

1,300 feet high, between it and the valley of the Parsnip. Along the valley of the Crooked river, the country is less broken, and at the Giscome portage no mountains are to be seen, but a broad expanse of undulating forest country. The lower part of Crooked River is little more than a winding ditch, from 80 to 50 feet wide. Higher up it expands into small lakes, with numerous bays and arms, and there are long stretches of almost still water. On the 9th Fort George was reached, and on the 11th Mr. Selwyn and Mr. Webster started on the trail up the Stewart River to the Chilacco valley, and on the 14th struck the telegraph trail, 4 miles from the Blackwater depot, returned to Fort George on the 16th and reached Quessel on the 18th and Montreal on the 23rd November, having travelled 10,219 miles.

Mr. Selwyn expresses a very decided opinion in favour of the route by Pine River Pass for the Pacific Railway, the distance between Edmonton and Fort George being shorter than by the Leather Head Pass, the line being for the whole distance through a magnificent agricultural and pastoral country, and probably not presenting any great engineering difficulties. Gold has been procured in various places along both the Parsnip and Peace Rivers. Only one coal seam of economic value was seen, but it is probable there are others in the region.

Mr. Macoun, in the meantime, had proceeded down the river, reaching Vermillion on the 25th. Though two degrees further north, vegetation was further advanced than at Dunvegan and St John. Barley was cut on the 6th, and wheat fully ripe on the 12th. The barley was in the ground just 90 days. The heads averaged from 4 to 6 inches in length, and were full of large grains. Both wheat and barley stood very thick on the ground, and the crops of Early Rose potatoes and turnips were very heavy. Indian corn is raised here without difficulty. The country across the river to the Cariboo Mountains, 40 miles distant, seemed perfectly level, or sloping gradually to the mountains. No frosts had occurred since early in May; often there is no frost from early May till late October, but when winter comes it is continuous. From Vermillion, Mr. Macoun proceeded to Fort Chipewyan on Lake Athabasca. Here he remained ten days collecting all the information possible about the country. The region drained by the Peace, Liard and Athabasca, is of immense extent, containing a vast amount of arable land. At Fort Simpson, lat. 12° north, barley ripens between the 12th and 20th August, and wheat succeeds four times out of five, and melons started under glass ripen well. At Fort Liard, 61° north, the climate is said to be warmer than on Peace River, and wheat always succeeds; and barley seldom fails at Fort Yucon, under the Arctic circle. About 100 miles below Fort Chipewyan are immense salt deposits, and others between Great Slave and Great Bear Lakes. The Buffalo Mountains, south-east from Vermillion, contain both gold and silver. Oil springs were found in several places along the Athabasca and Clearwater rivers. From Clearwater River, Mr. Macoun passed by Portage la Loche to Lake Methy, crossing the Height-of-Land between the Mackenzie and Churchill rivers. Both

barley and potatoes mature here, and the frost was 19 days later than in Manitoba. From this point Mr. Macoun proceeded to Carlton House and Fort Garry.

Mr. R. W. Ellis, M. A., was employed in the summer of 1875 in boring operations in the Saskatchewan district. The place selected was about 10 miles above the Elbow of the North Saskatchewan, the first place where timber of sufficient size for the frame work could be found. They were stopped by the Indians who refused permission to carry on the work on their lands, and the party returned to Fort Carleton and erected boring works there. Water was struck in plenty at the depth of 30 feet, rising to about 8 feet of the top and easily pumped. The hole was drilled to the depth of 175 feet without reaching the bed rock. Only 2 to 5 feet a day could be made. The remainder of the season was employed in collecting specimens for the Philadelphia Exhibition. A second boring was made at Swan River, near Fort Pelly, in July, 1875. Abundance of fresh water was found 28 feet from the surface. The specimens of strata taken out were nearly all of dark-blue, grey or black shale.

Mr. Robert Bell, C. E., F. G. S., was employed in an exploration of the country between James Bay and Lakes Superior and Huron. An immense area of Huronian rocks, the largest yet known in the Dominion, was found to run north from Lake Huron the greater part of the distance between it and the area of unaltered rocks S. W. of James Bay, and the Michipicoten belt of these rocks was found much more extensive than had been supposed. The first exploration inland was by way of Whitefish River and Wanapiti River and Lake, and thence to upper part of Sturgeon River which falls into Lake Nipissing, thence across the height of land to White Beaver Lake, the head of a tributary of the Ottawa. From Pigeon Lake on this river, by a series of long portages, the waters of Grassy River were struck and the head waters of Moose River. Between the Great Lakes and James Bay, the Laurentian and Huronian plateau is somewhat elevated, undulating and dotted with great numbers of lakes, while the basin of James Bay is low, level, swampy, as far as known free from lakes, and bounded by a distinct rim of hard ancient rock for five-sixths of its circumference. Although the plateau may be styled a rocky country, the proportion of bare rock is much less than commonly supposed. In a very considerable portion of the area, the soil is suited for agriculture, with more good soil north of the height of land than south. Within the basin of James Bay the land appears generally of a swampy nature, except a strip along the bank of Moose River. Farming and gardening are carried on successfully at the H. B. Co's posts on Lakes Mattagami and Missinibi, and spring wheat ripens well. At Moose Factory all kinds of vegetables, oats and barley are grown with no more care than is needed in other parts of Canada. The climate seems to grow milder in going from the height of land towards James Bay. Red and white pine were common all the way from Lake Huron to Mattagami Lake.