilleran Region was submerged and calcareous beds, in places