

magnificent portion of the whole C.P.R., where the train in three quarters of an hour running time with a fall of 27 per cent. loses all the height it had gained from the foot of the Rocky Mountains. Slowly it glides down the steep slope, incessant is the grinding of the brakes. Only with difficulty has room been found for the road on the steep rocky walls which descend to the foaming and rushing Kicking Horse River. It pierces through them in tunnels and leaps from one side to the other on lofty bridges. The deeper it descends, the higher rise the mountains; at Field our next stop we have the beautifully formed pyramid of Mount Stephen (3,188 m.) rising almost 2,000 meters close above us.

The stratification of these highest portions of the Canadian Rockies is comparatively simple. Enormous Cambrian strata appear to lie almost as they were deposited. In consequence they recall to some extent the Ampezzaner Dolomites, the names often indicating their regular architectural structure: thus we have a Castle and a Cathedral mountain. They offer difficult problems to the climber; in the neighborhood of Laggan the first accidents of Canadian mountaineering have happened. Further west near the Columbia river the mountains become more irregular in their build. The fall of the strata becomes more precipitous and is almost exclusively eastern. At the same time Silurian deposits appear, hemmed in by the Cambrian ones. According to this the structure of the Rockies taken as a whole is about as follows: Younger paleozoic strata, Devonian-carboniferous in the east and Silurian in the west, dip on both sides towards the middle of the mountains. There we find the oldest paleozoic rocks prevailing in more or less irregularly disposed undulations. But this holds good only for the Rocky mountains in Canada. When I crossed them afterwards on the Great Northern Railway, south of the Canadian boundary, I found only strata inclining to the east. The whole zone of the chain as at Banff is lacking at the Maria Pass. In the valley of the Kicking Horse River we descend from Field at first rather rapidly, and from the many windings of the road we enjoy various splendid views of the proud glacier bearing peaks of the Rockies. Then we enter a narrow gorge whose walls rise threateningly several hundred meters above us. The road winds so that we can occasionally see the whole train from our car window. Nowhere any inhabited places, the stations are only watchmen's houses. Then all at once another picture. We come out of the narrow gorge into the valley of the Columbia river, lying only 770 meters above sea level. It is broad and wide, along its slopes stretch broad terraces like the *Mittelgebirge* in the valleys of the Inn and the Adige, a heavy forest covers its floor which the river traverses in many windings. One has the impression of having reached an important boundary line in the mountains. As a matter of fact one has on the east the Rockies formed exclusively of paleozoic strata, and on the west rise the various chains which Dawson calls the Gold Ranges. They conceal the rich gold deposits of southern British Columbia, especially the Kootenay district, only recently opened up, in which the town of Rossland arose in the shortest time on record, as well as the older Cariboo district. Also the Klondyke of the north, which was opened up last summer and electrified all America, seems to belong to this zone. There appear in it, alongside very old sediments perhaps belonging to a pre-Cambrian age, also archæan rocks. Our line of demarcation may be followed morphologically for a long distance. From Donald, where we are first convinced of its significance, we can follow it on the map for 700 kilometers in a northwest direction, as a great longitudinal valley to which the Upper Fraser and the Peace River belong, and in a southeast direction to the Upper Kootenay and then into the valley of the Flat Head River for another 600 kilometers at least. This is a magnificent parallel to the great valley-gorge which separates the northern Alps from the Central Alps, and the resemblance holds good also as to scenery.

If the journey through the Rockies reminded me often of the Alps, now of the Alps in North Tyrol, now of the *Kofel* of the Dolomites, the rest of the journey through the first of the Gold Ranges, the Selkirks, reminded me often of the Brenner road. The railway passes through a narrow defile, such as seems to characterize the openings of the tributary valleys of the Columbia River, into the Beaver valley. Then it runs along the slope of the now widening valley, strikes into a neighbouring ravine and after an ascent of 540 meters, distributed over thirty-