

winter journeys with dogs and sledges as detailed in the journal. He penetrated over the height of land to the northward whence the waters flow to the Frozen Ocean and down the Athabasca River, visiting Fort Assiniboine and Jasper's House, and acquiring much valuable information concerning the winter temperature along the base of the mountains.

Among other interesting phenomena, he discovered that the average temperature during the winter months at the base of the Rocky Mountains is higher by  $15^{\circ}$  than that of the western portions of Canada, and that the mean depth of snow at the same place is much less than in the prairie country.

Temperature at the base of the Rocky Mountains.

During the winter I made two hunting trips to the south of Edmonton, visiting the Beaver Hills, and a considerable extent of country to the eastward. Subsequently I started with two dog sleighs to the Rocky Mountain House, where I made an extensive acquaintance among the principal chiefs and leading men of the Blackfeet and Piegans, and also hunted with them, sleeping in their tents. I adopted this course in anticipation of an assent from the Home Government to my proposal of exploring the Blackfoot country from Edmonton in the season of 1859.

On the breaking up of the ice in the spring of 1859 I left the Rocky Mountain House and descended the Saskatchewan in a skiff to Edmonton.

It was also at this period that I was obliged to say farewell to our friend and companion Monsieur Bourgeau, whose activity, sociability, and zeal in every way rendered his departure deeply regretted by all. In addition to his acquirements as a botanist, he showed the most untiring energy in superintending and saving the specimens, notwithstanding the numerous difficulties and fatigues so often to be encountered in such a country.\*

My intention had been to remain in my winter quarters at Edmonton, and there to await the decision of Her Majesty's Government as to whether the exploration should be renewed again at the commencement of the season of 1859, but owing to the great scarcity of provisions at Edmonton and the total absence of buffalo in that part of the country, I was obliged to quit the fort and take my party southward to the plains in search of buffalo as fast as possible, and to leave Dr. Hector to follow from Edmonton as soon as my instructions had arrived.

We wait for instructions from the Home Government.

Our party consisted of 16 men, including my secretary and two friends, gentlemen from England, who joined me from Edmonton, where they had wintered along with us. We first proceeded to Buffalo Lake, and from thence to the Hand Hills, where I established a permanent camp which commanded an extensive view of the plains; thus enabling us to discern at a great distance any bands of buffalo which might be traversing this region of country, and thus I was in a position to await Dr. Hector's arrival from Edmonton with instructions to me from the Colonial Office to proceed on my exploration to the westward, returning by way of the Pacific. We then proceeded to carry out these objects for the season of 1859, travelling through a portion of country hitherto considered too dangerous to be accessible. We first proceeded in a south-easterly direction to the forks of the South Saskatchewan and Red Deer River, and from this point south to the Cyprés mountains and boundary line, thence westward again until we recrossed the mountains for the third time about the middle of August 1859.

My secretary and I, on this occasion, traversed by the North Kootanie pass, and followed the Indian trail along the Kootanie River to Colville.

Our route to Fort Colville.

This track led us through the United States territory, south of the boundary line. When about half the distance had been accomplished (between the western extremity of British Kootanie pass and Fort Colville), I left Mr. Sullivan to pursue the trail with the men and horses, and having engaged two Indians of the Paddler's tribe, sometimes called Flatbows, worked my way by canoe to the northward along Flat Bow Lake and down the Columbia to Fort Shepherd, a post of the Hudson Bay Company, situated a little to the north of the boundary line, in about the same longitude as Fort Colville, to which post I descended along the Columbia and met Mr. Sullivan, who had arrived by land the day before.

While we were thus engaged exploring the western slope in the neighbourhood of the boundary line, Dr. Hector with four men had crossed the mountains by the most northerly pass leading from the Saskatchewan River. This he found to be *Howe's pass*, a route that had at one time been used by the North-western Fur Company, for communicating with their posts on the Pacific. It had been abandoned, however, for such a long period, that he found hardly any trace of the trail that once existed, so that his progress was

\* I did all in my power to persuade Mons. Bourgeau to remain, but a previous engagement for the Caucasus compelled him to depart.