

Britain's food supply, and would be so much safer and more easy to guard that she could take off two of the Dreadnoughts which she would otherwise be compelled to have on the long line, and then there would be seven extra Dreadnoughts for the North Sea. I know I am undertaking a difficult job to open the Hudson bay. But as I said in the beginning, I am speaking impartially. I would say to the government that their proposal to build the Hudson Bay railway may do more to aid Britain than both plans the two parties are offering to-day. I know that in proposing to open up the Hudson Bay route, I have to face powerful antagonisms. I know that the Hudson Bay Company succeeded in making us believe for 274 years that we could raise no grain in our whole northwest. A British nobleman some years ago talked about the immense deserts of North America covered with ice; and we know that a French king signed away Canada with the remark that it was only a few acres of snow. I have here a little pamphlet published by the government dealing with this question, which says:

According to Dr. Saunders, the head of the Dominion Government's Experimental Farm system, and an authority second to none, if only one-fourth of the suitable land in Manitoba and the southern parts of the two other prairie provinces were annually under wheat, the yield would be more than 812,000,000 bushels, reckoned at the Manitoban average of 19 bushels per acre. This, he points out, would not only feed a population of 30,000,000 in Canada itself (at present there are only about 7,000,000), but would meet the present requirements of Great Britain three times over.

Now, Sir, there is just as much fallacy current about the navigation of the Hudson bay as there was about our wheat lands. There are certain powerful companies interested in keeping the shores of the Hudson bay as a fur preserve. There is another great obstacle in the way, and that is our transcontinental railways. They are very much opposed to opening up the Hudson Bay route, because it will take away their trade. I know that eastern Canada is opposed to it, but I am a big enough Canadian to give western Canada all her rights. I see no advantage in being so narrow minded. We have now four lines of railway running from Winnipeg to Fort William; we have the Canadian Northern, the Grand Trunk Pacific, and a double line of the Canadian Pacific railway, and these have all they can do. In the Agricultural Committee the other day we were told that only six per cent of the available wheat lands in the west is under cultivation. Now it is only a calculation for a ten year old boy to figure out. If six per cent of the wheat land in the northwest requires four lines of railway to move

Mr. T. CHISHOLM.

the product, how many lines will it require when the whole hundred per cent is under cultivation? It will require 64 lines. Then why should we dilly-dally about the opening up of the Hudson bay route?

Now I am going to deal with the climatic conditions of Hudson bay, and first I will read something that I find in 'The Dominion of Canada,' published by the Hon. Sydney Fisher, as part of our immigration literature. Here is what he says about the Hudson bay and about Lake Superior. We have only two ways of getting our food from the wheat fields of the west or our meat from the ranches, either by the Hudson bay route or by the Lake Superior and St. Lawrence route. Now here is what this book says:

The large bodies of water inland greatly modify the severity of the climate. Hudson bay is 1,000 miles long by 600 wide, with an area of 444,000 square miles. Its temperature is 65 degrees F. during summer; in winter it is 3 degrees warmer than the waters of Lake Superior.

This is the point I want to make, that the waters of the Hudson bay in winter are warmer than those of Lake Superior. Why? Because the waters of the Hudson bay are on the level of the ocean, while the waters of Lake Superior are 600 feet above the level of the ocean. Take the mountain of Ben Nevis in Scotland, 4,004 feet high, with sheep grazing at the foot of it and snow all the year around at the top; showing that if we could raise the water of Lake Superior six or seven times as high as it is now, it would be frozen all the year round. But there are other agents. The water of Lake Superior is soft and the water of Hudson bay is salt. I have here a document published by the Marine Department which tells us that:

Immediately after its formation sea ice contains a noticeable quantity of salt, chlorides as well as sulphates, carbonates and other salts. Such ice is very different from fresh-water ice in its physical properties. It melts below zero, and begins to show signs of melting by contraction of volume at temperatures far below zero.

Now then it takes 13 degrees more cold to freeze salt water than fresh water. I have shown that there are three degrees more cold in Lake Superior owing to the elevation, and there are 13 degrees more in favour of Hudson bay on account of the water being soft. Not only that, but the ice of the Hudson bay is more porous, and the ice is more easily smashed. There is another reason. It is a well known law of physics that large bodies cool much slower than small bodies. The Hudson bay, being a thousand miles one way and 600 miles the other, is a very large body of water, while Lake Superior is a smaller body and will cool more rapidly than the water of the