

passes across these mountains which are available for horses, and by which, with a reasonable outlay, a road could be made, connecting the Kootanie and Columbia valleys with the plains of the Saskatchewan.

The four
passes across
the Rocky
Mountains.

These passes are four in number:—The Kananaskis pass, the Vermilion pass, the British Kootanie pass, the Kicking-horse pass; all these passes traverse the watershed of the continent within British territory.

Besides these, there are three lesser passes connecting the waters of a transverse watershed, between the head waters of the Kootanie and those of the Columbia, both which rivers are on the western slope of the continent. A pass also was subsequently traversed by Dr. Hector between the head waters of the North and of the South Saskatchewan.

The passes between the Kootanie and Columbia rivers are the Lake pass and the Beaver-foot pass, and that from the head waters of the North to those of the South Saskatchewan is called the Little Fork pass.

The Kana-
naskis pass.

I undertook the exploration of the Kananaskis pass myself, accompanied by my secretary, Mr. Sullivan, and after traversing the mountains we returned to the eastern plains again by the British Kootanie pass.

Our journey across the Kananaskis pass, although arduous, was not formidable, on account of abrupt ascents and descents on the eastern slope of the mountains, and the principal difficulty to be overcome was the amount of timber to be cut in order to allow the horses to force their way through. On the western slope we found the descent very steep, and the obstructions from fallen timber so thick and so severe that on the 24th of August we were occupied 14 hours in accomplishing six miles, and hard work it was.

North
Kootanie
pass.

The North Kootanie pass, traversed by Captain Blakiston and subsequently by myself, is not encumbered by fallen timber; the track is well defined and kept clear from obstructions by the Kootanie Indians, who constantly travel that way to hunt buffaloes on the eastern plains. The natural facility which this pass affords for crossing the Rocky Mountains is not so great as that of the Kananaskis pass, which presents only one height of land to overcome.

Of all the passes traversed by our Expedition, the most favourable and inexpensive to render available for wheel conveyances would appear to be Vermilion pass, as the ascent along it to the height of land is the most gradual of them all. All these passes are defined in the map, and need no allusion here to their longitudes or latitudes.

The timber on the western slope of the mountains was somewhat finer than that which we found on the eastern side, and we saw several new pines, together with oak, ash, birch, and larch, but the lands in the valleys of the Columbia and Kootanie rivers, as far as I could judge, were neither valuable for their extent nor for their quality.

A ride from the Columbia Lakes to the boundary line sufficed to show me that the difficulties to be overcome in crossing the continent to the westward, without passing to the southward of that line, were far from being overcome. A formidable tract of country still remained to be traversed before a connexion with British Columbia could be effected. A cursory glance at a map of that country will show that the Columbia, which flows into the Pacific, takes its source from the Little Columbia Lakes, and that this large body of water is forced into a channel northwards for $2\frac{1}{2}$ degrees, when making an abrupt bend it is borne back again to the southward over the same latitudes before it can effect its escape to the westward.

The Koo-
tanie River.

The Kootanie River, which, with its branches, derives its source north of the international line, descends over 40 miles into the American territory, and thence returns to the north to flow into Flat Bow Lake, and finally terminates into the Columbia. The irregular quadrilateral piece of country thus formed by these two rivers represents a most formidable tract where even the banks of the rivers are cloud-capped mountains. I determined, however, to penetrate it in order to endeavour to discover if the passage of the continent north of the boundary line could be effected: with what success will appear below when I shall discuss the proceedings of the Expedition in 1859. But on recrossing the mountains in September and October 1858 I left the Kootanie and Columbia valleys under the impression that although much had been effected, still a great deal more remained to be done. Early in September 1858 we recrossed the mountains, and reached Fort Edmonton at the termination of the second season; when all further work for the horses was terminated for that year, and the men all paid off with the exception of two or three engaged throughout the winter as attendants and to guard the horses. Twenty-four men were engaged for the second exploring season and 50 horses purchased, inclusive of those which remained over of those previously bought in 1857.

During the winter of 1858-9, Mr. Sullivan and Mons. Bourgeau were chiefly occupied with meteorological observations, while Dr. Hector employed himself in the various