

forest of that region whose farthest outposts extend to a height of 2,400 meters, *i.e.*, somewhat higher than in the central Alps which are 4' further south. Perpetual snowfields are confined to the very highest peaks. In this region is the Canadian National Park, its central point is the little town of Banff, where our excursion spent September 2nd. Soon after our arrival the more active hastened to Sulphur Mountain, (2,270 m.) It is a typical isoclinal mountain, with its peaks breaking off precipitously to the east and the surface of the strata, which might belong to the carboniferous (I found a productus on the top), sloping less steeply to the west. The summit is rounded as may be seen from a photograph taken by Prof. W. M. Davis. The glaciers of the ice age passed over it and left relics of the moraines. On the east at its feet lies the well wooded valley of the Spray, 900 meters deeper. Here bubbles up the warm spring which gives the mountain its name of Sulphur Mountain. It probably indicates the line of cleavage east of which the strata buckle up again into the Rundle mountain, (2,980 m.) To the west beyond the wooded Sundance valley, there rises another isoclinal rampart, the Bourgeau range (2,990 m.) Here cirques have been cut in the mountain ridges, between them the forest ascends much higher on the sides of the mountain than in the domain of their debris-filled floors. A portion of the valley of the Bow river running in a transverse direction cuts off the sulphur mountain and its neighbours to the north. In the broad, woody valley the river meanders along with many windings and in several places backs up so as to form a lake, while beyond rise new isoclinal mountains, among them the splendid rocky form of Cascade Mountain (2,986 m.) This transverse valley continues to the east, but on reaching the trough of cretaceous formations above mentioned the Bow River leaves it. Evidently it once followed this valley through the Devil's Gate out into the plain. The magnificent surface of Lake Minnewanka (Devil's Lake) some distance away indicates its deserted course.

For a long time we remained on the top of Sulphur Mountain lost in the contemplation of the magnificent beauty of the panorama. The almost geometrical regularity of the stratification, which showed only here and there by slight curves, as at Cascade Mountain, that it is due to a folding process, impelled one irresistibly to the consideration of the problem of mountain formation. But the geographer was enchained no less by the regularity of the internal form, the alternation of almost rectilinear valleys both longitudinal and lateral, and many peculiarities in the course of the valleys. Indeed the outermost advance post of Rundle Mountain is quite cut off by the Bow River as the Tunnel Mountain. The opinion was generally expressed that it is scarcely possible to imagine a finer field than the neighborhood of Banff for special study in stratigraphic geology, geotectonics and geomorphology. The basis has been already laid by the topographical and geological survey of Canada. The former prepared a special map of the National Park on the scale of 1 to 40,000, the latter had a transverse profile taken through the whole Canadian Rockies so as to cut through the region about Banff, by R. G. McConnell, and Dawson himself has explored the neighbouring cretaceous trough. At the same time the C.P.R. hotel offers headquarters comfortable enough to satisfy the claims of the most exacting.

From Banff the railway continues up the Bow river, then for a short distance in the transverse valley mentioned above, then again in a longitudinal valley running close by the watershed here formed by the Rockies. In the west one sees their proud snow covered heads which now regularly exceed 3,000 meters in height and bear considerable glacial areas on their shoulders. Mount Lefroy 3,353 meters is the highest. That the chain rises further north to 4,787 meters in Mount Hooker, and even to 4,880 meters in Mount Brown, as is given on our maps, is very much doubted by Sulzer and Hueber who during their journey among the Selkirks nowhere saw any such giants rising from the Rockies. The Hector Pass, a very narrow gateway 1,614 meters high, affords a passage from the Hudson Bay Territory to that of the Pacific. This height is easily attained from the east. We follow the Bow river to Laggan (1,503 m.) without having any real engineering difficulties to conquer, with an average ascent of only 2.8 per cent. Even then it is only a matter of ascending 111 meters in a distance of 11 kilometers, and we are in a saddle in which many cones of deposition display themselves. But then we must descend 348 meters in only thirteen kilometers. This is undoubtedly the