

La Biche, across the Arthabasca, and thence to the mountains. Here, then, is a strip of country over 600 miles in length, and at least 100 in breadth, containing an area of 60,000 square miles, which has a climate no way inferior to that of Edmonton. I know that many doubts will be cast on the truthfulness of this statement, but from a careful perusal of many *published* tables of the climatology of the district in question, and my own observations, I can come to no other conclusion than this, that the day is not far distant when the most sceptical will believe even more than I now assert. The summer frosts are due to radiation, and whether the settlement of the country will have any effect in lessening them is a matter of speculation. It has always been so in Ontario that summer frosts have ceased as the country became opened up. May not this be the case in Rupert's Land and Peace River country?

"Regarding the quality of the soil throughout the entire region, my note book is unvarying in its testimony. I took every opportunity to examine the soil, and found it deep and fertile. It was principally clay loam, but had much the appearance of the *inter-valle* lands along streams in Ontario. Its average depth, where sections were exposed, was five feet, but owing to the clay subsoil it was practically inexhaustible. Days would elapse without seeing a stone except in the beds of streams, and swamps were unknown on the level country along Peace River."

Any one of these passes will give easy access to the plateau, but the first four are high compared with the others, and to reach them the road would have to run through the barren zone bordering on the American frontier. The Huron Pass is on the most direct line from Fort Garry to Westminster, but as after issuing from it, the Columbia River would have twice to be crossed, and the Selkirk and Columbia Ranges to be surmounted, the engineering difficulties would be greater and the route no shorter than by the Yellow Head Pass. This, early in the survey, was accepted as the probable gate of entrance. Therefore not less than six roads have been surveyed, with more or less accuracy, from three inlets on the coast to the Tête Jaune Cache—at the head of the Pass.

This Tête Jaune Cache is on one of the main branches of the Fraser, and the most

suitable Pacific Port is at the mouth of the Fraser. Why not follow the river? Because, in the first place, while in a straight line the distance from the Cache to New Westminster is not over 300 miles, the course of the branch on which the Cache is situated, northward to its junction with the main river, and of the main river thence southwestward towards its mouth, is at least 700 miles. But even were the Fraser not so tortuous, its valley is for miles together a narrow rocky defile in which a rail track could be laid only at enormous expense. This objection excludes not only this roundabout route, but militates against the two projected Fraser valley lines, as one of its wildest cañons is not far from its mouth. Both of these follow the north branch of the Thompson, which rises not far from the Cache south-westwardly to Kamloops. So far no difficulty is met, but from Kamloops one continues onward for 128 miles to Hope on the Fraser, in the same direction, across a tract of country so mountainous that grades as high as 122 feet per mile are inevitable, and a tunnel of $3\frac{1}{2}$ miles would be required. The other route, to avoid this rough country, adheres to the valley of the Thompson, curves round with it to its junction with the Fraser at Lytton, and reaches Hope after a course of 165 miles. Of this route also Mr. Fleming is obliged to admit:

"Although no high summit is to be passed over, this section is far from favourable. Long stretches along the cañons of the Fraser and the Lower Thompson, occupying about half the whole distance, are excessively rough. On these sections formidable difficulties present themselves; the work would be enormously heavy, and the cost proportionate.

"Had the rivers Lower Thompson and Fraser flowed through wide valleys to the sea, this route would unquestionably have been the natural and proper line of the railway. The gradients from the summit of the Rocky Mountains at Yellow Head Pass