

we should find its counterpart in a region stretching from the coast of France across Belgium, Holland, Germany, Prussia, and Russia, to the Ural Mountains in Asia, and covering a considerable portion of these countries. The botanical and geographical characteristics of this region naturally divide it into three great sections.

Commencing with the most westerly, which is partially wooded and almost entirely mountainous, we find, perhaps, the most difficult and costly portion of the work to be accomplished. Two great mountain ranges bar the pathway of the surveyor who desires to run a line from the Saskatchewan to the Pacific; first, the Rocky Mountains proper, and next, as the coast is approached, the Cascade range. The former, however, present a series of elevated plateaux, with passes that admit of comparatively easy access. The highest of these passes are from 6,000 to 7,000 feet above the sea level, the lowest, 2,000 feet. Numerous independent ranges, known as the Cariboo, Selkirk, and Gold ranges, form a sort of advanced guard to the Rocky Mountains on the western slope. The Cascades rise abruptly from the sea level, looking bold, defiant, and all but insurmountable. The average height of many is from 5,000 to 8,000 feet. It will tax all the skill of the engineer to reduce the gradients in this district to working limits. Between the Rocky and Cascade Mountains lies an elevated plateau, intersected by rivers running through deep channels and threading their way around mountains that here and there lie in their route.

With the central or prairie section recent travellers have now made us better acquainted. It extends from a short distance east of the Rocky Mountains to the Lake of the Woods, and may be described as a vast triangle of an area of 300,000,000 acres in extent, its apex lying at the westward, and its base at its eastern extremity. Its most striking peculiarities are its great lakes and magnificent rivers, forming altogether a grand system of water communication, stretching, with few interruptions, for nearly its whole length. The rivers are described as being seldom obstructed by falls or dangerous rapids, and presenting, as a rule, a uniform descent. Captain Butler's work has lately familiarized us with many of the features of the northern part of this region, which is, to a large extent, rich and fertile, with a fair allowance of woodland. Its southern portion, however, is in many parts barren and uninviting.

The settlement of this country in advance of the railway would solve many difficult problems with regard to the construction and final success of the Canadian Pacific road. For accomplishing this object, Nature has fortunately supplied most powerful auxiliaries in the magnificent lakes and rivers by which it is intersected. Lakes Winnipeg, Winnipegosis, and Manitoba form a chain of water communication, broken only by comparatively unimportant interruptions, far into the interior of the country. The Saskatchewan, too, may, with a moderate expenditure in engineering improvements, be rendered navigable for steamers of light draught through the summer months. Its chief obstacles are the Grand Rapids, at the point where it flows into Lake Winnipeg, where a portage railway of three miles in length would overcome. Next in importance to these rapids are Cole's Falls or Rapids, close to the confluence of the two branches which ultimately form the main stream. They are about twelve miles in length, and have a fall of 12 feet. There are one or two smaller rapids, and the channel would require some dredging and the removal of the huge boulders which have been in times past deposited in the bed of the river, in order to make navigation safe and easy. For steamers or railway purposes, however, this country, rich as it is in many respects, would afford no adequate supply of fuel. But here, again, the coal beds already discovered will come to our aid, although it is quite possible that coal might have to be floated down the river to the depots provided from the seams already discovered above Fort Edmonton. In the prairie region, too, a natural supply of pure water is often found to be scarce, and the geological survey will no doubt direct its attention by boring to ascertain how this necessity may be supplied.

The next great span of country lying before us is the section between the point at which the prairie region ceases and the Nipissing terminus of the projected road. The Reports already published have told of the great difficulty experienced at the outset in discovering a suitable route for a railway through this tangled woodland wilderness. We have reason to believe, however, that perseverance has already accomplished a good deal in this direction, and that a route will be found free from any very appalling obstacles to the construction of the railway. To all who have reflected upon this matter two main objects to be attained will have presented themselves. First, it would be, of course, desirable to follow as nearly as possible an air line from Nipissing to Fort Garry; and, secondly, it would be incumbent on the engineers to approach as nearly as possible to the head of the lake navigation communicating with the St. Lawrence. Everyone is now acquainted with the rugged and uneven character of the country immediately north