

That which touches navigable waters on the Nipigon at ten miles from Lake Superior is only

Miles.

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Unless therefore there be grave objections against Nipigon Bay as a port, or some strong argument in favour of Thunder Bay, the third route must be selected over the second; for the first may be ruled out of court.

Thunder Bay may claim to possess now at Prince Arthur's Landing the largest settlement on the north shore of the lake, but this it owes to being the starting-point of the Dawson route, not to any advantages in itself. Thunder Bay is more exposed than is Nipigon Bay, which is effectually closed in by the St. Ignace, and the distance from Fort Garry to Thunder Bay is only 398 miles, while that to Nipigon is 416; but on the other hand, the distance from Thunder Bay to the Sault exceeds that from Red Rock, near the mouth of the Nipigon river, to the same point by nine miles. The ice on Thunder Bay, from its exposed position, breaks up sooner than that on Nipigon Bay; but as both bays are navigable within fifteen days of the opening of the Sault Ste. Marie canal, and are generally free of ice for three weeks after the canal is closed, either harbour will answer in this respect as a railway terminus, for it will be in autumn that open navigation will be most important, as then the cereals will be seeking the cheapest possible route to Europe.

If the Nipigon route be selected, the navigation of the mouth of the Nipigon river must be improved; if Thunder Bay, a breakwater must be built or the mouth of the Kaministiquia converted into a harbour. The *pros* and *cons* are so evenly divided on all points but that of distance, and in this very important consideration the balance on the side of the Nipigon route is so great as to leave no hesitation in deciding in its favour.

From end to end of this section there seem to be no engineering difficulties. Mr. Fleming says that: "in passing from

Lake Nipissing to Lake Nipigon through the interior of the country, the ascent to the summit level will actually be less than that which is experienced in passing from Toronto across the peninsula of Western Ontario, by either the Great Western, the Grand Trunk, the Grey and Bruce, or the Northern Railways." And the ascent from the height of land from Winnipeg River, at the other end of the section, is so gradual that the total rise is only from 400 to 500 ft., and this is distributed over a distance of 230 miles.

The following particulars as to climate may be gleaned from the reports of the explorers. Mr. Rowan says:—"The question of snowfall is a subject of great importance when taken in connection with this work. Few, if any, reliable facts in connection with it, as regards the country now under consideration, have been hitherto known; the following, from observations made by our own parties, will throw some light on the subject:—Commencing at Ottawa, where the average depth in winter may be taken as about 3 ft. 6 in. to 4 ft., it decreases gradually as we proceed westerly; in the neighbourhood of the Great Bend of the Montreal River it is 3 ft. 6 in.; on the height of land north of Michipicoten, on Lake Superior, it is 2 ft. 8 in.; west of Lake Nipigon it is 2 ft. 3 in.; and at Red River from 2 ft. to 1 ft. 6 in. Near the shore of Lake Superior the depth will average between 3 ft. and 4 ft.

"There is a marked difference, however, between the character of the snow which falls throughout the whole of the country to the west of the Montreal River and that which falls east of that longitude. In the former country there are no thaws during the winter; the snow is consequently dry and light, and *never* packs; while in the latter, on the contrary, frequent thaws cause it to pack, as in the settled portions of the country to the south. This is one great source of difficulty experienced in removing it from the track of a railway.