OUR NORTH LAND:

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BEING A FULL ACCOUNT OF THE

CANADIAN NORTH-WEST AND HUDSON'S BAY ROUTE,

TOGETHER WITH

A NARRATIVE OF THE EXPERIENCES OF THE HUDSON'S BAY EXPEDITION OF 1884,

INCLUDING

A DESCRIPTION OF THE CLIMATE, RESOURCES, AND THE CHARACTERISTICS OF THE NATIVE INHABITANTS BETWEEN THE 50TH PARALLEL AND THE ARCTIC CIRCLE.

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Illustrated with Maps and Engravings.

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PREFACE.

THERE is no portion of the Dominion of which so little is generally known as "Our North Land," a term which I have applied to that vast expanse of territory stretching from the Atlantic to the Pacific, and from the fiftieth parallel to the Arctic Circle; and yet I venture to say that there is no other part of the continent which presents a greater variety of interesting features—features interesting to the student of natural history; to the lover of travel, romance, and adventure; to the man of business, on the look out for opportunities of profitable trade and commerce; to the miner and prospector; to the promoters of railway and steamboat lines; to the student of meteorology; and especially to the young, who should improve every opportunity of extending their knowledge of the physical geography of their own country.

The following pages are founded chiefly upon the experiences of the Canadian Government Expedition to Hudson's Bay and Strait; Mr. Klotz's overland Expedition to Hudson's Bay; Dr. Bell's Hudson's Bay Explorations; the Travels and Explorations in the North-West of Dr. Selwyn, Mr. Marcus Smith and many others, and the Travels and Experiences of the Author.

I have endeavoured, from the information thus obtained, to give an account of the vast resources of the region in question, to describe the industries now in active operation, and to point out the possibilities of their future development. The export from the products of the oil-bearing animals of the waters of Hudson's Bay alone amounts, at the present time, to over $150,000 annually, and may be increased to five times that amount; in many districts the fur trade is yet in its infancy; and the cod, salmon, and trout fisheries offer large and sure returns to almost any extent that capital and labour can be found to develop them.

In a description of the habits and customs of the native inhabitants, and an account of the adventures of traders, whalers, navigators and missionaries, I have not avoided a certain degree of romance, with which these narratives are necessarily interwoven. But the reader must not mistake this for fiction, which has been rigidly excluded.

In a discussion of the question of the practicability of the proposed Hudson's Bay route as a commercial highway, I have brought to bear upon the subject all the evidence obtainable, and left the reader to judge for himself, whether or not, in the near future, the necessities of trade will find a successful channel of transportation from China and Japan to Europe across the American Continent by way of the waters of Hudson's Bay and Strait; and whether or not these waters will become a successful outlet for the products of the Canadian North-West.

I have been actuated by the belief that the information conveyed in these pages will be a contribution, more or less valuable; that the work will aid in bringing the vast resources and future possibilities of the Dominion to the attention of the world; and serve, also, to entertain and amuse, as well as to extend, in a limited degree, the knowledge of the reader.

CHAS. R. TUTTLE.

WINNIPEG, January, 1885.

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CHAPTER I.

The Attraction of the North.

THE NORTH-WESTERLY TREND OF CIVILIZATION — A QUESTION OF TRANSPORTATION—THE CANADIAN PACIFIC RAILWAY AND THE NORTH-WEST—PROPOSED NEW TRANSCONTINENTAL LINE.

> The world's march of Commerce, and Science, and Skill,
> In errands of blessing, their work to fulfil,
> Move in the same course—north-westerly still.

THE directive magnetic force that controls the mariner's needle is not a more attractive problem than is the not less unerring north-westerly trend of human progress. Westward and northward have the marching orders been, until the people of the present generation must look southward and eastward for the homes of their ancestors. The greatest deeds have always been accomplished in high latitudes, because the highest latitudes produce the greatest men. And yet, strange as it may seem, the north is always underrated.

Go to the Eastern Hemisphere for examples of this. Half a century before the birth of Christ, Cæsar concluded a mighty series of north-west conquests, by subjugating the hardy inhabitants of the then far north, the British Isles; but the act was regarded by the Romans more in the light of erecting the Imperial standard on the utmost confines of the north, than as a conquest of valuable territory. A few short centuries and the island camping-ground of the Roman conqueror became the mistress of the world. Upon those far northern shores a mighty commerce began to develop, and vast industrial enterprises grew up, until, in every part of the earth, England was hailed as the greatest nation under the sun. But

there was no prophet to foretell England's glory, nor was there anything in the general appearance of the country upon which a high degree of future greatness could have been predicted. Latitude is one of the secrets of Britain's importance.

History is ever repeating itself, and the political transformations of the Old World may yet, to a great extent, be re-enacted in the New. Here on this continent the trend of all material progress is north-westerly. The flow of immigration is north-westerly, and the Great Creator, as if to make way for the advance, has pushed back, as it were, the cold of the Arctic nearer to the Pole, and spread out the vast fertile belt of the North Temperate Zone from the Great Lakes to the Mackenzie River; so that may not this England of the New World yet become to the Western Hemisphere all that the England of the Old World is to the Eastern?

For many years Canada has held an obscure place among the countries of the globe. Our borders have been pictured as the abode of perpetual snows, and our people as indifferent, easy-going, indolent. But a change is taking place. The narrow, little, rugged country on the margins of the St. Lawrence has extended its borders from Atlantic to Pacific, and to the Arctic Circle of the north; the harvest-patches of Western Ontario, once the pride of United Canada, have blossomed into boundless fertile prairies, stretching away toward the setting sun, and pushing their golden fields far above the fifty-fifth parallel. With these changes have arisen national questions of trans-Pacific and transcontinental trade, and Canada is putting on the garment of preparation to enter the race of nations.

Canada's progress is but another evidence of the strength and productiveness of the north, but another development of power and commercial importance in high latitudes, and it will probably achieve the greatest advancement to which the race has yet attained. Canada has soil enough for the happy homes of a hundred millions of people. Bread and beef may be produced within her boundaries to feed a hundred millions more; and, aside from all this development of husbandry, the resources of the Dominion will sustain the most gigantic industrial enterprises.

Commerce, the sure passport to national greatness, is destined to set up a throne of universal empire in Canada, because the immense volume of transport traffic passing from the eastern shores of China and Japan to the western shores of Europe, which has hitherto cast its wealth into the coffers of the United States, will soon seek the shorter and less expensive routes about to be opened up across the continent through Dominion territory. It is probably by solving the one question of transportation that Canadians will overcome the last obstacle to their material progress, and a solution of this is already at hand.

I will submit a few figures of distances in this connection, that will explain to some extent the northward inclination of latitudinal transportation, and give you the reason why, just now, so many eyes are turned toward the north; why the Canadian Government Expedition was sent out to Hudson's Bay and Strait, and why our north land is destined to attract so much attention in the future. These figures are given in respect of transcontinental lines and of lines proposed as direct outlets from the fertile prairies of the North-West.

If we take Yokohama, a central point in Japan, and Liverpool, the great commercial centre of Europe, it will be an easy matter to find the shortest lines between the two.

LINE NUMBER ONE.

Yokohama to San Francisco (nautical miles).....	4,470
San Francisco to New York (statute miles).....	3,390
New York to Liverpool (nautical miles).....	3,040
Total navigation and railway distance.....	10,900

LINE NUMBER TWO.

Yokohama to Port Moody (nautical miles).....	4,374
Port Moody to Montreal, C.P.R. (statute miles)....	2,885
Montreal to Liverpool (nautical miles).....	3,000
Total navigation and railway distance.....	10,259

LINE NUMBER THREE.

Yokohama to Port Simpson, B.C. (nautical miles)..	3,865
Port Simpson to Churchill, Hudson's Bay (statute miles)	1,450
Churchill to Liverpool (nautical miles)	2,960
Total navigation and railway distance.....	8,275
Route No. 1.—Total nautical and statute miles....	10,900
Route No. 2.—Total nautical and statute miles....	10,259
Route No. 3.—Total nautical and statute miles....	8,275
Difference in favour of No. 2 over No. 1.....	641
Difference in favour of No. 3 over No. 1.....	2,625
Difference in favour of No. 3 over No. 2.....	1,984

These figures speak for themselves. But look also at the altitudes. The railway portion of route No. 3, which is by the Pine River Pass, Peace River country, Hudson's Bay, etc., will have for its highest point, above the level of the sea, an altitude of but 2,350 feet, nearly 1,000 feet lower than the highest point of the Canadian Pacific Railway (route No. 2), and 5,800 feet lower than the highest point on route No. 1. But let a comparison be made between the railway portions of these routes:—

	Miles.
No. 1—San Francisco to New York (Union and Central Pacifics)	3,390
No. 2—Port Moody to Montreal (C.P.R.)	2,885
No. 3—Port Simpson to Churchill.....	1,450
Difference in favour of No. 2 over No. 1.....	505
Difference in favour of No. 3 over No. 1.....	1,940
Difference in favour of No. 3 over No. 2.....	1,435

Before referring to the proposed Hudson's Bay route as a direct outlet from the prairies of the North-West, it will be in keeping with my purpose to consider the transportation issue as an inter-Provincial question. There is probably no other country under the sun which furnishes a parallel to Canada in this respect. With a territory stretching from the Atlantic to the Pacific Ocean, and

from the International Boundary on the south to the Arctic Circle, Canada contains very divergent interests—interests predicated upon the physical geography and natural resources of the country, which, even under the best conducted parliamentary rule, must frequently clash, setting Province against Province, and section against section; or, perhaps, more properly speaking, the Provincial against the Federal authority.

Nova Scotia was the first to apprehend this danger and to raise this cry. Before Confederation was an accomplished fact, in 1867, and while the scheme was being agitated, some of the people of that Province looked upon the promised Intercolonial Railway as an effort to change the natural channels of commerce. If built as a Government measure, they reasoned, the Government would be in duty bound to sustain it by encouraging in every possible way such inter-Provincial commerce as would enable Montreal and Toronto in a great degree to supplant New York and Boston in their trade relations with Halifax and St. John. The one was a natural channel of commerce, the other artificial. Both were advisable, but the latter could become self-sustaining only under a tariff sufficiently protective to cut off a great portion of the shipping trade between the United States and the Maritime Provinces—a policy which the people down by the sea have not yet been able to fully reconcile with their geographical position.

But Confederation was accomplished, the Intercolonial was constructed, and the days of the high tariff were inaugurated, not to protect the railway, but resulting in such protection all the same. Immediately Nova Scotians began to trade with Montreal and the cities of Ontario, and in such proportion as this was done the Intercolonial reaped a benefit and the shipping trade between Nova Scotia and the United States suffered loss. All this was probably in the interests of the Dominion, as a whole, and possibly for the ultimate welfare of Nova Scotia, but many of the people did not, for a long time, readily accept the new situation; in fact they do not accept it yet.

History again repeats itself. The case of Manitoba in 1880 and 1881, in respect of the Pacific Railway, was very much the

same in many ways as that of Nova Scotia touching the Intercolonial at, and subsequent to, Confederation. For that matter the respective positions of the two Provinces remain unchanged, and are likely to continue in the same way for years to come, unless Nova Scotia finds more than her due in receiving the Atlantic terminus of the Canadian Pacific, which is improbable. The parallel, however, is not without its disagreements. Manitoba, in 1878, had but a small population, and the Province was only beginning to be thought of as a field for immigration. The Canadian Pacific Railway, undertaken to connect British Columbia, commercially, with the Dominion, to which it had been united by political ties, seemed to open up the vast fertile prairies of Manitoba and the North-West to settlement and cultivation.

The expenditure of large sums of public money, and the richness of the soil in that region, together with the prospect of early railway communication between Manitoba and the Eastern Provinces over Canadian territory, caused a rush of immigration. In a short time Manitoba contained a numerous and enterprising population, and Winnipeg was on the road to great commercial importance. This development brought new conditions, and consequently new ideas, to the settlers. In 1880 the Syndicate, or Canadian Pacific Railway Company, was brought into legal existence by Parliament, and the railway transferred to that Company on terms which gave considerable alarm in Manitoba, principally on account of the so-called twenty years' monopoly clause.

The people saw themselves shut out from the markets of St. Paul and Chicago by the Canadian protective tariff, as also by the twenty years' protection to the Canadian Pacific Railway Company, and looked to a long future subject to a "grinding monopoly," as the more violent were inclined to characterize it. Impatient at this prospect, an effort was made to secure the construction of railway communication with the United States, by Provincial Legislative enactment, but the veto power of the Federal authority was exercised and the charter disallowed. Following this, the Legislature placed other enactments on the statute book authorizing the construction of lines, contrary to the provisions of the Syndicate

bargain, and these, too, were promptly disallowed by the Central Government.

Meanwhile, discontent in Manitoba was beginning to take root, Liberal politicians seized upon these acts to prejudice the people against the Dominion Government, and every effort was made to fan the discontent into a flame of open defiance of the Federal authority. In the midst of this agitation Providence visited the farmers with heavy frosts, and consequent bad harvests. This visitation, together with scanty railway communication, greatly augmented the feeling of discontent, which, manipulated by designing politicians, culminated in several political meetings at which unwise and misleading resolutions were passed, calculated to discourage immigration and otherwise greatly injure the Province.

Somehow this agitation gave rise to a movement in favour of the construction of a railway from Manitoba to Hudson's Bay, or to the establishment of the Hudson's Bay route from Manitoba to the markets of the Old World. As far back as 1879, charters had been obtained from Parliament authorizing two such roads; but nothing had been done under them, and, until the beginning of 1884, few people in the North-West became at all interested in the project. But now the "Hudson's Bay Route" became the only streak of sunshine in the "Manitoba agitation." Resolutions were passed declaring faith in the practicability of the route, urging the Dominion Government to grant substantial assistance in opening it, and recommending the Provincial Legislature to authorize the Local Government to undertake the construction of the railway on the credit of the Province.

Pursuant to the will of the people, the Manitoba Government applied to the Central Administration for the extension of the boundaries of the Province northward to Hudson's Bay. This application was made with a view to bringing the proposed railway under Provincial authority, but the scheme was met by considerable opposition and the extension asked was not granted. On the other hand, the Dominion Government took the question of the proposed route into consideration, and determined to do everything possible to encourage it.

Indeed the Federal Administration was forced into action by the threatening attitude of Manitoba. True, their hands were already more than full with a practically bankrupt railway company; and not only so, but, as it would seem, any action leading to the immediate discovery of the practicability of the proposed Hudson's Bay route might have a tendency to impair the already doubtful credit of the Canadian Pacific, and in that way embarrass the country generally, which stood committed and re-committed to the construction of the Pacific railway. Nevertheless, the people of Manitoba would not be appeased short of prompt and decisive action, and made a strong effort through their Provincial Government to secure such Federal legislation as would bring the matter within their own control. Hence Parliament voted the funds, and an Expedition was fitted out to enquire into the navigability of the waters of Hudson's Bay and Strait.

I do not know how much, if any, faith the Federal Administration had in the possibility of establishing a commercial highway over the waters of Hudson's Bay and Strait as a transportation line for the carrying trade of the Canadian North-West; but, supposing they had none, they were all the same justified in yielding to the importunities of Manitoba, to the extent of investigating the question. In the North-West it was quite different; there the people, without a full knowledge of the character of the ice, which might or might not wholly destroy the navigation of the Strait nine months in the year, determined in their own minds that the Maker of Hudson's Bay had created that vast inter-ocean and placed it in the centre of the northern portion of the continent for purposes of commercial intercourse between them and the countries of northern Europe, and all ice arguments melted before their sanguine faith. The trend of the mighty streams, including the Red and Saskatchewan systems, was toward Hudson's Bay, and the bent of the people followed the rivers. They remembered that when the Northern Pacific promoters launched that enterprise they were ridiculed and laughed at by the Union and Central Pacific people and the Union and Central Pacific people's friends; they remembered also that when this ridicule and this laughter died away

under a realized certainty of Northern Pacific success, and when the promoters of the Canadian Pacific launched that enterprise, they were in turn ridiculed and laughed at by the Northern Pacific people and the Northern Pacific people's friends; and now, as that ridicule and that laughter are dying away under a realizing certainty of the Canadian Pacific success, and as the people of Manitoba and British Columbia are trying to launch the still more northern Canadian Pacific as the best route of them all, it has come to be the turn of the Canadian Pacific people and the Canadian Pacific people's friends to ridicule and laugh; and so the world moves on, and moves northward.

The people of Manitoba had figured out the distances, and saw plainly that, should the waters of Hudson's Bay and Strait prove to be navigable for a sufficient length of time, the farmers would be able to reach Liverpool with their products by that route with a saving of about one thousand miles of railway traffic, or some thirty cents a bushel on their wheat. The establishment of such a route would therefore be an incalculable boon to the North-West, would mark the beginning of an era in Canada, and would guarantee the development of a vast British Empire north-west of the great lakes that might one day become the Greater Britain.

CHAPTER II.

The Hudson's Bay Expedition.

THE QUESTION OF THE HUDSON'S BAY ROUTE IN THE HOUSE OF COMMONS—THE SELECT COMMITTEE—THE EVIDENCE—DEPARTURE OF THE EXPEDITION.

Our work is a step in progress
Of the onward march of man;
We open the gates of another road
To the wheels of a mighty van.

THE question of the Hudson's Bay route was removed from the recklessness of a misguided agitation in Manitoba to the House of Commons of Canada where, on the eleventh of February, 1884, Mr. Joseph Royal, M.P., of St. Boniface, moved: "That a select committee, composed of Messieurs Abbott, Brecken, Casey, Dawson, Desjardins, Foster, Macmaster, Paint, Rispel, Ross, Royal, Scott, Watson, White (Cardwell), and Woodworth, be appointed to take into consideration the question of the navigation of Hudson's Bay, with power to send for persons, papers and records."

Mr. Royal supported his motion by an able address, in which he threw considerable light upon the subject of the navigation of our northern waters, and pointed out the great advantages the route, if found navigable, would be to the people of Manitoba. He was followed by the Hon. Edward Blake and the Right Hon. Sir John A. Macdonald, both of whom supported the motion, and evinced a desire that steps should be taken as soon as possible to increase our knowledge of the navigation of Hudson Strait. The motion was adopted, and the committee at once commenced its labours, holding its first session on the 22nd of February, at which Dr. Robert Bell, Senior Assistant Director of the Geological Survey of Canada, was examined at length. He had, in the course of his professional duties, visited the immediate shores of Hudson's Bay, or the

country surrounding it, each of the six years from 1875 to 1881, both inclusive, and was therefore in a position to give much valuable information to the committee. Besides, he had passed through Hudson Strait, and had been to considerable trouble in collecting information from others concerning the navigability of those waters.

Having travelled much over the country, he gave it as his opinion, based on an extensive knowledge of engineering, that there were no great obstacles in the way of the construction of a railway from Winnipeg to Hudson's Bay. He further stated that the Bay and Strait were open long enough each year to be utilized for ordinary commerce, or to the extent of four and a-half months, and possibly longer. His own language was: "We know them both to be open for four and a-half months at least; say, from the middle, and certainly from the end, of June until the middle of November." The Doctor gave a full account of the resources of the Bay and Strait and surrounding country, all of which was exceedingly favourable to their value.

Staff-Commander J. G. Boulton, R.N., was examined on the 26th of February. He had been to Ungava Bay, but his personal knowledge of the Bay and Strait was very limited. "What I would wish to do," he said, "would be to offer a few suggestions as to what I consider the best way to acquire further information, and to establish the duration of the navigable season, which seems to me to be the great object. I should first propose that the Dominion Government would hire a steamer—one of the St. John's, Newfoundland, steamers, for instance, which are always at hand; and her captain should be one of the St. John's sealing captains, well experienced in ice navigation—if possible, the captain of the same vessel—and he should have the selection of his crew; and if you want a pilot, the Dominion Government could apply to the Hudson's Bay Company for a man who has been in their service. Perhaps one of the mates of the two vessels, Ocean Nymph and Prince of Wales, which go to York Factory now, might be lent, if there is no retired man who would be suitable and available for the work. The British Admiralty should also be applied to for a sur-

veyor. In addition to the gentlemen I have enumerated at present, namely, the surveyor, the captain, the pilot, and the crew, I think there should be six or seven small parties taken out in the vessel, to be landed at points in the Strait hereinafter mentioned, to be left all winter and picked up in the following spring. These parties should consist of a Canadian gentleman in charge, with some slight knowledge of how to make a local survey and the use of instruments, with a couple of men, one of whom should be an English-speaking Eskimo, who, I think, could be picked up at York Factory. That would make about twenty altogether in all the parties. The Admiralty surveyor would have charge of the Expedition, and would select the localities for the landing parties, and direct the course of the vessel through the Strait, subject to the information of the sailing-master in all matters relating to ice, because the gentleman from the Admiralty might not be acquainted with the ice, and, if a surveyor, the chances are he is not. Then there comes the question of coal for the steamer. The distance from St. John's, Newfoundland, to York Factory and back, is about 4,000 miles, and the vessel would probably burn about 450 tons of coal; therefore it would be necessary to have a vessel large enough to carry that quantity of coal, to take her there and back. I think the vessel should leave St. John's on the 5th of July, arriving at the Strait about the 12th of July. She should then proceed, under the guidance of the pilot, to York Factory; the surveyor making a running survey and taking a line of soundings across Hudson's Bay. The vessel might visit Churchill, which probably would be a most suitable place for a terminus—the west harbour of Churchill—as well as York Factory.

"Then, I think, the officer in charge should endeavour to procure half-a-dozen English-speaking Eskimos from the Hudson's Bay post at York Factory, one of whom should be landed with each party to act as interpreter, in the event of visits from northern Eskimos during their stay on shore. The vessel should then return toward the Strait. Party No. 1 should be landed on Mansfield Island, with material for building a hut, a year's provisions, a small boat, and a few instruments, as may be determined upon hereafter. The vessel should then proceed, and similar parties

be landed—one at Cape Wolstenholme, and another at Nottingham Island. The fourth party should be left either on the highest of the Upper Savage Island group or on North Bluff; that is, in the vicinity of North Bay. Another party should be landed in the vicinity of Cape Hope on the mainland side, just opposite to the position mentioned on North Bay. A couple of parties should also be left, one on Resolution Island, and the other on the northernmost of the Button Islands, so as, between them, to command one of the most important positions in the Strait. With reference to the return of the vessel to St. John's, running surveys should be made according as the amount of open water and the quantity of coal remaining would permit, and this should be continued until the vessel finally returns to St. John's, leaving the parties in the Strait. The following summer a similar vessel should be hired again and engaged to pick up the parties landed.

"I will now speak as to the duties of the parties landed. The principal object of these stationery parties is that, from their commanding elevation, assisted by a good telescope, the daily condition of the ice, as far as they could see, particularly at the close and opening of navigation, the character of the ice, and the drift or set of the ice, and so on, could be ascertained; also the nature of the currents, their velocity, etc. In addition to this a record of meteorological phenomena should be kept, the instructions in regard to which might be obtained from one of the Dominion observatories before starting."

On the same day the examination of Dr. Bell was concluded, when, in answer to the question:—

"Supposing that the Canadian Government resolved to send a steamer to Hudson's Bay for the purpose of increasing our knowledge of that region, what matters would you consider should be attended to by the party in charge?" he said:—

"Well, there are so many things that could be done which would be of great value that it is hard to say what would be the most important. I will begin by speaking of the approximate surveys which might be made, and which would certainly greatly improve the charts now in existence and solve some of the problems already

referred to by members of the committee, such as the supposed channel between Bay of Hope's Advance and Mosquito Bay. A track-survey might be made of both sides of Hudson Strait; the astronomical positions of the more prominent headlands, which might have reference to the navigation of the Bay, might be obtained; the positions of the more important groups of islands should be determined; soundings might be taken everywhere; the rise and fall of the tide, and the time of high water at full and change, should be ascertained, all of which would benefit navigation very much. The positions and nature of harbours of refuge should also be determined, and the most desirable points at which to place beacons or lighthouses. So much for geographical data. Then, as to the question of the fisheries: it is extremely important to ascertain whether or not cod and other valuable food fishes exist. Meteorological observations of all sorts and magnetic observations might be taken, which would be of very great interest indeed. The magnetic pole lies at no very great distance northward of Hudson's Bay, and observations in regard to the dip and variation of the compass and other magnetic phenomena would be both valuable and useful. Observations in regard to the *aurora borealis*, which is a conspicuous phenomenon in this region, might also prove highly interesting. But, to my way of thinking, the geological part would be one of the most important. A vessel cruising around Hudson's Bay would afford such splendid opportunities of visiting widely-separated localities, as well as the islands otherwise inaccessible, that we might accomplish as much in one year as would be possible in many years in our usual way. Many of the problems in regard to the rock formations and the economic minerals of this extensive region could thus be easily solved. It would also give us an opportunity of bringing home large geological and mineralogical collections, which would be impossible where specimens have to be carried on men's backs or in canoes; but if we had a ship alongside we could transfer them to it at once. I do not think that an hour would pass that something could not be recorded which would afterwards turn out to be valuable. It appears to be a perfect mine of information, waiting to be explored."

I have quoted Captain Boulton's and Dr. Bell's suggestions in full, as they were pretty generally adopted; or, perhaps, I should say, as the plan adopted and their suggestions generally agree.

A number of other witnesses were examined, including Malcolm McLeod, Esq., Barrister, of Aylmer, P.Q.; George S. Pierce, Esq., of Ottawa; Honourable W. J. Christie, of Brockville; C. J. Pusey, Esq., of New York City; Richard Harper, Esq., of Toronto; Walter Haydon, M.D., of Weston, Ont.; William Smith, Esq., Deputy Minister of Marine; Robert Crawford, Esq., of Indian Head, N.W.T., and Walter Dickson, Esq., of Lake Francis, Man. The evidence given by the Deputy Minister of Marine was that obtained from the log-books of the Hudson's Bay Company's ships from 1870 to 1883, inclusive. It was quite voluminous, but the following is a very condensed

SUMMARY :—

No. of Log.	Name of Ship.	Year.	Entered.	Passed Through.	Condition of the Ice.
1	Prince Rupert	1870	July 30 ..	Aug. 16 ..	Some heavy ice.
2	"	1871	" 19 ..	July 29 ..	No detention.
3	"	1872	" 29 ..	Aug. 8 ..	"
4	"	1873	" 29 ..	" 7 ..	"
5	Ocean Nymph	1874	Aug. 2 ..	" 10 ..	Heavy ice two days.
6	"	1875	" 6 ..	" 28 ..	Heavy ice.
7	Lady Head.....	1875	" 7 ..	" 26 ..	"
8	Ocean Nymph	1876	" 19 ..	" 23 ..	No ice.
9	Prince of Wales.....	1876	" 6 ..	" 17 ..	No detention.
10	Ocean Nymph	1877	" 10 ..	" 15 ..	"
11	Prince of Wales.....	1877	" 4 ..	" 13 ..	"
12	Ocean Nymph	1878	July 31 ..	" 14 ..	"
13	Prince of Wales.....	1878	" 27 ..	" 5 ..	No ice.
14	Ocean Nymph	1879	" 25 ..	" 5 ..	"
15	Prince of Wales.....	1879	" 22 ..	July 28 ..	"
16	"	1881	" 28 ..	Aug. 3 ..	Not detained.
17	"	1882	" 26 ..	" ..	Heavy ice.
18	"	1883	" 22 ..	" 23 ..	Full of heavy ice.

Mr. M. P. McElhinney, of the Department of Marine and Fisheries, furnished the committee, through Mr. Smith, the following remarks, based upon his observations of the log-books furnished the Government by the Hudson's Bay Company:—

"The ice during the years 1870, 1875 and 1883 appears to have been exceptionally heavy, the ships having taken seventeen, twenty-two and thirty-two days, respectively, to get through the Strait. The passages made during the seasons of 1871, 1872, 1873, 1874, 1876, 1877, 1878, 1879 and 1881, the Strait was passed without any detention from ice, excepting from cautionary measures during foggy weather. Ice was seen at times, and intervals of fog, requiring great care in sailing. A steamer could have been kept moving to better advantage than a sailing vessel.

"The earliest date of entering the Strait, given in these logs, was July 19th, 1871, the ship taking ten days to get through. The earliest date of passing through was July 28th, 1879, taking six days to get through.

"The shortest time through was made in 1876, the ship entering on August 19th, and getting through August 23rd, being in the Strait only four days. The longest time given was in 1883, the ship entering on the 22nd of July and not getting through until August 23rd. The detention here may have been caused by the ship getting jammed in the pack-ice and being obliged to drift with it.

"There is no record in any of these logs as to the date of the closing of the Strait. The latest given of passing out was October 27th, 1883, having sailed from Moose Factory October 7th. No loose ice was seen in the Bay or Strait; only a few icebergs in the Strait.

"I am of the opinion that steamers fitted for the work could make the passage with very little detention from ice as early as August 10th, entering after the 1st, and keeping along the north shore, avoiding the pack-ice.

"Three months' navigation is all that could be depended on, extending from the 1st of August to the 1st of November."

It will be seen from the evidence submitted to the committee,

that there was a difference of opinion as to the duration of navigation in Hudson Strait. Mr. McElhinney, with the log-books of the Hudson's Bay Company's ships, covering thirteen years from 1870, to guide him, said that "three months' navigation is all" that can be counted upon; while Dr. Bell, from personal experience, to a certain extent, felt sure that four and a-half months, at least, could be relied on.

Such was the tenor of the evidence submitted to the committee, viz.: that by Dr. Bell, decidedly favourable; that from Hudson's Bay Company, decidedly unfavourable. The other witnesses examined threw but little additional light upon the subject.

The committee made a lengthy report to the House, in which they endorsed the project of sending an Expedition to Hudson's Bay, and concluded in the following language :—

"To declare that it will be time enough to pay attention to the question of navigating Hudson's Bay when the railways become insufficient to move the traffic of the North-West, appears to us to be an erroneous view to take of the matter. What we have to do is to promote production by offering to it new and more favourable conditions.

"There also results, from the evidence gathered by your committee, a necessity for the Government to examine a great number of questions intimately connected with the navigation of Hudson's Bay and Strait.

"Without the intervention of the State, this navigation will remain what it is at the present moment: uncertain, of short duration, without any attraction for capitalists. In this direction, several have set forth their opinions as to the nature of the examinations which the Government might have made, and as to the organization and character of a proposed surveying and exploring Expedition.

"They almost all agree in stating that these observations should cover a period of at least three years, and should be conducted by means of observatories, erected on the shores of the Strait, as well as on certain places on the coasts of Hudson's Bay."

While this enquiry was in progress at the capital, a select com-

mittee of the Manitoba Legislature was taking evidence at Winnipeg on the same question, and by that means much valuable information was also obtained, extending our knowledge of the subject.

Parliament voted $100,000 with which to fit out an Expedition, and arrangements were made for chartering one of the steam vessels of the Newfoundland sealing fleet. It was decided that the Expedition should be partly exploratory, partly observatory, and that a number of observing stations should be established on the shores of the Bay and Strait, so that magnetic and meteorological observations could be taken throughout the year, and especially in the winter season.

Lieut. A. R. Gordon, R.N., Assistant Superintendent of the Meteorological Service of Canada, was appointed to the command. The selection in many respects was a good one. He had had ten years' experience of the British Navy, and five in the work of "weather guaging;" so that by his training he was necessarily well qualified to command so important an undertaking. There were many applications for positions in connection with the Expedition, and from these the following staff was selected:—

Commander,

LIEUT. ANDREW R. GORDON, R.N., OF TORONTO.

Geologist and Medical Officer,

ROBERT BELL, M.D., LL.D., F.G.S., OF OTTAWA.

Observers,

R. F. Stupart,	Chas. R. Tuttle,
W. A. Ashe,	H. W. Burwell,
A. Laperriere,	C. V. De Boucherville,
Wm. Skynner,	H. T. Bennett.

W. W. Fox, Photographer.

Station Men,

R. Currie,	John W. Chaplin,
J. E. Campbell,	H. M. Rainsford,
M. W. Keating,	W. H. Jordan,
A. D. Inglis,	F. Drysdale,
W. S. Quigly,	Adam Maher,

W. F. Esdaile.

Carpenters,

William Yeodon,
Angus McNeill,
Robert Youill.

The s.s. Neptune, one of the Newfoundland sealing fleet, owned by Messrs. Job Bros., was chartered for the Expedition. She is a very strongly-built vessel, barque-rigged, of Dundee build, 109½ feet long, 29.8 feet beam, 18.4 feet in depth of hold, and engines of 110 nominal horse-power. She is 684 tons gross, 466 nett, and registered in St. John's, N.F., at 430 tons, but has often carried over 800 tons, and had on board 833 tons of freight when leaving Halifax on the voyage to Hudson's Bay. She was built in 1873. Besides her many sealing voyages, the Neptune had seen something of arctic navigation, having been employed, commanded by Captain William Sopp, in 1882, in the Greely Relief Expedition, on which occasion she reached to within thirty miles of the 80th degree of north latitude.

She arrived in Halifax on Tuesday, July 14th, in command of Capt. Sopp, and reported ready for duty to Lieut. Gordon, who was then in that city. The Neptune had been chartered by the Canadian Government for three months from July 15th, for the sum of $16,500, with the proviso that if the work of the Expedition could not be completed, or the vessel returned to St. John's, N.F., from any cause, until November 1st, the amount was to be $17,500. In the event of her being detained out after that, the Government was to purchase her outright for the sum of £15,000 sterling, which sum was to be inclusive of her charter. Aside from her charter price of $16,500, the Neptune received $5 a week for each of the officers, and $4 a week for each of the carpenters and station-men of the Expedition, as board money during the voyage. The Neptune was officered and manned as follows:—

Master,

Capt. William Sopp, of St. John's, N.F.

Mate,

Capt. John J. Barry, of Harbor Grace, N.F.

Second Mate,
Alfred King, of St. John's, N.F.

Stewards,
John McGloudry, Chief; Solomon King, Assistant.

Enginemen,
William Ruxton, Chief; R. H. Bridge, Second.

Cooks,
Robert Allison, John Hanrahan;

and one oiler, three firemen, one blacksmith, two trimmers, and twelve able-bodied seamen.

The time was occupied from the 15th to the 22nd of July in filling the Neptune with coals, lumber and supplies for the observing stations, and in completing arrangements for the trip. The Hon. A. W. McLelan, Minister of Marine and Fisheries, and Mr. William Smith, Deputy Minister of Marine, arrived in Halifax on Sunday, the 20th; and, by Monday following, all the members of the Expedition were on hand ready for the departure. At three o'clock on Tuesday, all being in readiness, the Neptune, with all on board, left the marine wharf, when the Minister, Deputy Minister, and a number of the citizens of Halifax, gathered to bid us adieu, and wish God-speed to the Expedition.

As we backed away from the marine wharf, those on the dock gave hearty cheers in honour of the event. These were responded to heartily by those on board, after which the latter joined in singing "Auld Lang Syne." On leaving her moorings, the ship was taken up to Bedford Basin, and swung, in order to ascertain the error of the compass. We then steamed out of the harbour, dipping flags with the ensign on the buildings of the marine dock, and with that of a German man-of-war at anchor near the Dartmouth shore. It was six o'clock in the evening before we were fully outside, into the swells of the Atlantic. A stiff breeze, with showers of rain, welcomed us to the ocean.

CHAPTER III.

The Labrador.

BLANC SABLON—THE ICEBERGS—THE PEOPLE AND PURSUITS OF THE LABRADOR—THE NEPTUNE IN A WIND-STORM.

> On a bold, and bleak, and sterile shore,
> Where the polar winds through the icebergs roar,
> And the wretched poor of the Labrador,
> Hungry and cold, and in want evermore,
> Drudge out a fisherman's life.

ON the 22nd of July, the Hudson's Bay Expedition sailed from Halifax, and was amid the icebergs of the Straits of Belle Isle on the 26th, having spent an hour of that morning in the wild-looking little harbour of Blanc Sablon. Blanc Sablon was interesting to us, as marking the boundary line between the Dominion proper and the Labrador. The latter, of course, is a dependency of Newfoundland. It was blowing a gale when we visited it; but subsequently I learned that a gale is the normal state of the Labrador weather. The bay, or harbour, is apparently well protected by George and Greenly islands, and by the coast of the mainland, which is high and so shaped as to form, with the islands, a partial land-lock. But you must not be guided by appearances on the Labrador. Shelter or no shelter, the wind was howling in the Neptune's rigging, and the waves were breaking into white-caps all over the basin. I could not tell how it got over the hills and headlands to us, but it got there all the same. I do not believe that there is a square foot of the whole coast above ground where one can escape a furious wind. And so it blew on that Saturday morning.

There are three fishing stations at Blanc Sablon. The Jersey station on Greenly Island, and the rooms belonging to Job, Brothers

and Company, one on the mainland and one on George's Island, and the lighthouse on Greenly, constitute all there is to be seen, except the stunted vegetation which spreads over the somewhat level sandstone formation of the coast. These were not more attractive than the immense icebergs which studded the Straits like small white islands.

Capt. Blandford, the agent of the Job Brothers' station, at once recognized the Neptune, which he commanded in his last sealing voyage, taking the almost unprecedented catch of 42,000 seals, and pushed out from the shore in a fishing-boat, and, assisted by three fishermen, pulled toward the vessel. They had a struggle. At one minute the little craft stood perpendicular, bow upwards; at the next her position was reversed; every now and then the waves broke completely over the men, but they struggled on; there were moments when we entertained serious fears for their safety, but they came through, and were soon on board, greeting their old friends of the Neptune's crew warmly.

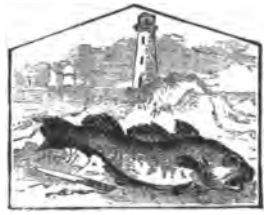
THE LABRADOR GOAT.

I cannot pass this strange-looking country called the Labrador, which is geographically, and ought to be politically, a part of the Dominion, but which, through some mismanagement or mistake of inter-colonial affairs, has wrongfully drifted under the wing of Newfoundland, without making a few observations on some of its more striking features. It extends from Blanc Sablon to Cape Chidley, and embraces the country eastward to the height of land. Along the Straits of Belle Isle the country is quite level, owing to its sandstone formation; but, in the interior, and to the north of the

Straits, the ancient Laurentian gneiss hills rise in rugged declivities two, three, and even four thousand feet above the level of the sea.

The chief products are the cod, halibut, herring, salmon, trout, seal, and fur-bearing animals. The coast is severely inhospitable. Agriculture is not attempted, and only a limited extent of gardening in turnips, lettuce, beets, potatoes, etc., is found possible. Domestic animals, except dogs and wretched-looking goats, are not kept. The dogs—miserable, snarling, yelping, haggard, wolf-like brutes—are exceedingly valuable. They are to the settlers in winter time all that horses are to the people of Canada, hauling their sledges for hundreds of miles over rocks, ice, and mountains from station to station, and the logs, from which boards are whipped, from the interior down to the settlements on the coast.

The population of the Labrador consists of fishermen, principally Newfoundlanders, a few French Canadians, Moravian Missionaries, Montaignais Indians and Eskimos, and, of course, Indian and Eskimo half-breeds. The number of inhabitants varies according to the season. During the fishing months there are generally scattered along the coast, in schooners, on the islands, and at the stations, about twenty thousand souls, while in winter this number dwindles down to less than five thousand. All yield a willing obedience to the laws of Newfoundland, but, fortunately, they are not over-governed. Once or sometimes twice during the year, a judge, or marine justice, is sent out on ship-board. He makes a judicial tour, so to speak, of the principal settlements, administering such law and justice as the necessities of the people require. There are no custom-houses on the coast, but the revenue-cutter appears periodically.



THE COD—LABRADOR.

At some of the stations along the coast where a wretched white population, employed only during the fishing season, remains during the winter, there is much suffering and want. Sometimes the people actually, or nearly, starve, especially when the fishery has proved a failure. They insist upon establishing themselves on the

bleakest portions of the coast, merely because, by so doing, they will be close to the fishing grounds.

The climate is severe, but healthy; and doctors, where such exist, have little to do except to look after the poor half-starved fishermen and their families, many of whom suffer from exposure, poor food, and a disregard of the simplest rules of health. The poor creatures have no ideas beyond the cod-fish. They live and die, ground under the relentless heel of debt, always from hand to mouth, and without a shilling to call their own.

The fishing stations are almost too numerous to mention. There are Hudson's Bay posts at Cartwright Harbour, at Rigoulette, at Hamilton's Inlet, at Davis Inlet, and at Nachvak; and Moravian Mission stations at Hopedale, Zoar, Nain, Okkak, Hebron and Ramah.

There are not more than a hundred Indian families altogether, but as you go northward the Eskimos are met with in considerable numbers. All the natives seem to lead a happy life, and in many respects are better off than the white people. They are expert in hunting and trapping, and thoroughly acquainted with the country. As a rule they are sober, honest, and industrious; but the Newfoundlanders give them a pretty bad character. The Indians, and further to the north the Eskimos, frequent the interior, hunting and trapping furs. They bring the catch to the coast and exchange it at the stations for pork, flour, tea, molasses, powder, shot, tobacco, etc. They are plentifully supplied with food from the flesh of the deer, seal and small game which abounds on the coast and in the interior.

There is nothing connected with the natural appearance of the country or condition of the people to impress one favourably. The few houses scattered here and there, occupied by the whites, are mostly neat and clean, and wear the appearance of extreme isolation. There is but little fortune-making, now-a-days, on the Labrador. The fishing vocation is one attended with great hardships, and much exposure to the cold, and not infrequently to considerable danger; and, withal, the returns reaped scarcely repay the pains and labour expended.

Icebergs may be met with on the Labrador coast, in great numbers, almost any day, except in the winter season. At times we counted as many as twenty or thirty from the Neptune's quarter-deck. They were of various sizes, and of many shapes, and, reflecting the strong light of the sun, presented a most picturesque scene. An iceberg looks like a small mountain of gypsum, or, if you please, a well formed elevation of white marble; or, better still, it looks like just what it is, a huge pile of solid ice.

But one steaming along the Labrador will not only be entertained by icebergs, and the strange wild character of the bold, rocky coast, but by the wind-storms as well. If you have never been in a Labrador wind-storm, then you have never been there at all. It is always blowing furiously. Clearing Belle Isle, we steamed out into the North Atlantic. The wind—we knew it would—freshened into a strong gale, and the western sky became a picture of wildness. Clouds were being driven rapidly with the upper currents, and, as they parted or passed over the face of the setting sun, and mingled their dark shadows with his dazzling rays, the deep shades and bright colours with which the horizon was painted rendered the scene intensely thrilling. The Neptune was rapidly carrying us from the sight of land, upon which we feasted our vision all day, and steaming out upon the increasing swells of the angry sea. It was plain to the captain, and indeed to all on board, that the night would be exceedingly rough; but that was not all, the furious gale was directly ahead, so that but little progress could be made.

Lieutenant Gordon and Captain Sopp held a hurried conversation in the chart house on the advisability of putting into a harbour until the wind should subside. I think the captain was in favour of adopting such a precaution, not so much to avoid danger, as none was apprehended, but to save coals, as steaming against the strong wind could avail but little. However, Lieutenant Gordon, using his usual phrase, thought she would "slip along," and urged that course, which was adopted.

The wind increased in strength. The seas rolled higher and higher, and the Neptune began to roll and pitch. Most of our men were driven below, and, turning in, sea-sick and disheartened, did

not much concern themselves with the prospect of the night. They were too much occupied with their own wretched condition. Meanwhile the conduct of the vessel became worse, and, now and then, great seas were breaking with a smashing sound over the starboard bow. The waves ran very high, very uneven, and furious withal; but our ship fought them bravely, not, however, without much groaning, and creaking and trembling. At one moment she was thrown violently on her side with a heavy sea pouring and dashing across her decks. She received the blow quietly, then shook, as with anger, and, mounting the swell, rode in majesty out of the trough upon the long waves. But these triumphs were ever destined to be of momentary duration; again and again was she pelted, and dashed and thrown by the sea, and again and again she came forth, trembling and shaking and groaning, but in the power of a conqueror.

But, while the Neptune was fighting and conquering the waves, she was utterly regardless of her passengers and the movable objects on board. Everything not stationery was sliding and slamming and knocking about the cabin, pantry and state-room floors in a terrific pandemonium. Sea-sick expeditionists were forced to brace themselves in their berths in order not to be thrown out upon the floor. Sick cans were tossed from their places and upset, and thrown into and out of the beds. The dishes in the pantry seemed to be in a promiscuous heap, dashing about the floor and against the walls. In short, every movable thing was in aggravated motion, beating against the floors, walls, and striking against each other. The wind was terrific, the waves relentless, the night wretched, the men disheartened, and the seamen angry; but on, or rather up and down, and sideways, we rode, pitching and rolling, and rising and falling, shaking and trembling and groaning, while without, the noise of the elements added a doleful, surging, moaning, wailing sound. We were simply rolled and pitched about all night, intensely sick, intensely blue, and intensely out of patience.

CHAPTER IV.

The Moravian Missions.

FORD'S HARBOUR—THE LONE FISHERWOMAN—RELIGION AND BUSINESS—THE CHRISTIANIZED ESKIMO—A CURIOUS BURIAL-GROUND—THE MORAVIAN CHURCH—THE VILLAGE OF NAIN.

> Where the sermon in Eskimo language is made
> For the good of his soul and the sake of his trade.

THE Expedition made its way from the outer Labrador coast, in, through more than a hundred islands of solid, barren rocks, to the Moravian capital of Nain. On the voyage in we cast anchor, and spent the night of July 29th, in Ford's Harbour, at the east end of Paul's Island; but if you were there you could not see any difference between Paul's Island and any of the other many mounds of naked rocks which crop out of the water here and there in any direction. It was about four o'clock in the afternoon when the anchor was let go. It was, in some respects, a delightful place. The boats were lowered and a large party went on shore. Passing round the bluffs—I mean one set of bluffs or cliffs—there are bluffs and cliffs very nearly everywhere on the Labrador—we visited the house and home of the Fords, after whom the harbour is called. Old Father Ford is dead and gone, but his good widow, at a ripe old age, is still living. We called her the "lone fisherwoman," notwithstanding she has living with her a married son, two marriageable daughters, and one or two hired fishermen. The Fords are Eskimo quarter-breeds, very industrious and very hospitable.

Lieutenant Gordon's business with Mr. Ford was to secure his services to pilot us next morning into Nain, which he did, agreeing

to pay him twelve dollars therefor. He was to be on board the Neptune the next morning at three o'clock, and he kept his appointment to the minute.

We had scarcely reached the harbour, before the Nain Mission buildings and Eskimo huts, on Wednesday, when we saw approaching boats and kayaks containing the missionaries and natives of the Moravian capital. They were all welcomed on board. The Eskimos were much delighted with the ship, but the Moravians met with a sore disappointment. The Chief Superintendent came with his mail-bag, fully believing the Neptune was one of their own vessels, and highly confident of receiving letters and papers from the fatherland. It was really distressing to see his countenance drop on being informed who and what we were. This intelligence did not, however, disturb the delighted curiosity of the Eskimos. They were much amused with all they saw, and examined the steamer from one end to the other, making curious ejaculations at the wonderful engines, fire-arms, etc. I undertook to interview them, but their stock of English was too small, and the attempt was an utter failure. I learned, however, that they had all been Christianized, at least so far as to receive Christian names. Instead of the Eskimo Pudolik, Komakin or Kikastouk, they boasted such biblical cognomens as David, Jonathan, Caleb, Nicodemus and Benjamin. These civilized and Christianized natives were not unlike the pure savage specimens that we met with in the Straits afterwards, except in this small matter of names.

Superintendent Bourguin extended a polite invitation to our party to visit his village. This was heartily accepted. The boats were lowered, and, in half an hour, more than a dozen expeditionists were investigating the curious town. We were first conducted to the great reception-room of the mission-house, and treated to lager beer. The German will have his lager wherever he goes, and we all voted the Moravian German much the better for it. Owing to a regulation of the Government, liquor of all kinds—lime-juice only excepted—was excluded, except in one or two very isolated cases of a clandestine character. These had not gone far enough, for those who strictly obeyed the official order begged from those who

partly disobeyed it; and, long before the day of which I am writing. the last of the smuggled spirits had been improvidently imbibed.

We drank the lager with the relish of people who had taken a drink before, and knew how to appreciate a good thing. It tasted very much like Canadian lager. I noticed that the offer of a second glass round was objected to, by those most entitled to speak on our behalf, only to the extent of ordinary politeness. The brethren—that is what they call themselves—found it an easy matter to force it upon us. This lager they manufacture themselves from imported malt.

When we had been formally introduced all round, our party dispersed, each man looking up something of interest after his own tastes. We all had more or less important duties. Lieut. Gordon, with his magnetometer, set about the difficult task of ascertaining the variation of the compass; Mr. Stupart, with his dip-circle, determined the dip of the magnetic needle; Mr. Burwell ascertained the height of the great rock hills forming the background to Nain; Dr. Bell went forth in quest of geological and botanical specimens; Messrs. Fox and Ashe busied themselves taking photographs of the Eskimos and the towering gneiss cliffs that overhung the valley on all sides; the ship's crew entered upon the less attractive work of storing the vessel with fresh water, while Capt. Sopp enjoyed himself in a leisurely way becoming the dignity of his position.

I attached myself to the Rev. Hermann Jannasch, one of the missionaries, because "Brother" Jannasch could speak the best English. The staff at the Mission consists of Rev. T. Bourguin, Superintendent, and Brothers Jannasch, Weiz and Wirth. These all do missionary duty in their turn, one acting as store-keeper each year. These reverend gentlemen are comfortably housed, with their families, in a large two-storey and a-half building, substantially built, and they seem to enjoy all the luxuries possible to the sterile climate in which they live. They have plenty of well-trained, obedient Eskimo servants. Their store-houses, of which they have several large ones, are well filled with supplies suitable to their own wants and to the profitable trade which they carry on with the natives in connection with their Christian duties. They have also quite extensive gardens, a neat, well-kept grave-yard, a

commodious church, and all other characteristics necessary to comparative happiness.

There is a wide difference between the condition of these trader-evangelists and their slave subjects, the Christianized Eskimos. The latter live in rude huts made of flattened poles, with sort of turf or thatched roofs, without floors, except of the earth, without furniture, and in the midst of filth and dirt. Nothwithstanding, I would be doing an injustice not to say that their condition is much better than that of their brother natives who have not been subjected to the influences of Christianity.

The very best of feeling exists between them and their masters, the missionaries. This is due to the honourable dealings of the latter, and equally to the good nature of the Eskimos. There are about two hundred natives residing at Nain; and, to the great credit of the missionaries be it said, every one of them, of sufficient age, can read and write in their own language. There are two reasons why they do not learn to speak English: one is, that the Germans speak but little or no English themselves, the other, that they are of opinion that to learn any language but their own is degrading; and, despite all the Moravians have done, they have not been able to drive this out of their stubborn heads. There are about forty-five Eskimo huts, besides the frame buildings belonging to the missionaries. These are clustered together a short distance from the mission, or indeed close to it, on a little plateau about thirty-five feet above the level of the harbour and at the foot of a range of hills over one thousand feet high.

I have said that I attached myself to Brother Jannasch. This I did wholly from a selfish motive—that of pumping him, so to speak, concerning Nain, and the Moravian stations generally. With this affable gentleman as my guide and informant I first visited the burial-ground. It is an enclosure of about an acre, well protected by a neat picket fence, about three hundred yards from the cluster of dwellings, accessible through gates, from which, leading at right angles all over the yard, are pretty gravelled walks. Upon entering one is struck with the cleanliness of the place. Each grave is marked by a small wooden tablet, about 8 × 14 inches in size, two

inches thick, and fastened to the ground, one over each grave. These are numbered from one upwards, and contain also the Christian name of the deceased in blackened letters engraved or sunken in the tablet, together with the dates of the birth and death of the person commemorated. This burial-ground has been in use one hundred and twelve years, and contains over nine hundred graves. It is very level, well kept, and, I should say, a credit to Nain.

I read on one tablet, the oldest of them all:—

No. 1.
BEATA BRAZEN.
1772.

It was that of a child of one of the earlier missionaries, so that you will see the Germans and Eskimos use the same ground for their dead. There were nearly a thousand inscriptions, of which the following are samples:—

No. 321.	No. 555.	No. 548.
LEA,	NOA,	JONATHAN,
1849–1850.	1818–1864.	1822–1864.

From this attractive burying-ground we entered the not less attractive chapel, a long, narrow, low building, but neatly built. One end of it is used for a school-house, the other, and the larger, for a church. The school-room contains blackboards, with various Eskimo text-books and other apparatus suitable for imparting the rudiments of an Eskimo education. They make use of the German alphabet in all of these books, and have by great industry reduced the Eskimo language to writing, and brought it within grammatical rules practical to the natives. The Superintendent is now engaged on a new Eskimo grammar, which he intends to have printed in Germany this year.

You will be surprised when I tell you that the church contains an organ. It was brought out from Germany nearly half a century ago, and had been in use for a long time previous to that. Did I say an organ? Well, it is a melodeon, or rather a cross between a harpsichord and a melodeon. It is a peculiarly-shaped instrument,

something after the fashion of an old style, high cupboard. The pipes are of tin, in its natural colour; the bellows are operated by pulling out at one side a leather string and allowing it to recede; the keys are of bone; it contains six stops, and is cased in some sort of wood of dark colour, probably mahogany. Its tone is a combination of the organ, the harmonium, and nearly all other musical instruments you can think of, but is really very sweet. At least it sounded so to me in that far-off out-of-the-way and desolate village church.

Evidently the natives are very fond of music, and I was not long in discovering that the missionaries show a commendable enterprise in meeting their inclinations in this respect. Hence, the choir of the Moravian chapel at Nain will compare favourably with that of a modern church in Canada. I refer more particularly to its numerical and vocal strength. Besides the organist, who is always a pleasant-looking missionary's wife, and the twelve leading Eskimo singers, there are eight Eskimo violinists. With this combination the whole congregation joins in right good earnest; and my informant said: "The house is filled with music to its fullest capacity." I do not know what he meant by this expression, unless it was that an augmentation of the choir would raise the roof. The church will seat about two hundred, but as many as three hundred have crowded into it.

The Moravian festival season begins about the first of November and continues until Easter. During this period they have three services each Sunday, and nine during the six working days. So that if the Eskimos get small pay for their services in procuring furs and fish for the Moravians, they make up for it in the number of religious services to which the missionaries treat them.

They have large hymn-books, containing both hymns and tunes, printed in Eskimo. One of these includes most of the popular Sankey collection. So that the husky of Nain can sing, "Gates Ajar," "The Home Over There," "Bye-and-By," in his or her own tongue, with considerable ease, and sometimes with good effect.

The gardens are an attractive feature of Nain. They are all neatly enclosed by board or picket fences, approached through

pretty gates. They are detached, located here and there as places of suitable soil and shelter were found. The chief esculent grown —potatoes—looked well, but had to be covered, to protect the tops from the frost every night, with strips of canvas. They are planted in narrow beds, over which hoops are bent in such a way as to prevent the covering from coming in contact with the tops. Turnips and beets are grown plentifully with less trouble. So also are rhubarb and winter onions. The cabbages, and lettuce, and spinach were looking well, and the peas in the hot-beds were almost ready for the table. But the most beautiful phase of the gardens was a large variety of flowering plants. Of these the Moravians are passionately fond.

Nain is abundantly supplied with pure spring water, which is conducted from a flowing spring on an elevation about three hundred yards distant, to the Mission House, in wooden pipes.

Observing such fine buildings and such an extent of tidy board fences, I enquired where the lumber came from, and received a curious answer: "The logs," said Brother Jannasch, "are cut some five or six miles inland, where there is a plenty of moderate size, say from eight to ten inches in diameter, and are hauled to the town in the winter season by the dogs; here they are sawn into boards or dimension stuff, as required, by whip-saws by the men." This was the whole story, simple but astonishing.

You will have observed that the Moravians have a double mission on the Labrador. First, that of Christianizing the Eskimo; secondly, that of carrying on a good trade with their converts. If I have placed the second where the first ought to be, I know the Moravians will overlook the error, because they did their best to persuade me that the income or profits from the trade which they maintain with the natives does not more than pay one-half the expenses of maintaining the missions. Now I would not disbelieve a good, pious Moravian; they are about the most upright people in the world, and certainly on the Labrador; but I was forced to the conclusion that they were making a slight miscalculation. The Chief Superintendent of them all, Rev. Mr. Bourguin, was the very picture of a sharp trader. A thin, spare, cold, calculating, selfish-

looking man—he impressed me as one who would go ten times as far to procure a black fox skin as he would to convert a dirty, greasy husky. At the same time I think the method of these combination stations—a combination of religion and business—is a good one, well conducted by the Germans.

The Eskimos stand in the same relation to the Moravians that the natives do elsewhere to the Hudson's Bay Company, that of well-used slaves. They are wholly subject to the dictates of the whites, but the obedience is one greatly founded on respect.

There are but three seasons at Nain in the year: summer, fall and winter. Summer is warm and pleasant, including a part of April, all of May and June, and perhaps a little of July. Fall is windy and stormy and dirty and chilly, and runs on from the middle of July to the end of September, or it may be a few days into October. "Winter is cold, very cold, terribly cold; long, very long, terribly long; stormy, very stormy, terribly stormy." I give this description in the language of Brother Jannasch, and have no doubt of its correctness.

CHAPTER V.

The Wonders of Nachvak.

THE ETERNAL SNOW-CROWNED HILLS OF NACHVAK—A DESOLATE HUDSON'S BAY POST—GRAND NATURAL SCENERY—SKYNNER'S COVE VS. RUMFORD'S COVE.

> High on the eternal rocks of the north,
> Close by the wild and swift tidal wroth,
> Where perpetual snows arch summit and peak,
> And the winds beat hard on the barren and bleak
> Mountainous range.

EARLY on the morning of August 1st, the Expedition, steaming northward, arrived off the entrance to Nachvak Bay. There was a light rain in the early morning, but by ten o'clock the weather was clearing, and soon became bright and fair. The prospect as we approached was one of exceeding grandeur. At first the coast in the distance looked like a great rugged wall of rocks, towering two thousand feet above the water, without an opening of any kind; but the Neptune steamed toward it full speed. Approaching nearer and nearer, the scene became one of intense interest. There appeared, slowly opening, an inlet, very narrow and completely hid by the mighty cliffs. On the left of this the rocks rose in bold desolation high above the dark blue waves, surmounted by a pinnacle which we called the Devil's Table, said to have an elevation of two thousand feet. On the north, the singularly-shaped and gigantic form of Mount Razor Back broke upon our view gradually through the mist and fog, lifting its sharp razor-like back two hundred feet above all its surroundings.

The scene is beyond the possibility of my pen, and I shall not attempt it. The rocks were entirely barren, except here and there, on the lower ranges, where the slopes were gradual, and patches of

heather, or bog, or stunted vegetation of some kind, relieved the dullness of their uniform colour. Higher up near the clouds on the great precipices, we could see, here and there, a rough, broken garment of moss, the growth, probably, of a thousand years. The summits were capped with perpetual snow in many places, that sparkled and glowed in the morning sun, as its rays broke through the parting clouds, like crowns of glory. The prospect was strange and wild—strange in the angularity of the steep declivities, bold, rugged, barren and desolate, yet, altogether, as one passes within the entrance, combining to inspire a sense of security.

From this entrance to the Hudson's Bay Company's Post at Nachvak, the distance is about twenty miles, and the wonderful channel leading thereto, from a half to two miles wide, winding and very picturesque in its course. We were in this curious inlet most of the day, or from eleven o'clock until early evening, before we cast anchor before the lonely buildings of the post. The whole distance is a succession of most impressive natural scenery. On either side the rocks lift their snow-covered heads almost perpendicularly for more than a thousand feet above the water, and in many places nearly two thousand feet, and are moulded in such a variety of shapes, ranges, peaks, precipices, terraces, shelves, ravines, ledges, etc., as to daze the wondering admirer.

On the one hand we were alike delighted and awed by a dashing, foaming, roaring torrent, tumbling down at an angle of 45°, storming against the rocks, turning in sharp curves, throwing its foam high in the air, and falling from ledge to ledge, or dashing in maddened fury from some lofty cliff to a lower range, hiding the spot from view by filling the space with white mist or spray; while on the other our deepest admiration was called into expressions of wonder and praise by smaller rivulets hanging down, as it were, from the higher rocks, like beautiful white silken cords, pouring their waters into the blue abyss at the feet of these eternal hills, one or two thousand feet below their source. A day in this spot was but an hour; nor could we have grown weary of the scenery in a whole week.

Our stay at Nachvak was during the night only. We left with the first light of the following day. At the post there are but three

buildings—a very small residence and two small storehouses. These are located on a little piece of land at the water's edge covered with bog and grass, nestled at the base of a range of hills of solid, barren gneiss. The harbour is at an abrupt bend of the inlet, where the deep water approaches close to the rocky shore. It is a safe and pleasant anchorage.

The post is conducted by Mr. Ford, brother to the Mr. Ford who conducted us from Ford's Harbour to Nain. He has a wife and two children and two or three servants, and about twenty miserable-looking, snarling dogs. There are a few Eskimos scattered in the neighbourhood, but hardly to the extent to merit the title of a population. The place is excessively lonely, barren and unfruitful in every respect, except that the bay is alive with cod and trout, as are all the inlets of the Labrador. Game is also plentiful.

At this place, lat. 59° 4′ N., long. 63° 51′ 30″ W., the ice does not form in the harbour until the middle of November, and frequently not until the first of January, and it always goes out by the middle or 20th of June. This is in accordance with Mr. Ford's record of seven years.

With his dogs and skin-covered koamatik, Mr. Ford makes winter trips for two or three hundred miles along the coast, gathering furs from the natives. We had the dogs harnessed to this curious sledge, and obtained photographs of the buildings with this outfit in the foreground. Lieut. Gordon obtained only a very few furs here, but was repaid for the trouble of going by securing the services of Mr. James Lane, an Eskimo half-breed, as interpreter. He proved to be of great service in Hudson Strait, and was a valuable acquisition to the Expedition.

I may as well break the thread of the narrative at this point, for a few moments, to state that observing station No. 2, which we were unable to place on Resolution Island for reasons that will be given further on, was located on the north side of Nachvak Bay, about five miles from the entrance, at a place called Rumford's Cove. This station was placed in charge of Mr. William Skynner, of Toronto, with Messrs. Rainsford and Jordan, as station-men. It was decided to call Mr. Skynner's location "Skynner's Cove."

I do not know whether or not Mr. Rumford will consider himself aggrieved by the fact that a few enterprising Canadians have seen fit to affix the name of Mr. Skynner to a part of his cove; but, in all conscience, I should think him greedy and void of national or international sentiment, should he object. Captain Rumford, of the schooner Lassie, of Green Bay, N. F., however, comes to this cove annually to fish cod; and, should he be a member of the anti-confederation party in that ungrateful island, he may, when he arrives next season, call upon Mr. Skynner to evacuate, or surrender in the name of Newfoundland.

These circumstances suggest to my mind the importance of Mr. Skynner's station, but the realization of this brings with it an enlargement of the mission of the Expedition. Added to the question of the Hudson's Bay route, that of territorial acquisition is not to be underrated. Newfoundland has exercised civil and political jurisdiction over the Labrador long enough, I admit; and surely the time has come when Canada must extend her natural rights over all the territory north of the St. Lawrence to the Arctic Circle, and beyond. That she will be compelled to do so, now, Lieutenant Gordon should receive the thanks of the whole country; because, in placing a station at Nachvak, with the Dominion flag flying over it, the integrity of the Government of Canada is pledged to the extent of the army, navy, and treasury to defend it. But, seriously, the station at Nachvak is not all that could be desired, but was, I suppose, the best that could be done under the circumstances.

CHAPTER VI.

Cape Chidley—Port Burwell.

IN HUDSON STRAIT—DISCOVERY OF A MAGNIFICENT HARBOUR—THE GRANDEUR OF M'LELAN STRAIT — THE RUINS OF NEWNANGO—THE ESKIMO—AN ESKIMO CHIEF AND PRINCESS.

> Where the desolate waters from Ungava Sea
> Meet the swift flowing current at the Cape Chidley ;
> Where the sun circles low in the southern sky
> And the sea-gulls drearily scream as they fly.

FROM Nachvak we took our course toward Cape Chidley, arriving off Hudson Strait at daylight on Sunday morning, August 3rd. There was a dense fog prevailing, and we were compelled to lay to until Tuesday, dodging about in the waters at the mouth of Davis's Strait. We were so anxious to get into the Strait toward Hudson's Bay, that the time appeared long; but I managed to engage myself among the ship's crew, much of the time hearing from them many curious reminiscences of sea-faring life. Among their number was nearly every kind of sailor-character. The old and the young, the retired and the talkative, the wicked and the good, the prudent and the reckless, the mean and the generous-hearted; but altogether I think they were a good lot of fellows.

The least but not the most uninteresting of the crew, was Johnny, the Neptune's scullion. I suppose all well-regulated vessels have a scullion. I do not know fully what the word means in its nautical application, except in so far as Johnny's position, and conduct, and treatment indicated; and, judging from all these, I should say, although I was informed to the contrary, that a ship's scullion was a boy engaged to do a little of everything, with

the understanding that he was to do that little only when driven to it, contrary to instructions, to receive orders from every one, and to obey no one, to enjoy knocks and kicks and slaps, and to amuse himself with abuse; to hide away with the slightest prospect of his being wanted; to steal everything he can lay his hands on; to keep himself as ragged and dirty as possible, and to sit cross-legged on the top-gallant yard in a gale to amuse the sailors. Supposing him to have been engaged for these purposes, Johnny filled the position, varied as it was, to perfection. During the whole of our voyage I did not observe him to laugh, or even smile, except at receiving a kick or a cuff. That he had come to a state of training in which abuse was a matter of solid comfort to him, while on the other hand words of praise and commendation were an abomination, there can be no question.

We whiled away the time of Sunday and Monday, until Tuesday morning, the best we could. Being continually in the fog the conversation naturally turned in that direction. We discovered the causes, or thought we did, in the comparative temperatures of the air and water, and finally came to the conclusion, which we considered generous, that owing to the confluence at the entrance to Hudson Strait of the cold water from Baffin's Bay and the warmer water from Hudson's Bay, fogs were produced; and that in the Strait where these conditions do not exist, fogs do not occur.

The fog went with the darkness of Tuesday morning, and we renewed our course toward Cape Chidley, sighting land at eight o'clock. At twelve o'clock, noon, we were steaming through Grey's Strait, between the Button Islands and Cape Chidley, looking for a harbour. It had been decided, for some reason, to place station No. 1 on the mainland, therefore no effort was made to secure an anchorage on either of the islands. At one o'clock we had turned the Cape, and were moving toward Ungava Bay.

We had on every hand many evidences of the high latitude of our position. Besides the low temperature were the barren rocks, and the numerous large patches of snow, which, whenever we approached the land, were visible on the high rocky coast.

As we neared the rocks of the main shore, just round the cape,

it became evident from appearances that we had hit upon an excellent harbour. The Neptune was taken into the bay with great care, and anchored in ten fathoms of water at five o'clock of a beautiful evening. As soon as the clanking of the anchor's chains had ceased, Lieutenant Gordon said: "This place shall be called Port Burwell, in honour of Mr. Burwell, the observer, who is to take charge here;" and Port Burwell it was called accordingly. We made a landing immediately.

Port Burwell is a pretty cove or bay, well sheltered by Flat Point on the north and a lonely high circular projection of the land on the south, which we called Cape William Smith, in honour of the Deputy-Minister of Marine. The entrance is well guarded from the north-west winds, and is one of the finest harbours of Hudson Strait, probably the best. The holding ground is good, and there is room in the basin to accommodate from fifty to a hundred ships. The harbour is, in one sense, almost a landlock. In it a vessel could outride the worst possible storm in perfect security. The water is from ten to twenty fathoms.

The place was fairly alive with cod, and the men belonging to the ship took some ten or twelve quintals in a few days. The shores were for the most part high and rocky, but there are one or two gently sloping ravines, covered with a sort of bog-turf. Even the summits have in some places a rough, thin garment of moss.

On the evening of our arrival, in company with the Expedition geologist, I made a voyage along the coast, to discover what we might and enjoy ourselves hunting. We were accommodated with one of the Neptune's boats and two men, or rather a man and boy Johnny. Our little excursion also included Mr. Fox and Mr. Skynner, of Toronto.

I mention this side expedition particularly, because we made an important discovery, and met with very much of interest. This discovery was an addition to geography in the way of a channel running through from Ungava Bay to the ocean on the Labrador coast. I do not refer to the channel some twenty miles south of the cape, indicated on the published maps, but to one hitherto unknown (but supposed by Lieutenant-commanding Alexander

Murray, United States Navy, to exist in 1860), about eight miles south of the cape. We explored this channel and called it McLelan Strait, in honour of Hon. A. W. McLelan, the Canadian Minister of Marine and Fisheries. We were absent three days, camping most of the time on the shores of the little channel, where we met with Eskimos. These, consisting of two families, were camped in a little ravine on a small inlet off the Strait, where the barren gneiss hills towered on either side for more than four hundred feet above the water's level, in almost perpendicular cliffs. Here, in this secluded valley, walled about by high cliffs, were the ruins of an Eskimo village, where, perhaps a century before, when these curious people were more numerous, dwelt a thrifty population of over three hundred. From the appearance of the ruins, and by the aid of the Expedition interpreter through whom I made many inquiries of those now residing at the cape, I learned much about this now ruined and deserted, but once flourishing town. It was originally, and the place is still, called New-nan-go, which, in Eskimo, means a hidden place. The town had been constructed on a small cone-shaped hill, composed of gravel and boulders. The huts or dens were merely small excavations, circular shaped, about ten feet under the surface, approached by small subterranean passages. There was a row of these around the little elevation, at the base; another row a little further up, extending around in a circle, and nearer the top; still another, and of course more contracted circle; while at the top, and over all, was the dwelling of the Ut-ter-ick, or chief. The circle next below him, comprising about six dens, had been the dwelling-places of the Utterick's chief men. As you descended toward the base of the hill, not more than thirty feet

ESKIMO SNOW HUTS.

high in all, the huts or caves were smaller. In this heap of ruins there were probably ten or fifteen dwellings, yet well defined, while originally there had not been less than forty. This number would be more than doubled in the winter, by means of snow houses, which, in the case of villages, are built up among the mounds of the underground caves.

In these cave-huts we found numerous relics, such as thrown-away stone shot and bullet moulds, old rusty pieces of lances and spears, and other evidences of Eskimo industry. Two or three bore evidence of recent habitation, and, upon inquiry, I learned that old chief Ki-ur-chur, the last of the long line of illustrious Ut-tericks, who have ruled the Cape Chidley natives for centuries, and who, in late years, takes up his summer residence on the extreme northern point of the cape, resides, in winter, with his two wives and large family of children, in one of these caves, at the seat of power of his royal ancestors. I paid the tented castle of Ki-ur-chur a visit, of which I will speak presently.

From the ruins of ancient Newnango, I visited the Eskimo tent a little way off, where a native named Komikan, with his brother, two sons, wife and daughter, and a little papoose whose sex I could not guess from its great youth, resides, and has his miserable being. The tent was made of skins of the reindeer, held up by a few drift poles picked up on the shores, and held down around the bottom by heavy gneiss boulders which were everywhere at hand. Near the tent, strung on cords of walrus and seal-skin were vast quantities of black seal's flesh, in all stages of drying, seal's blubber, seal's liver, seal's hearts, and even seal's entrails, which are stretched, dried and made into very light water-proof garments. Among the stones at hand were vast heaps of oily blubber and seal flesh mixed together. Thus was Mr. Komikan's larder well stored; nor was he wanting in venison and wild fowl.

Passing within, the scene was one well calculated to sicken an ordinary stomach. The stench was intense, but, so to speak, a sort of oily stench, and therefore slightly endurable. On one side were huge piles of venison, seals' carcases, seal blubber, in a promiscuous mass, well-besmeared with blood and grease. Behind these were

rolls of seal and reindeer skins, white fox skins, rabbit skins, swan skins, and skins of all kinds of birds. At the other side was a large flat stone, on which sat the stone lamp, partly filled with seal oil, with a bit of moss for wick, from which a blaze was flickering and burning languidly. Close to this sat two Eskimo children, one about four years old, the other five or six. They were very greasy, and exceedingly dirty. Between them, rolled in a piece of pelt, lay the baby, or last addition to the papoose department of the family. They were partaking their noon-day meal, or rather eating because they felt like it, which is the only rule of eating among them. They have no regular hours for meals. The boys were also feeding the baby, and boys and baby alike were covered with seal fat and seal blood from head to feet. Near to them was the carcase of a seal, stripped of the pelt and entrails. About two quarts of blood and oil had settled in the cavity of the body. This had been their soup, and was now their syrup. With pieces of seal's liver they were dipping into the liquid, and enjoying a sort of dessert, every now and then mopping the face of the helpless little babe with a piece, and painting its fat little cheeks with crimson by their efforts to get the food into its mouth, which the struggling infant bravely resisted.

Further along, at the back end of the tent, raised on two or three layers of uneven boulders, over which several thicknesses of soft deer skins were spread, on which was every conceivable object in the way of knives, fish-spears, pieces of raw-hide line, work-bags of skin, pieces of leather, etc., was the family bed, and the family lounge: a sort of general "turn to." I did not investigate, but probably its crawling population exceeded the number of inhabitants in the whole Dominion. On this bed lay Mrs. Komikan, the goodman's wife, very sick, and by her side, in cross-legged style, reclined Miss Kirtalabanafilda Komikan, her daughter, very handsome, but very dirty. Her long black hair, hanging down in three well-kept braids, was ornamented with some strings of beads which had been ingeniously interwoven with the plaiting. I spoke to her, bowing as politely as I could. She was very shy, and only blushed. I learned that she was very proud, and had refused several offers of a

husband. She is waiting, it is said, until the chief's son, at the cape, her cousin, gets old enough to take a wife; for it must be nicer to be the wife of an Utterick than the slave of an ordinary hunter, especially the first one, as the first always rules the second.

Here I must mention that on our return, in September, we learned that Mrs. Komikan had died, and been buried or laid away up among the cliffs of Newnango.

AN ESKIMO GRAVE.

Turning from this wretched abode of the Komikans, we continued our tour of observation, and were richly rewarded, ascending the steep acclivities to a height indicated by the barometer of five hundred feet, on the summits of which I procured some interesting botanical specimens. The scene was full of interest. At the foot of one of these ranges, near to the channel, a curious spectacle was observed, rudely described by the following impromptu lines, pencilled on the spot:—

Upon the eternal rocks of the north,
And close by the wild and swift tidal wroth
In a dark sheltered cleft;
Where perpetual snows arch summit and peak,
And the winds beat hard on the barren and bleak
Mountainous range;
Where the seal and the walrus lazily play,
And the grim polar bear comes up from the bay,
Lonely and strange;
Where the desolate waters from Ungava Sea
Meet the swift-flowing current at the Cape Chidley
In tidal return;
Where the sun circles low in the southern sky,
And the sea-gulls drearily scream as they fly.

A casual glance, and, lo!
Covered o'er by the hands of the tawny and brave
I discovered the lone and desolate grave
Of a poor Eskimo.

She had sickened and died, as Eskimos die,
In a hut made of snow, 'neath a cold sullen sky,
Without Christian hope;
But she saw through the mists of the valley of shade,
And spoke of a place that death can't invade,
The glad hunting land—
Where the deer and the seal and the walrus are found,
And the rarest of furs in plenty abound,
On that beautiful strand.
She died, with the skin of a bear 'neath her head,
With the hides of reindeer and seal for her bed,
In stillness and gloom.
They carried her out to this bleak table rock,
Without formal rite or cantation to mock
The last solemn deed.
It was not a grave, but a last resting-place;
A rude sepulchre, the tomb of her race.
'Twas less than her need.
Nor casket, nor coffin, nor shroud to disguise
The ghastly remains, which, exposed to the skies,
Lay scarcely at rest;
The hard granite boulders were thick on her clay,
That vultures, perchance, might not steal away
The mouldering dust.
But these were ill-shaped, nor did they conceal
The rude winding-sheet made of skins of the seal,
Or the bead-woven fringe;
Her long raven hair, in three narrow braids,
That survives in all tombs when everything fades,
Wore only a tinge—
Showed only a spot, or a blur, or a stain
From the iron-charged rocks washed down by the rain.

Turning sadly away from this Eskimo tomb,
I was forced to think of the fate or the doom
Of this singular race;
But the answer is sealed until that great day
When tribes, and people and tongues shall obey,
And meet face to face.

This channel, or McLelan Strait as we called it, passes through the high gneiss formation, from Ungava Bay to the Atlantic. Its western entrance is about seven miles south of the cape, its eastern probably ten miles or more. Its average breadth is not over three-quarters of a mile; in some places it is a mile and a-half, and then

again narrows down to four or five hundred yards. In places it divides into two and sometimes three channels, forming small barren islands. Its cliffy shores rise to a height of three and four hundred feet, and are rugged and broken with occasional gulches, or deep narrow ravines leading inland, such as the picturesque little slope upon which we encamped. The whole distance through is not over sixteen miles.

In some of the narrowest places of the channel, the tide race, at both ebb and flood, is over ten knots an hour, while in the event of a contrary wind, it is torn into lashing rapids to such an extent that no boat could venture upon it. The scenery presented on every hand to one travelling through the strait, is wild and sometimes thrilling. Every now and then the hill-walls of the iron-charged rocks, which rise almost perpendicularly three, and occasionally four, hundred feet above the water, give way to low, narrow, hidden circuitous turf or bog-carpeted ravines, from which dark cavern-like gulches lead every here and there to the perpetually snow-capped summits above. Through these gulches, or following in their precipitous and broken descent, flow pretty, white silver streams, filling the air with their soft cold spray. Dashing against some projecting reef and round the sharp curves, and again violently upon some little islet, the sweeping tide-race breaks into the roar of a cataract, while the pure white mist-mantled rivulets, leaping from the lofty cliffs within the diverging valleys, mingle their sounds with this roar of the greater voice, as mingle the sweet contralto strains of a church choir with the deep rich melody of the sanctuary congregation. Such is the channel which I assisted in discovering and exploring, and which I had the honour of suggesting should be called McLelan Strait.

The physical geography and characteristics of Port Burwell, and Cape Chidley, at once become matters of interest. Here we have found an excellent harbour so close to the Atlantic that we may expect it to become the supply point for future operations in Hudson Strait. It is recognizable by the mariner in approaching it, after rounding Cape Chidley, by Flat Point, and Cape William Smith. Flat Point is a small island thirty feet high, and the termi-

nation of the north-west of the peninsula of Cape Chidley. From this shore the east coast of Ungava Bay trends W. S. W., four miles magnetic, var. 50° W., to an islet forty feet high close to the coast. The point of which this islet is the extremity forms the southern arm or shelter of Port Burwell, and is called Cape William Smith. The position of Flat Point is lat. 60° 29′ N., long. 64° 44′ W.

Cape William Smith lies about six miles W. S. W. magnetic, var. 50° W. from Flat Point. The shore in the locality is comparatively low. Position, lat. 60° 24′ 44″ N., long. 64° 44′ 40″ W.

Cape Chidley is the northern extremity of the Labrador coast, at the entrance to Hudson Strait, is one thousand five hundred feet high, lat. 50° 25′ N., long. 64° 11′ W.

The cape proper is the southern of two high islands, apparently bold-to, and appears when seen from the southward as an island with two lumps, the western being the higher, from which it is easy of recognition. The northern of these two islands is about one thousand feet high. There is every appearance of deep water between these islands, and between both and the main shore. From the northern island the Labrador trends south-west, mag. 50° var. W., a distance of about ten miles, to an opening which is the entrance to McLelan Strait. These rocks lie S. S. W., five and one-half miles distant from the cape, the centre and highest one being fifty feet above high water. The other two are about thirty feet high. An isolated rock thirty feet high is the northern of the outlying rocks which skirt the coast between the cape and Nachvak. From the cape the coast trends N. by W. mag. ten miles, thence N. W. ¼ N. mag. a further distance of six miles to Flat Point.

The Button Islands, composed of four large and three or more very small ones, lie to the north of Cape Chidley. The east point of the South Button Island bears N. E. by N. mag., eight miles distant from Cape Chidley, and a detached island one hundred feet high, off the nearest point of the West Button Island, N. E. by E. mag., eight miles distant from Flat Point. South Button Island is about five hundred feet high, and is faced by small cliffs, and has two smaller islands at the south and west extremities. West Button Island has, generally, the same appearance, but is

much higher. There is apparently a good passage between South and West Button Islands. The detached island to the westward of West Button Island, one mile, is round and cliffy, about one hundred feet high.

Grey Strait is the passage between Cape Chidley and the Button Islands. It is apparently clear of shoals. The Neptune steamed through it on both the outward and the homeward voyages. The narrowest part of the eastern entrance is about four miles wide. The flood and ebb streams in the Strait are of nearly equal duration and strength, the former running into and the latter out of Ungava Bay. The velocity is about six knots an hour, off the cape. There is considerable race; and, where the stream is opposed by strong winds, a breaking sea is formed, which is dangerous to very small vessels. During strong westerly winds in Ungava Bay, the squalls in Grey Strait are severe.

I must now mention something about the Eskimo Chief Kiurchur, his two wives and large family, who reside in the summer season on one of the islands at the extreme northern point of Cape Chidley. He is a man of over fifty, of the usual high cheek-bones, black hair and eyes, and insufficient beard. He wears a great cap of bright red cloth, decorated with beads and precious stones, polished from pieces of latrobite and labradorite, and other gems indigenous to that rock-bound coast, and is otherwise attractively clad. His cap is stuffed with the down from many ducks, until its diameter will measure twenty inches. He has put away skins, except for the severity of winter, and wears a sort of common cloth of European manufacture, procured, no doubt, at Fort Chimo. He has plenty of dogs, and, as a mark of royalty, his private koamatik is covered with reindeer skin and is drawn by ten dogs. He keeps two servants, a man and woman, who are married. These two do all the drudgery of the family, the younger of whom are indulged in idleness. Chiefs and their families used to be supported by frequent contributions from their subjects—and in this respect they are not unlike civilized chiefs; but now that the Eskimo population has become so small in this Utterick's district, the older members of his family are compelled to work for their living. His two wives

are rather plain-looking women, the eldest being much broken, so that if she ever did possess any natural charms, they have long since been supplanted by the hideous wrinkles and other traces of Eskimo old age, which is the most horrid sort of old age I have ever met with. The elder wife rules the younger, and the latter submits with a willing obedience.

Some of the chief's daughters are quite handsome—one in particular. Her name is Put-away-all-talk, which I am sure would never do for a white lady; but it is very appropriate for Miss Kiurchur, or Princess Put-away-all-talk, because she is of but few words. She is like all the Eskimo girls, extremely diffident, and bashful to a fault. She is extremely fond of fine dress, is quite tall, slender, well formed, with small hands and feet, long pretty eyelashes, a well shaped forehead, a handsome nose and chin, rather a plain mouth, a remarkably fair complexion, with rosy cheeks and lips, and beautiful jet-black hair, extending nearly down to the ground. She is anxious to marry, but is extremely particular, and has refused all offers up to the present time. Her sister, or half sister, is as ugly as the princess is beautiful; she is as grim, and greasy, and cold and lazy as a polar bear.

Game is plentiful at Port Burwell. There are a great variety of ducks, and abundance of ptarmigan. Sharks made their appearance frequently near our boats, whales came to the surface now and then, so did the walrus and seal; but they did not put themselves very much in our way.

The work of landing lumber and supplies and erecting the station buildings was begun on Tuesday evening, August 5th; and so well was the work managed that, by three o'clock on Friday afternoon, a space of less than three days, the task was completed, a triangulation survey of the harbour made, magnetic observations taken, and we were ready for departure, having enjoyed fair weather during the whole time. The observations taken showed the position of Port Burwell to be lat. 60° 22′ N., long. 64° 48′ W. The result of the magnetic observations taken was: variation of the compass 49° 29′ W., and the dip of magnetic needle 82° 9′.

CHAPTER VII.

In Hudson Strait.

GEOGRAPHY OF THE STRAIT—LOOKING FOR A HARBOUR IN HEAVY WEATHER — A BLINDING AUGUST SNOW-STORM — RESOLUTION ISLAND TEMPORARILY ABANDONED—RUNNING THE ICE-FLOES NEAR BIG ISLAND.

> Where the tide-race, meeting the north-west gale,
> Roars, and lashes, and foams; and the wail
> Of perpetual snow-squalls moves not the soul
> Of the ancient gneiss cliffs. Where deep waters roll
> And the oil-bearing mammals abound.

ON the 8th of August the Expedition left Port Burwell, at the entrance to Ungava Bay, and steamed out into Hudson Strait. We had already established one of the six observing stations to be located on the shores of the Strait; and it was determined to push across to Resolution Island in hope of finding a suitable place there for locating the second. The distance is about forty-five or fifty miles.

Before following the narrative of the experiences of the Expedition farther, we may as well take a hurried glance at Hudson Strait. Its length, from Cape Chidley on the North Atlantic to the outer Digges Island off Cape Wolstenholme at the entrance to Hudson's Bay, is four hundred and fifty miles. From the outer Button Island, off Cape Chidley, to Cape Best on Resolution, it is forty-five miles wide, but its narrowest channel is at the western extremity, where between Cape Wolstenholme on the south shore and Nottingham Island, the distance is not more than thirty-five miles. The tides in the Strait rise and fall from fifteen to thirty-five feet, and the tide race runs at from four to ten miles an hour, at half-tide, according to location. Its principal islands are Resolution on the

north of the entrance from the mouth of Davis's Strait; Big Island on the north side of the Strait, close to the mainland, called North Bluff; Charles Island about fifteen miles from its south shore, and about the same distance north-west of Cape Weggs; Salisbury, about forty miles from the north-main coast, with Mills Island twelve miles to the north-west of it, both at the mouth of Fox Channel; and Nottingham, near the centre of the Strait at the entrance to Hudson's Bay.

The smaller or group islands are the Buttons, about five miles north of Cape Chidley; Lower Savages, north-west of Resolution, and between it and the north-main shore; the Middle Savages and Saddle Backs, lying close to the north main coast, about sixty miles north-west of the Lower Savages, close to, and east of the Upper Savages; Big Island at the entrance to North Bay; and the Digges six miles west of Cape Wolstenholme, at the south side of the entrance to Hudson's Bay.

The water in the Strait is uniformly very deep; between Resolution and Cape Chidley it is three hundred fathoms. The centre of the Strait to the west will average from two hundred to one hundred and fifty fathoms, getting shallower as the entrance to Hudson's Bay is reached. There are no shoals or dangerous reefs to render navigation precarious. The same may practically be said in regard to fogs and gales; fogs occur, but are usually of short duration. Heavy gales are of rare occurrence. In this respect the Strait is in happy contrast with the ever-squally Labrador coast. The variation or error of the magnetic needle, in its application to navigation to Hudson Strait, is as regular and reliable in its variation as in any part of the world. It is about 50° W. at Cape Chidley, and at the entrance to Hudson's Bay, say at Nottingham Island, about 55° W. There is no local magnetic force to interfere with one navigating the centre of the Strait, and the compass, that is, the patent Sir William Thompson compass, may be depended upon, but the ordinary marine compass is practically worthless. This arises from the close proximity of the Strait to the magnetic pole, on account of which the directive force acting on the needle is greatly diminished.

In certain seasons of the year the navigation of Hudson Strait is greatly interrupted by ice—ice formed in the Bay and Strait, and that which comes down Fox Channel in the summer. It is estimated that these ice-floes were heavier this and last year than for the previous twenty seasons; "and yet the Neptune," says Capt. Sopp, "if she had been bound for Churchill with a cargo, or from that port outward, this year, would not have suffered more than twenty hours' delay on account of ice, or anything else." But more of this anon.

The shores of the Strait are high, bold and barren, consisting of the Laurentian gneiss formation. The waters abound in whales, porpoise, walrus, seal, and many kinds of fish, while on the shores and the borders of the lakes and streams of the interior, fur-bearing animals, deer, white bears and a great variety of small game, are plentiful. The Eskimos inhabit both the north and south shores, and the borders of the rivers and lakes inland.

Friday night, August the 8th, was calm and pleasant, and Saturday morning found us in sight of Resolution Island. There was a light fog early in the morning, but by eight o'clock it was all gone, and the morning was cold and clear and bright. We spent the whole day looking for a harbour on the shores of Resolution, among the Lower Savages and on the north main coast to the west of the islands, but without success. By one o'clock a north-west breeze sprang up and the waters were lashed into a heavy sea, so that the Neptune's boat was sent ashore with great difficulty, on two occasions, in a fruitless search for an anchorage. We met with plenty of icebergs, and the coast was well decorated with large sheets of perpetual snow, while the higher ranges of rocks were completely covered.

About four o'clock in the afternoon, a heavy storm with a north-west gale set in, and we were compelled to steam out from the rocks toward the centre of the Strait, there to roll and pitch, and dodge about during the night. It was indeed a dark, rough, gloomy night, the Neptune riding the heavy seas which rolled in lumpy, uneven, and rapid succession, sometimes breaking over the decks with great violence. A good many of the men—and conspicuously the

writer—turned in, sick enough, and wished themselves back to Canada.

Sunday morning brought us no improvement. The weather was still thick and the seas running high. We sighted land again, and coasted along for some time; but the storm was too heavy to venture near enough to the coast to look for a harbour. By nine o'clock a blinding snow-storm set in from the south-east, and our condition was gloomy enough. In the midst of these adverse circumstances, Lieutenant Gordon decided to cancel that station (to be located on Resolution) for the time being, at any rate, and gave orders to push on toward the Upper Savages, where, at North Bluff, station number three was to be located.

At ten o'clock on Monday we sighted the dreaded enemy of the navigator in the Hudson Strait—field-ice. From a distance it did not look very formidable. There was only a snow-white streak on the horizon, extending from the Middle Savages out into the Strait, as far as the eye, aided by a powerful telescope, could see, and, for at least twenty miles, perhaps much farther. There was one compensation to be derived from these ice-floes. As we approached them the swell subsided, and close to the water was as smooth as glass.

But if this field-ice was powerful enough to subside the waves it was also able to reduce our speed, although the Neptune steamed through it something after the fashion of a Grand Trunk snow-plough in a Canadian snow-drift.

This strip of ice, about three miles wide, was not very solid, and but little difficulty was experienced in making our way through it. The operation, however, to those who experienced it for the first time, was very exciting. Great blocks or pans were split or smashed into pieces as if mere glass shells. In some instances they were borne down under the ship's keel, and held there to midships, when they would shoot up on one side, or, if broken, on both sides, rising fifteen or twenty feet above the water, only to fall back again, crushing to pieces other masses of the same material.

For some three miles the good ship went smashing and tearing and crushing through this mass of ice, like a vast machine of des-

truction, clearing a water-way for her strong body with apparent ease, only trembling and jolting now and then, when the heavier pans were met with. But with a sailing vessel it would have been very different. Such a craft would have been helpless.

Early in the afternoon we again encountered ice, which proved to be more formidable. It extended, as before, out from the north coast towards the centre of the Strait beyond our aided observation, narrower than the first, but the pans were thicker and more compact. For several lengths the Neptune ploughed through it as before, but was finally brought to a halt. However, she was not defeated. Backing up about a hundred yards, the ship was put under full steam, her solidly constructed ice-smashing prow directed for the unyielding obstruction. Coming up with great force, the havoc was most terrific. Great piles of ice were smashed into atoms, split, torn asunder, or overridden. The ship groaned and trembled, but moved onward with irresistible force, crushing and smashing all before her. This display was kept up for four or five lengths of the vessel, with an impatient, fretful tremor. Again she came to an unwilling halt, but was not yet conquered. Reversing her powerful engines, she drew back once more, and again advanced towards the foe, snorting with pent-up vengeance, and forcing her impregnable front through and over the ice, and winning another victory.

Half a dozen of these wonderful feats carried us through to the open water beyond. We were by this time quite near to the land, and on the east coast of Big Island. Near the entrance to North Bay, a suitable harbour was discovered, in which the Neptune cast anchor about four o'clock in the afternoon. The harbour is formed by a narrow ridge of rocks that run out parallel with the coast, over which we could see from the yards of the ship the open water of the Strait.

CHAPTER VIII.

NORTH BLUFF—ASHE'S INLET.

VISIT FROM HUSKIES — STRANGE ACCOUNT OF A SHIPWRECK — GETTING INFORMATION THROUGH AN INTERPRETER — TRADING WITH THE NATIVES — ICE JAMS — BAD WEATHER — A MONSTER ICEBERG.

> Nestled in rocks of gneiss
> Formed while chaos-gloom yet shrouded earth,
> And sheltered by eternal snow-crowned cliffs,
> Yet lashed by many a gale, the restless waves,
> Unceasing, chant the dirges of eternity.

WE had not been anchored in this harbour at North Bluff, which Lieutenant Gordon decided to call Ashe's Inlet, but a few minutes, when we observed the ice-floes following our tracks with the tide and wind, and before dark the whole bay was filled with ice, the pans being tightly wedged and jammed together, with our ship in the centre. This desolation was made the more miserable by a cold storm of mixed snow and rain which continued far into the night.

Before the ice overtook us, and while the anchor was yet upon the Neptune's bow, an Eskimo, observing our approach, pushed away from the dark outline of the shore, and paddled toward the ship in his odd-looking kayak, and came on board soon after. From him our interpreter learned that nearly a hundred natives were residing and hunting along the north coast in that vicinity, all of whom had been in the habit of trading with the "American sailor," Captain Spicer. He told us how that they had shot two fine stags that very day, and Captain Sopp arranged with him at once for the venison, agreeing to give him powder and shot for it. But in a little while another Eskimo arrived with the hearts of

two deer, and you may be sure they were served on the Neptune for breakfast the next morning.

Captain Spicer's trading station is located about thirty miles west of Ashe's Inlet, on the north-main coast of the Strait. The Captain is an old whaler, an enterprising Connecticut Yankee, who has maintained a profitable trade with the Eskimos for several years. He has the only trading post on the Strait. We made an attempt to visit his establishment but could not accomplish the desire.

The darkness of the stormy night was upon us, and, with our native visitors, by means of the Expedition interpreter, we settled down to obtaining some information about that section of the wonderful north. They first entertained us with the story of a shipwreck.

"They say," says Mr. Lane, our interpreter, "that only a short time ago—they don't say quite how long—most likely a month or more, how that a schooner (a yankee vessel), they think it's a yankee vessel, got stuck in the field-ice off here, in the Strait; she drifted up and down the shore about five miles off, they thinks, most likely it was five miles, for days and days, with the heavy winds and tides. Finally, they says how the crew got out of the vessel and made a camp out of the sail (most likely the sail from the schooner) and camped on the ice-pans, not a great ways from the vessel. Then they says how most likely they got provisions and coals from the ship and built a fire on the ice, and cooked most likely salt pork. Then they says how most likely the Eskimos gathered on the shore and watched the sufferers, for most likely, they says, the sailors suffered from the cold. Then they tells me how the schooner got nipped in the ice and went down, most likely in a hundred fathoms of water. Then they tells me how the men drifted about on the ice-pan for days. Then they says how they finally lost sight of them, but they says most likely there was a favourable wind and they were driven towards the shore and escaped to the land, and most likely went to sailor Spicer's."

Such was the story of the shipwreck, and upon close enquiry we found that their account was probably truthful, although they could not be certain of the escape of the crew.

A suitable place had been selected on the rugged shore for the station buildings, and work was to have been commenced on the morning of Tuesday, the 12th of August, in landing lumber and supplies; but the circumstances forbade an attempt. The Neptune was entirely surrounded by ice, so thickly jammed that the harbour presented a scene similar to that of mid-winter. With each ebbing tide it would pass partially out, but with the returning flood it returned, thicker and more formidable than ever. Indeed, the ice seemed to be gathering outside as well as in the harbour.

With such an immense mass moving to and fro, the Neptune's anchors were found insufficient, and steam was kept up to render such assistance from time to time as was necessary. Notwithstanding this, we moved into and out of the harbour, with each tide, nearly a hundred yards. In this condition we lay all day on Tuesday, unable to do anything except to land a small quantity of lumber in the evening.

At four o'clock eight huskies came on board, without kayaks, by walking on the ice, jumping from pan to pan. They brought with them a large quantity of reindeer meat, for which Captain Sopp gave them knives, powder, bullets, and tobacco; dealing, I think, in a spirit of liberality with a view of fostering their custom. This was considered the best means of advertising in this latitude and among this peculiar people, especially when it was remembered that we had unequal competition in the person and presence of Captain Spicer, who resided but thirty miles distant, and perhaps less. We took good care to explain, patriotically of course, to these poor creatures, that Captain Spicer was a foreigner—a Yankee foreigner, at that—an interloper,—one who had no business in the country; that he was a smuggler, etc.; in short, we called him hard names. And not less emphatically we told them that we were the owners of the soil (rocks); Canadians: the right people in the right place, and that they should trade only with us. We told them also of our great and good mother, Queen Victoria, and of her noble Governor-General, Lord Lansdowne, and indicated that, perhaps —with an emphasis on the *perhaps*—very likely, one day, the same good Governor-General would make a treaty with them for

all this country (these rocks), and give them "tobaci-mik," and powder, and shot, and guns, and even tea and coffee. They smiled credulously, but didn't understand what was meant, or if they understood at all, one thing is certain, they didn't care a plug of "toback" whether we were Canadians or Hottentots.

Here, in company with Dr. Bell and Mr. Fox, I made another trip inland. We made the excursion in the interests of geology and general discovery, and more particularly general sport. After climbing the rocks for an hour we were about a mile inland, and two hundred and fifty feet above the water. After that the progress was much easier, but it was little less than rock climbing all the time. We did not succeed in getting more than seven miles from the vessel, nor in making discoveries of any great value. The deer kept out of our way, and we carried our rifles that day for naught. The ptarmigan were more obliging; we could easily kill them with stones.

We journeyed over a rough, uneven country. It was alternately very wet and very dry. The long ranges of rough gneiss rocks, heaped about, were dry enough, but hard on the feet; while between there were curving ravines, partly covered with bog, which were always wet and interlaced with running streams, or dotted here and there by ponds of water.

Wednesday, Thursday, Friday, and the most of Saturday, the 13th, 14th, 15th and 16th, were spent in Ashe's Inlet. Friday brought in more than a dozen Eskimo women and their dirty little papooses, naked, and tucked down the backs of their mothers under their seal-skin jackets next to the skin to keep them warm. Saturday morning another squad of natives boarded the ship, with such peltries as they had. We traded with them as with all the others, giving tobacco, powder, etc., and taking their skins at our own prices. At noon, on Saturday, we had twenty-seven natives, men, women, and eight papooses on board, and when we were about to swing ship it was a curious sight to see these thirty-five souls piling into one small boat to return to land.

We left Ashe's Inlet, all being in readiness, and the station buildings having been completed, on Saturday at two o'clock. It

had been comparatively fine, but at noon the barometer was falling and there was every appearance of a storm. Mr. A. W. Ashe and his men, Messrs. Rainsford and Jordan, left in their boat as soon as dinner was over. They rowed away toward their station buildings amid the cheers of those on the ship, and later we steamed out into the Strait, passing five or six immense icebergs grounded at the entrance to the harbour. We took our course for the south shore, toward Cape Hope, or Prince of Wales Sound, where a station in charge of Mr. Stupart, of Toronto, was to be established.

In half an hour we were in a blinding snow-storm, but it was of short duration. It was succeeded by a thick mist or fog, but this, like the snow, soon passed away. However, the ice had been carried away by the wind and tide to parts unknown. When the fog lifted we were treated to one of the finest sights in the way of an iceberg that we had yet seen. It was on our port bow, about seventy-five feet high above the water, and fully half a mile long.

CHAPER IX.

Prince of Wales Sound.

INTERESTING INTERVIEW WITH AN ESKIMO—THE MARRIAGE OF A NATIVE BEAUTY—TRADING WITH THE HUSKIES—THE ROMANCE OF LOVE-MAKING—HOW A BRAVE WINS A BRIDE IN THE FAR NORTH.

* * The princess answered, pointing to
The monster king of Arctic seas: "To him
"Who brings, unaided but by lance and nerve,
"The soft white pelt of that huge bear
"I'll give my hand, and grant my father's crown."

THE distance across the Strait from North Bluff to Prince of Wales Sound, on the south-main coast, is between sixty and seventy miles. We left the first in the afternoon, and would have reached the latter early the next morning but for the field ice which we encountered soon after daylight. Fortunately it was not very heavy, and the ship steamed through it for some fifteen miles, and at one o'clock the anchor was cast in a pretty little harbour, or cove, on the north-west side of the entrance to Prince of Walés Sound. It was on a Sunday. A large party were soon on shore examining the character of the place.

The coast was found less rugged than at Ashe's Inlet. The general formation was the same, but the hills were not so high nor steep. The surface was sloping, and to a considerable extent covered with bog and short grass, with here and there specimens of flowering plants. As at all the places we visited, there was an abundance of pure fresh water in small rivulets, springs, little lakes nestled among the rocks, and in large ponds in the valleys.

The sound of the Neptune's whistle brought some twenty or thirty Eskimos—men, women and children—from the interior to the

water's edge. They seemed to be in good circumstances, and, as we afterwards learned, were tented in large numbers about six miles further up the Sound. They were greatly delighted at our presence, and when informed of the intention to build a house and leave men in charge of it, they shouted and danced round each other like children let loose from school.

I had an interesting day with the natives on Monday. They had gathered on the shores of Stupart's Bay—for that is what Lieut. Gordon decided to call the place, as soon as he decided to place an

STUPART'S BAY.

observing station there—where the men were erecting the station buildings, to the number of about thirty or forty, all greatly delighted with the impression that we were to establish a permanent dwelling place there. They had hitherto travelled three hundred miles to Fort Chimo in order to exchange their peltries for such necessaries as could be obtained at that place, and the establishment of the station, so far as they could understand it, was bringing civilization and commerce to their very doors, and they welcomed the movement enthusiastically.

Our interpreter, Mr. Lane, explained matters to them, and he,

more than any one else, became their hero. They watched the performance of the erection of the buildings in wonder and amazement, giving utterance to peculiar sounds, expressive of their pleasure and surprise as the structures were sheeted in; but when the rafters were put into position, and the roof was taking shape, their astonishment knew no bounds. It was an achievement beyond the power of their imaginations, and they were overcome with the wonders of the white people.

We visited their camp, about three or four miles away, and obtained some skins of the reindeer and the seal, and had the pleasure of some broken conversations with them. I began to study the Eskimo language, and succeeded in commanding a few words, and in making myself partly understood.

I had in my hands a Snyder rifle, which attracted the admiration of a young hunter. I allowed him to examine it, and remarked, "oonla-ko-olik," which means, "It is a rifle." He was greatly pleased with the idea that I could speak his tongue, and went into a rigmarole of gibberish of which I understood nothing, and to which I responded: "Ontuke," which is, "I do not understand." Then his countenance dropped, but to revive him I said: "Ki-chin-a-coma," which is, "I will give you tobacco." His smiles returned, and extending one hand he waited anxiously, for all Eskimos love tobacco. Exhibiting the tobacco, I asked, "kito-ma-shima-yuk?" This demand for deer skin brought another cloud to his face, but after a moment's pause he shouted out, "ko-le-tuk," meaning a woman's dress of deer skin. He exhibited two of these, made of beautifully dressed skins, with shoulder hoods for papoose, and the inevitable long tails, the only distinguishing mark between the dress of the men and that of the women. He laid them on the ground, and I placed four plugs of black tobacco near by and asked, "Oonah, oomung de?" or, "will you take this for that?" He nodded assent and the trade was over, but not until his exclamation of "Match-a-mic," had softened me to the extent of one card of matches.

I then asked for "poyea," or seal skin. He brought from his bag of the same material four large skins, and the same performance was repeated. I obtained them for four mean little black plugs of

tobacco, and felt that the native had been badly swindled; while, on the other hand, he seemed to think he had struck a bonanza, and grinned all over his great broad ugly face.

With a disposition to continue the traffic I inquired for "Nannuk," or white bear skin. He exhibited a piece about eighteen inches square, and I brought out some more tobacco, but he shook his head and wanted "og-jik" (powder). I had none of this. Then he wanted "in-nip-a-lowlite," (gun caps); I had none; and then he shouted "de-vine-looka," all of which meant only "shot," but I had none. However, he was not to be easily discouraged and called for a "shi-powit," or a pipe. I had only one, and could not part with that, so I said, turning away, "ok-shan-i," or good-bye. This was a good stroke—I mean a business stroke. He came to time without delay and called after me: "Pish-shee-yon-ma-go-lova-too-goot," or "I want to trade." I then exhibited two plugs of black-strap, and asked, in a decided tone of voice, as if it were my last offer, "oomungde?" He yielded, and I became the happy owner of this small piece of valuable skin.

Just then a new arrival advanced, and, extending my hand, I said carelessly, "kan-we-kuk" (how are you). He took my hand and shook it heartily, and spreading out his skins, said, "pish-shee-yon-ma-go-lova." I turned him over to a companion who relieved him of his peltries, giving in return therefor as little in value as I had done for the goods obtained from the first.

Every man on ship-board, as soon as we got into Hudson Strait, became a trader, from the cook's-devil (Johnny) to the skipper, and for weeks it was unsafe to leave powder, shot, tobacco or any other article of commerce lying round loose, as they were liable to be converted into peltries sometimes without the consent of the proper persons. All obtained something, and got that something cheaply.

Later in the day, I attempted to interview one of the natives, through an interpreter, without much success, as follows:—

"Are there many natives in this section of the country?"

"He says most likely there is."

"But don't he know?"

"Yes, he says most likely there is a good many."

"How many?"

"Most likely a good many."

"A hundred or a thousand?"

"He doesn't counts."

"Is there an Eskimo village in these parts,—a town where they come together in winter?"

"He says most likely there is."

"Doesn't he know?"

"Most likely he does."

"But ask him!"

"He says most likely there is."

"Where is it?"

"He doesn't know."

"Then he doesn't know whether there is a village near this place or not?"

"Most likely he doesn't."

"Have the Eskimos any ideas of religion?"

"Most likely they have."

"But ask him."

"He says he doesn't understand what religion is."

"Does he expect to go to any place when he dies?"

"Most likely he does."

"Ask him where?"

"He says most likely he don't know where."

"Have they any burial service when one of their number dies?"

"He says most likely they hasn't."

"At what age does the Eskimo marry?"

"Most likely the girl will be ten or twelve and the man seventeen or eighteen."

"Do they ever quarrel and separate?"

"He says most likely they does."

"What do they do then?"

"He says most likely the woman gets another man, and the man most likely finds another woman."

"Do the men ever marry more than one woman, or have two or three wives at one time?"

"He says most likely they does."

"Do they not know that it is wrong to have more than one wife?"

"He says most likely he won't go on."

"What does he mean?"

"Most likely he is sulky and won't answer."

"Have the natives here ever seen a vessel before?"

"He says only one of them has."

"He says most likely he won't tell you anything else."

KU-KILLIA-KE-A-KUM.

During the day a number of us made an excursion in one of the Neptune's boats, about three miles along the coast, on the north side of Prince of Wales Sound, and going on shore we walked about two miles when we found several Eskimos in tents, made of skins, all, as usual, dirty and filthy. In our wanderings among the hills and rocks we came to a little inlet, a narrow arm of the Sound extending in among the rocks, entirely hid from view until the traveller approaches the water's edge. There were natives residing on both sides of the cove. It was evident that something unusual was going on. An old chief, with his great red cap, stood upon a cliff near his tent on one side, while, upon the waters of the lake-like inlet, a boat and half a dozen kayaks filled with huskies were apparently enjoying a holiday. Upon making enquiries, I found that the chief's only child and daughter, a native beauty, had just given her hand in marriage to a young Eskimo. The event was much out of the order of marriages, as the newly-

made husband was to succeed the old chief as head man over this scattered population. A few questions revealed sufficient romance to make the wedding very interesting. I cannot vouch for the truthfulness of the narrative, but, pretty much as I received it, it is given to you in the following measure:—

Nestled in rocks of gneiss,
Formed while chaos-gloom yet shrouded earth,
And sheltered by eternal snow-crowned cliffs,
The placid waters of the cove, by not
One ripple stirred, bore on their liquid breast
Kayaks, trimmed out with spears and gaffs and hooks,
A guard of honour due the pair made one
In bonds unsanctified by rite of church or creed.

The whale-boat had, by generous loan, or from
The loaner's wish to foster trade, contained,
Besides the tawny brave and blushing bride,
Seated aft on skins of Polar bear, four more
Strong bending to the oars. Her jacket was
Of seal, the tail bedecked with finer furs
Contrasting shades and colours gay—not wide,
But pennant-shaped, and further trimmed with strips
Of feathered skins of Arctic birds of white
And shades of every hue. Of raven black
Her hair in braids hung down upon her breast,
And falling back, trailed in the liquid blue.
Her head was bare; nor was the use of veil
Indulged, nor decorations grand, except
A neatly-twisted wreath, extending from
Her forehead back, of Arctic poppies bright,
And freshly gathered from the rocky shore.
Her hands ungloved; her feet in boots of seal;
Her neck was girt about with ivory balls
And balls of latrobite, strung on a thread
Of skin, and from it, on her throbbing breast,
Hung down a cross, hewn from a tusk,—
A cross without a meaning to the bride,
But patterned from the pictures left
By sailors, who for furs had traded them.

Her charms had famed her in a hundred camps,
And far and wide her name, on native tongues,
In words of praise and boast was spoken oft.
A princess of a royal line of chiefs,
An heir to idleness and ease, with right

To be attended by the common herd
And give command. Her home a ruler's hut,
And hence a palace grand. The only heir
And only child of Chief Utongkakum,
Whose rule of thirty years as native chief
Of Eskimos for many miles around
Had blessed his race, and made his name a word
For common use. The aged chief could not
Much longer wear his modern cap of red,
But soon his crown must rest on other's head.
To gain the princess-daughter's hand was much
To be desired for her natural charms,
But more because with that the winner gained
A crown. Princess Lu-killia-ke-a-kum
Utongkakum, by many suitors wooed,
But won by none, until by test to find a man
As true, as brave, and worthy to be called
A chief, the conquest of her heart was made
By young Shemomamik.

The contest for her hand, the battle for
The crown, was brought on thus. The evening shades
Were falling, when, as four brave hunters sat
On skins about her royal father's hut,
Each waiting for the word, the answer to
A prayer that sweet Lu-killia-ke-a-kum
Would stoop to be his bride. Behold, a grim
Huge Polar bear approached, but turned
Away as yelping dogs disclosed to him
His peril. The princess answered, pointing to
The monster, king of Arctic seas: "To him
Who brings, unaided but by lance and nerve,
The soft, white pelt of that huge bear,
I give my hand and grant my father's crown"

The bear-skin on the whaler's stern-sheets spread,
As cushion for the beauty, princess-bride,
Was from the body of that bear. The groom,
Whose arm supported her, and on whose head
The ruling crown, a cap of reddish cloth,
Reposed, and at whose side a lance was slung,
Our hero! Brave Shemomamik had won!

Now there is very little ceremony connected with an Eskimo marriage, not even with the marriage of a chief's only daughter, and that little consists of the fortunate man conducting his wife from

the tent of her people to the tent of his people. That is all there is to it. And, very often, the little romance connected with this performance is annihilated by the fact that the bride is so conducted against her will. You will notice that the Eskimos are mated, so to speak, while they are yet children. That is to say, the parents of the girl and the parents of the boy agree that, when the proper time comes, they—the two—shall live together as man and wife. This agreement, of course, comes to the knowledge of the girl and boy concerned while they are yet very young, and it may be that they grow up to think very much of each other, and become happily joined together; but it may also happen that the girl will take a hearty dislike of the choice made on her behalf, and grow up to thoroughly hate and despise him. All the same, when he becomes old enough to maintain her by the chase, he demands his property, as it were, and she is compelled to submit. But we must not suppose the latter to have been the case with the marriage in question.

CHAPTER X.

Stupart's Bay Station.

CHARACTERISTICS OF THE ESKIMO—DESCRIPTION OF THE KAYAK—THE DIFFICULTIES OF INLAND TRAVEL—THE "AMERICAN MAN"—ESKIMO VILLAGES—ARTICLES OF TRADE.

> Where thé swan, and the duck, and the curlew breed,
> And the geese, by thousands, come to feed,
> And the reindeer bound on the rocky plains,
> And the Husky thrives on his hunting gains.

AS we met a very large number of Eskimos at Prince of Wales Sound, Stupart's Bay, I must not pass the place without referring to some of their peculiarities. Their customs and characteristics are, for the most part, similar to the North American Indians, and the points of greatest difference are where the difference of latitude and climate enforce a change. They wear but two garments—generally of seal-skin or reindeer skin—jackets which they slip on over their heads, and sort of trowsers of the same material, with skin boots. There is a hood on the jacket which they pull over their heads at will. The men and women dress exactly the same, except that there is a long narrow trail or tail to the jackets worn by the women, generally decorated with trimmings. They never put any clothing on the infants. These are kept in a completely nude state until about one or two years of age, protected from the cold by being tucked down the backs of their mothers, under their loose jackets. When they become hungry they crawl up and over the naked shoulder of their mother, and when supplied crawl back again. They look very dirty, and in this respect greatly resemble their parents.

The Eskimos, in their original state, or as they are found to-day,

when uninfluenced by Christianity, have no religious inclinations whatever. They worship nothing and nobody, and have no ideas of a future state that are very well defined, except that which is usually found among the other savages of North America. They have no doctors, take no medicines, and are (I was going to say, therefore,) seldom sick. When they die their bodies are laid away on the rocks, and covered over with boulders.

They have no regular hours for eating, but eat whatever they have on hand whenever they feel like it, which is quite often. They seldom all eat together, except when they have been half starved for some time, and are lucky enough to take a deer or seal. Then they eat enough to make up for the deprivations of the previous days of hunger. They do not keep track of the days of the week, know nothing whatever of the Sabbath; but they have a sort of record by moons and winters. They have no summers. Their store of knowledge is very small. The men are adepts in the use of the gun, the spear, or the harpoon; the women sew neatly, and display good taste in making garments from skins. Both are moderately industrious, generous toward white people, and willing to do most everything they are told. They are something like the Indian, but more enterprising. If they are filthy, they are honest; and if they are below the Indian in the first, they are above him in the latter. But the corrupting influences of civilization soon overcome their natural inclinations. They learn to steal with the greatest ease, and take delight in practising the art when they have learned it.

One of the most attractive features of Eskimo life is the kayak. What the canoe is to the Indian, the kayak is to the husky of the north. They are not the same in shape, in construction, or in anything else, except in weight and the dangers to which a greenhorn is exposed in attempting to navigate them. In shape they are similar to an old-fashioned weaver's shuttle, and draw less water than the ordinary canoe. They are about thirty feet long, not more than two feet from top to bottom at the centre, and about thirty inches wide at the same point. The top is straight from forward point to stern point, except that from the centre to the ends each

way they gradually become narrower, until at the points the width is not over two or three inches; and from the centre, each way toward the ends, and toward the top as well, the bottom slants upwards and outwards, until at the points the thickness is about two inches. It is flat at the bottom, but much narrower than at the top. The frame is of strong wood, and the whole is covered with seal-skin carefully sewed together and stretched over tightly. There is a round hole in the top, at the centre, formed by a hoop to which the seal-skin is attached. The Esquimo sits in this hole, with his feet stretched out toward the forward end and his head and shoulders above it. In rough weather he wears a thin water-proof jacket made from the bladder of the walrus or other mammal,

THE KAYAK.

that stretches something like rubber. This is drawn down over the hoop, so that the waves may pass over the kayak again and again, and not one drop of water enter it. A kayak will accommodate but one person at a time.

In one of these kayaks the Eskimo paddles about, sometimes making very remarkable speed, quite a little monarch of the northern seas. On the flat top of his little craft, secured by loops of walrus-skin, are his lance, his spear and his hook, while by his side, partly in the kayak, is his faithful gun. At his back is a buoy, which looks the image of a seal, because it is no more or less than the pelt of a seal tightly filled with air. Attached to this is a harpoon at the end of a piece of walrus hide thirty or forty feet long. If the seal or walrus comes near enough, he is harpooned

and when he can no longer be held by the line he is allowed to go, buoy and all; but the latter betrays his whereabouts, and not only secures his capture, but is often the cause of attracting other seals which are secured also. It is a sight to see an Eskimo fighting a walrus in one of these kayaks. The latter invariably attempts to pierce the kayak with his tusks; but when he makes the venture, in his fool-hardy courage, he not only fails to succeed, as the little craft moves too easily in the water to give him any power over it, but receives a harpoon in his side, or is pierced to the heart with a deadly lance. With the buoy attached, to keep his prize from sinking, he paddles it in tow to the shore.

The natives use but one paddle in the kayak; but it is not the same as that used by the Indians in the canoe. It is a double paddle; that is to say, both ends are flattened, and, in paddling, first one end is used and then the other, on one side and the other respectively. The central portion of the paddle is round, and the water is prevented from running down upon the hands, as the instrument is used, by pieces of skin which are placed tightly around at the proper places. A new beginner will have some trouble in navigating the kayak, and it will be well for him, at first, to keep in shallow water. It tips over with the slightest provocation, and, as you can extricate yourself from the hole with some little difficulty, and as you are precipitated into the water head first, it becomes a matter of importance that you either know how to balance yourself properly or are prepared for a plunge bath. One of the Neptune's crew, in making the attempt, went over head first into ten fathoms of water; but, as he was a good swimmer, he soon managed to kick himself loose and take rescue in an adjoining boat. He was fearfully wet and cold, but got some redress by soundly cuffing the boy Johnny for laughing at him. A good many others laughed that were not cuffed at all. We all admired the kayak, but none of us ventured to test the delightful pleasures of riding in one. It does not take long however to learn to handle one, and I would recommend kayak clubs as a means of healthy amusement for young Canadians.

We remained at Stupart's Bay from Sunday noon until Friday

evening, the time being occupied in putting up the four buildings required for the work of the station, in making a triangulation survey of the harbour, and by inland excursions from which we learned something of the character of the country. We had so much bad weather that but little progress was made in the latter. On Tuesday, and again on Thursday, I went inland with the Expedition geologist, some seven or eight miles each day, but we saw little of interest except native villages or Eskimo settlements of three or four huts each, in the shelter of the deep gulches which abound everywhere on the coast. There is no way to get inland except on foot, and the walking is exceedingly bad. It is a continual climbing up and down over hills of barren gneiss rocks, very sharp and uneven, and across ravines in which running streams have to be forded by jumping from rock to rock, an operation frequently attended by the accident of slipping into the cold water. The coast is everywhere very much broken, exceedingly uneven, severely barren, and cut into innumerable islands and headlands by gulches, inlets, bays, coves, etc., into which the tidal wave comes and goes at the rate of from five to eight miles an hour according to location. So much is this the case that an attempt to follow any one direction inland will be frustrated before half a mile is travelled by a gulch, perhaps over a hundred feet deep, or a winding arm of the sea, with steep precipitous rocky shores, so that a decided change in the direction will have to be made. There is often considerable danger attending this travel on foot among the rocks. In attempting to descend the cliffs to the bottom of one of these gulches one is often compelled to return by precipices which forbid further progress; and in the effort to make another course it is quite possible to lose one's way and become, as it were, a prisoner in the rocks, so that the traveller is required to be on the look-out constantly.

The "American-man" is an absolute necessity to the traveller among the rock-hills of the north, as also to the fishermen and others who navigate the coasts. It may be that all do not understand the meaning of this term. An "American-man" is simply a few boulders piled one upon the other on some hill-top, so as to attract the eye and serve as a guide. There is such a sameness in

the coast and in the interior that one cannot judge in the least where he is going by the appearance of the country. The sun is seldom in sight, the sky being for the most part overcast, so that he can scarcely be depended upon as a director. Under these circumstances, the "American-man" is indispensable. It is but little trouble to build one, as loose rocks of all sizes are to be had everywhere.

It was by such means as this that we marked our route inland in the excursions we made while at Stupart's Bay. Here and there in the journeys we would chance upon a native grave. Some of them were marked only by a few well bleached bones, and the harpoons, knives, spears, etc., which the unfortunates used in their lifetime. These things are always placed by the side of an Eskimo's grave, and it is held to be such a curse upon any one who is evil-minded enough to remove them, that they are generally left to rot and rust long after the mortal remains have disappeared altogether. In the case of a female, her cutting-knife, needle-case, etc., and clothing are placed under the rocks with her body.

The three small villages that we visited, all within seven or eight miles of our anchorage, contained a population aggregating less than seventy-five souls. They are all a dirty, wretched set, improvident, and therefore alternating between extreme poverty and plenty, such as it is, according as the hunt proves successful or unprofitable. They live in tents of walrus or seal skins in summer, and in snow or cave huts in the winter. They generally eat everything raw, and their food consists of the flesh of seals, walrus, porpoise, reindeer, sea-trout, salmon, and fowl, such as geese, ducks, ptarmigan, etc. They sometimes cook the fowl, and frequently the flesh of the deer. This is done generally in stone kettles, heated over stone lamps: a sort of trough hewn from a piece of rock. The fuel is oil, of course, of which they generally have plenty, the wick being lichen moss such as the deer feed upon. With this arrangement they can cook with ease, but their preference for raw flesh generally dispenses with that trouble.

The interior of these tents was very much the same as those that we had met with elsewhere. They were filthy beyond

description. Great heaps of blubber, seal or walrus fat were lying along the sides, while at one end the bed of skins on the rocks generally supported from two or three to half a dozen women and children, lounging in a half nude state, unwashed, uncombed, and unconcerned. The women were sometimes leisurely sewing on moccasins, jackets or other skin garments. In one of the tents we met with a very aged woman. She was haggard, grey, bald, wrinkled, decrepid, rickety, cross, dirty, half blind, half naked, toothless, with finger nails nearly an inch and a-half long, skinny, half crazy, unable to walk, out of patience, talkative, and unhappy. She was probably seventy years of age, and will soon leave all that is mortal of her to be frozen, and bleached, and dried and decayed upon the rocks.

In the same tent was a little child—there are often representatives of three generations dwelling in one hut—just old enough to toddle around, with her dirty black hair long enough to hang down over her black eyes and dirty face, with her one scanty garment of deer skin, and with her hands and face covered with blood. This child was a scene to be pitied, perhaps, but for us, to be laughed at. She was half sitting on a rock, with one hand newly dipped in a dish of stone partly filled with mixed seal-oil and blood. She had been eating the raw flesh from the carcase of a seal, and drinking this mixture of blood and oil; and, child-like, she was bedaubed with it in such a way as to indicate that her appetite was good and that she had not yet been trained in the art of eating, as she probably never will be.

The men generally do the trading when they are at hand, and will foolishly part with anything they have, not only skins but spears, lances, harpoons, hooks, fish-spears, or anything, for tobacco, powder, shot, gun-caps, knives, etc. Most of the men have guns, probably loaned to them, as a business stroke, by traders, and they seem to be pretty well acquainted in the use of them. Besides several pelts, we obtained from them one or two harpoons, and various articles illustrative of their mode of life.

CHAPTER XI.

Objects of Observing Stations.

METEOROLOGICAL WORK TO BE DONE—MOVEMENTS OF ICE, TIDES, ETC., TO BE RECORDED—TERRESTRIAL MAGNETISM—THE VARIATION OF THE COMPASS—DIP OF THE MAGNETIC NEEDLE, ETC.

Science kindly giving aid and light
Has made the storms of darkest night
To warn us of their coming;
Science speaking on the compass dial,
Bids magnet-forces talk and smile,
And tell their secret meaning.

AT Stupart's Bay, as also at Ashe's Inlet opposite, on the north side of the Strait, we were always in sight of field ice, which lay in extensive sheets outside of the little harbour, and which came in with the tide whenever there was not a contrary wind, but this, let me observe, did not reach into the centre of the Strait where navigation was wholly unobstructed.

The buildings at Stupart's Station were sufficiently completed by three o'clock on Friday, the 22nd of August, to be left by the Neptune in charge of the four men who were to reside there. They consisted, at that place, of a dwelling, a storehouse, the magnetic observatory for differential observations and a building for absolute observations. An extra man was left at that station on account of the extra work to be done. It is the only place on the Strait where magnetic observations are to be taken; hence the two extra buildings which are necessary for that work.

The duties of the various observing stations are:—

1. Reading the barometer every four hours, commencing at three o'clock, a.m.

2. Recording the register of the dry and wet bulb thermometers, also every four hours, taking out the force of vapour, relative humidity and dew point, recording the anemometer, etc.

As the primary object of the whole Expedition is to ascertain for what period of the year the Straits are navigable, all attention is to be paid to the formation, breaking up and movements of the ice.

Each station is supplied with a sun-dial and time-piece, and the clock is to be tested each day when there is sunshine about noon. A table of corrections is supplied for the reduction of apparent time to local mean time, to this the difference of time will be applied to 75th meridian, all entries being made in the time of this meridian, and observations will be taken regularly at the following times throughout the year, viz., 3 *h.* 08 *m.*, 7 *h.* 08 *m.*, 11 *h.* 08 *m.*, a.m. and p.m.

Each morning the sums and means of the observations taken on the previous day will be taken out and checked over; they will then be entered in the abstract books supplied for the purpose.

After each observation during day-light the observer on duty is to take the telescope and carefully examine the Strait, writing down *at the time* all that he sees, stating direction and (when possible) velocity of tide, movement of ice, if any, and also describe the condition of the ice, whether much broken up, solid, field, etc., etc.

Each day the time and height of high and low water is to be carefully observed, and during the open season the character of the tide will be carefully noted for two days before and three days after the full and change of the moon. For this purpose a post marked off in feet and fractions of a foot is placed in the water at low tide in some sheltered spot, and the height of the water noted every half hour during the rise and fall of one tide on each of these days—the height to be noted most carefully every five minutes during the hour of high water and the same at low water ; the five minute observations will also be taken for one hour during the most rapid portion of the rise. Special observations of barometric pressure are to be taken in connection with these tidal observations.

All remarks in regard to the movements of birds, fish, etc., and also the growth of grasses, will be carefully entered.

As it was impossible to give the officers in charge of stations detailed instructions which would be of service in every contingency which might arise, they were required to observe and enforce the following rules:

(*a*) "Every possible precaution is to be taken against fire; and as it is anticipated that the temperature can be maintained considerably above the freezing point inside the houses, two buckets full of water are always to be kept ready for instant use.

(*b*) "As the successful carrying out of the observations will in a great measure depend on the health of the party, the need of exercise is strongly insisted on during the winter months, and also that each member of the party shall partake freely of the lime juice supplied.

(*c*) "Each party is supplied with a boat; but unless some emergency require it, it must be a rule that neither afloat nor ashore must any of the party leave the station for a greater distance than they can be sure of being able to return the same day.

(*d*) "As soon as possible after the houses are completed and the stores all in place, the party will set to work collecting sods, grass or any other non-conducting material; and before the winter sets in the whole house is to be covered with this, boards overlaid and snow packed over all; the assistance of the Eskimos should, if possible, be obtained, and the whole houses arched over with snow."

Besides all this work, Mr. Stupart will make extensive observations in terrestrial magnetism. The magnetic action of the terrestrial globe produces results greatly affecting the mariner's compass, hence it becomes necessary not only that navigators shall be acquainted with these forces, but that, as they differ in different latitudes, they should have a knowledge of these differences, which can be obtained only by a long series of observations. In order that the navigator of Hudson Strait may be able to intelligently read his compass, and therefore avoid running upon the rocks, it is absolutely necessary for him to be acquainted with the magnitude of the magnetic forces in every portion of the Strait. This is done by recording such observations as Mr. Stupart will make during his stay at the place which bears his own name.

I have gathered from Walker's work on Terrestrial and Cosmical

Magnetism the following observations bearing upon the magnetic work which Mr. Stupart is to perform. They will no doubt be interesting and instructive to the reader:—

The question is best opened by making two propositions, viz.:

1. If a rigid rod be suspended freely by a string without torsion, passing through its centre of gravity, its position will ordinarily be horizontal, whatever be the vertical plane in which it is situated.

2. If, however, a bar of magnetized steel be thus suspended, this horizontality of position and indifference as to the azimuth of the vertical plane in which it hangs no longer obtains. On the contrary, it is found that when the bar comes to rest, its direction makes a certain angle with a horizontal line in the vertical plane containing the bar and the suspending string; this vertical plane makes a certain angle with the meridian of observation.

Now the causes producing these effects is called terrestrial magnetism.

The angle which the horizontal needle of a compass makes with the meridian of the place of observation is called the *declination* (or by some the *variation*), and is said to be so many degrees east or west, according as the north pole of the needle deviates to the east or west of the meridian.

The vertical plane passing through the magnetic axis of the needle is called the magnetic meridian.

The angle which the vertical plane needle makes with a horizontal line in its plane of motion (supposed to coincide with the magnetic meridian) is called the *dip* or *inclination*, and is said to be north or south according as the north or south pole of the needle is below the horizon.

The horizontal needle furnishes the means of determining the *intensity*—or isochronous oscillations of the horizontal needle when displaced from its position of equilibrium on either side of the mean position,—of the horizontal component; and the direction and plane of action being known, the resultant force, or *intensity*, is known in magnitude and direction.

To show at once the value of these magnetic observations to the navigator, it is only necessary to state that the declination or varia-

tion of the magnetic needle on Lake Erie is about 4° west, while in Hudson Strait, at Cape Chidley, it is 50° west, and at North Bluff it is 52° west. The vessel is guided by her compass, it is true, but not alone by the direction of the needle, but by the *true* needle, which is ascertained by calculating the difference between the variation and the true north. This variation, as I have observed, is more or less, according to place of observation, east or west, north or south. The inclination or dip of the magnetic needle at Toronto is nearly 75°, while at North Bluff, on Hudson Strait, it is 84°.

The instruments to be used by Mr. Stupart for these observations are, the unifiler magnetometer for determining the absolute declination; the dip circle; an inclinometer for differential observations; a declinometer for the same purpose; a bifiler for showing the horizontal force; the sextant and the chronometer.

CHAPTER XII.

Fighting Field Ice.

NO SUNSHINE—RAMMING ICE PANS—LAYING TO IN FIELD ICE ALL NIGHT—APPROACHING SALISBURY AND NOTTINGHAM ISLANDS—THE NEPTUNE'S PROPELLER BROKEN—DESOLATE APPEARANCE OF NOTTINGHAM.

Where arctic ice pans crush and flow
In eternal winter; and the snow,
As ancient as the rocks it shrouds,
Knows no melting; and the clouds
Forever hide the sun.

WE left Stupart's Bay on the evening of Friday, 22nd August, just one month from the hour of leaving Halifax. We had been in Hudson Strait since August 5th, or seventeen days, and had met with bad weather most of the time. There were but few really rough days, but it was ever changing, raining one hour, snowing the next, and partly fine the next. We had experienced no positively fine days. The sun was not visible on an average of once in two days, and generally made its appearance but for a short time on each occasion. We found no cod either at Ashe's or Stupart's, but some fine trout were caught in the streams of fresh water running into the Strait, and into which they had found their way from the sea. Reindeer were seen inland, and the interpreter, Mr. Lane, captured a walrus, the heart of which made us an excellent breakfast. Ducks were plentiful, many of which were served on the ship's table.

The scene at Stupart's harbour, on the afternoon (August 22nd) we left it, was very remarkable. The shores near to us were lined with large pans of ice, left high and dry by the wind and tide. On

the slope, just over the Neptune's stern, were the four small buildings of the station, with Mount Bennett, an elevation named by our commander, just in the back-ground. On three sides of us were high rocks, decorated here and there with spots of frozen snow, while away to the south the long ranges of the main shore were covered with newly fallen snow. To seaward, as far as the eye could discern anything, was a vast stretch of field ice.

Weighing anchor, the Neptune headed towards the latter, the men and crew on board cheering Mr. Stupart and his assistants as they rowed away to the shore. In a quarter of an hour we were in the midst of the ice, battering away at it in right good earnest. At first the pans were scattered and we got along without much difficulty, but they became thicker and more compact, until the good ship was compelled to stop. Reversing her fan, she backed away, and again advanced in a more promising direction. By this method she made some little headway, but the progress was very tedious. At ten o'clock in the evening we were about ten miles from land, but still in the ice, which was so compact as almost to defy advance.

The tearing, and crashing, and smashing sounds were by no means pleasant, added to which, the lurching, and rolling, and raising, and pulling of the ship made all on board feel uncomfortable. The captain longed to be "outside" in the centre of the Strait, where, of course, the water was free from obstruction; but darkness intervened, and we were doomed to keep company with the relentless ice. The Neptune laid to, and all was quiet again, until the returning light of Saturday morning warranted a renewal of operations.

The propeller was put in motion at daylight on Saturday morning, and by half-past six o'clock we were through the ice into open water. Capt. Sopp estimated that we had made our way through over twenty miles of field ice, all more or less compact, between Stupart's Bay and the open water, which was reached just before breakfast hour on Saturday morning. It began to snow and blow at an early hour, and continued until noon. The afternoon was a mixture of snow and rain, with moderate winds and spells of partly

fair weather. About two o'clock in the afternoon we were passing a stretch of field ice, which ever kept to starboard. It was about ten miles in length, and was the first we had seen near the centre of the Strait. The water was quite smooth during the afternoon.

The Neptune encountered heavy ice-floes at half-past three o'clock on Sunday morning, the 24th August, and was kept busy enough fighting them for over fifteen miles, or until we found an anchorage on Sunday evening about 4.30 o'clock. At times we enjoyed say an hour, and once nearly two hours' freedom, but the day's journey was fully three parts through ice, some of it not very heavy, while in other places it was almost beyond the power of the Neptune to penetrate.

Sunday was exceedingly fine and bright, especially during the afternoon, when we enjoyed the additional blessing of warmth. The temperature was not very high, but the bright sun made it appear warmer than it really was. As we approached the shores, first of Salisbury then of Nottingham Islands, the ice became heavier, and while the Neptune was struggling with the thickest of it, trying to make what appeared to be a good anchorage on the east coast of Nottingham Island, she became entangled in the ice, broke her propeller, and had to make her way to the cove with a one-winged fan. This lop-sided navigation, consequent upon the accident, cast a cloud over our spirits and took much enjoyment out of the day. It was the first time we saw Capt. Sopp really out of patience. In short, he was out of temper to the extent of using unparliamentary language. There was another fan on deck, brought along in case of accident; but it required two or three days and much difficult labor to put it into position, so that, everything considered, the accident was no small misfortune.

The scene around us during our last ten miles' approach to Nottingham Island, and while we were coasting among the ice in more than one unfruitful attempt to make an anchorage, will not easily be forgotten by those on board the Neptune during that experience. The work of crushing a passage through the ice, which was exceedingly heavy, called every nerve into play. It was a

THE NEPTUNE STEAMING THROUGH FIELD-ICE.

carnival of the elements. Great pans of solid blue ice were smashed into pieces and ground up like corn between mill-stones. The pans had been driven so closely together by wind and tide that there was not room for them to swing out of the ship's way, and their strength, although they were often six and eight, and sometimes twenty-five feet thick, and twenty by fifty yards in superficial measurement, was not sufficient, except in two or three instances, to stop the ship. In the jamming and smashing consequent great pieces were often driven upwards on their ends, and thrown with great force against each other. In such cases the havoc was fearful to look upon. On several occasions the martingale and guys narrowly escaped being torn away.

As far as the eye could see, from Nottingham to Digges's Islands on the south coast, some forty miles, the field ice lay wedged in tight and fast, covered with four or five inches of newly fallen snow, while to the west and north lay the bleak, barren rocks, covered here and there with liberal stretches of perpetual snow, of Nottingham and Salisbury Islands. This wild place, this inhospitable island Nottingham, was to be the home, for a year or more, of Mr. C. V. De Boucherville and his men. It ought to have been called "De Boucherville's Disgust," for he looked upon it, if one may be allowed to judge by his countenance on that occasion, with feelings of unmitigated disgust; and I am sure that it required a lively exercise of all his nerve power, of which he possesses a liberal store, to reconcile himself to this voluntary exile.

As soon as we had come to anchor, a number of us landed and selected a place for the buildings. The harbour proved to be a very good one, and the place was duly named Port De Boucherville. The whole coast, as far as we could judge at ebb tide, was alive with a great variety of ducks. In about half an hour Mr. Lane, the interpreter, with his kayak and gun, bagged twenty of them.

While on shore, about five o'clock, I observed from the high rocks, about half way between where we stood and the cliffs of Cape Wolstenholme, forms which I took to be vessels. I immediately called Lieut. Gordon's attention to them, and he, upon looking, came to the same conclusion. We had no glasses with us and could not

make certain of our discovery; but on reaching the ship a man was sent aloft. He reported a brigantine about twelve miles to the south, fast in the ice; a schooner three miles west of the brig, and about the same distance to the south, also fast in the ice; a barque, in line with the other two, but two or three miles still further to the westward, likewise fast in the ice. He also reported that, so far as he could make out, the whole channel between Nottingham and the south main shore was blocked solid with field ice.

If ever mortals were guilty of the truthfulness of the saying, "misery loves company," some of us were. We had put in a very bad day in the ice, and would have been helplessly fastened a dozen times with a less powerful ship than the Neptune; we had come to a safe harbour, but on a most wretched coast; we had broken our propeller, and had only another to depend upon, and that might be broken in the next battle with the ice; for these and other reasons we were a gloomy lot. And I fear that the discovery of these sailing craft, revealing as it did the fact that there were others, not far off, in perhaps a much worse predicament than ourselves, brought with it a sort of gratification to which human weakness is nearly always subject under such trying circumstances.

I had predicted two or three days before that we would find the Strait blocked with ice opposite Fox Channel, and that we would overhaul the Hudson's Bay ship, stuck in the ice, before reaching the open waters of Hudson's Bay. The prediction was laughed at as nonsense, especially by Dr. Bell, who was so enthusiastic in favour of the Hudson's Bay route that he could not be persuaded that it rained when it poured; or that there was any wind, when it blew a gale of thirty miles an hour; or that there was any ice, when the Neptune was rearing and plunging in the midst of it like a mad bull; or that it was cold, when the mercury was down to 32° above, and when he was pacing the deck, compelled to wear a great coat of reindeer; in fact, he was almost ready to believe that the propeller had hit a whale rather than the ice. But, alas! he was overcome by the weight of accumulated evidence. With ice on the right of him, and ice on the left of him, and ice in front of him, as far as the eye could wander; with three vessels stuck in the ice to the south of

him; with the keen air biting the nose off him, and with thoughts of Saturday's blinding snow-storms tormenting him, he yielded, and acknowledged, and admitted, and said: "Yes, gentlemen, there is field ice, and lots of it; but this is an exceptionally bad season;" and so it was.

There were many surmises as to the identity of the vessels in the ice, but nearly all were agreed that one of them was the outgoing Hudson's Bay Company's ship, and afterwards it proved to be so.

While at Nottingham, the engineers and firemen were engaged for three days shipping a new propeller. The task was a most difficult one, but it was accomplished most successfully—thanks to the skill and pains of Chief Engineer, William Ruxton, and his able second, Mr. Bridge.

CHAPTER XIII.

Across Hudson's Bay.

FIGHTING THE ICE AT NOTTINGHAM—AN UNSUCCESSFUL ATTEMPT TO FIND A HARBOR ON MANSFIELD ISLAND—ALSO ON SOUTHAMPTON ISLAND—A PLEASANT VOYAGE—SINGULAR FORMATION—ARRIVED AT MARBLE ISLAND.

> In the placid inter-ocean's swell,
> Where the black whale blows, and the porpoise dwell.

THURSDAY, the 28th, was fine and warm. The buildings of the station at Nottingham were almost completed, and as it was evident that the work of putting in the new propeller would be finished before nightfall, Lieutenant Gordon announced that the Neptune would weigh anchor and commence to battle with the ice at daybreak on the following morning. But little or no change had taken place in the ice between Sunday and Thursday, so far as we could see. The sea in every direction, as far as a glass would carry our vision, was entirely covered, except an occasional dark streak, indicating open water. However all the vessels, except the schooner, had succeeded in passing out of our sight, toward the bay. There were four visible on Wednesday, but on Thursday evening only one, and that one had succeeded in making her way until she appeared no larger than a mere spec on the horizon.

Friday, the 29th, came bright and fair, but the Neptune was not gotten under way until nine o'clock, owing to the fact that her anchors were embedded in the blue glue-like clay at the bottom of the harbour, and occupied the men several hours in weighing them. Mr. C. V. de Boucherville and his men, Messrs. W. F. Esdaile and Andrew D. Inglis, left the ship in their boats, followed by the cheers

of those on board, a little before nine, and ten minutes later we were struggling in the heavy field-ice, making our way slowly from Nottingham.

The reader will have already observed that no Eskimos were met with on Nottingham Island. We did come across indications of old camping grounds, but these were such as not to show a recent occupation of the island. Three or four dilapidated caches were also discovered. They were made of loose boulders, and had been put up, probably, by the natives, to protect walrus blubber or meat, as well-bleached and partly-decayed walrus bones were scattered in the vicinity.

I should say that the neighbourhood of Nottingham Island would make a profitable walrus fishery. One day off Port de Boucherville I counted at one time between seventy and eighty walrus either swimming in the water or sunning themselves on the ice-pans.

We found the ice so much jammed that, after making a few miles from the harbour in which the Neptune had been anchored, she laid to, and waited for the tide to loosen it. After a stop of three hours, another attempt was made with better success, and by five o'clock in the evening we had penetrated ten or twelve miles of it, mostly heavy, and found our way into partly open water. While passing through this we came pretty close to the barque which we had seen in the ice. She had a good breeze from the eastward, and was using all her canvas in a pretty well-managed endeavour to make headway. A little later we passed the schooner so closely that we could plainly see, with our glasses, the stars and stripes which she had hoisted to her peak in token of recognition. The Neptune dipped flags with her and steamed ahead. We soon left them and the two other vessels we had seen far in the rear.

Night had scarcely settled upon us when again we were in heavy ice, which became so much of an impediment in the darkness that we were compelled to lay to until daylight the next morning. Operations were resumed at three o'clock on Saturday morning, and for fully five hours the Neptune struggled with the ice, meeting with considerable difficulty. Before nine o'clock, however, we had left the Digges Island, off Cape Wolstenholme, far behind, and entered

the broad, placid, warm waters of Hudson's Bay, with the low, sandy, barren, flat rocks of Mansfield Island before us. We greeted the warmer water and the general prospect with feelings of delight. and I fancied all on board entered into a better spirit of thanksgiving for having escaped, for the time being, the inhospitality of Hudson Strait.

The coast of Mansfield Island is exceedingly low and flat, and the water is very shallow for a considerable distance from the shore. We spent the most of Saturday coasting along the eastern and southern shores of the Island in a fruitless attempt to find a suitable anchorage, so as to erect an observing station. One of the Neptune's boats was sent ashore twice, but on both occasions she brought back the report that there was no harbour, and no fresh water to be found.

In our observations of the coast during the day, we noticed a curious formation of rocks rising in the shape of the ruins of an old castle, from the dull level, much resembling the ruins always to be met with on the Rhine. There was a little field ice skirting along Mansfield Island, but none to interfere with navigation. While looking for an anchorage on Mansfield we could see to the north-eastward the distant shores of Cape Wolstenholme, and the Digges Island, and far away to the south-east, near the entrance to Mosquito Bay, the masts and sails of a vessel, probably a brigantine. But the most interesting objects that came within the reach of our glasses, were two polar bears, probably the mother and her cub, walking leisurely over the low, flat, barren rocks of Mansfield Island. Upon noticing the Neptune, three or more miles distant, they ran away into the interior.

On the last occasion upon which the boat was sent ashore on Mansfield, Dr. Bell accompanied the men and procured a handsome collection of botanical and geological specimens, together with some shells. There was no sign of animal life of any kind on the island save the bears to which I have referred, and two or three long ago deserted Eskimo cachés. Everywhere the prospect was utterly bleak and barren.

Before darkness overtook us on Saturday evening, Lieutenant

Gordon had decided to abandon Mansfield Island altogether. In the first place, because no suitable place for erecting an observing station could be found; and secondly, because, so far as we could see on the spot, no great object could be served by the maintenance of a station there, even were it possible to establish one. He gave orders, and the Neptune was directed towards the most southern of the Southampton Islands, which we sighted about ten o'clock on Sunday morning, August 31st. In leaving Mansfield by the south-west, the Neptune encountered considerable ice, but it was not very heavy, and was penetrated without difficulty.

Most of Sunday was spent in an unsuccessful effort to find a suitable harbour or anchorage on Southampton, so that an observing station could be erected there, but the attempt was given up on Sunday evening. The day was exceedingly fine, and, as on the previous Saturday, in coasting Mansfield, every opportunity was afforded for approaching close to the shore and making a thorough examination of the coast, and yet a landing could not be made. It was thought that a station on this island would be useful in watching the channel between it and Nottingham, and also in making general observations as to the character and movements of the ice in the north-western portion of Hudson's Bay, and it is to be regretted that the attempt to find a suitable place on the island was unfruitful. The Neptune approached the shore near Cape Southampton, and coasted along to the south-east of the island, in a north-east direction, some twenty miles beyond Carey's Swan's Nest. About two o'clock in the afternoon it became apparent that the search for a harbour would end as it did, and that we were burning coals to no good purpose, and Lieutenant Gordon ordered the ship about. Her course was directed towards Marble Island; but at noon on Monday, thanks to the sun which was shining brightly, our latitude and longitude showed the Neptune to be in the entrance to Chesterfield Inlet, a great distance to the north of Marble Island. The mistake had been made by a miscalculation in taking the departure from Southampton, and by the variation of the compass, which Lieutenant Gordon had not been able to ascertain by magnetic observations since leaving Nottingham.

We saw nothing on the shores of Southampton indicating inhabitants save a few deserted cachés, and the ruins of a few long since forsaken Eskimo huts. The island was exceedingly low, flat and barren, much the same as Mansfield.

At half-past six o'clock on Tuesday morning, we entered a narrow inlet on the south-west coast of Marble Island, and before seven o'clock were anchored within two hundred yards of the odd-looking quartzite rock, mostly barren, of which the island is composed. It is of a whitish colour, in some degree resembling marble, hence, I suppose, the name of the island. The place has become famous as the wintering quarters of the American whalers. The island is about five or six miles wide and twenty or twenty-five long. The harbour is pretty well sheltered. It is a long, somewhat winding inlet, bordered on either side by rocks, rising out of deep water to the height of thirty or forty feet above the sea.

Our voyage across Hudson's Bay was exceedingly pleasant. We had fine weather, favourable winds, and, therefore, comparatively smooth water. The temperature was much higher than it had been in the Strait, and the weather was a decided improvement.

CHAPTER XIV.

The Story of Marble Island.

A DESOLATE GRAVE-YARD—MONUMENTS WITH HISTORIES—WRECK OF THE "ANSEL GIBBS"—A TALE OF SUFFERING AND DEATH—THE LOSS OF SIX WHALERS IN THE WELCOME—CURIOUS RUINS—WRITING ON THE ROCKS.

> Alas! for the crew of the barque "Ansel Gibbs,"
> They were wrecked on a cold, barren shore,
> Far away in the north where the wind and the sea
> Chant the songs of the deep evermore.

ARRIVING at this place we were both surprised and disappointed. Disappointed at not finding natives or inhabitant of some kind, and surprised at seeing so many indications of the dead. No human form of any kind met our gaze. All was motionless. Over our port bow, on the gravel of the shore, far above high water mark, where patches of grass relieved the dull monotony of the scene, were a small pile of common boards, half-a-dozen barrels, a large tank, a tub, an old rocking-chair, a boat bottom side up, a castaway anchor, a window, and the lumber for a shanty, a hoop jigger, a small stove, and a quantity of material left there by the whalers. Further to the left and directly to the south of us on a high gravel ridge was a string of graves, some twenty in number, marked by large well-formed wooden monuments, crosses and short pieces of boards. The scene about us was singularly impressive. In the stillness of the morning, while the sun was yet low in the eastern horizon, bathing the vast sea over which its refreshing rays fell toward the little island, in golden brightness, and before the breeze had yet awakened into life: without the voice of beast or bird, or the breath of life to stir the atmosphere, and ere

the crew of the Neptune had been fully aroused, I stood upon the quarter-deck of our good ship and surveyed this prospect.

It was the most north-westerly point that the Expedition would reach, and it appeared to me, some way, that to have reached it, with the good old flag of the Dominion floating over us, was no small achievement. I regarded it as, to us, the signal of Canadian progress a sign of the ever onward march of British power, British commerce, and British freedom; and, I thought of it, as to future generations, embalmed in history, a landmark of Canadian advancement which shall have added much importance to the world's greatest Empire-Kingdom. It was, indeed, the place and the hour for contemplation, and I could not readily turn away from its opportunities. Standing where I was, and looking back, so to speak, over the inhabited portions of Canada, and then over the history of the people of Canada, and over the history of Great Britain, and over the history of modern times, it seemed to me that, stretching from the land of the Norsemen, and the waters of Archangel, to "India's coral strand," all peoples, and tribes, and tongues, from the earliest days of Chaldean power down through the history of Assyrian, Persian, Grecian, Roman, and Anglo-Saxon supremacy, have, in the progress of the arts and sciences, in the growth of political institutions of government and civil liberty, in the development of commerce and the advancement of industrial pursuits, and in the rise and glorious reign of Christianity, been moving forward north-westerly. The contemplation, visionary in one sense, was real in another, and history was the source of its inspiration. The general course of human progress, for thousands of years, has been to the north-west; it was still in the flood tide of its strength north-westerly, and the flag of the Dominion, floating from the mizzen-peak of the Neptune in the little anchorage at Marble Island in the north-western waters of Hudson's Sea, in the early morning light of September 2, 1884, was beckoning that progress onward to higher latitudes.

> Mankind, in all ages, in marching along
> The highway of commerce, by mighty and strong
> Impulse of progress, invariably throng
> A course that leads north-westerly.

'Twas true of the Norseman; 'twas true of the Dane;
'Twas true of the Norman, the Phœnician,
Also of the Saxon, who came to remain,
With England's gay festivity.

'Twas true of the Pilgrims who built Bunker Hill,
And 'tis true of the French at Quebec citadel,
And Patrick from Cork, who came to instil
A love of his nativity.

'Tis true of the German from dear "faderland;"
'Tis true of all people, in tribe or in band,
From tropical Spain to India's strand—
The course is bent instinctively.

War-loving Cæsar, extending the sway
Of proud, haughty Rome, in battle array,
In the march of his conquests, came on the same way,
In carnage and profanity.

The world's march of commerce and science and skill,
In errands of blessing their work to fulfil,
Move in the same course—north-westerly still—
The path of Christianity.

As soon as the anchor was down, and before breakfast had been taken, Lieutenant Gordon, Captain Sopp and the writer, with two of the ship's crew, jumped into the gig and pulled to the shore. We first directed our attention to the graves. Walking a little to the left and ascending to the high gravel ridge, about fifteen or twenty feet above the level of the water, where the dead had been buried in a long row parallel with the shore, along the top of the elevation, a little mound of small stones marked each grave, raised about two feet above the ground and rocks of which the ridge was composed. At the first, and the most westerly, was a high wooden monument newly painted white, on one side of which was engraved and made very readable by the use of black paint, the following inscription:—

Sacred to the memory
of
CAPTAIN WILLIAM MURPHY,
of
Schooner Abbie Bradford,
Who died of consumption at Marble Island, April 5th, 1881, aged 48 years.

Then came two or three graves marked only by numbers on small pieces of board, and then a high cross made of boards and painted white. There was an inscription on it which I copied:—

DANIEL O'CONNELL,
Died of consumption, December 24th, 1876.
Bark A. Houghton.

Next was a row of fourteen graves, numbered from one to fourteen on small pieces of wood. About midway of the row was a monument considerably higher than the others, on which were inscribed the names of the dead in the fourteen graves. On one side I read:—

BARK A. G. CREW:

ANTOINE,	L. DEVALLE,
E. BENDER,	C. STILES,
C. SINSER,	M. ENOS,
M. MCCONNELL,	F. BATTISTO,
M. LOUIS,	C. HADLE.

On the other side were:—

BARK O. J. CREW:

J. MARSHALL,	J. GARRIETY,
F. COLEMAN,	J. GRAHAM.

A little further on a grave was marked by a monument with this inscription:—

HARRY B. MARTIN,
Died January 28th, 1873; age, 38 years 9 months. Second mate of schooner Abbie Bradford.

Next to this was a high monument. The inscription it bore explained its meaning:—

Erected to the memory
of the
Larboard boat's crew of the Abbie Bradford, lost in the Welcome,
September 5th, 1874.

W. F. ROBENSON, mate,	C. WADE,
W. F. BURNHAM, boat-steerer,	F. DALE,
J. RANDALL,	H. K. SEEMAN.

On another wooden slab I quoted these words:—

Memory of
HERMAN BRAUN.
Drowned October 14th, 1874. Marble Island.

And on still another, the last of the long row:—

Erected by the crew
of the
Bark George and Mary to the memory
of
GEORGE VERINO,
Who died of consumption, Friday, September 26th, 1878; age, 22 years.

While I was copying the inscriptions from the monuments, one of the two men who had charge of our boat had been looking about among the debris a little way off, where the whalers had left a dory, about a dozen long ice saws, a pile of lumber for a shanty, a stove, a large tank, half a dozen barrels, and a dozen other things, discovered, tied to the hoop-jigger, a small bottle, evidently containing a letter. He brought it to Lieutenant Gordon, who extracted an unsealed letter without difficulty. It was written plainly in pencil on a half sheet of foolscap, and was as follows:—

"Aug. 7th, 1884. On board the barque George and Mary, at Marble Island. All well. Three whales. The north part of the bay has been filled with ice since the 10th of July; could not get up the bay nor to the east shore. Had a very cold winter and spring. On the 23rd of May the thermometer was 4° below zero. Got out 7th of June; laid in the outer harbour all winter. No natives come to the ship while we lay at Marble Island. Had plenty of scurvy but came out of it all right. Shall stay in the Welcome until the last of August, then start for home, if nothing happens.

"E. B. FISHER,
"Of the George and Mary."

The barque George and Mary had evidently been whaling in these waters for several years, as, by the evidence of the grave of Verino, she had been at Marble Island six years ago and probably before that date. We could not discover whether coffins had been

used in burying the dead on Marble Island or not; nor was there any evidence that even graves had been excavated in the ordinary way. The mounds of small stones were at least three feet high, and suggested the idea that the rigours of this northern climate may have forced them to adopt, in a great measure, the Eskimo style of disposing of a dead body. They may have been able to dig or clear out a small trench, of suitable length and breadth, ten or fifteen inches deep, and then, placing the body in it, cover it over with gravel and small stones, raising the mound that still characterized it.

DEAD MAN'S ISLAND—MARBLE ISLAND.

At any rate the burials must have been very rude, and such as to fill the mourners with feelings of the deepest sorrow.

There were nineteen of these graves, as nearly as I could make out, which, considering the short space of time the island has been used by the whalers, looked like an alarmingly excessive death rate. Between consumption and shipwreck, and the severity of the weather, a good many had been taken off, breathing their last, and leaving their poor bodies upon these cold rocks, where the winds of almost perpetual winter blow in pitiless and withering blasts.

I looked upon the inscription on the tablet, "Erected to the memory of the larboard boat's crew," of the Abbie Bradford, "lost

in the Welcome," on the 5th of Sept., 1874, commemorating the six whose names I have given. Here was a key unlocking a most thrilling piece of history. The record of the last days of these men of the Abbie Bradford's larboard boat was forced upon me unaided by the imagination. They were "lost in the Welcome." Now this "Welcome" is Row's Welcome, a body of water lying in the extreme north-west portion of Hudson's Bay, a strait, really, leading from Hudson's Bay into the Frozen Strait that further leads easterly into the northern part of Fox Channel. It is a large sheet of water, known now as the "American whaling ground." Standing by this grave I can see the Abbie Bradford far up in the troubled waters of Row's Welcome. The look-out-man has discovered a whale from the crow's nest at the foretop. He descends, takes his place at the helm of the larboard boat, which has been let down and manned, ready for the chase. The course is given and four men, bending to the oars, a fifth at the swivel-gun, and the helmsman, making up the doomed six, they speed away. On and on, rising and falling with the swell, turning this way and that, to avoid the floating ice. At length the monster of the seas rises, it may be, but fifty or sixty yards from their boat, and blows the water with tremendous power. Turning the gun upon him, the harpoon is discharged into his fat, oily side. Down he plunges! But to rise again, perhaps nearer than before. And now, we cannot tell, but it is not improbable, he turns his mighty tail with a well-directed, irresistible blow towards the boat, smashing it to pieces, or sending it high into the air to fall again emptied of its contents. However it may have occurred, it is useless now to conjecture. There are so many ways in which death and destruction could overtake a frail boat in the Welcome, that to speculate as to the particular manner in which these six men were precipitated into eternity, is needless. One thing we know, they went down into the cold waters of Row's Welcome to rise no more until the seas shall give up their dead. There is but little now to perpetuate their memory, save it be the aches of broken-hearted widows and mothers and sisters, in the bereaved New England homes which were darkened by their death. But their noble-hearted comrades, who had fellowshipped with them in the hardships of

the whale fishery, let it be spoken to their praise, have erected this monument on the spot where they would have carefully laid their bodies could they have recovered them. It is very simple, very plain, and badly lettered; yet it stands away up in that far north land, declaring to the God above and to all who find shelter in the little harbour, that those whose lives it commemorates died in the discharge of their dangerous duties, and were mourned over by true and affectionate friends.

Here is another slab that speaks in powerful language: "Erected by the crew of the barque George and Mary," to mark the grave and perpetuate the memory of George Verino, "who died of consumption," in 1878, in the twenty-second year of his age. Poor George Verino! at the age of only twenty-two; away up on the barren rocks of inhospitable Marble island, he dies of consumption. There are marks about his grave that indicate how he was beloved by all the crew. The little mound had been sodded over with a stunted grass turf, obtained with some labour and exertion from a neighbouring valley, no doubt to keep the grave green, as a token of the way in which his memory should be kept by his comrades. Poor Verino had died after facing the grim monster for many long weary days, as all consumptives die, wasting away and sinking under the influence of slow disease. How lonely and how heart-sick he must have been in the dark, dirty, grave-like forecastle of the little barque. Spring came late in June, but there were no opening flowers or budding trees to gladden his heart; there were no singing birds to bring his soul into close communion with its Master. Loved ones were far away; he longed to be with them, but death held him in its grasp. The bible that his mother gave him, if he had been so careful as to preserve it, was read long and often. The photographs of relations and friends were his best companions; and, more than likely, he pressed to his lips the likeness of one dearer than all others, the one whom he had promised to love and protect. He could see her no more in this world. How sad were the last days of poor George Verino. But he escaped, we trust, to the better land; and it matters, I fancy, but little to him to-day, that the point of his departure was in the ever frozen regions of the far north.

There is a high board cross erected over the grave of Daniel O'Connell, who "died of consumption, Dec. 24, 1876." The tablet gives no record of his age, but its form indicates the faith in which he died; and the fact that it was erected, so far as I can judge from the other graves, by Protestants, indicates that, meeting death calmly and deliberately, he made request concerning his burial and the emblem of his church that so appropriately marks his last resting place in this lonely spot.

Of the fourteen whose graves are marked by numbers, and whose names and numbers are inscribed on the large wooden monument, under the title of "Bark A. G.: crew" and "Bark O. J.: crew," what shall I say? Was it shipwreck that brought them all to their graves, or was it disease, or were they all frozen to death? I cannot tell. It makes one almost shudder to look upon the little mounds of stones and read the only half intelligible inscription. In their last hours there was great distress. They came to their end in some awful calamity. That is enough. Let us turn away from these graves, and hope that no friend of ours will have such an end.

About five o'clock in the afternoon I discovered on the gently sloping rocks on the side of the narrows leading from the outer to the inner harbour, a vast quantity of writing which had been executed with a small brush and black paint. It proved to be of considerable value in explaining, to some extent, how the victims of the fourteen graves, of which a description has just been given, came to their deaths. The inscription, "Bark A. G.," evidently meant the barque "Ansel Gibbs;" for I was able to decipher from the writing on the rock the following head-lines over about thirty names: "Survivors of the crew of the barque Ansel Gibbs, wrecked on the 17th of Oct., 1872." There were following about thirty names, but many of them were so much obliterated that I found it impossible to make a complete list. Near by was another list of those who had "died from scurvy" during the winter following the loss of the vessel. These names were mostly intelligible, and I was enabled to ascertain that they were the same as the list already given the reader, quoted from the wooden monument in the burial-ground. There were, how-

ever, some slight differences. There were just fourteen, the same as on the monument; but the name "Antoine" was written "F. Antoino," the latter, no doubt, being correct. The name "Battisto" was written "Baptiste," and that of "Hadle" "Hadley."

Not far from this writing on the rock were the remains of a hurriedly built stone hut which had no doubt been thrown up to protect and shelter the unfortunate crew of the lost vessel. In this hut, with such food, clothing, etc., as they had been able to save from the wreck, the winter of 1872–3 was passed, or endured, by such of them as survived its hardships. Fourteen of their number, one after another, were carried off, victims to scurvy. It must have been an awful winter; and I can fancy that death would be little else than a relief to those who became a prey to the disease.

Following along the shores of the narrows and of the inner harbour, I came upon an old wreck lying partly out of the water. It might have been the remains of the "Ansel Gibbs;" but what was left of it indicated the size of a schooner rather than that of a barque, especially the dimensions of the timber; but, notwithstanding, if the "Ansel Gibbs" did not exceed three hundred tons, the wreck in question might properly be said to be what in all probability still remains of her.

As for the six victims whose names are recorded on the eastern side of the monument under the heading "Bark O. J.: crew," I cannot separate them from the crew of the "Ansel Gibbs." The same names appear, fourteen in all, both on the monument and on the rock. They may have, at some previous date, belonged to a barque called "O. J."; or, indeed, the "O. J." may have left part of her crew to winter with the "Ansel Gibbs." It is very difficult to say. One thing, however, is certain: the whole fourteen died and were buried on that far-off, desolate island, and their memories share alike in the one monument.

The letter left by Capt. Fisher of the barque "George and Mary," quoted above, deserves some attention. It shows, in the first place, that these American whalers are in the habit of communicating with each other in this way. I take it that the "George and Mary" came in last year, and possibly found, on her arrival, a letter

from the captain of the "Abbie Bradford," that is, if the latter barque remained there the previous winter. The letter left in the bottle, which we read and carefully replaced, was no doubt intended for the outgoing ship of this year, and that one of those passed in the strait between Nottingham and Cape Wolstenholme is the vessel.

The letter revealed the fact that they had spent a hard winter; yet they were able to saw themselves out of the harbour and reach open water in this extreme northern part of Hudson's Bay by the 7th of June. I am sure this is most remarkable, and furnishes another certificate of the navigability, to some extent at least, of Hudson's Bay.

There is an outer and inner harbour at Marble Island. A narrow channel leads from the outer harbour to a little basin further in among the rocks. This channel at high water will float an ordinary vessel which, when inside, is like being taken within the four walls of a huge enclosure. In these harbours the whalers spend the long cold winters; and, as the number of graves indicates, suffer and sometimes die from the inclemency of the weather, especially those of weak or diseased lungs.

Lieutenant Gordon spent the day at Marble Island, finding the latitude and longitude, the dip of the magnetic needle, and the variation of the compass. This work he completed by two o'clock, except the calculations, and set about making a triangulation survey of the harbours, and taking soundings. By nine o'clock in the morning Dr. Bell, with three of the Expedition hands, started out in a boat on a geological excursion. He coasted around the western end of the island, obtained a good collection of specimens, and returned at seven o'clock in the evening, without making any remarkable discoveries.

CHAPTER XV.

From Marble Island to Churchill.

RAIN, WIND, FOG AND HEAVY SEAS—ROLLING AND PITCHING, AND WAITING FOR FINE WEATHER — SEA-SICKNESS — ARRIVAL AT CHURCHILL—CHEERING PROSPECT.

WE left Marble Island at seven o'clock on the evening of Tuesday, September 2nd, and steamed towards Churchill. The sky had become covered with clouds, the evening was cold, but there was as yet only a light breeze and smooth water. This pleasant state of the weather, however, did not long continue. Before midnight the seas were rolling high and the Neptune was labouring in the swell. With each advancing hour the wind became stronger, and the vessel rolled and pitched with great violence.

We reached a point off the mouth of the Churchill before daylight on Thursday morning, but the furious storm of wind and rain which characterized nearly every mile of our voyage from Marble Island, was still raging. It had grown worse instead of better. The wind was blowing at the rate of forty and forty-five miles an hour.

It was impossible to approach the coast while the weather was so thick, therefore the Neptune was laid to, and allowed to beat about with her bow to the gale all day Thursday, the 4th, all night Thursday night, all day Friday, the 5th, and I was going to say, all night Friday night. The only exception to this was that during Friday night we approached nearer to the coast, in the hope of being able to make an entrance on Saturday morning. At six o'clock, a.m., we sighted Knight's Hill beacon, which is twenty-five miles south of Churchill harbour. At ten o'clock we were off the

mouth of the Churchill, with the three beacons and old Fort Prince of Wales plainly in sight. The storm had abated so that now the wind was down to ten or fifteen miles an hour, and the mist was becoming light.

Our record from Marble Island to Churchill was one of wind and rain and storm and sea-sickness. The Neptune "weathered the gale" beautifully, so they all said; but I was not in a condition to appreciate her style. Confined to my berth from Tuesday evening until Saturday morning, by a fit of sea-sickness, which was wretchedly bad, I was in no mood to appreciate anything. In fact, I had but small regard for the doctor who visited me only on the third day, and then went away leaving me as a medicine, I suppose, nothing save the remark, "lay on your side and don't eat too much." Now I couldn't lay any other way, and hadn't eaten a mouthful for nearly three days, and you may be sure that, for once in my life, to say the least, I entertained feelings of contempt for a doctor. The advice was no doubt good, in its place, but I was the last man on earth to require it. I could have gone up to the mizzen cross-tree and enjoyed a smoke in the rigging, as easily as to have eaten a mouthful. I told this at the Neptune's dinner-table, intentionally at the doctor's expense, a few days afterwards, but it turned out to my own cost, and none laughed more heartily than the doctor himself. I don't care how seriously sea-sick one becomes, he must expect to be laughed at by those who, by some strange freak of nature, escape its horrors. But there are times at sea,—times when the winds howl and screech furiously, and the waves toss their angry tongues into the rigging,—times when sea-sickness becomes, as it were, a sort of common heritage to all on board. Such was to some extent our experience in the memorable trip from Marble Island to Churchill; and, although very sick myself, I derived no small degree of comfort from the fact that the fellow in the next berth was a fellow-sufferer.

The mist and the rain and the wind of Saturday morning—all slightly abating—did not prevent us from enjoying the sights that greeted us on entering the Churchill River. On the right were the beacon and the long, low ruins of old Fort Prince of Wales,

relieving Eskimo Point of its dull outline, to some extent, and presenting a strangely interesting feature. On the left were the beacon, the flag-staff, the ruins of an old discarded battery, three common looking storehouses, and a high, long trestle pier, scattered along on Battery Point. Passing between the two headlands, where the entrance to the harbour is less than half a mile wide, and where it required full speed from the Neptune's engines to overcome the combined strength of the ebbing tide and river currents, we steamed into one of the grandest harbours on the North American Continent. Dr. Bell, who was familiar with the mouth of the river, was the Neptune's pilot, and right well he performed the office.

Port Churchill is a beautiful basin, from a mile to a mile and a half in width, and from two to two and a half miles in length; and averaging from five to twenty fathoms of water throughout; but beyond this magnificent harbour the Churchill is not navigable for even the smallest craft.

From the harbour, the present Fort Churchill, as it is improperly called, is not visible. The trading post is some four and a half miles farther up the river, hid by the intervening high rocks. The only attractions observable in the harbour are the old fort on the north, and on the south the remains of the old battery, three storehouses, and the high, long trestle landing pier.

There was considerable rain throughout the whole of Saturday, so that but little progress was made in making examinations on shore. The men were put to work obtaining ballast, and it was decided that the trip up the river would not be undertaken until Sunday morning.

I had almost forgotten to state that while we were yet steaming into the harbour, the smoke of the Neptune was observed by Mr. Spencer, chief trader, Mr. MacTavish, chief clerk, and their half-breed servants who were at the lower storehouses attending to some work. This brought them over the point in great surprise. They had been watching and waiting, long, anxious weeks, for the arrival of the Hudson's Bay Company's vessel, but as yet they had waited and watched in vain, and were beginning to become greatly dis-

couraged. The previous year had been one of delays approaching almost to disaster. The Ocean Nymph had not reached this post until very late, owing to the exceptionally large quantity of ice met with in the Strait, and was unable to make the return voyage, and was laid up all winter in Churchill harbour. She had but three months' provisions, and with a crew of fourteen men, Chief Trader Spencer found himself without sufficient supplies, necessitating long tedious trips overland to York to procure them, in order to provide for his unfortunate guests.

As I have said, this rendered the winter unusually hard, and put things out of joint generally, so far as communication with the home office was concerned. The inhabitants of Churchill had not been informed as to the steps taken for their accommodation the present year. Of course they knew that a ship would have to be sent out, but the sixth of September had been reached, and that ship had not yet arrived. The prospect was, indeed, gloomy enough. If by any mishap the outcoming vessel should not be able to get through, the winter must, per force of circumstances, bring them many hardships, and impose upon them many privations. No wonder, therefore, that they had started up in surprise and expectancy at noticing the smoke of our steamer. They were not long, however, in deciding who and what we were. Already the overland mails from Winnipeg had informed Mr. Spencer of the agitation going on in Manitoba, concerning the proposed Hudson's Bay route, of the projected enterprise of constructing a railway from Winnipeg to Churchill, and lastly, of the fact, that during the month of September, he might expect the honour of a visit from the first Canadian Government Expedition to enquire into the navigation of the northern waters of the Dominion.

They must, therefore, have been greatly disappointed, but they were not the less cordial in bidding us welcome on that account. Jumping into one of their two-masted whale-boats—a small craft kept for handy use—they came alongside, borne by the current and wind with great speed, while the Neptune's anchor chain was yet clanking at the bows. In a few minutes Messrs. Spencer and MacTavish, with four half-breed servants, were on deck, and the

pleasant duty of hand-shaking was performed with unusual warmth by all parties concerned.

Dr. Bell, who was well known to Mr. Spencer, received an exceptionally hearty welcome from that gentleman, and was prevailed upon to accompany him, at a later hour, to the village, as his guest for the night, and, as it afterwards turned out, the whole time we remained in that port. The Chief Trader also extended the hospitalities of Churchill to Lieutenant Gordon, Capt. Sopp, and such members of the Expedition as were still on ship-board, in a most cordial manner; but as the weather was unpleasant, and the day well-nigh spent, the invitations could not be accepted until the following Sunday.

Saturday afternoon in Churchill Harbour was a pleasant relief, notwithstanding the rain. We seemed to be somewhere in the vicinity of civilization again; and although the much talked about railway—proposed railway—from Manitoba to this point was not yet constructed, we could almost realize, by a stretch of the imagination, that we were within a twenty-four hours' Pullman trip of old Fort Garry. Since leaving Nain, on the Labrador coast, we had not seen so much in the way of vegetation as a tree: not even a stunted spruce bush; but, at Churchill, far away in the distance, on almost every hand, were real Canadian forests. The trees were not large on the coast, nor very close together; but, as I was informed, farther inland the timber was of good size, and of much value. We had high hopes concerning the Sunday that was to follow. We were to have the first opportunity in six weeks of attending church, and that opportunity was not to pass unimproved, that is as far as our attendance was concerned.

CHAPTER XVI.

SUNDAY AT FORT CHURCHILL.

PREPARATIONS FOR CHURCH—THE REV. MR. LOFTHOUSE—A CURIOUS COURTSHIP BY PHOTOGRAPH AND LETTER—AN INTENDED BRIDE STARTS FROM THE OLD COUNTRY FOR HUDSON'S BAY TO BECOME THE WIFE OF A MISSIONARY—THE CHURCH AND THE SERMON—THE DINNER AT CHURCHILL, ETC.

> Where an odd little preacher is hunting a wife,
> And the comforts of home and the blessings of life,
> On the edge of perpetual winter are found.

GOOD fortune favoured us all day on Sunday, the 7th September. The morning was warm and bright, and by six o'clock all on board were in active preparation for the visit to the village. A number of the ship's crew and some of the Expedition men "forward" had gone off with the rising of the sun to desecrate the day, in shooting curlew, ducks and geese, and the sharp reports from their guns came to the Neptune on the still, soft morning air as the first sounds of awakening life. Boots that had been banging about under berths with the rolling and pitching of the ship for weeks, were brought out and polished up in grand style; razors were strapped and faces were shaven; wrinkled white shirts and crumpled white collars were straightened out, and buttons were fished out of disordered valises and fixed into their places; even hair oil, perfumed soap, and Florida water made their appearances; creased up and much mussed coats and vests and pants were shook and pressed and dusted; jammed and broken hats were patted into something like their original shapes; and in every corner of the cabin, in the state rooms, and on the quarter-deck, wherever there was a nook or corner available, might have been seen some one

actively engaged washing, or combing, or shaving, or fixing on an unruly collar that was too short or too long, or torn at the button-hole. By nine o'clock the work of transformation was complete; and, let me say, the change was such that almost every man was filled with astonishment at the appearance of the others. There was our Mr. Fox, the Expedition photograph artist, for instance. He had become careless of his appearance, possibly because every one else had become the same, and also because his whole energies had been fully concentrated on picture making and picture taking. To see him was to see a camera in one hand and a set of wooden legs in the other, with a package of prepared plates under each arm. But the idea of going to church was sufficient, for the moment, to tear him from the idol of his heart. He laid aside his photographing paraphernalia long enough to black his shoes and tie on a pair of patent leather leggings, to adjust a stand-up collar, and to straighten out a pair of long-neglected kid gloves; but, no longer. Not he! Instead of a cane he carried, on the way to the house of God, in his right hand, the legs of his instrument, and instead of a prayer-book he pressed to his bosom, under his left arm, the same old camera, fully determined to photograph both preacher and congregation: a determination which, as the reader will see, he carried out to the fullest extent.

We started from the Neptune at nine o'clock in a boat manned by four of the ship's crew. The party consisted of Lieut. Gordon, Capt. Sopp, the aforesaid artist, the chief-engineer, Mr. Laperriere, and the author. Three miles of the distance were made in the boat, the other mile overland, and the whole journey was accomplished in less than an hour. The little village, at the foot of a hill, burst upon our view while we were upon its summit. There were not more than a dozen buildings, and these were closely huddled together, some of them painted a sort of dull red. It is called the New Fort—I cannot tell why; because it is very ancient, and was never in any way connected with a fort—unless it be for the reason that it is not as old as old Fort Churchill at the mouth of the river, and that it took the place of that fort as the abode of the Hudson's Bay Company's officers about a century ago.

The present residence of the chief trader has a record of over thirty years, and is still in a good state of preservation. It is a small cottage, with only four or five rooms; but is comfortably furnished, and best of all is well tenanted. Here we were received by Mr. Spencer, and introduced to his good wife and four little children. He has two not at home, one at York Factory, and one attending St. John's College at Winnipeg. And here also we met Mr. MacTavish, the Rev. J. Lofthouse, and were rejoined by Dr. Bell.

The Rev. Mr. Lofthouse becomes at once a person of interest to my readers, for one reason in particular. He is, as you will have supposed, the missionary stationed at this post by the Church of England, and is a pleasant looking, affable young person, well qualified to get along in a quiet way, without occupying any more space in the world of thought and action than the small duties of his limited sphere require. He came out from his Yorkshire home in 1882, and has been since located part of the time at York. He had only a few days before completed the journey from that place to Churchill along the coast on foot, a distance of over one hundred and fifty miles, in order to meet the outcoming Hudson's Bay Company's ship as soon as she reached her first anchorage on the west shore of the bay. Do you ask why he could not wait for her arrival at York? For the best of all reasons! If arrangements have not miscarried, his future wife comes out with the vessel to join him in matrimony and the cares of married life in his adopted home on the shores of Hudson's Bay. As soon as these circumstances had been communicated to me, I told him that I felt quite sure the much longed-for and, no doubt, constantly prayed-for ship which we had undoubtedly passed in the Strait would sail into the Churchill before the close of the day; but his confidence had become shaken in such prophecies, and my attempt at consolation was a failure.

There is a good deal of romance connected with the story of the reverend gentleman's courtship. After becoming settled in his new north-western home he bethought him of the necessities of his new position. Of course the comforts of home could not be complete without a wife, and neither at York nor at Churchill was there to be found a person suitable. In fact there were no ladies—unmarried

ladies—at these places at all, except Cree ladies; and although some of these are really beautiful and fairly well-educated, they are not just suited to the necessities of the parsonage. Under these circumstances, the Rev. Mr. Lofthouse exchanged photographs, through friends in the old country, with a young lady whom he had never seen, but of whom he knew something by hearsay. The courtship, the proposal, the acceptance, and the whole business had been completed in the narrow scope of two letters; but let not the reader suppose it lacked sentiment and feeling on that account. Far from it. On the contrary, I fancy, the intended bride, and I am sure the intended bridegroom, were greatly overcome by the peculiarity of the circumstances. They were to meet as strangers, as lovers betrothed, promised, engaged, and for the purpose of marriage.

I can imagine that as Mr. Lofthouse gazed at her photograph, he would ask himself, "I wonder if she is large or small; her likeness looks well; she is the picture of goodness, indeed, she is beautiful in the photograph; but the photo cannot speak or smile, and I want to meet the original." And I can also imagine that, as the adventurous young lady looked upon his likeness, she would say, "He looks splendid, doesn't he? I wonder if I'll like him?" and so on.

But I thought of the young lady who was coming out to be his wife, and of the hardships she must endure on the voyage in a rough sailing vessel, and of the privations she will suffer in this northern climate. Supposing her to be in one of the ice-bound vessels we had passed in Hudson Strait, it struck me forcibly that she will have merited a pretty good husband by the time she reaches Churchill. But I suppose ladies will never cease making endless sacrifices for shiftless man. There has never been a time in the history of the world when the pioneers of civilization were lacking of good, true, brave, noble-hearted women; and the history of Churchill is but another demonstration of it. Where men dare to go, women will venture to follow.

Our pleasant conversation in Mr. Spencer's residence was suddenly brought to a close by the ringing of the chapel bell. Mr. Lofthouse observed that it was time for service, and hurried away across the yard, passing through a swarm of husky dogs towards the

church. The little population were following his example. It was a red letter day for Churchill. The visit of the Neptune was an event overshadowing all others, in nearly every respect, for a whole century. She was the first steamer that had ever entered Hudson's Bay, and was a source of indescribable wonder to the natives. Our mission was nearly altogether unexplainable to them; but it was all the more a matter of debate on that account.

The servants' tenement row, as I must call it, a long low building divided in some six or eight apartments, and the abode of about fifty souls, half-breeds, was alive with commotion. Every one from old "Uncle Sammy" and "Granny Gray" down to the little children, of whom there was a surplus, seemed to be engaged in an effort to rise equal to the occasion; and I must do them the justice to say that they succeeded as far as it was within their power. They were all making their way across the well-kept yard to the little galvanized iron church, the men dressed in their best, with bright-coloured handkerchiefs tied about their necks, tassels hanging from their ornamented caps, and with prayer-books in their hands. The women did not appear to be as particular in the matter of dress as the men. Half-breed women never are, so far as I can judge. They wore plain black dresses, with common-looking shawls thrown over their heads, and looked stupid. The children were gay, happy and frolicsome. They had togged themselves out with every available article within their reach. One little boy not over five years of age, trotting along by the side of his mother, wore a high beaver hat, higher in the crown than he was long by two or three inches. He presented a most comical sight, and it was with some difficulty that I dissuaded Mr. Fox from an attempt to photograph the little fellow on the spot.

There was nothing very remarkable about the little church. It was of galvanized iron outside, and sealed with matched boards inside. In size it was about thirty feet long by eighteen feet wide, and might seat fifty or sixty people. There were three windows on either side, each containing eighteen panes of glass, and shaped in the usual church window style. A good sized bell was suspended in the steeple, which pealed forth the call to worship in right good

earnest. Within, the scene was one of the greatest interest. At the entrance was the plain comfortable-looking box stove; on either side were rows of benches, ten altogether. At the upper end, fenced off from the auditorium by a neat railing were the table and desks covered with red cloth. Behind these, on the wall, were four tablets of sheet iron, upon which were handsomely painted, in the Chippewayan language, the Apostles' Creed on the first, the Ten Commandments on the next two, and the Lord's Prayer on the last. On either side of these was a small picture, unframed, and tacked to the wall: one the scene of "Christ Cleansing the Temple," the other, the "Return of the Prodigal Son." Underneath the whole, in large letters in English, were the words: "Because Thy loving-kindness is better than life, my lips shall praise Thee." There were unframed pictures tacked to the walls, between the windows, of "The Sacrifice of Cain and Abel," "Moses saved by Pharaoh's Daughter," "The Brazen Serpent," "David and Goliah," "Christ Feeding the Multitude," "Christ Healing the Multitude," "Christ Announced to the Shepherds," "The Worship and Offerings of the Wise Men," "John Preaching in the Wilderness," "Christ and the Woman at Jacob's Well," "Death of Annanias," and other appropriate decorations.

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ᑎᑎ ᐅᑎᖏ ᑎᐅᖅᑲ ᐅᓀ ᓇᓪᑕᑎᓇ ᓴᕐ ᑎ ᔪ ᓇᖅᑲ.

ᑎᑎ ᐅᑎᖏ ᕆᓗᐊ ᐅᕆᕆ ᐯᓴᓗ ᒪᐃᒍ ᑲᐅᓴᒃ, ᓀᓀᕆᑐ ᑎᓗ ᐯᒍᑎ ᐊᑏ ᑎ, ᒪᓂᐃ ᐅᓂ ᐊᖏᓇ ᔪ, ᐳᖏᒋᓪ ᒍᑎ ᖏᑎᐅᑲ ᑎ, ᑌᗐᓐ ᐅᖃᓕᕐᒉ ᑕᐅᑎᔅᑲ, ᐯᑭᓇ ᑎ ᔪ, ᖏᐃᓐᓴ ᑎ ᔪ, ᓀᓀᕆᑐ ᑎᑎ ᔅᓐ ᑕᑎᔾ ᔪ, ᓀᓂ ᓇᐅᑎᒉ ᐅᑎ ᑕᑎᑕᐅ, ᖏᒉ ᔅᓐ ᐯᐃᑎᒉ, ᑎᐅᖅᑲ ᑕᑎᑎᑲ ᐅᑎ ᑕᑎᑕ, ᐅᐊᓀᐊᓐ ᑎᑎ ᑕᑎᑕ, ᑎᑎ ᑕᓂ.

ᑎᑎ ᐅᑎᖏ ᓀᓀᕆᑐ ᑎᓀ, ᐅᑲᓀᓐᑎᓀ ᐃᑌ ᑎᓀ, ᑎᐅᖅᑲ ᐯᑎᑎᓵᐃ ᐅᐱᑎ ᐅᐱᑌᓀᑦ, ᑎᐅᖅᑲ ᐅᑭᑎ ᐊᓇᑦᑎᑦ ᓀ, ᑌᑎ ᐅᐯᓀ ᑎ ᑕᑦᐅᑕᓀ, ᐃᓪᓀᓀ ᑕᑎᑕ ᐊᑎᑎ ᔪ. ᐯᒐᓐ.

"APOSTLES' CREED"—CHIPPEWAYAN.

At one side, near the railing, was an old melodeon that has been in use at Churchill for about a quarter of a century. I could not learn where it came from. It is sadly out of tune, very rickety, and can't last much longer without repairs.

When we had all been seated, the parson wearing his surplice behind the desk, Mrs. Spencer at the melodeon, and the congregation on the high-backed benches, numbering altogether nearly forty, the service commenced in the usual Episcopalian style; but when we came to the following very appropriate references in the canticle, I was so forcibly reminded of our experiences in Hudson Strait as to forget my devotions:—

"O ye dews and frosts, bless ye the Lord, praise him and magnify him forever."

"O ye frost and cold, bless ye the Lord, praise him, and magnify him forever."

"O ye ice and snow, bless ye the Lord, praise him, and magnify him forever."

I had always regarded the Church of England ritual as a masterpiece of English, but never before supposed it to contain so many special references to the peculiar characteristics of Hudson's Bay and Strait.

The reverend gentleman read his text in a clear voice: Isaiah lv.: 6 and 7: "Seek ye the Lord while he may be found, call ye upon him while he is near;"

"Let the wicked forsake his way, and the unrighteous man his thoughts, and let him return unto the Lord, and he will have mercy upon him, and to our God for he will abundantly pardon."

In the first place we were impressed with the idea that the price of salvation was the asking or seeking it; but to be found it must be sought *while* it may be found, as there was a time coming to each person, who failed to seek, when it cannot be found. The method of seeking was very simple. The command was: *call* upon God. "There was life for a call on the merciful One." A good many people stumbled over this simplicity. The call was to be made "while he is near," as there are times in the life of every one when, through special providences and otherwise, God is nearer than at

others. The price of salvation also included forsaking sin. Every man had an abundance of sin, therefore no mistake need be made about forsaking it. Evil companions, dissipation, etc., were to be forsaken, and evil thoughts were to be subdued. Further, the price of salvation included returning unto God. One might have something to give up in forsaking sin, but he had much more to gain in returning to God. When these conditions were complied with, the seeking, forsaking, returning sinner was to be *abundantly* pardoned. There would be no half-way measure, but a full whole-souled pardon. To illustrate this abundant pardon, the preacher told a story of a young Scotch lad, well brought up by Christian parents in a country place, who at a certain age left his home in Scotland to enter upon a business life in the great city of London. There he met with evil companions, got led into gambling dens and stole his master's money. Being discovered, his master told him of the fearful wickedness of his crime; but to his great joy and surprise said he had decided, in view of his great temptations, to forgive him. The young lad began to weep with joy, and to thank his employer that he was not sent to prison, and was told that he was not only fully forgiven, but was to be reinstated in his old position. This added surprise to his astonishment, but it was not all yet. His master went on and said that he had decided not only to fully forgive him, and to fully reinstate him into his confidence and employment, but to promote him to a higher station. Such, said the Rev. Mr. Lofthouse, is the character of God's abundant pardon.

It seemed to me, however, that the illustration went a little too far. It was all right perhaps for the London merchant to have forgiven the wayward young Scotchman, and even to have reinstated him, but the promotion business looked too much like placing a premium on rascality. However, it was a pretty good sermon to meet with away up in Churchill; and one who had not been treated to a sermon for so long was not disposed to find fault, especially as the hearty singing, aided by the screaky melodeon, had a tendency to smooth off small rough edges of doctrine. In the afternoon I visited the Sunday school, conducted by the parson, and found some twenty children, mostly girls, much interested in the exercises.

It was amusing to observe the tactics of our Expedition photographer at the close of the morning service. Scarcely had the last syllables of the benediction died on the parson's lips, when that enterprising young man approached him and, introducing his subject, remarked that the Canadian people were deeply interested in the welfare of the Hudson's Bay missions, and were most anxious to learn everything possible concerning them. To meet this requirement, and in order to carry back with him tangible evidence of church work in the far north, he had ventured, even on the Sabbath, and even on the occasion of visiting the Lord's house, to bring along with him a small camera, and—would the parson be so kind, would he think it out of place, would it be possible, and would the people not be too much shocked?

The parson looked greatly bewildered, and the young man saw plainly that the point must be reached without delay as the congregation was rapidly separating.

"Would it be too much," he asked, "to get the people together at the door of the church, just for a few seconds; and there, with their shepherd at their front, I could secure a photograph of the whole, the little church included, in less than a minute. The people of Canada would be so glad to see such a picture."

The reverend gentleman began to understand the position. He thought that perhaps the emergency would warrant the seeming disregard of the Sabbath; and, after a few hurried words with the chief trader, gave his consent and began to get the motley crowd into position. As Mr. Fox, with a great rubber coat over his head, began to adjust the lens, while an ugly looking husky dog growled threateningly at his side, I said, surely the energy and enterprise of our artist has reached a climax. But the photograph was secured, and I do not suppose the sermon lost any of its good results in consequence.

CHAPTER XVII.

Churchill People and Industries.

THE HALF-BREEDS OF CHURCHILL—THEIR CONDITION, HABITS, ETC—UNCLE SAMMY AND GRANNY GRAY — DESCRIPTION OF CHURCHILL VILLAGE—THE COMMERCE AND INDUSTRIES OF CHURCHILL—OLD FORT PRINCE OF WALES.

THERE is neither an Eskimo nor yet a resident Indian population at Churchill. The inhabitants of the place number about forty. These are Chippewayan half-breeds, except the officers of the post and their families. There are, however, about two hundred natives in the neighbourhood who visit the fort, off and on, during various seasons of the year. The Indians (Chippewayans) come in the early spring to trade, bringing with them the valuable skins of the otter, the deer, and the martin, the mink, the silver-grey fox, etc. The Eskimos visit the fort, generally during the winter, laden with white bear, deer, white fox, wolf or other fur-bearing skins. In this way a considerable traffic is carried on, to the great profit of the Hudson's Bay Company and to the many hardships and privations of the natives, who, however, appear most in their true element when half naked, half starved, and very dirty.

The half-breed population of Churchill, less than forty souls, dwell, with a few exceptions, in a long, low building, owned by the Company, in which they are sort of tenants at will. In the best sense of the term they are nothing more or less than slaves. They are called servants. The name, perhaps, suits their condition and circumstances best. There is generally a sort of engagement or agreement between the men and the Company. They are engaged for periods of from three to five years, at stipends ranging from one

pound to two pounds ten shillings a month, and are always paid in merchandise at Hudson's Bay Company's prices—prices that are never complained of because there is not the slightest advantage in complaining, but which are large enough to make up for the infrequency of purchases. They live and die in the service of the Company, enjoy but few privileges, few comforts, and have no opportunities of learning anything about the world in which they live.

From the large number of children among them, and their very healthy condition, it is plain to be seen that they are on the increase. They are provided with all the absolute necessities of life in full supply. They are seldom in want of food, except occasionally when the supplies at the post run short, as the country is full of deer, wild geese in their season, and small game; and, as the Company's agents treat them honourably, their condition is one of comparative comfort. In conversation and manners they are very simple, plain, dull, and quiet people; and, in speaking with them, one is impressed with the dense ignorance of all things in which they live. Their knowledge of mechanics is confined to fire-arms and sailing craft. A steam engine is totally beyond their powers of comprehension. One of them, in looking over the Neptune's machinery, thought it could not have been made by man: that it must have grown. I was interrogated at some length by a Churchill breed above the average in intelligence, concerning the proposed "locomoty," as he called it, that Canada was going to "send" from Fort Garry to Churchill. He had no idea whatever of a railway, and thought of the project as a vast machine, the movements of which might be hard to control, and dangerous in the extreme.

"How high is a locomoty?" he asked. I told him, and then he observed, "I hears it is a terrible thing to yell: Does it yell most in the day time or in nights?" My explanations were not intelligible to him. He meditated for a while, and then broke out: "How does they fasten it?" I compared it, to some extent, with the engines of the Neptune, but soon learned that I had made a fatal mistake. That man is irrecoverably confused with the idea that a railway is a sort of ship, and I found it impossible to afford him any light on the subject.

But any reference to the half-breed population of Churchill without mention of Uncle Sammy, and Granny Gray, would be doing violence to the simplest rules of justice. Uncle Sammy is a white man, a native of England, and is considerably over eighty years of age. He has resided on the shores of the bay for about three quarters of a century, and is the grand old patriarchal ancestor of the Churchill breeds. His wife, not quite so aged, is a Chippewayan squaw, active, intelligent and happy as a clam. The old man is as deaf as a granite boulder, and hasn't heard a sound of any kind for years. He walks as straight as a Crimean soldier, and feels himself to be of considerable importance. He is very white, and begins to look much the worse of wear, and will soon lay down to rest in the historic burial-place, on the banks of the Churchill. These two old people are as much a part of the village as is old Fort Prince of Wales, a feature of Churchill. Around these are the children of the fourth and fifth generations, who look back to the boyhood days of old Uncle Sammy Gray with some such feelings as Canadian children contemplate the childhood of Abraham, Isaac or Jacob.

Churchill Village has nothing attractive in its appearance. The buildings are all, except three or four store-houses, a little distance away, within a square not exceeding two acres, and are enclosed by a high palisade, now partly broken down. The little church, with its tiny steeple and bell, gives an air of civilization to the place, while the everywhere prowling husky dogs, of which there are not less than fifty, lend the hamlet an air of lazy animation. The domestic animals consist of two cows, two calves and a bull. There is an abundance of good pasture at hand, and hay of a fair quality is plentiful, so that the chief trader and chief clerk's residences are well supplied with butter and milk at small cost.

The grave-yard, a little way in rear of the buildings, on the side of the hill, is poorly kept, and presents no very interesting points. There are but two tablets containing inscriptions. All the other graves have been neglected, and are scattered among the scrub, here and there with but little, and sometimes nothing, to mark their exact location. Churchill is an exceedingly healthy place, there having been but three or four deaths during the past ten years.

The stockade, or palisade, that once surrounded the place is fast going to decay, and in many places is entirely broken down. It has a generally dilapidated appearance, and what is still standing has a slope outwards and sideways, which says plainly enough that its usefulness as a stockade has gone. The entrance faces the river, which at this point was nearly due north. The buildings consist of Mr. Spencer's house, which stands at the west end of the enclosure. On the north side is one long wooden building which from its appearance might have been built a century ago. This is the servants' tenement house. Opposite to this is the little church to which I have already fully referred. Next to this is the clerk's quarters. It is a low, long building. Next to this is a small hut, the dwelling of one of the principal hunters of the village. Then comes the store-house, work-house or factory, the dairy of the chief trader, and the stock-house, and further on, the magazine, built from stone with a lead-covered roof.

The little garden seemed a lonely feature of the place. It is not more than sixty feet square, and I was informed by Mr. Spencer that the soil of this garden had been carried in baskets and barrows from a considerable distance. It contained turnips and a few other vegetables, but these had made but little headway and would not be able to reach maturity. The turnip tops are used as greens; the roots never develop to be of much service.

Outside of the palisade, and on the river's bank, is a large oil refinery where the blubber from the walrus and porpoise is "tried out." This building contains large cast iron tanks, and is otherwise equipped for reducing blubber on a large scale. It contained a number of casks of oil, and a few hogsheads of blubber, all of which emitted an odour not in anywise desirable. A long pier or wharf extends from this refinery out into the stream, by means of which boats are loaded and unloaded. Down on the south shores of the harbour there are two other refineries, both larger than that to which I have just referred.

I had intended to say something concerning the commercial importance of Churchill,—to speak of the trade with the natives, and the oil industry which is being rapidly developed, and will do so

in a general way further on. Early every spring two large boats are sent up to the walrus grounds just to the north-west of Marble Island. Last season this enterprise was conducted by Mr. George MacTavish, chief clerk, who, with a crew of half-breeds and Indians, took twenty-two large walrus in a few days, and could have easily secured as many more, only that the blubber from the carcases of those he captured more than loaded his boats. He experienced a very successful trip, with the exception that one of his Indians died suddenly of heart disease during the voyage up.

Aside from the walrus hunt, Mr. Spencer is developing a large porpoise, or white whale fishery, on the very shores of Churchill harbour, where, with his nets and traps, he took last season one hundred and ninety of these mammals of immense size. By extending his facilities, five hundred or a thousand might be taken annually. As I have said, two large blubber refineries have been opened at Churchill, where the fat from the porpoise and walrus is refined and placed in casks ready for shipment to Europe. This oil, together with the furs which are taken from the natives in exchange for merchandise, and the ivory from the walrus, make up an annual budget at Churchill of great value. These products of the Dominion are exported each year in the Company's ships, and find a ready market in the old world, to the great advantage of the Company's treasury.

I was greatly struck with the advantages of Marble Island, or the west main coast in that vicinity, for a trading station. If an enterprising company were organized with even a moderate capital, and established properly in the north-western portion of the bay, with all the appliances for whale, porpoise, and walrus fishing, and with plenty of marketable merchandise to exchange with the natives for furs, the enterprise would unquestionably be fruitful of very large returns. I wonder that this opportunity has not been improved long ago.

Since the arrival of Mr. Spencer at Churchill, some seven years ago, he has worked successfully to develop the porpoise and walrus fisheries. "Thoroughly understanding the business himself, he went to work, erected buildings, built boats and nets, and was soon doing a

flourishing business. Last spring they secured nearly two hundred white whales, as they call the porpoise. Three years ago Mr. MacTavish, who is an enthusiast in the interests of the company, coasted the whole way from Churchill to opposite Marble Island, where he has since done an extended business with the natives in oil and walrus ivory. Last spring his visit netted the company two large double lugger loads of oil and about two hundred pounds of ivory. The rendering or "trying out" house is a large two-storey building at the fort, fitted up with huge vats for receiving the blubber and oil. The method of capturing the porpoise is as successful as it is ingenious. A huge net is securely anchored at the bottom of the river, and is so placed that when the tide is in it lies on the bottom and offers no impediment to the progress of the animals up stream. Just before the tide turns, however, the hunters raise the net, and as the water recedes the porpoise are prevented from returning to sea. As the tide ebbs the animals are left high and dry on the mud, and are easily despatched by the hunters. They depend for their fresh meat here on the reindeer, or barren ground caribou, hundreds of which are sometimes killed in a single season."

The accountant's department at Churchill contains some things of interest. Chief among these is the accountant himself, Mr. MacTavish, who is a young man of pleasing address, very obliging, and thoroughly conversant with his work. The accounts are kept in £ s. d., as in the old country. "One may see here," says a contemporary writer, "the names of the Indian hunters who receive credit from the company at this post. One, for instance, has received credit for a couple of blankets, powder and shot, a kettle, and so on. For these he will pay next spring, when he comes in with his furs, and receive a new credit. At Churchill, however, very little credit business is done. The trade with the Indians is small, the great bulk of the business being with the Eskimos, who come down once or twice a year from the far north. No money is used in any transactions with the natives, the unit of exchange being a beaver skin. Thus a bear skin is worth so many beavers, and the same with every other kind of fur or article kept for sale in the store. Small pieces of sticks about three inches in length, and branded,

'pass as beaver skins,' are given or taken in exchange for everything at the store."

Churchill has its full supply of miserable, snarling husky dogs. They have no horses, but these dogs take their places. A good dog is reckoned to haul fifty weight on a sledge, so that with a team of six or eight dogs, three or four hundred pounds can be transported, often at the rate of fifty miles a day. In fact these dogs are indispensable to the natives and people of the north generally.

Before leaving Churchill Village, I must mention the generous hospitality of Mr. Spencer, the chief trader, and his good lady. We had the great pleasure of dining with them on Sunday, the 7th. The table was a sight that could not fail to sharpen the appetite of any Canadian. There were fat, delicious wild geese, nicely roasted, and there were ducks of various kinds cooked in like manner; and there was fried curlew, and roast curlew, and fried snipe, and broiled snipe, and ptarmigan on toast, and a variety of other small game. O, such a dinner! Such a variety of game! And then our host made each one at the table feel that he was sole proprietor of all the birds that had been served. There was but one thing lacking. It was not ale. We had something better than that; but they had no potatoes. Instead, turnip leaves were served in the style of greens. There was havoc, that day, among the game at Churchill! I cannot tell who ate the most, but everyone seemed to feel that his whole duty was not done until he had partaken liberally of every kind and variety, and, so far as I could see, every one's whole duty was discharged without stint.

OLD FORT PRINCE OF WALES.

On Monday, the 8th, Mr. Spencer and family, accompanied by the Rev. Mr. Lofthouse and Mr. MacTavish, visited the Neptune.

They had with them a number of men-servants to manage the boat in which they made the journey, and two maid-servants to look after the four children. Capt. Sopp had ordered the cabin put in good order, and directed the steward concerning some extra attentions to the dinner, so that everything possible was done to make their visit pleasant.

The day was exceedingly fine, warm and summer-like; and in the afternoon we all made an excursion to Old Fort Prince of Wales, on Eskimo Point, about two miles distant, and spent several hours among the very interesting ruins of that long-ago deserted post.

Old Fort Prince of Wales was commenced about 1735, and completed, probably, in 1760, by the Hudson's Bay Company, I suppose to protect their possessions from the French; but it was not much more than completed when La Perouse captured it, and carried its commandant, Samuel Hearne, a prisoner to France. But for this, and the destruction of the fort, as also that at York, the French Government is said to have paid a good sum at the close of the war.

It is the old Roman style of fortress, about three hundred and fifty feet square. The outer walls, which are a little over six feet thick, of solid masonry—the face stones being all well dressed—were originally about twenty feet high. They are now somewhat dilapidated, and in places partly broken down, but the present average height is still over sixteen feet. Within, nearly everything has fallen into decay. The walls of the barracks and officers' quarters are still standing, but will not hold out much longer. They have parted every here and there; many of the stones have tumbled down, and at the ends they are tottering to their fall. The arch over the main entrance has collapsed, and partly fallen into the passage. That portion which still remains in position has assumed a threatening attitude, and the visitor passes under with feelings of insecurity.

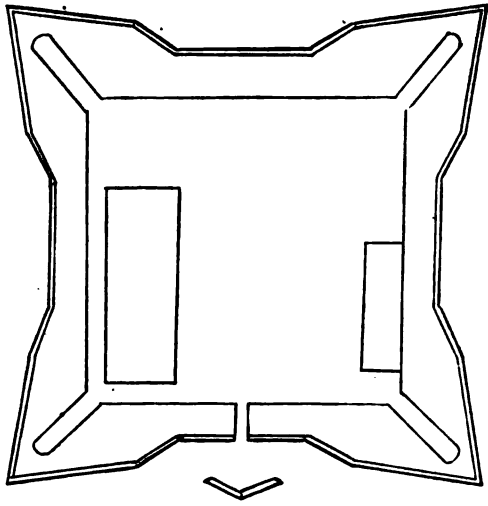
The parapets are well covered with grass, and afford a very pleasant promanade. The inner walls are in a good state of preservation, and will stand for centuries to come. From the ramparts one can see a vast stretch of ocean and landscape, and the prospect,

on a fine day, is full of interest. There are a large number of guns, all more or less damaged, lying here and there on the parapets, but the balls and other movable objects of interest have been pretty much carried away by travellers. The guns are all stamped "G. R." representing the reign of King George I., and are principally nine, eighteen, and twenty-four pounders. Some of them are about two and a half tons in weight. We carried away some fifteen or twenty balls, nearly every one in our party securing one or two.

There are six inscriptions on the outer front walls, but these indicate nothing of importance. Take, for instance the following:—

"Guildford Long,
Of Rotherhithe: Fecit.
1754."

This means nothing more than that the stone bearing the inscription was dressed by Mr. Long in 1754, and that said Long hailed from Rotherhithe. The others are: "W. Matthews of Rotherhithe, 1755," "Jno. Paterson, 1754," "Henry Robinson, 1753," "James Whorey Taylor, 1741," and "Wm. Irwin, 1752."



GROUND PLAN OF OLD FORT PRINCE OF WALES.

There are a number of graves near the fort, some of them well preserved, with rude tombstones. On one of the latter I noticed the initials "C. B.," and on another, "John Sutherland, 1813." At one of the graves a number of bones were exposed, which we placed together and covered over with the loose gravel at hand.

While on Eskimo Point, upon which the old fort stands, I visited Sloop's Cove farther up the harbour, where there is a quantity of writing or engraving upon the rocks, of more or less historical value. In 1741, a man named John Kelley was hanged, it is said, for steal-

ing a salt goose: at least that is what the Hudson's Bay people have handed down from one generation to another to the present time. On one of these rocks is the figure of a man hanging to the gallows, under which are the words, "John Kelley, from the Isle of Wight." On other rocks are the names: "Robert Smith, 1776," "Robert Fowler, 1776," "Richard J. Johnson, 1753," "Sl. Hearne, July, 1767." This is probably the father of the Hearne who abandoned Fort Prince of Wales in 1782. There is also the name of "George Taylor, 1787," and the inscription: "Furnace and Discovery, 1741." It will be remembered that these were the two vessels brought out by Captain Middleton in his unsuccessful attempt to find the north-west passage in the year named. After visiting Churchill he went as far as Repulse Bay, and then returned home, where he was severely taken to task for his great lack of energy in prosecuting the work of the expedition.

We carried away from old Fort Prince of Wales two or three cannon shot each, and returned to the ship about six o'clock, well satisfied with our excursion.

CHAPTER XVIII.

The Attractions of York Factory.

ANCHORAGE IN THE OPEN WATER—A VOYAGE IN A YORK BOAT—THE STREETS AND BUILDINGS OF THE ANCIENT METROPOLIS OF YORK—THE CREE SETTLEMENT—GREAT KINDNESS OF THE HUDSON'S BAY COMPANY'S PEOPLE—SICKNESS—DEATH—A MURDER TRIAL.

DURING our stay at Churchill Lieut. Gordon made arrangements with Chief Factor Spencer to act as meteorological observer. The anemometer was erected on one of the buildings, a thermometer shed was set up, and the barometer hung in a suitable place. Mr. Spencer had received the proper instructions, and on Tuesday evening, the 9th, the Neptune was ready for departure. We steamed out of the harbour at dark, on our way to York Factory, taking with us Mr. George MacTavish, Chief Accountant at Churchill, who availed himself of the opportunity to make the journey.

On Wednesday evening we arrived off the mouth of the Nelson and Hayes Rivers; but the water was quite shallow, and darkness having overtaken us, the Neptune was laid to until morning. The weather was quite thick all day, but there was only a moderate wind. Thursday morning brought us but little improvement; but at nine o'clock it was clearing, and we were in sight of the beacon on Beacon Point, a narrow, low point of land, at which the waters of the Nelson and Hayes Rivers unite. Our captain knew that there was no harbour at York, and therefore approached the "five fathom hole" anchorage, fifteen miles off the Fort, with great caution. Mr. MacTavish acted as pilot. He was quite well acquainted with the ground; but by some miscalculation we went a

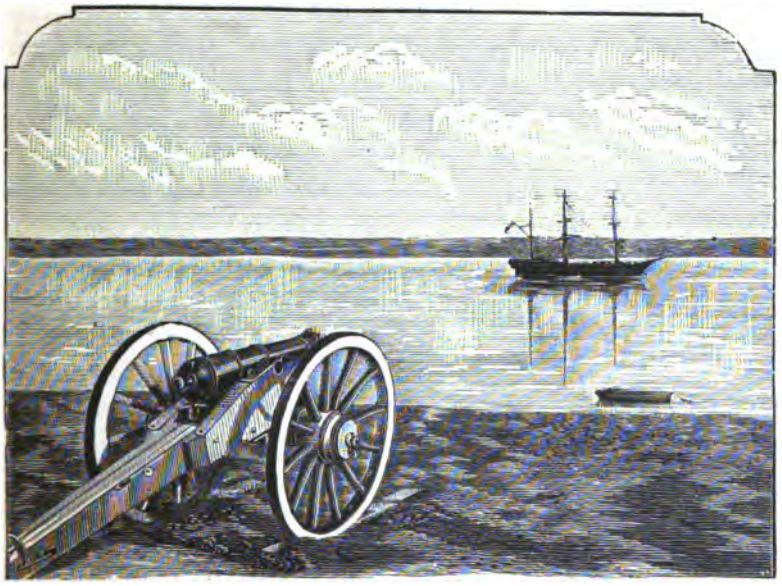
little too far in, and at ten o'clock, for the first time, the Neptune struck the bottom. She turned a-starboard without difficulty, and was promptly taken out over her tracks some two miles and anchored. The lead was being swung constantly when she touched, so that it must have been a sand-bar that came in contact with her bottom.

The vessel was anchored fifteen or eighteen miles off the post; her ensign and house flag were unfurled; the small gun on the forecastle-deck was discharged some four or five times; and the whistle was sounded to its fullest capacity, in the hope of attracting the attention of the people on shore. Twelve o'clock came, and there was no sign of any one approaching. The swell was quite heavy, and none of the Neptune's boats were large enough to weather it. At last Mr. Lane, the interpreter, was induced to undertake the voyage to land in his kayak. His frail skin craft was lowered to the turbulent water, and the brave Eskimo half-breed entered it. With his paddle flying from one side to the other to steady him in the waves, he rose and fell on the surging bay like a sea-gull speeding away towards the beacon. He had not gone out more than two miles when, from the mizzen crosstrees, the boatswain sighted a boat approaching in the distance. Guns were then discharged and the whistle blown to recall Mr. Lane. He understood the signals and returned; but the York boat did not beat her way out until five o'clock.

She was in charge of Chief Accountant Cowie, who had with him the well-known pilot, John Smith, Dr. Matthews, and six men. They all had supper on ship-board. They had heard of the Expedition, and were on the look-out for us, and when they saw the smoke of the Neptune they knew the long looked for company's ship had not arrived, but that the Expedition had. Nevertheless, they were prompt in sending off the boat, which would have reached our vessel by noon had the tide and wind not been unfavourable.

Lieutenant Gordon, Dr. Bell, Messrs. Laperriere, Fox, and the writer, accompanied them back to the Factory. We left the Neptune in their excellent boat at seven o'clock in the evening, and arrived at York Factory at three o'clock on Friday morning. The journey will never be forgotten by those who made it. Beating about in the open water in the darkness, sending up rockets and

burning blue lights to attract attention, in the hope that lights would be exhibited on shore by which we might be guided; running on rocks and shoals, and anchoring until the incoming tide would float us off again; now hoisting the sails, and then shortening them, as the case required. Thus we put in the night in a sorry plight, indeed. At ten o'clock tea was made over the fire-kettle,



ARRIVAL OF OCEAN NYMPH—YORK FACTORY.

and served with bread, butter, and canned beef. At one o'clock coffee was likewise made, and served with pie. On the outward trip one of the men had shot a fine goose. This was picked, cleaned, and roasted or cooked in some way over the fire-kettle, and devoured by the men. By these diversions the night was worn away, enlivened now and then, despite our condition, by songs and jokes.

At three o'clock in the morning we reached the landing, and walked up through the gate into the great yard, on the broad board walks of York Factory, greeted, as ever, by a host of contemptible husky dogs, growling and snarling and yelping. We were well entertained, and slept soundly until eight o'clock, when we were

greeted with one of the most beautiful mornings that ever delighted the human heart.

I went forth to view the beauties of York Factory, and found much to admire. The general appearance of the village is pleasant to look at. As a Hudson's Bay post it is by no means what it has been, and yet nothing has fallen into decay. The buildings, of which there are about fifty belonging to the post proper, many of them large and handsome, are clean and bright-looking, and must have been erected at great expense. The main factory building is a square, with a court-yard in the centre, being over two hundred feet on each side. The front centre is three storeys high, the other portion two storeys. It is of wood, as are all the buildings belonging to the place. It stands back about three hundred feet from the front palisade, which runs along parallel with the Hayes river, upon which it fronts. On the right, as you enter through either of the two gates, is a row of buildings extending from the palisade back to the factory, or to the end of the long summer house on a line with the front of the factory. These are the department store-rooms, net houses, stores, shops, etc. The summer house was used to accommodate the officers from inland posts when visiting the factory.

On the left is a corresponding row of buildings, of the same style, two storeys high. These are the "old trading rooms," the provision house, etc. As I have said, the great factory is in the form of a square, extending back about two hundred feet. There are rows of buildings parallel with the sides of this square, extending all the way round. These are the chief factor's residence, the chief accountant's residence, residence of the clergyman, the doctor's house, the church, the school-house, the hospital, the servants' houses, the middle-men's houses, the photographic rooms, the general offices the library, the cooper-shop, the blacksmith shop, the bake-house, and many other buildings. The high palisade extends completely round the whole, but there are a few buildings outside of it, notably the Indian church, which is capable of accommodating over three hundred, and is an imposing structure with a high tower surmounted by a large cross.

In front of the factory building are the gardens, divided by the

two main walks leading from the esplanade along the river front. The principal features of these gardens were potatoes and turnips, which are doing as well as could be expected in that latitude.

Away to the north of the village, about three miles, are the ruins of old Fort York, which was captured and destroyed by La Perouse in 1782. Between this and the new fort, as it is generally called, and near to the latter, is the powder magazine, enclosed by a high palisade, and the grave-yard. Near to the entrance of the latter is

CREE INDIAN CHURCH, YORK FACTORY.

a grave, enclosed by a picket railing, with a large grave-stone upon which I noticed the following inscription :—

Sacred
To the memory of
WILLIAM SINCLAIR, Esq.,
Chief Factor
Honourable Hudson's Bay Company's Service,
Who died 20th of April, 1818.
Age, 52 years.

'Behold Thou hast made my days as an hand-breadth, and my age as nothing before Thee. Verily, every man at his best estate is altogether vanity.'

Erected as a testimony of affection, by his son.

Within the high picket fence there are a large number of graves, most of them marked by tomb-stones, but there is nothing particularly interesting in the inscriptions on them. Two are written in Cree, and attract attention on that account. In speaking with the doctor I learned that York has not of late been considered very healthy. There were twenty-five deaths last year, fourteen of them in a single month. The greater number were taken off by an epidemic of bronchitis. Last year, however, was an exceptional experience in this respect: two Indian children died of cholera.

Passing from the grave-yard I visited the little church within the palisade, where the white people attend service under the ministry of the Rev. George Winter of the Church of England. It is a neat little structure, much like that at Churchill, but about double the size. It contains a melodeon, and is otherwise well appointed. Next to it is the school-house, just outside of the palisade. It is a neat, clean, well kept building, where in the summer months school is kept up from eight o'clock in the morning until about five o'clock in the evening. There are, including white and Cree, about one hundred and twenty-five children. These have but one teacher, the Rev. Mr. Winter, but are taught separately.

The white children attend school, and English branches are taught from eight to half-past ten in the forenoon. From that hour until five in the evening the Indian children are taught in Cree, to read and write, and to apply the rudiments of arithmetic. Great progress has been made in the education of the Cree Indians. The same syllabic characters are used as in teaching Chippewayan. A number of useful text-books have been printed, and, through the indefatigable efforts of Mrs. Mason, the mother of Mrs. Fortesque, wife of Chief Factor Fortesque, the entire Old and New Testaments have been printed and published in the Cree language. I look upon it as a great credit to the efforts put forth at York Factory, on behalf of education, that almost all the Indians there, who are of sufficient age, can read and write with ease in their own language. I visited several of the Indian houses close by, and found copies of the Cree bible in all of them. As a test of their knowledge of the Scriptures, and their ability to read and understand them through the medium

of their own language, I got two or three of them who can speak English to turn up certain passages and translate them to me, in their own broken way. By looking at a copy of the English translation, I was enabled to see that they were familiar with all the passages which they read, and explained them with the greatest ease.

The Indian village is located about half a mile to the south of the post, and contains about three hundred inhabitants. There are

YORK FACTORY—SIDE VIEW.

about fifteen well-built houses, and a large number of pole camps. The village is alive with children and dogs. They seem to have entered into a contest to see which can make the most noise, but the dogs have out-done the children. A striking feature of the Indian settlement is the large clay oven, in which baking is done, once a week or so, for the entire inhabitants of the place. A fire is made, the oven is heated, and then, each family having its dough ready, the pans are placed in, to the number of twenty or sometimes thirty, the door closed upon them, and when the bread is done the squaws select their respective loaves and carry them home. This

oven is a great convenience. It was built by the Company several years ago.

York Factory, aside from the Indian population, a great portion of which is ever on the go and come, has a few half-breed inhabitants. The servants of the Company number over thirty men, each being, of course, the head of a family. The Chief Factor, Joseph Fortesque, Esq., who has been in charge, off and on, for nineteen years, left this year with his wife and family, provided the Hudson's Bay Company's ship has reached York, and departed for home, on a year's leave of absence. He is succeeded, temporarily, by Murdock Matheson, Esq., of La Cloche, Ont., who had taken charge just before our arrival. Mr. James Cowie is Chief Accountant; R. W. Matthews, M.D., is the Medical Officer; Mr. Geo. Mowat is the Second or Foreman; Mr. John G. Mowat is the Foreman's Clerk; Mr. Wm. Wood is Storekeeper; Mr. John Smith is the Pilot; Mr. Archie Arthurson is the Cattle-keeper, and so on. There are no horses at the post, but five or six cows and some young cattle are kept.

The hospital at York Factory is a most valuable institution. It was founded through the efforts of Dr. Matthews, who has left nothing undone in any way calculated to improve the health of the people, and minister to the comfort of the sick. It contained two patients at the time of my visit. One, an old man, who had been taken from his filthy camp, a sufferer from scurvy. He is doing very well under the kind attention of the Company's doctor, and the obliging matron of the hospital, but cannot last long. Age and disease will very soon bring him to his grave. The other was a young Indian lad, suffering from rickets. He has greatly improved under the doctor's treatment, and there are some chances of his recovery. The regulations of the hospital are posted up in the patients' room in both English and Cree, and are dated July 30th, 1883. The institution has been but a short time in operation, and is much in need of funds. Dr. Matthews would be glad to hear from philanthropic Canadians in aid of his efforts to make the hospital a permanent success.

There is nothing remarkable to record in connection with the services at the churches. In the Indian church congregational singing

CREE INDIANS FORMING FOR A DANCE—YORK FACTORY.

is successfully encouraged, and the natives enter into the responsive service with apparent relish; while at the little chapel, within the palisade, divine worship is made attractive by a choir of school boys, and the melodeon.

Last year, 1883, the quiet of York Factory was disturbed by a murder. In a brawl between two Indian women named Nancy Natainew and Mary Quaqua, the former threw an axe at the latter, which she managed to avoid, but it struck her son, a small boy, John, on the head. He died from the effects of the blow two days after. The woman, Natainew, was duly tried before Justice Fortesque in the school-house. Chief Factor Fortesque, besides exercising some judicial functions as the head officer at the post, is a Justice of the Peace for the North-West Territories of Canada.

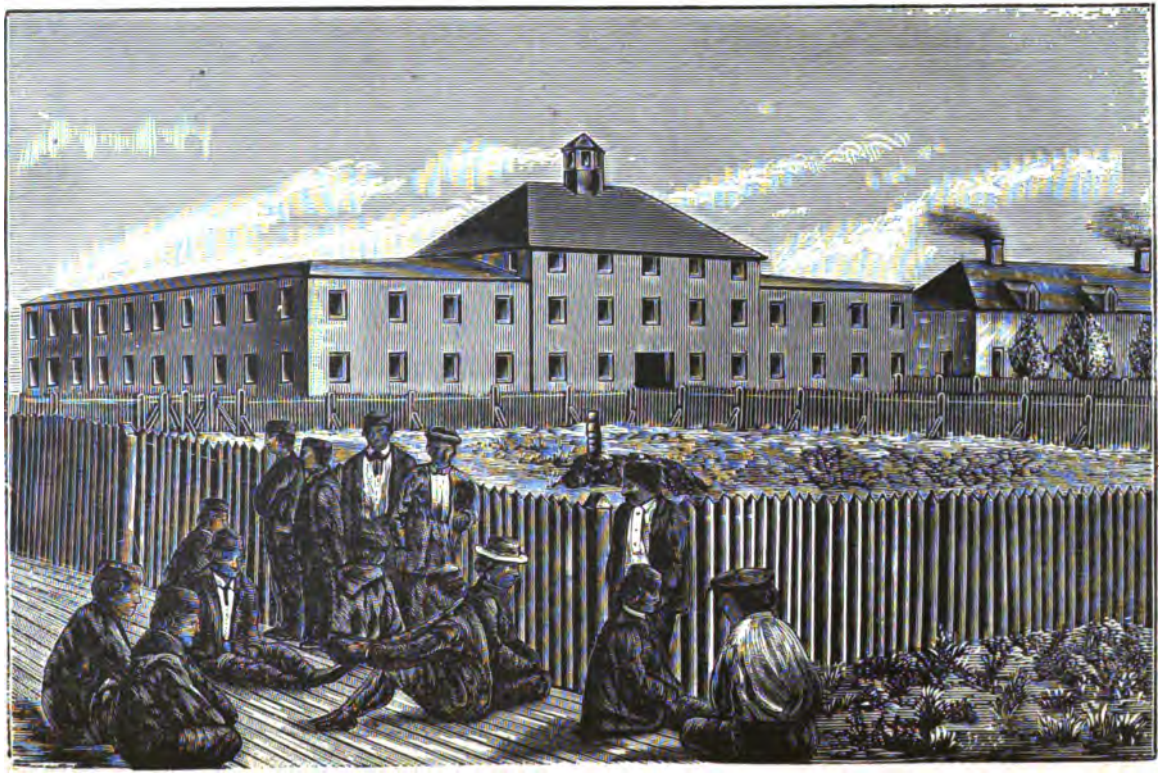
Dr. Matthews, acting as Clerk of the Court and Crown Prosecutor, interested himself in bringing the murderer to justice; but, before the trial proceeded far, he found himself surrounded by many and great difficulties. At the outset, the natives were loud in their denunciations of the conduct of the hostile squaw, and manifested the greatest desire to see her brought under the penalties of British law; but, as the trial proceeded, their manner became greatly changed. All the feelings of their race became aroused, and they looked upon the prosecution as a piece of tyranny or persecution on the part of the Hudson's Bay Company. Before the trial came on they had seen the whole affair, and related every phase of it with great exactness; but in the witness-box they knew nothing about it whatever. Indeed they were dumb. As the examination progressed, the feelings of the natives became more intense in favour of the prisoner; and finally the woman, Natainew, became a martyr to the fullest extent of their appreciation of the idea.

It was plain that anything like conviction by the use of Indian witnesses would be an impossibility, and Doctor Matthews gave the case up, leaving it to the discretion of Justice Fortesque to deal with the squaw as he might think fit. She was sentenced to one month imprisonment, and to the worse penalty of having her beautiful, long, black hair cut off close to her head. This punishment, in the eyes of her sympathisers, was nearly as bad as hanging. To have

the hair cut off is, among these Indians, a mark of the greatest disgrace.

As soon as Nancy had served out her thirty days, she lost no opportunity in exciting the feelings of the natives. They sympathised with her, and she took every possible method of showing that she appreciated their sympathy. On a Sunday morning, while on her way to the church, walking erect and stately, she was frequently honoured by special marks of attention: the Indians, men and women, drawn up in open file near the Fort, so as to attract the attention of the Hudson's Bay Company people, shook hands with her one after another, and took every method to fully reinstate her in the good graces of the "best society." Nancy's hair gradually renewed its existence, and, to-day, it is half as long as it was before the penalty was administered, and she is quite indifferent to all that has happened, notwithstanding that, in a wide sense, she committed a double murder. As I have stated, the child died from the effects of his injuries, and the child's mother, whom Nancy endeavoured to injure, died soon after her child, from the fright. She was in a delicate state of health at the time, and never recovered from the shock.

This affair must not be looked upon as characteristic of the Indians on Hudson's Bay. They are a quiet, peaceable set, very obedient to the Hudson's Bay Company's officials, and altogether very industrious. They are anxious to make the most of their opportunities, educationally, and put to the best use what little knowledge they have been able to acquire. They are already sufficiently informed to know that their condition ought to be still more improved by the advance of civilization, and they are very anxious to see the iron horse coming through from Winnipeg. They have heard something of a locomotive, but have no ideas of a railway; and, so far as I could judge from what they said, they think the great iron ship would come snorting over the rocks to their very doors, provided Canada and the Hudson's Bay Company agree to allow it. Several years ago, when they were told that the Canadians were about to send out an Expedition, a number of them set to work and built houses to sell to the expected new settlers. They never came, and the Indians now occupy them themselves; but they stand ready to



YORK FACTORY—FRONT VIEW.

sell out, and return to camp life, if by so doing they can encourage immigration and facilitate the railway.

In this respect they differ somewhat from the Hudson's Bay Company's officials. The latter, for the most part, discourage, as far as they can do so by talking against it, the possibility of navigating the Strait. They do not want their trade interfered with, as a matter of course; and besides the people at York see perfectly that the road, if built, will never come to that place, as they have no harbour. At Churchill there is a better feeling, and they, with one accord, anxiously hope to see the enterprise succeed. The worst opposition to the proposed Hudson's Bay route that I have met with is that expressed by the acting chief officer at York, Mr. Matheson. He simply ridicules the whole thing. It is quite different, however, with Dr. Matthews, who has given the subject much attention. He is a believer in the practicability of the navigation, and is most anxious to see the people of Canada make use of it.

The Hudson's Bay Company's officers at York are all provided with excellent houses, well and comfortably furnished. They have any number of servants, and live, in some respects, in considerable style. The warehouses are heavily stocked with all kinds of merchandise suitable to the trade of that northern country. Everything from a needle to an anchor, and everything in its place, may be seen as one passes through the storehouses. The only things upon which there seems to be any limit as to quantity are the provision stores. They keep only a supply sufficient for two years, and, as in the case of last year, when supplies had to be sent to Churchill to meet the requirements consequent upon the detention of the Ocean Nymph, they began to grow painfully less: so much so, that when we left York, they were beginning to feel exceedingly anxious least the outcoming vessel might not arrive, as in that event provisions would positively run short before another year. When we left Churchill, it was thought that perhaps the Company's vessel, not having arrived there, might have found it advantageous to go on to York first, but our arrival at the latter place dispelled this conjecture.

We left York Factory in a York boat for the Neptune at three

o'clock on Friday afternoon, and reached our good ship at precisely six. Mr. Cowie accompanied us out with a number of his men, took supper on ship-board, and left us as we were weighing anchor. All the officers and ladies of York came down to the little pier to bid us farewell, as we boarded the sail-boat to take leave of the place. It was a fine, warm, summer-like afternoon, and, as we pushed out, the waving of handkerchiefs and words of kind wishes, and booming of the great gun on the river's bank in the salute of five guns given in honour of the Expedition, rendered the situation very interesting. The people of York were very hospitable indeed. Their kindness did not stop at providing us with the best their supplies afforded to eat and drink, but most of us were favoured with valuable presents to carry home to wife or children. I cannot adequately express the great kindness and generous hospitality of the people of both Churchill and York. We left both places filled with the deepest feelings of respect for the Hudson's Bay folks, sorry to part from them, and glad only that we had commenced the homeward journey.

CHAPTER XIX.

An Exciting Polar Bear Hunt.

FROM YORK TO CAPE DIGGES — A PLEASANT VOYAGE ACROSS THE BAY—ESTABLISHMENT OF AN OBSERVING STATION AT DIGGES—A GLANCE AT CAPE WOLSTENHOLME—CAPTURE OF THREE POLAR BEARS—DEPARTURE FROM DIGGES—ARRIVAL AT DE BOUCHERVILLE—WEATHER NOTES.

OUR ship steamed away from the mouth of the Nelson and the Hayes, at eight o'clock on the evening of Friday the 12th of September. The course was taken toward Cape Wolstenholme, where Lieutenant Gordon had decided to establish an observing station, in lieu of Mansfield Island. As I have stated, a landing could not be made on Mansfield, on account of the shoals which prevail along its shores. Moreover, an examination of its position demonstrated that a station there would not serve the objects of the Expedition as well as at the Cape opposite the station on Nottingham. The distance from Nottingham to the south main shore is not over thirty-five or forty miles, so that the two stations will be able to determine in a measure to what extent navigation is obstructed by ice in that channel.

The voyage from York to Digges Islands occupied four nights and three days. We enjoyed delightful weather the whole of the way, except that on Sunday there was a light fog until the middle of the afternoon, and on Monday a thick fog until about the same hour. There was also a light rain during most of Monday night. There were no heavy winds, the temperature was comparatively high, and the Neptune bowled along in smooth water for the whole distance. On Monday afternoon we were off the south coast of Mansfield Island, in ten fathoms of water, and were compelled to

bear to the southward, a little out of a direct line from York to the Digges, in order to keep in deep water.

I have intimated that we did not arrive at the Digges until Tuesday morning. This is correct, only because we had to discover our own anchorage. The Neptune could have reached the desired land by eight o'clock on Monday evening, but was compelled to lay to until the following morning, in order to have the benefit of daylight in looking for a harbour. At the break of day, on Tuesday morning, we made toward the outer Digges, with full steam; but at seven o'clock a blinding snow-storm overtook us, and for three-quarters of an hour falling snow was so thick that one could not see fifty yards in any direction. However, it soon passed over, and we steamed along toward the islands, which were now but a little distance off, with the lofty snow-covered headlands of Cape Wolstenholme a little further to the east, glistening under the rays of the morning sun, breaking through the drifting clouds.

At eight o'clock, the remarkably good luck which had followed us at every step, was crowned by our steaming into a magnificent little harbour on the south-west side of the outer large Digges Island. The place was called Laperriere Harbour, after Mr. A. Laperriere, the observer to be placed in charge. A very suitable place for the station buildings was at once chosen, and before ten o'clock the men were at work landing lumber and supplies, and the carpenters in getting up the frame of the observatory.

The island just off Cape Wolstenholme was selected for the station rather than the mainland, because, while affording every opportunity for watching the south portion of the channel between the Cape and Nottingham, it also furnished a position for observing the entrance to Hudson's Bay.

I had settled myself down for a day's writing on Tuesday, but was disturbed about two o'clock in the afternoon by a rush to the cabin of Messrs. Fox and Laperriere, accompanied by the assistant engineer. They were all out of breath, and most intensely excited, and began to pull down the ship's rifles in the most frantic manner.

"Steward! steward! quick; get me a couple of packages of express cartridges. Hurry!" said Mr. Fox, as he examined a "Henry" belonging to the Neptune.

The steward, already infected by their manner, made great haste in complying with the request, and upset my ink bottle in his efforts. I asked three times for an explanation before any one of the excited trio took the time to relieve my curiosity. At length Mr. Bridge, the engineer, blurted out:—

"On with your coat. Get your rifle. Come! the hills are filled with bears!"

It seems that Mr. Bridge had gone out alone with a shot-gun in search of game, and had walked inland on the island about a mile, when he found himself face to face, about fifty yards off, with five gigantic polar bears. He is of a most excitable temperament, and works himself into a perfect worry over the slightest ruffle in the every-day affairs of life, and his condition and manner on the occasion to which I refer were beyond telling. He had managed to part company with the bears, although, he says, they followed him for a considerable distance. He came to the shore, completely out of breath, pale with excitement, and trembling from the realization of the great escape that he had made. Here he communicated his discovery to Messrs. Fox and Laperriere, who were running a base line from which a triangulation survey of the harbour was to be made, and altogether they had come to the ship for guns and ammunition, fully resolved on pursuing the bears.

Putting aside my manuscripts I readily joined them. In three minutes we were in one of the Neptune's boats pulling for the shore, five in all, each equipped with a Henry rifle and ten explosive cartridges. Reaching the shore we started up a narrow ravine towards the spot where Mr. Bridge had left the bears. Nearing the place, a halt was made, and, after a hurried conversation, we placed ourselves under the command of Mr. Fox, who had had a little experience in deer hunting in Muskoka. We were to be guided in our actions by him.

For the present only general instructions were given. The advance was to be made carefully, and when we had approached to within a hundred yards or less, one or two were to fire, and the others were to hold themselves in readiness to lead up the attack, so as to hold the white monsters in check, while those who had emptied

their rifles were re-charging. We were to keep very close together, so that if the bears came down upon us in retaliation, as we expected they would do, the danger of shooting each other would be minimized.

On we went under the leadership of Mr. Bridge and the generalship of Mr. Fox, but not very far, when our guide turned in wild excitement.

"Halt! drop!" said he, acting upon his own words before they were fully uttered.

We dropped, so to speak, about as quick as we knew how; and I am right in saying that the act was performed so abruptly that each man's heart slipped up into his mouth.

"Where are they?" whispered three voices simultaneously.

"Raise your head, and gaze over there," said Mr. Bridge, his eyes distended with emotion.

We obeyed his direction, and beheld a sight that extracted from our breasts, in less than an instant, every trace of bravery or heroism that we possessed, and we possessed a great deal. Indeed, we had even contemplated a hand-to-hand combat, and provided ourselves with belts and sheath-knives against such a necessity. We had even counted the cost of an embrace from these creatures, and had gone through a battle in our minds with them, in which we received many a cruel blow and many a dangerous scratch, but from which we had come, conquering heroes, with each of these five monsters lifeless at our feet. There was not even room for fear in any one of us, so full of brave determination to dare and do were our noble breasts. Such a thing as want of courage had not been mentioned, nor even thought about.

Alas! how quickly things change. Just over the rocks, on a little piece of marsh below us, by the side of a lake no larger than a potato patch, and near to the base of a range of cliffs raising their sharp, precipitous ledges for more than a hundred feet above them, were these ugly brutes. We looked at them and were terrified. The shock was both mutual and simultaneous.

Mr. Bridge had a lump in his throat, and therefore he didn't speak; Mr. Fox had a lump in his throat, and couldn't speak; and

the writer had two lumps in his, and was too busily engaged trying to swallow them, at that moment, to utter any lengthy sentences. The others were no better off, and, of course, silence reigned in our camp for at least half a minute. That half minute brought, with its close, unspeakable relief, solid relief, born of the fact that these fearful-looking brutes had not observed us.

There we lay like fine, helpless babes, no one daring to raise the hammer of his rifle. The bears were within easy range, but they were completely out of danger. The guns were trusty and powerful; the charges were deadly; we were all good shots; the bears were in excellent position, just far enough from one another so that each man could pick out his mark. Everything was favourable, but we didn't shoot! Not a bit of it. Why? because we didn't feel like shooting bears of that sort. They were not the kind we expected to find at all—not according to contract; and we had a perfect right to back out there and then, and we backed out accordingly.

A POLAR BEAR.

They were five or six feet longer than the bears we had come to kill; they must have weighed over a thousand pounds avoirdupois each, and we didn't go up among these rocks to interfere with bears that would weigh more than three or four hundred pounds. One of them opened her mouth to yawn a little in the sun, and her jaws were more than eighteen inches long, and we didn't want bears with jaws more than six inches long; another raised himself up on his hunkers, and stuck his sneaky-looking nose up into the air about eight feet, and every man of us knew that we didn't want a bear

that was eight feet high sitting on his hunkers. In short, there were many and strong reasons why we didn't want them. We had no room for them on the Neptune; and, what is more, we had no means of transporting their carcases to the boats, suppose we did shoot them. Taking the matter altogether, we came to the unanimous conclusion, each man for himself, without argument or persuasion, without favour, but with a surplus of intimidation, that we didn't want and wouldn't have those bears.

What did we do? Why, we took council together, reasoned together, as it were. The lumps had gone from our throats, and our voices kindly returned.

"See here," said Bridge; "we are not afraid of those bears, or anything of that sort; but we don't want to make fools of ourselves. Those bears are valuable, and we don't want to lose one of them. Suppose we were to fire ——"

"Don't talk so loud!" expostulated one of our party, knitting his brow into a terrible frown of disfavour, and interrupting Mr. Bridge.

"As I was saying," says Bridge, in a lower tone, "we are not fools, but we don't want to scare those bears. Suppose we were to fire, each man of us picking out his bear, ten chances to one, two or three of them would get away and we would run ourselves out of breath chasing them, and, perhaps, in the race shoot one another. Now, sir, I'll tell you what to ——"

"For heaven's sake, talk lower," broke in another.

"As I was saying," says Bridge, "I'll tell you what to do. I will go back ——"

"Easy; lay low; that brute is looking this way!" interrupted yet another. We laid low accordingly.

"As I was saying," says Bridge, "I will go back to the ship and bring out ——"

Here I could not help interrupting Mr. Bridge with an intimation to the effect that I was a good runner, and could go to the ship, most likely, quicker than he could. I thought it most unselfish to make the suggestion.

At this juncture, not wishing to frighten the bears away, and

having a most important point to settle, we withdrew a short distance where less restraint in discussion was necessary. At length it was decided that I should go to the shore of the harbour where Lieut. Gordon and Capt. Sopp were taking magnetic observations, and where the men were working on the buildings, and procure a staff of men and more guns, in order to surround the brutes and capture them in their tracks. This was a most noble, self-sacrificing decision on our part, and one which I had special reason to appreciate, as it gave me an opportunity to discommode myself for the benefit of my companions. We might have fired upon them there and then, but we didn't; and we most commendably denied ourselves the rarest sport in the world, for the present, in order, by waiting for assistance, to capture them all.

I ran toward the Neptune as fast as my legs would carry me, and was very soon completely out of breath. When within sight of the ship and the men at work upon the beach, I looked back—not before—and saw, to my surprise, Messrs. Fox and Bridge following me at a spirited canter. When they came up, I learned that they were prompted to follow, in order to hurry me up. The other two were close behind them. They came away in order not to frighten the bears: an exceedingly wise move.

We spread the alarm, and were soon organized for the attack. Marching under the leadership of Lieutenant Gordon, about fifteen strong, we carried nine rifles, six bowie-knives, and five axes. The riflemen took the lead, flanked by the lancers, who in their turn were supported by the axe-men. As we hurried along up the narrow valley, Mr. Fox explained in sentences, very much broken by the want of breath, how that we had gotten all ready to charge upon the bears; but that, in the very moment when our hearts were running over with the pleasure of shooting polar bears, we remembered that perhaps, as there were only five of us to five bears, possibly one or more of them might escape, and we would be blamed for recklessness.

I supported Mr. Fox by the remark that we had, I thought, acted most prudently; and never in my life were my words more in harmony with my honest convictions.

But we had reached the spot, and, peering over the rocks, found that two had disappeared round the bluffs, the other three having moved over to the foot of the high cliffs where a ridge of snow, sheltered from the rays of the sun by the high wall of rocks, skirted the range. One of them was looking up the cliffs, as if to pick out a passage from ledge to ledge by which he might reach the summit.

Our force was then divided. Four were sent forward, ordered to charge upon the bears. The remaining five were to follow up and relieve the advance as soon as their rifles were discharged. All being ready, the order was given, and four men dashed forward in open view to the enemy. The distance was about two hundred yards at the start. This was reduced by at least fifty yards before the brutes began to move. They looked at our advancing host in great surprise, and, I suppose out of respect to our numbers, decided to move on. Instead of escaping up the ravine they undertook to climb the cliffs, at which, I am bound to say, they are decided experts. Stretching up their great paws to a sharp ridge eight or ten feet above them, they can haul up their immense bodies in a manner that fills one with wonder and admiration.

We were within a hundred yards, or nearly, when the foremost had ascended the steep rocks some twenty or thirty feet, and the others were rapidly following. The word was given to fire. At this point discipline proved a failure. The great desire to have a hand in the sport outweighed the orders of our commander, and, from the nine rifles, explosive and Snyder bullets fairly rained against the cliffs.

The uppermost bear was first struck in the hind leg by Lieutenant Gordon. She was not badly injured, but, turning round, gave vent to horrifying growls that might have been heard for more than a mile away. She was now ready for the fight, and manifested a disposition to descend rather than make farther effort to escape. Meanwhile the others had reached her height upon the rocks, and one of them pushed on up, from ledge to ledge, until at least seventy-five feet above the frozen snow at the base. Here he received a bullet which disabled him, and he turned his face toward us, joining the first in giving vent to his anger and pain.

The first, after growling for a few seconds, scaled two or three more ledges, reaching an altitude of about sixty feet, when she received a bullet in the head from the rifle in the hands of Mr. Laperriere, and fell backwards. Her descent was one of the most thrilling spectacles that the eye of any hunter has ever been favoured to behold. Her well-formed, beautiful white body, not less than eight hundred pounds in weight, came tumbling down from terrace to shelf, and from shelf to ledge, and from ledge to sharp, craggy, projecting rocks, striking them with a dull, sickening thud, falling ten or fifteen feet at a stretch, until, rolling over and over, her lifeless carcase came to our very feet on the snow beneath.

No sooner had the dead bear come to rest on the snow, than a bullet from Mr. Fox's rifle entered the side of the huge brute at the very summit of the cliffs, exploding in its passage through his body, and causing the blood to burst out in a torrent upon the naked rocks. Falling over, lifeless, his immense body rolled from the shelf upon which he met his death, and fell to the snow beneath, a distance of some seventy or eighty feet, striking against the rugged spurs along the face of the dizzy precipice, and causing the blood to gush out in spurts, sometimes in streams, leaping up three and four feet above the falling body, and painting the rocks in crimson.

The third bear had also reached to within a few feet of the top of the cliffs without receiving more than slight injuries. I had given him my best attention, had hit him twice, but had not put an end to his energies to escape. At length I was lucky enough to strike him in the shoulder, and he fell backwards, descending to the snow as had the other two before him.

The whole performance occupied a little less than ninety seconds, and was one of the most exciting situations of sport that one could possibly look upon. Leaving their dead bodies, we hurried on up the narrow opening between the high ranges of rocks, hoping to overtake the other two, but they had hid themselves or departed out of our reach.

Evening was now upon us, but we skinned the three bears and carried their heavy pelts, together with two quarters of the meat, to

the boats, and took them to the Neptune. But this does not finish my bear story. There were three valuable skins. Who owned them? That was a question not so easily settled as you may imagine.

You will observe that we had shot nine bears. Each man had shot his bear. It was not a matter of doubt, not a thing he would hesitate in swearing to, but a thing of the greatest certainty. He—each of us—had taken deliberate aim, had watched most carefully, and had seen the brute fall a victim to his correct marksmanship. Besides, he had run to the body as soon as it reached the snow, and examined the very spot at which he had aimed, and found, on that identical place, a hole corresponding to the character of the bullet used. Yes, we had killed nine,—each man his bear; but somehow they wouldn't go round. Six were missing. There was a miscalculation somewhere, but who could doubt the oft-repeated and importunate assertions of each member of the hunting army? Such a thing would be an aggravated insult. Reason and common sense were in favour of the claims set up. It was the first time we had fired at polar bears, and, being only seventy or eighty yards away, it was most unlikely that we were going to make a miss-shot. Then, again, the brutes were so large, how could one miss hitting them? But, notwithstanding, the number of dead bears was insufficient to sustain these assertions. There was a mistake. Some one was out in his calculations, and altogether we were six bears short.

To meet this difficulty, Lieutenant Gordon was unanimously voted sole and final arbitrator, and was to award the bears as he might see fit, and with his decision we were to abide content. He hit upon a happy solution of the difficulty. The three bears were pooled, so to speak, into shares. Each of the nine gunners was awarded a full share. Three shares represented a bear, and the bears were designated by numbers, and their names attached to each number. Under this arrangement it was only necessary for one man to purchase the shares of his two partners to become the sole proprietor of a bear skin. The bidding was spirited. Bear shares shot up with a buoyancy that would do credit to the gold market in Wall Street in war times. One dollar was offered and

laughed at. Two dollars were indignantly refused. Three dollars were considered an insult. Four could not be entertained. On the one hand, bear skins were set forth as the summit of human ambition: to possess one was a passport to great distinction. On the other, bear skins were held to be mean, dirty, greasy, good-for-nothing pelts. Those who were anxious to buy, spoke depreciatingly; those who wished to sell, extolled them.

The bear-skin business was the rage of the Neptune for three or four days. Nor were the transactions confined to cash. Walrus tusks were offered and sometimes accepted in part payment of shares. Eskimo ladies' dresses of deer skin, with long tails trimmed with fancy furs that had cost many a plug of black strap, were reluctantly given up, with an occasional harpoon, or spear, or lance, or model kayak thrown in.

The skins, with the heads and paws attached, were hung up on oars that were lying above the deck, and left over night. Now, our expedition geologist, Dr. Bell, was away up on the higher rock ranges, three or four hundred feet above the water level, taking photographs during the whole of the afternoon in which the bear hunt took place. When he returned to the ship, in the evening, and learned of the sport that we had enjoyed, he looked like an injured man, but he prudently said nothing. On Wednesday forenoon the doctor, with one of his most delicate surgical lances, set himself at work removing the skin from the long hand-like paws, devoting himself to the task with the relish of a surgeon performing a most difficult operation. His conduct excited most agonizing suspicion. Could it be possible, we asked ourselves, that the doctor contemplated appropriating these skins to increase the attractions of the Ottawa Geological Museum? Surely not. We were all patriotic enough, and were ready to make most any sacrifice in the interest of science; but the line must be drawn somewhere, and we had irrevocably drawn it at polar bear skins.

One of the men who, at great cost, had purchased a controlling interest in skin No. 2, eyed the doctor with an air of one whose property rights were being infringed. He could endure the suspense no longer, and broke out:

"I say, doctor, what in thunder are you doing with my bear skin?"

"Your bear skin? Indeed!" said Dr. Bell, with a roguish twinkle in his right eye, continuing his operations. "I guess not, sir!"

"You guess not! What do you mean, sir? I'll give you to know that this is my skin. It is skin No. 2. I own a full share in it, and have purchased one of the other shares, and have bargained for the third, and don't want any one to meddle with it."

"O, you don't, aye? And so you have bargained for the third share, have you? And suppose I have already purchased it, what then? One share ought to give me the right to skin the paws, to say the least," added the geological man, tauntingly.

"What do you say? *You* have purchased the third, have you? We will see about that." And the two-thirds proprietor of skin No. 2 turned away frantically.

Here was evidently a dead-lock. At first sight the two-share proprietor would seem to have an advantage, but at first sight only. When two-thirds is pitted against one-third, and the latter is backed by science, patriotism, and a national museum, the odds, if any, may turn out in favour of the museum.

I suppose I have already detained the reader too long with this white bear story; but apologies are useless.

The Digges Islands, to which I have incidentally referred more than once, are a group of some fifteen or twenty, lying off the north-west of Cape Wolstenholme at the south side of the entrance from Hudson Strait to Hudson's Bay. One, the largest, is some five miles wide and eighteen long. The others are all very much smaller, some not more than two miles in circumference.

We had anchored at the largest island, and the one situated farthest from the coast, nearly twenty miles, and perhaps more, north-west from the Cape. We travelled pretty thoroughly over it, and judged it to be five miles wide by about eighteen miles long, composed of entirely barren rocks, with an elevation of from thirty to four hundred feet above the level of the water. The hills were draped about by winding ravines or bog-marshes, through

which narrow curving rivulets found their circuitous routes to the sea, often falling down steep cliffs or over precipices from the higher summits. Here and there patches of snow were met with, and, scattered in every direction, the water was decorated with small ice-pans floating to and fro with the wind and tide.

We had met with no ice whatever, while in Hudson's Bay, but a day's northerly wind brought us to Digges's vast stretches, which, from the hills, we could see lying to the north and east of our anchorage.

The work of erecting the station buildings and landing the necessary stores at Laperriere Harbour was pushed forward as rapidly as possible, and on the 20th of September the task was completed, and we were ready to continue our homeward voyage. About eleven o'clock in the forenoon we took leave of Mr. Laperriere and his two men, Messrs. Quigley and Maher, and pushed on toward Nottingham Island. Having favourable weather, and the ice being so thin or scattering as not to impede the progress of the ship, we reached Port De Boucherville a little before six o'clock in the evening, having been absent from the place just three weeks. We came in contact with some scattering pans of ice while entering the harbour, in the same place where the Neptune's propeller was broken three weeks before; but, beyond having to smash three or four of them, no obstruction was met with. We did meet, however, with some forty or fifty walrus. They were sleeping in twos or threes on small sheets of ice, or swimming round in the water. We shot two, but they sank before they could be reached.

We found Mr. De Boucherville and his men, Messrs. Inglis and Easdaile, both well and happy. They had not been visited by natives, nor even had a polar bear exhibited himself. They had secured plenty of game, one or two foxes, some seals, and were getting their house in order for a walrus hunt; but, up to the date of our arrival, they had been so much engaged in banking their house and preparing for the winter, that they had not made many excursions of any kind. The report they had to give us of their experience was therefore somewhat uninteresting. Their stove had not worked well, especially in baking. However, they gave us some splendid bread, which was an improvement over that served on the Neptune.

I copied the following weather notes from their observation book:—

"September 1.—The Strait is blocked with ice in every direction.

"September 2.—Misty; the ice is the same as yesterday.

"September 3.—Fine; Strait filled with ice. Geese flying over in large numbers.

"September 4.—Rainy; Strait still filled with ice.

"September 5.—Misty; Strait completely free of ice.

"September 6.—Rain; very little ice to be seen.

"September 7.—Rain; Strait clear of ice.

"September 8.—Some fog; ice packed to the north-east.

"September 9.—Ice can be seen to-day in every direction.

"September 10.—Cloudy; a quantity of ice off the harbour.

"September 11.—Fair; no change in appearance of ice.

"September 12.—Light snow; Strait opposite clear of ice.

"September 13.—Light rain; ice same as yesterday.

"September 14.—Overcast; very little ice in the Strait.

"September 15.—Fair; considerable ice to the east.

"September 16.—Snowing; plenty of ice in sight.

"September 17.—Fine; harbour packed with ice.

"September 18.—Overcast; ice same as yesterday.

"September 19.—Some fog; no ice in the Strait.

"September 20.—Misty; very little ice to be seen."

When he says "no ice in the Strait," or "Strait packed with ice," it must be understood to mean as far as he can see, which does not exceed five miles at farthest.

He had experienced no heavy winds, thirty miles an hour being the strongest gale, and that did not last but a few hours. The lowest temperature had been 30° Fah. above zero: not as low as we had met with at Cape Digges.

CHAPTER XX.

On the Rocks of Resolution.

THE HOMEWARD JOURNEY—VISIT TO ASHE'S INLET—STUPART'S BAY AND PORT BURWELL—ATTEMPT TO MAKE A LANDING ON RESOLUTION ISLAND—FAST ON THE ROCKS—ARRIVAL AT ST. JOHN'S, N.F., AND HALIFAX, N.S.

THE Expedition left Port De Boucherville at daylight on the morning of Sunday, the 21st September, and steamed away toward Ashe's Inlet, on the northern coast of the Strait, hoping to be able to pay Captain Spicer's trading-station at North Bluff a visit on our way. We met with but very little ice, only here and there a lone island pan. The day was fine and the water smooth. On Monday there was a light wind blowing about twelve miles an hour from the south, which made the water a little lumpy. The mist that rendered the morning rather thick cleared away by noon, and we spent most of the day coasting along from four to six miles off the rugged north shores of the Strait, west of Big Island.

We had the bad luck not to be able to find the Spicer trading-post; and while we were yet scanning the coast carefully, in the hope of sighting some trace of it, the boatswain announced Ashe's station, which was no little surprise. We anchored in the harbour at three o'clock, and were welcomed by Mr. Ashe and the men with him, as only these lonely mortals could welcome us. They were all well, and well contented. The large number of natives with them, when we left, had taken leave of the station a day or two after the Neptune sailed, and none had made their appearance since. For this, they said, they had no regrets, as they were great beggars and much in the way.

They had collected a number of deer and seal skins, half a dozen

arctic fox skins, and other pelts; but the greatest attraction of their collection was the long ivory horn of the narwhal or unicorn. The one which they had obtained from the Eskimos was over five feet long —a most curious specimen of natural history.

They had experienced very good weather, with occasional flurries of snow, but no heavy winds. They had had one gale of fifty miles an hour, but it was of short duration. The mean temperature of the last two weeks in August was set down at 36° Fah. above zero. One or two light fogs were noted, but they had seen little or no ice since we left them.

They recorded the greatest rise and fall of tide which we met with in the Strait, a maximum of thirty-two feet.

They gave us an account of a visit, a day or two after we left them, of some thirty natives in a large skin boat, a sort of family craft. They were a happy lot of beings, and parted with such skins as they had for miserable black tobacco, without demanding much of that. They remained round the station a few days and put off again, promising to return as soon as the ice made.

A change was made with the men at Ashe's station. Messrs. Skinner, Rainsford and Jordan came back to the Neptune, and Mr. Ashe was given Messrs. Keating and Drysdale, the men originally set down for him. Mr. Skinner and his assistants came on board to be taken back to Resolution, where another attempt was to be made to find an anchorage.

At six o'clock, p.m., we were off for Stupart's Bay, on the south shore opposite, a distance of about sixty nautical miles. The trip across was marked by a heavy swell, which struck us about four o'clock the next morning, caused by a heavy wind from the south-east. The Neptune was laying to waiting for daylight in order to make the harbour at the time, but she rode the waves in good style, yielding readily to the motion of the water on account of being but lightly ballasted.

We cast anchor in Stupart's Bay at nine o'clock on Tuesday morning, the Neptune still rising and falling and rolling in the swell which, owing to the south-easterly wind, came into the anchorage, which is slightly unprotected at that quarter.

At Stupart's, as also at Ashe's, on the north shore, the rocks were well covered with newly fallen snow, and the general appearance of the country was wintry enough. As at Ashe's, the ice had departed from Stupart's, and the water was wholly unobstructed.

The Eskimo population encamped near the station was still there, and had been considerably augmented. I visited one village the day we arrived, consisting of seven camps and over sixty inhabitants. A little way beyond there were still others. A number of these people are in the habit of visiting the station buildings daily. They are peaceful and quiet, but quite persistent beggars. They are not allowed to enter the house where the men reside, but they crowd round the door and avail themselves of every opportunity to request "tobbacimick," or other, to them, necessaries of life. Often, while the station-men are eating their meals, ten or fifteen of these curious visitors well nigh darken the windows, watching them. Every movement of the white man is the cause of wonder and amazement to them.

As soon as the Neptune's whistle rent the morning air all the Eskimos for miles round rushed to the shore, nearly a dozen paddling rapidly out over the surging waters toward the ship. A number of us went on shore and began to traffic with them, giving tobacco, powder, shot, and gun-caps in exchange for deer and seal skins, bows and arrows, model kayaks, and other curiosities of Eskimo life.

We were entertained at Stupart's by a curious freak of an Eskimo boy named Podolik, who, with a piece of lead pencil which he had obtained at Ungava many months before, and a bit of brown paper which he had picked up near the station, had made a neat outline map of the whole coast of Prince of Wales Sound. Upon examining him through our interpreter, we found that his effort was based upon a good knowledge of the shores in that vicinity. He told us where trout could be had in large quantities, pointed out the best sealing grounds, and described the coast for nearly a hundred miles to the eastward. He was a bright boy about fourteen years of age.

A number of us dined at Stupart's, finding their cook well up

in the business. We enjoyed the meal very much. Lieut. Gordon occupied his time at this station getting the magnetic instruments into adjustment, and assisting Mr. Stupart in the magnetic work.

The Neptune left her anchorage at five o'clock p.m, and took her course toward Resolution Island. We were accompanied out of the harbour by six Eskimos in their kayaks. We were steaming about half speed, say at the rate of four miles an hour, but they found it quite easy to keep abreast of us, which pleased them greatly; but, when sufficiently away from the shore to open out full speed, they were at once left behind. This greatly surprised or annoyed them, or both, and they gave up the race, returning somewhat disgusted.

The voyage from Stupart's to Resolution occupied two nights and a day. The second night, we laid to most of the time waiting for the light to aid us in a search of the coast for a harbour. During Thursday, the 25th, there was nothing to relieve the dreariness of the sea save a good view of the Middle Savages, which appeared in the distance—a pretty chain of mounds rising in symmetrical beauty above the troubled waters of the Strait.

The morning of the 26th was fine and cold, with some wind. We were approaching Resolution on the south-west coast; and a little before nine o'clock what appeared to be a pretty well sheltered inlet was observed. This Lieut. Gordon decided to explore in the hope of finding an anchorage. Mr. Barry, the Neptune's mate, was despatched with four men in one of the boats, to examine the place, make soundings and report upon its condition. We followed him in for some distance, going dead slow, one of the ship's crew taking frequent castings of the lead over the side of the vessel as we advanced. At a little before nine it became apparent, even before Mr. Barry returned, that the place would not afford us the desired anchorage. The Neptune came to a halt and began to swing under the force of the wind. She was allowed to come about, and, when a little more than half way round, her bow, or the forward portion of her keel, came upon the rocks, giving her a shock which sent all on board staggering to keep their feet. The captain at once gave the signal "full speed astern," and ordered the helm "hard-a-starboard."

Under the pressure of this movement, the ship careened partly over on her side, and grated heavily upon the rocks. For a moment it seemed that her entire bottom was upon the rocks, and the wildest excitement prevailed. The idea, fortunately in error, that the tide was ebbing, seemed to seize all on board. Had this been correct, and had we been unable to get off the rocks at once, the most serious consequences would have undoubtedly followed. The tide has a rise and fall of about thirty feet at the place, and, as it was then about flood, the Neptune in a few hours would have been left high and dry. Besides, a fresh breeze was springing up from the north-west, the water had already become quite lumpy, and heavy swells were making their appearance, sending their spray, now and then, over the ship's rails. To be held on the rocks in this condition for any considerable length of time might result in shipwreck. Happily, however, the tide had not reached its full flood, and had about an hour yet to rise; moreover the diligence and skill of Capt. Sopp and his active crew were crowned with success. After grinding, and twisting and careening on the rocks for a little under eight minutes, the Neptune was gotten off, and began to move away from the shore; but not until pieces of her keel, some three and four feet long, came to the surface of the water, inicadting the severity of the struggle that had been going on beneath us.

It would be difficult to describe our feelings while we were struggling to get free from the rocks; but still harder the task of telling how we felt with the first evidences of liberty. The former brought to us, in the swiftness of thought, pictures of a winter's hardships on Resolution Island, with insufficient shelter, without adequate clothing, and with no readily available means of communicating our condition to the people of Canada; the latter swelled our hearts with a mighty pulsation of thanksgiving for deliverance from anticipated horrors.

The Neptune lost no time in getting away from the land into deep water again; all hands breathed much easier; and there was a disposition shown, I think, by the commander of the ship, to get away from the island altogether. This was not acted upon at the time, however, for we coasted along toward Cape Best, and by noon were

again investigating an inlet not more than five or six miles north-west of the Cape. A boat was sent in as before, and, after remaining for a considerable time, returned with the report of "ten fathoms and no bottom," as far as they had gone. From this, the conclusion was reached that we had at last found an anchorage; and I am of opinion that, with more care in entering, we might have secured a harbour sufficient to our wants. The Neptune was taken in, "easy a-head," for some distance, then "dead slow," with frequent castings of the lead from her side, when, at fifteen minutes after one o'clock, we struck with considerable force against rocks that must have reached nearly to the surface of the water. The shock was so great that several who were in the cabin at the time were knocked almost entirely off their feet. No great damage, however, was done. The Neptune had a portion of her breast-plates torn away; but at that point she was about seven feet thick of solid timbers, and, of course, gave no signs of leaking whatever. She was backed away from the enemy at once, and no further effort was made to get in. We coasted along to the Cape, and rounded it at a little distance, rolling and pitching in the sea which had now become quite heavy under the force of the increasing wind; but the coast presented no signs of affording an anchorage, and Lieut. Gordon decided to abandon the island altogether. The Neptune was accordingly put about and her course was directed towards Cape Chidley.

We anchored at Port Burwell (Cape Chidley) early on the following morning, where we found the observer and his men enjoying good health. Their experiences during our absence were not of a remarkable character. The ice had not visited them, and there had been nothing to interrupt their dull monotonous life, except the occasional visits from Eskimos, who came for purposes of trade.

From Port Burwell the expedition steamed to Nachvak, an inlet on northern Labrador about ninety miles south of Cape Chidley, and established an observing station there, in charge of Mr. William Skynner, of which an account has already been given.

The voyage from Nachvak to St. John's, N. F., was exceedingly rough, and the ship laboured in the heavy swell for four days; but on the morning of Saturday, the eleventh day of October, the Neptune

arrived at her home, and was delivered over to her owners. From St. John's, Lieutenant Gordon and the members of the Expedition who returned with him, took passage in the steamer City of Mexico, arriving at Halifax at an early hour on the morning of Tuesday, the 14th, a little less than three months from the date of our departure.

CHAPTER XXI.

Personal and Impersonal.

BRIEF PERSONAL SKETCHES OF LIEUTENANT GORDON, CAPTAIN SOPP, AND DR. BELL—THEIR PECULIARITIES AND CHARACTERISTICS.

HAVING purposely hurried through a narrative account of the movements and acts of the Hudson's Bay Expedition, I will now ask the reader's attention to a consideration of the various features of the Hudson's Bay region that came under my notice; but before doing so, will make a few observations, of a personal kind, concerning the chief men connected with the enterprise.

LIEUT. ANDREW R. GORDON, R.N.

Lieutenant Andrew R. Gordon, R. N., Assistant Superintendent of the Meteorological Service of Canada, and Commander of the Expedition, was born on the 13th of February, 1851, in Aberdeen, Scotland. At the age of thirteen he enlisted in the British Navy, in which he remained for ten years, reaching the position of Lieutenant. He has been five years connected with the meteorological service of the Dominion, and is considered one of the most efficient men in the employment of the department.

For many reasons, in placing him in command of the Expedition, the Government made an excellent choice. He is pretty well versed in the science of navigation, and has had much experience in the practical application of that science, though not, of course, in the ice-bound regions of the north. He is acquainted with the use of magnetic instruments, an important qualification for one navigating the northern waters of the Dominion. In every way, so far as experience, education, and character can fit a man for any station, Lieutenant Gordon was well prepared to undertake the very important responsibility of commanding the first Expedition to enquire into the navigation of Hudson's Bay and Strait.

He is young, ambitious, thoughtful, persistent, unassuming, cheerful, obliging, a little headstrong, tenacious of his own opinion, sceptical of the opinions of others, very English in his views, and equally English (although a Scotchman) in his nationality. He is strict in the observance of Christian ordinances, and of a high moral character. He conducted during the voyage a brief service, condensed from the Church of England ritual, each Sabbath morning in the cabin of the Neptune. He was well liked by the officers and men of the Expedition, and will long enjoy their fullest respect and highest esteem.

The more than ordinary abilities of Captain W. Sopp, master of the Neptune, demand that he should receive some notice. He was born in Earnley, Sussex, England, on the 15th of December, 1840, and first went to sea in September, 1854, as a boy, in the coast trade. In 1857 he became an able seaman. In 1861 he received a second mate's certificate, and the papers qualifying him for first mate in 1863. In 1867 he received a captain's certificate, and commanded his first vessel, the Isabella Ridley of Liverpool, in 1868. He has been in command of vessels from that date until the present time, continuously, and in the employ of Messrs. Job Brothers and Co., of St. John's, Newfoundland, since 1870. He commanded the Neptune in the Greely Relief Expedition in 1882, and reached the high latitude of nearly 80° N.

Captain Sopp is a tall, quiet, unassuming man, with some very marked characteristics. He is cautious almost to excess; a thorough

navigator, well acquainted with almost all navigable waters of the globe, and enjoys the most implicit confidence of his employers in every respect. He is a man of most exemplary habits, sober, steady, honourable, and, withal, a gentleman of considerable culture for one who has made his home on the high seas from the age of fourteen years.

One of his peculiarities is that of repeating his remarks, prefacing his words, the last time, with "I say." As for instance, "A head wind is a miserable thing. I *say*, a head wind is a miserable thing." He is a man of even temper, nearly always in a good humour, but holds his crew at a considerable distance. Having in his early life experienced all the hardships of a sea-faring life, he is not over tender-hearted in the care of his men, especially in regard to their diet. In fact, I don't think he will ever be guilty of extravagance at his own table, much less in boarding his crew. He is essentially a plain man, plain in speech, in dress, and in appearance, and appears just a little dull; but this appearance is very deceptive. He is, on the contrary, very keen, wide-awake, always on the alert, a close observer, and constantly well posted concerning every act and movement of those whose acts and movements concern him. Like all sea captains, he is talkative, good natured, and covered with smiles in fine weather and fair winds; but in the storm, or in a contrary gale, he is impatient, cross and sour. Indeed, the weather has much to do in souring or sweetening seamen. They are sort of barometers of the weather, without being aware of it. Before we had been at sea a week, I fancied I could tell when a storm was approaching by the captain's countenance quicker than by the mercurial column. No better man, it seems to me, could have been found to command the ship in the first Hudson's Bay Expedition.

Robert Bell, M.D., LL.D., F.G.S., and Assistant Director of the Geological Survey of Canada, the Geologist and Medical Officer of the Expedition, was born in Ontario in 1843. He was first educated in the public school of Dundas, and afterwards at the Grammar School of L'Orignal. Subsequently he took a full science course at McGill College, Montreal, where he obtained the degrees of M.D., C.M., C.E. and B.S. or B. Ap. Sc., and LL.D. at Queen's. He com-

menced his college career in 1858, which was continued more or less uninterruptedly for a considerable time. From 1863 to 1868 he was Professor of Chemistry and Natural Science in Queen's University, Kingston, Ontario; but, from 1857 to the present time, he has been, in one way or another, connected with the Geological Survey of Canada. He has taken an important part in the work of the department with which he is connected, and his name is interwoven with the geological survey of the country from Gaspé to the Mackenzie River, and from Lake Erie to Hudson's Bay and Strait. He has devoted six years to an examination of the Hudson's Bay country, and is well acquainted with its geological character and mineral resources.

DR. R. BELL, LL.D., F.G.S.
(Assistant Director of the Geographical Survey.)

His eminent qualifications, and the lively interest which he has taken in the question of the Hudson's Bay route, fully entitled him to the prominent place on the staff of the Expedition which he received.

He made the most of his very limited possibilities in connection with the Expedition, secured many excellent photographs, collected half a cart-load of botanical specimens, including plenty of moss; procured little shrimps, shells, star-fish and worms of all kinds from the bottom of the bays, by dredging; skinned lots of poor, innocent birds; got half a ship-load of very common looking rocks; drowned hosts of little fish in alcohol; talked generously with various members of the Expedition on scientific subjects, which they knew nothing about, to please them; petted and caressed his plants; nursed and counted and turned over his rocks in pure love of them; made

himself agreeable to every one, and convinced all, without ever referring to the subject, that he was not satisfied with the narrow scope afforded for his work in connection with the Expedition.

He was enthusiastic on only one topic, that of the navigation of Hudson's Bay and Strait. This subject had completely mastered his naturally reserved nature, and, when speaking on it, he was always extravagant. If we found ourselves exposed in a gale of thirty or forty miles an hour, and one should happen to observe:

"Doctor, this is horrible—an awful gale!"

"O, pshaw! it's only a little blow, only a temporary thing."

Or, if a blinding August snow-storm rendered it so dark as that those on the quarter-deck could not distinguish the foremast, and one remarked:

"Well, doctor, this looks a little bad for the Hudson's Bay route."

He would answer quickly and sharply, "Why so? Not at all. They have snow-storms in the Atlantic worse than this, and yet they navigate those waters. Pshaw! this is nothing."

Or, if we had been all day in a dense fog, and some one happened to remark that fogs were frequent, or that the Strait was likely subject to fogs, the doctor would, with the greatest ease, talk the whole fog out of existence. As for ice, the Neptune might plunge and tear amongst it all day, and yet the doctor could see nothing in it to interfere with navigation. It was only when she broke her propeller that he yielded to any extent at all, and even that he seemed to regard as an exceedingly small matter.

Dr. Bell was understood to be not only the Expedition geologist, but physician as well. However, when the Neptune got to sea we found that he had no medicines except away under the hatch, where they could not readily be had. Fortunately we had no occasion for their use, except for minor complaints. The general health of the men and crew was exceptionally good throughout; the only exception being that of the writer, whose continual sea-sickness, while not enjoying the repose of a harbour, rendered him constantly uncomfortable. The doctor pulled a few teeth, made up half a dozen or so simple doses as they were required; and, as no one was seriously sick, and as he fortunately appeared averse to over-dosing, but little

physic was administered, and perhaps, as a consequence, no one was very ill.

Such were my impressions of the three leading men connected with the Hudson's Bay Expedition. Besides these, I have only space to mention the names of Captain John J. Barry, the Neptune's mate, Messrs. Ruxton and Bridge, the engineers—all of whom were efficient, pains-taking officers.

CHAPTER XXII.

Game of the Hudson's Bay Region.

THE PTARMIGAN, OR ARCTIC PARTRIDGE — THE WILD DUCKS AND GEESE — OTHER WILD FOWL — THE CHARACTERISTICS OF THE REINDEER, OR CARIBOU — SINGULAR TRAITS AND CHARACTERISTICS OF THE POLAR BEAR.

THE northern region of Canada, from Labrador to the Rocky Mountains, and northward to the Arctic, abounds in game. Were its plains, and cliffs, and streams, and lakes not so difficult to reach, it would be the best available hunting ground in the world; and I doubt not, as our means of communication with these districts are improved, hunting expeditions to the far north will become one of the most attractive features of Canadian sporting life.

Foremost among the game birds is the grouse, or ptarmigan (Lagopus Saliceti) as they are properly called. They are grey in summer and white in winter. They differ from the real grouse by having the toes thickly feathered as well as the legs. These abound from southern Labrador north-westward throughout the entire Hudson's Bay country. They breed mostly a short way inland where they are not disturbed, but shift toward the coast in the fall. They travel in flocks or coveys of from ten to twelve, and afford good sport except in the more unfrequented territories where they are so tame that it is impossible to raise them. They are delicious for the table, excelled only, I think, by the curlew (Numenius borealis) which make their appearance on the shores in the fall season, preparatory to starting for warmer latitudes. They generally arrive in immense flocks, and feed upon the small berries which are found along the rocky shores and barrens within the northern portions of

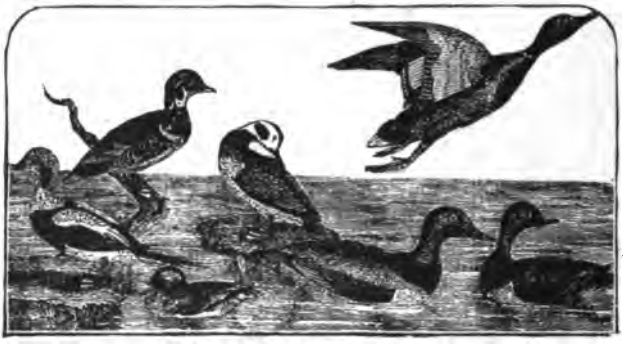
the vegetation belt. They come down to the beaches at ebb, and return inland at flood tide. They are very plump, and sometimes, when shot on the wing, burst upon falling to the rocks. Like the ptarmigan, the curlew are too stupid to fly readily. I frequently dis-

PTARMIGAN—GROUSE.

charged both barrels of a fowling-piece into a flock, killing three or four, and yet they would not fly, nor even run away. It is exceedingly easy to kill them, and although the sport approaches to cruelty, it is very pardonable for one travelling in that region, as their flesh is exceptionally palatable. Our cabin table was often

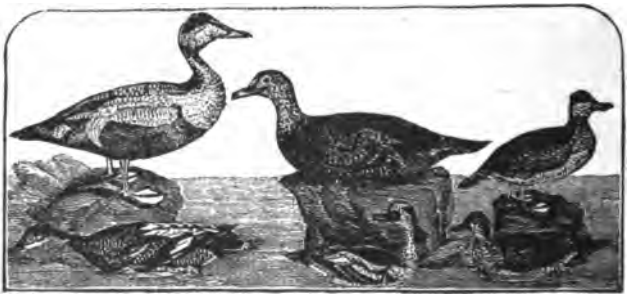
made attractive by curlew and ptarmigan stews while in the Strait and they never failed to meet with keen appetites.

Wild geese—the ordinary Canada wild goose, I think—are numerous everywhere in the Hudson's Bay region. While we were at York, an Indian shot nearly one hundred in a single day, within six miles of that place. They were fat, and, to my taste, equal to any



WILD DUCKS (EIDER, ETC.).

game we secured. There are various other kinds of geese, aside from the ordinary Canada specimen, but we met with only a few and never more than half a dozen together. These are smaller, and not so desirable for the table, and afford less sport in shooting,



WILD DUCKS ("HOWDENS").

as they will often come down within ten or fifteen yards of you, and stand looking in great astonishment until blown to pieces, as members of our party sometimes treated them.

Of wild ducks we met with so many varieties that I cannot

undertake to describe them. They are very numerous. In some places we saw them, in droves of a thousand together, enjoying the magnificent feeding grounds on the sand and gravel bottoms of the flats, which skirt the coves and inlets everywhere on the shores of the Bay and Strait. They seemed to feel very much at home running round through the innumerable small ice-pans that are generally grounded along the coast of the Strait at ebb tide. There are black ducks, divers, howdens, eider ducks, and ducks of all kinds.

THE REINDEER.

I should say that the sportsman could take his choice of at least half a dozen varieties in a single day's hunt, and take more than a man could carry in a short time. We also came across a number of sea pigeon, but they seemed to be a little out of their latitude or season.

I cannot tell whether the white bear or the deer should rank first in the estimate of the hunter in the Hudson's Bay region. Possibly the greatest sport may be had in hunting the reindeer or

caribou, as you please to call them. There is no danger in shooting them, while with the bears you cannot tell what minute you may be compelled to fight for your life. They are not so high or handsome as the red deer, the legs being shorter and not so well shaped, feet broader, ears shorter, and nostrils larger. The skin is brown in the summer, brown and white in the fall, and white in the winter. It is extremely thick and beautifully soft, being covered with a down or wool underneath, and long white or mottled hairs under all. This gives it a soft, soothing touch. The antlers of the stag are palmated, sweeping backward, and of most wonderful proportions. The brow antlers meet over the nose, like one's two hands, palms together, with the fingers straight out. He is in every way prepared to resist the cold, and travel over the rough country which he inhabits. He does not scrape away the snow to get at the lichen moss upon which he feeds, with his horns, as some have supposed, because he has none in winter. He clears away the snow with his nose, which is covered with a hard skin for the purpose.

The stags shed their horns in November, after the rutting season. They obtain their full growth by the first of September. Terrible battles take place among them in the month of September, and it is hard to find, after that, a full-grown stag whose horns are not broken or battered. In many cases the brow antlers are broken off altogether, and the animal badly bruised about the head and forelegs. Unlike the ordinary deer, the female caribou are also provided with antlers, but not always. She brings forth her young in May, when two years old, retaining her horns till then. A full-grown caribou hind is about the size of a red deer stag; and a full-grown stag in his prime, say from six to ten years old, will weigh about four hundred pounds.

The reindeer of northern Canada, like the rest of the deer family, are guided almost entirely by their wonderful sense of smell. They have also the peculiarity of feeding down wind, which is always taken advantage of in hunting them, for if the sportsman can obtain a good hiding-place to leeward, they will feed almost on top of him. These deer, from being very little hunted, have but little fear of man, so long as they do not scent him, and will often allow one to approach

boldly in open view. Indeed the older stags, especially during the rutting season, are much more inclined to fight than to run while you are to leeward. The Eskimos call, or toll, them up to within fifty and often ten or fifteen yards. They generally go in droves of three or five, or more; one stag only, all the others being hinds.

The flesh of the reindeer in August and September is most delicious; when they often have as much as three or four inches of fat on them. You may be sure the Neptune was not wanting in venison while we were within easy reach of the land in Hudson Strait.

There is considerable to be said about the Nannook (polar bear). He is a most interesting looking animal, but exceedingly ugly, as are all bears. The most valuable thing about him is his pelt, which is worth from $10 to $15. The hair is very soft, a beautiful creamy or blue-white, very thick, and highly prized. His size is monstrous, weighing over six hundred pounds, if full grown. The flesh of a two or three months' old cub is fat, tender, and very palatable. In hunting them one cannot tell what to expect. They may run away at first sight, or they may come upon you with furious rage. If you sight one two hundred yards off, and wish to get close, it is better to let the bear come towards you, than to attempt to approach him. This may nearly always be accomplished by walking away from him a short distance, and then stopping. He will follow and stop also. In this way you may lead him on another fifty yards. He will seldom run after that. It is only when they see you at a considerable distance that they put off as if alarmed. If you come suddenly upon them they will stand their ground, and always fight as soon as they are attacked, often before.

The polar bear is a most wonderful swimmer, and is able to cross channels of great width, and, where ice abounds, to almost live in the water. He makes the voyage across Hudson Strait with perfect ease, and lives luxuriantly on the journey. In appearance the white bear, like all others of his race, is sleepy and lazy, but is really most active and alert. His powers of aquatic locomotion are almost marvellous. He will often plunge into the water of the rivers flowing into Hudson Strait, where salmon abound, and, after a few

moments beneath its surface, return with one of these luscious fish between his great jaws. But he is most at home, perhaps, in the pursuit of seals.

You can imagine four or five seals sleeping upon an ice-pan.

POLAR BEARS.

They are observed by the polar, while he is yet a considerable distance away, probably on another sheet of ice. He drops silently into the water, and, diving far below the surface, swims in the

direction of his intended prey. If compelled to come to the surface for breath he will do so, while in pursuit of game, in a wonderfully quiet manner, take his bearings, and again slip under the water; and so accurate are they in the measurement of distances that the last time he comes up he will be within a few feet of the unfortunate seals. Their doom is now settled. No matter whether they remain on the ice or endeavour to take refuge in the water, he can move so much quicker than they can, that, in an instant, one at least is destroyed.

The polar bear is an animal of most wonderful physical powers, and very tenacious of life. Even when pierced with bullets he will often continue to fight in the most desperate manner. His teeth and claws are formidable weapons, and the rapidity and skill with which he uses the latter, whether in a battle for his life, or devouring his prey, or climbing precipitous cliffs, claims our admiration. Their young are nearly always two in number, and are brought forth in curiously constructed snow huts, in which they dwell during the first few weeks of their existence.

CHAPTER XXIII.

Northern Whales and Whaling.

AN EXCITING VOCATION—HARPOONING A WHALE—THE APPEARANCE AND HABITS OF THE WHALE—THE SWIVEL HARPOON-GUN—THE MAN IN THE CROW'S NEST—"A FALL!"—A "FLURRY"—INCIDENTS OF WHALING—VALUE OF OUR NORTHERN WATERS.

PROPERLY speaking, the northern whales are not fishes, but animals, though thoroughly aquatic. They live entirely in the water and obtain their livelihood there; hence their entire structure is fitted for the seas only; and when they are unfortunately cast upon shoals, they cannot of their own power re-enter the water, but perish from starvation.

They are forced to rise to the surface of the water to breathe, which is called "spouting," because a column of mixed vapour and water is ejected from the "blow-holes," rising above the surface of the water for more than twenty feet. The limbs are simply undeveloped legs, suited to aquatic locomotion; but their chief use seems to be to keep their immense bodies in position and in caring for their young, as the propelling power is located altogether in the tail.

A BLACK WHALE.

The whale—and I speak exclusively of the northern whale—is, when fully grown, about seventy feet long, and will girth about thirty-five or forty feet. Its colour is velvety-black upon the upper half of its body, as also are its fins and tail, but its belly and lower part of its jaw are nearly white. The sleek, shiny appearance of its body is due to the oil which is constantly emitted through the pores of the skin. The skin is threefold; the inner, or true skin,

is nothing more or less than the blubber, or fat. This blubber is generally about eighteen inches to two feet thick according to location on the body, and, besides being of value as an article of commerce, is of great use to the whale, offering an elastic resistance to the waves and pressure of the water. In a full-sized whale the blubber will weigh thirty or forty tons.

HARPOONING A WHALE.

The head of the whale is of enormous size, being about one-third of the length of the entire body. The jaws are very long—more than fifteen feet—about eight feet wide, and ten or twelve feet from top to bottom when open. The most peculiar part of the mouth is the abundance of whalebone that it contains. It lies in a series of plates, thick and close where it is attached to the jaw, but running

into fibres like hair at the ends. On each side of the jaw there are over three hundred of these rows with the bone usually about ten or twelve feet long. A good sized whale will furnish about one ton of bone, which is very valuable as an article of commerce. The whalebone is of use to the whale in enabling it to separate its food from the water.

A natural history writer describes the method of feeding of the whale as follows:—"The animal frequents those parts of the ocean which are the best supplied with the various creatures on which it feeds, and which are all of very small size, as is needful from the size of its gullet, which is not quite two inches in diameter. Small shrimps, crabs, and lobsters, together with various molluscs and medusæ, form the diet on which the vast bulk of the Greenland whale is sustained. Driving with open mouth through the congregated shoals of these little creatures, the whale engulfs them by millions in its enormous jaws, and continues its destructive course until it has sufficiently charged its mouth with prey. Closing its jaws, and driving out through the interstices of the whalebone the water which it has taken together with its prey, it retains the captured animals, which are entangled in the whalebone, and swallows them at its ease."

I have been told, and the statement is confirmed by such naturalists as I have been able to consult, that the northern whale produces only a single cub at a time. This assertion is now so well established that the Canadian Government will be justified in taking necessary steps to prevent the extermination of whales in our northern waters. It is well known that ten years ago there were whales in the waters of the Gulf of St. Lawrence sufficiently numerous to employ a good sized whaling fleet, but that, under the treaty concluded in 1873, the American whalers came into these waters with their explosive bombs and other objectionable methods of securing these animals, and that, as a consequence, they have departed altogether. Of course this result would have followed, no matter what was the ratio of their natural increase; but their great value, their vast numbers, and the slow ratio of their increase, together with the ease with which they may be driven out of our

waters altogether demand that some wise regulations should be adopted for their protection.

The whales suckle their young. When first born the young whale is without whalebone, and, therefore, its mouth is not equipped for supplying its body with food, so that it is wholly dependent upon its mother for subsistence. The maternal whale keeps close to her offspring, and does not forsake it until the whalebone is grown and it is able to support itself.

A brief sketch of the *modus operandi* of whaling, as now carried on in the northern portion of Hudson's Bay and in northern waters generally, will be interesting. Many of my readers may be already familiar with this, from the numerous accounts which they have read, but I fancy it will be instructive to the majority. Whaling is one of the most exciting vocations known to man. It is not attended with as many dangers as writers have generally depicted, but with many hardships, great exposure, and, of course, some risk of life. Steam vessels have pretty much succeeded sailing craft in this trade, and are found, for many reasons, to be very much more adapted to it; but in Hudson's Bay the sailing vessel is still used. When the ship, with her crew and hunting appliances, has reached the whaling waters, the "crow's nest" is fastened to the main-mast head as a lookout. A "crow's nest" consists of a barrel, supplied with furs and comfortables, without any top, and with its bottom arranged so as to open and shut on hinges. The lookout-man ascends the rigging, passes up into this nest, closes the trap after him, and, with the aid of a telescope, keeps a vigilant outlook for whales. Meanwhile all is gotten ready on deck for putting off in the boats whenever a monster is sighted. The lookout-man may have to endure many long, weary, tedious hours before his aching eyes are gladdened by a sight of the object of his watch, but as soon as he observes a whale, he carefully notes its location and the direction from the vessel to it. Then, opening the trap, he rapidly but quietly descends. Not a word is spoken, but the man on the bridge gives the sign and a boat is made ready. Six oarsmen and a helmsman are at their posts. The lookout-man jumps into the boat, takes his place at the swivel harpoon gun, and at once becomes the harpooner. He gives

the course, and the boat with muffled oars puts away toward the whale, and, after cruising about for several hours, it may be, the giant comes to the surface to blow, perhaps within a hundred yards of the hunters. He generally remains partly out of the water five or ten minutes, so that there is time to get the boat into position. The swivel gun is turned upon him and discharged, sending into his side a harpoon, some two feet, to which is attached a line six hundred and twenty fathoms long. The harpoon is about eighteen inches or two feet long. The stock is inserted in the muzzle of the gun, and the line is fastened to a ring at one side. The barbed point of the deadly weapon projects from the gun some ten or twelve inches. Fourteen fathoms of the line are left loose, in a proper coil, so that the harpoon will be impeded as little as possible. If they have succeeded in making fast to the whale, which generally makes off under water, the line is payed out with the friction of two turns round the "bullet head," and a small flag, called the "boat's jack," is sent up as a signal indicating the situation to the ship.

Meanwhile the captain has taken up his position in the "crow's nest," and as soon as the signal is given he gives the word from the look-out, "a fall!" This is taken up by the cook or others on deck; and, for a minute, all are shouting "a fall!" "a fall!" and all are rushing for the boats. Should the men be in their berths, no time is allowed for dressing. They sleep with their clothes on, and with such extra garments as they may require in a small bag attached to their persons by a rope, so that when the word is given they require only to jump for the boats. Each man knows his station in one of the six boats sent out on "a fall!" The helmsmen, the oarsmen, the lancers, and the harpooners, are each and all at their posts, while with muffled oars they speed away toward the struggling whalers in the first boat sent out, leaving on ship-board only the captain, the cook, and one or two sailors.

The great object of these assisting boats is to get as near the whale as possible when he comes to the surface, and to discharge the contents of their harpoon guns into his sides, so as to secure him by additional lines. A premium is placed upon this work to the extent of one dollar a man for each harpoon inserted. The assisting boats

are equipped with swivel harpoon guns, the same as the first boat sent out. When the whale has been secured by four or five harpoons, and when he has "flurried," and not until then, the lancers approach him. The whale "flurries" soon after being harpooned, or by the time he has been fastened by two or three lines.

I cannot very well describe a "flurry," having never seen one; but it is a flurry with a vengeance. The whale becomes alarmed, excited, and loses his head, and in this condition he blows and tears round in indescribable fury, lashing the water with his tail, and rendering approach to him exceedingly dangerous. All keep their distance, so to speak, during the "flurry;" but this exhibition of power is generally succeeded by a calm, in which the victim is said to be getting sick. He comes often to the surface, and remains partly out of the water for several minutes each time. The boats approach closer and closer, near the forward fin, so as to avoid his tail, and with hand lances—lances on poles about ten feet long—pierce his sides. Sometimes he is fired into with "exploding bomb lances," which, after piercing his flesh some two feet, explode inside, making great havoc with his vital parts.

Under this treatment he soon begins to blow blood, which is a most wonderful spectacle. But there is no mercy for the whale. He is lanced and pierced and butchered until he turns himself over, in a sort of death act, and yields himself up to his captors. The men with knives make holes through his tail and lower lip, and fasten lines thereto, when another signal is given for the approach of the ship, which presses hurriedly towards them. No matter how long and arduous the men have worked, or how cold and exhausted they have become, they are all jolly now, and, holding on to their prize, they while the minutes away, until the vessel arrives, by singing some of their favourite songs, such as:—

"Whiskey is the life of man,
Whiskey—Johnny—
We'll drink whiskey while we can,
Whiskey for my Johnny.
Whiskey knocked my old dad down,
Whiskey—Johnny—
Whiskey cost me many a crown,
Whiskey for my Johnny."

On the arrival of the vessel, the whale is made fast to her side, tail forward, so that the large open mouth will not fill with water in case of the advance of the ship, and the work of sculping is begun. This is done under the superintendence of an official called "the Inspectioneer." Eight or ten men are lowered upon the body of the whale, with nails or brads in the soles of their boots, like creepers, in order that they may not slip off his round form; and with long knives, well sharpened for the purpose, commence the work of removing the blubber, or fat, which is generally eighteen inches thick over the whole carcase. The men usually indulge their vocal powers, during this work, in some such enlivening pieces as:—

> "O, waken her, O, shake her,
> O, shake that girl with a blue dress on;
> My Johnny come down in a high low."

or the following, which is a particular favourite with whalers:—

> "Weigh, ha, blow the man down,
> Blow the man down to New York town.
> Give me some time to blow the man down."

The blubber is hoisted to the deck by means of block and tackle and stored away in the bunkers. Care is exercised in removing the bone in order not to damage it, as it is worth over £1,000 sterling a ton. Each whale contains something less than half a ton of bone (some contain a ton), averaging a length of about eleven feet. It is often fourteen feet long. The tongue is also valuable for oil, and if the whale is not an exceedingly large one, this member can be hoisted on deck in three pieces. A fair sized whale will yield twenty to thirty tons of blubber. The hide is not valuable, and is cut into pieces along with the fat.

The value of the fat or oil in its rough state is about £40 a ton, so that the whale, if a good sized one, is worth from £1,000 sterling. A small steam vessel of say six hundred and fifty tons could secure any season ten or twenty whales, or a cargo to the value of from £30,000 to £50,000, or, say $150,000 to $200,000. The smallest craft never secure less than five whales, or a cargo worth $30,000. Sometimes whales are hard to be found and but few are taken; but

in this event porpoise, walrus and narwhal are always plentiful, so that a cargo equally valuable can generally be obtained.

The Americans have been whaling in the northern part of Hudson's Bay for about a quarter of a century, and have been very successful. One or two ships, sometimes more, winter at Marble Island every season so as to be on hand for the whaling as soon as the ice moves, which is the most favourable season for catching them. From such information as I have been able to gather I estimate that they have taken oil and bone from the Hudson's Bay region, during the last twenty-five years, to the value of $2,000,000. This is estimating at less than fifteen whales a year. If this is to continue, it is about time that Canadians received something for the privilege.

During the voyages of the Expedition we saw a great many whales, although we were in no instance far enough to the north to be in their midst. From what we saw and heard I am persuaded that whales abound in the extreme northern parts of the bay in great numbers, and that the whaling industry now carried on there may be developed to vast proportions. As a knowledge of these things come to the public one may depend on greater activity in the whaling business; and once more I urge upon the authorities the necessity of adopting some means of enforcing proper regulations among whalers in our waters, in order that one of our most valuable resources may not be wholly destroyed.

CHAPTER XXIV.

THE PORPOISE, THE WALRUS, THE NARWHAL AND THE SEAL.

CHARACTER AND VALUE OF THESE ANIMALS—THE PORPOISE FISHERIES —THE WALRUS HUNT—PECULIARITIES OF THE NARWHAL—PROBABILITIES OF A SEAL BREEDING GROUND IN THE STRAIT—GREAT OPPORTUNITIES OF THE OIL INDUSTRY.

HUDSON'S Bay and Strait are the dwellings of the porpoise. There, countless thousands may be seen tumbling about on the waves and performing all sorts of sportive exercises. They herd together in vast droves—often thousands and tens of thousands in one swarm. Sometimes these shoals will form

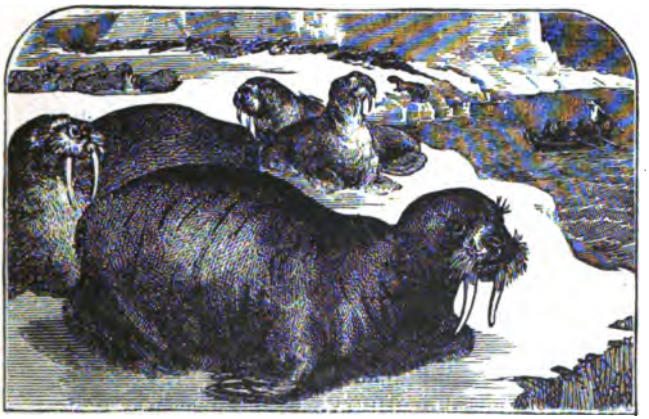
A PORPOISE (WHITE WHALE).

in "Indian file," and shoot over the water, showing their backs like a long, black, winding, ever-changing streak on the surface of the sea. We met with them everywhere, and I am justified in saying that the waters are alive with them.

Their mouths are furnished with sharp teeth, which are so arranged that they interlock when the animal closes its jaws, so that it is well adapted to devour the food upon which it lives and

thrives. They eat herrings, pilchards, sprats, and a host of other fish, which flee before those vast destroyers in great terror. They are clumsy looking creatures, but they can turn and twist and leap with such wonderful agility that they often catch salmon and other such fish.

The porpoise is seldom seen in very deep water, and generally keeps pretty close to the coast, frequenting bays, inlets, and the mouths of large rivers. They generally ascend the rivers with the tide, but will never go further than the tidal flow, and will always stop when it stops, and descend when it descends.



THE WALRUS.

They are very fat and contain blubber similar to the whale, which is very valuable. A good sized porpoise is worth about $75.

The walrus belongs to the seal family, and presents, as one writer has put it, a "terribly grotesque appearance." Its most conspicuous part is its head, with its ugly nose bristling with long, wiry hairs, and its fearfully long canine teeth or tusks, always visible, projecting from the upper jaw. These tusks, in large ones, measure from fourteen inches to two feet in length, the girth at the base being five or six inches, and the weight about eight or ten pounds each. The ivory of which these tusks are composed is of a very superior quality, and commands a high price in the market.

The walrus is an exceedingly valuable animal, both as an article of commerce and to the Eskimo of the north. The blubber, ivory and skin are always in demand. The tusk furnishes ivory of a peculiarly white hue, said to hold its colour longer than that of the elephant's tusk. The oil produced from the blubber is very delicate, and always commands a high price. The skin is thick and extremely tough, and is valuable to the Eskimo for dog-harness, and to civilized man for many purposes. The Eskimos use the tusk for harpoons, spears, fish-spears; the intestines for nets; its oil and flesh for food; and its bones for kayak frames and other purposes.

The walrus, like the seal, climbs upon rocks and ice-pans to sleep and rest in the sun, and although very clumsy, with their vast bodies and insufficient limbs, can, when alarmed, scramble along with almost wonderful rapidity. It uses its tusks to assist it in moving forward, and gets along by jerks and leaps.

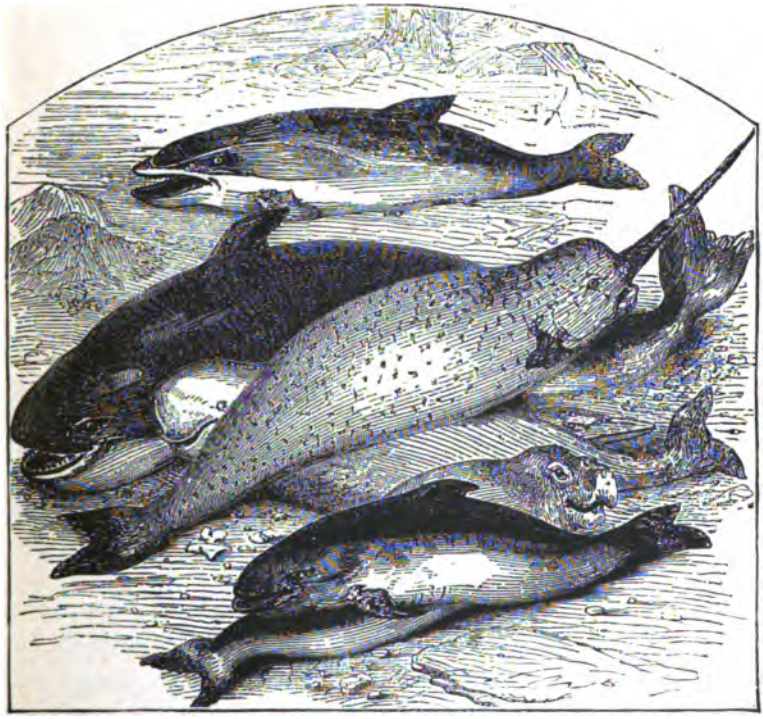
If the walrus is cornered it will invariably attack the hunter, advancing fiercely upon its enemy, striking out with its long tusks and often inflicting dangerous wounds. If attacked by an Eskimo in his kayak it will raise its head out of the water, and make an attempt to force its tusks through the skin of which the frail craft is composed; but the wily native is generally too quick for the unfortunate animal, and manages to disable him with his harpoon before receiving damage or injury.

A full grown walrus is from ten to twelve feet long. The skin is brown and smooth, and is covered with short brown hairs. We met with walrus on our voyages both in the Bay and Strait, and counted over seventy from the deck of the Neptune, at one time, sleeping or lounging on the ice. They are very numerous.

The seal is a curiously interesting animal. It was to be seen everywhere, at every turn. Like the walrus, and even the porpoise, it makes sad havoc among the fish. It is rather a handsome animal, with its beautifully mottled skin and large bright eyes. The colour of its fur is generally a dark green, sometimes a greyish yellow, sprinkled with spots of brown, or brownish black, which are larger and more noticeable along the back than on the sides. The total length of the seal is about five feet, the head being about eight

inches long. Its feet are short, and the claws of the hinder feet are fully developed.

The seal is richly coated with blubber, the same as the whale, porpoise and walrus, and seal oil produced therefrom is known and valued the world over, while the skins are of great value, either when tanned into leather or prepared with the fur on, and used for making various garments of usefulness and luxury.



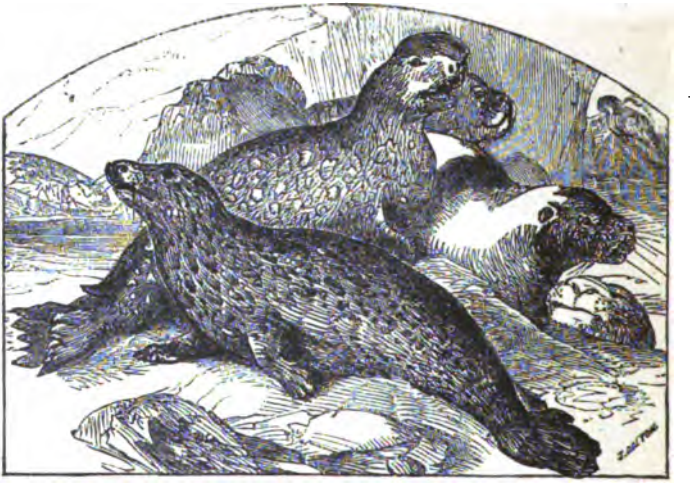
THE NARWHAL AND PORPOISE.

It seems almost incredible, but the seal is easily tamed, and will become, with some attention, one of the most docile of animals, attaching itself, it is said, with wonderful affection to its keeper. Many have been taken when young, and have been thoroughly domesticated, and have developed a gentle, loving disposition.

But I must endeavour to say something about the narwhal, or

sea-unicorn, as the animal is popularly called. The head of the narwhal is round and convex at the front. There are no teeth in the lower jaw, and the upper jaw, which is wide and of a peculiar shape, contains teeth. From the front of the head projects the long, curious, straight weapon, or horn, or tusk, whatever you please to call it. This weapon is about three inches in diameter at the base, and tapers to a sharp point, and is about six feet long, perfectly straight.

The force of this horn or tusk is very great when urged with the impetus of the narwhal passing swiftly through the water; for the whole weight and velocity of the animal is directed along the



A BEVY OF SEALS.

line of the tusk. "A narwhal," says one writer, "has been known to encounter a ship and to drive its tusks through the sheathing and deeply into the timbers."

The ivory of this tusk is of a very fine quality and susceptible of an exceedingly high polish. A full sized horn is valued at from $60 to $80. "In the upper jaw," says Dr. Wood, "of the young, or female narwhal, are found two small or hollow tusks imbedded in the bone, which, in the female, are generally undeveloped throughout the whole of the animal's existence, but in the male narwhal are strangely modified. The right tusk remains in its infantile state,

excepting that the hollow becomes filled with bony substance; but the left tusk rapidly increases in length, and is developed into a long, spiral, tapering rod of ivory, sometimes attaining to the length of eight or ten feet." We did not meet with many of these animals during the voyages of the Expedition; and, so far as I can learn, they are not very numerous in those waters.

The methods employed in procuring the porpoise, walrus, narwhal, etc., in the Hudson's Bay region afford material for interesting descriptions; but I can but allude to them in general terms. The porpoise are obtained by means of nets or traps and the tides. Vast shoals swim into the rivers with flood tides, and, as I have said, go out again with the ebb. A net is arranged, extending out from the shore, covering a cove that is dry at low tide, but covered by fifteen or twenty feet of water at high tide. This net is fastened to the bottom, but may be sprung at will by means of a line, when, by the assistance of floaters, its upper portion comes to the surface.

A watch is placed on the banks of the river, and if a shoal of porpoise are seen ascending the river the net is sprung as soon as they have gotten above it. Then Eskimos go out in their kayaks and beat upon the water with air-bags, making a dull sound, and driving them, as they return to the sea, from the channel into the cove and behind the net, where they are kept going to and fro, driven by these sounds, until the tide runs out, leaving them high and dry upon the flats. They are then secured to lines, and with the returning tide hauled to shore and sculped. At Ungava Bay the Hudson's Bay Company have developed an immense porpoise fishery in this way, and also at Churchill. Last year Mr. Spencer obtained nearly two hundred of these immense animals, by the method which I have roughly described, in a cove in the Churchill river, within three miles of the post. In fact, from their vast numbers and the ease with which they may be taken, I do not overstate the truth when I say, with proper facilities, four or five thousand of these oil-bearing animals could be taken at one place in a single season; which means blubber to the value of over $300,000.

The walrus are generally shot on the ice, where they may be found in vast numbers, in the Strait and in the northern portions of

the Bay. The natives frequently secure them in the open water with harpoons, but this is a slow method. At certain seasons of the year, in the early spring particularly, they are found in multitudes sleeping and lounging on floating ice-pans, and may be shot with repeating rifles very rapidly. In proof of this I may mention that the Hudson's Bay Company's agent at Churchill has, for some years back, sent a walrus expedition to the north of the Bay each spring, and on every occasion the men have loaded their vessels with blubber, hides and ivory in a remarkably short space of time. There seems to be a great number of these animals in those waters, so that

THE MOTTLED SEAL.

the industry, like the porpoise fishery, may be extended to almost unlimited proportions.

From the information I have received I am not in a position to state whether or not the seal can be found in the vast herds, by the hundreds of thousands, on the ice in early spring in Hudson Strait, as they appear annually off the coasts of Labrador and Newfoundland. They are very numerous in the waters of both the Bay and the Strait; and as there has never been an attempt made to prove or disprove their existence in the Strait in breeding herds, such as have sustained the vast sealing industry of northern New-

foundland these many years, I am justified in the supposition that future investigation will discover that in the month of April the moving ice in Hudson Strait is as heavily freighted with young harps as are the ice-pans of the North Atlantic, north of Newfoundland.

However this may be, enough is now known to warrant the belief—nay, to assure beyond a doubt—that the almost inexhaustible numbers of oil-bearing animals in the northern waters of the Dominion invite the establishment of an oil industry, and of oil industries, there—industries, too, that may be developed into an export trade of millions of dollars annually, yielding immense profits to those who undertake the enterprise.

There is probably no opening in which capital can find employment to-day with such a certainty of large returns as that of the oil business of Hudson's Bay. A few Americans are reaping fortunes in an adventurous way in the whaling industry already, and the Hudson's Bay Company reap over $50,000 annually from the blubber of the porpoise and walrus, an enterprise which they regard as only in a small way auxiliary to their immense fur trade.

CHAPTER XXV.

The Economic Fishes of Hudson's Bay and Strait.

THE WONDERS OF THE COMMON CODFISH — THE BEAUTY, TACT AND SKILL OF THE SALMON—DELICIOUS TROUT—HOW FORTUNES MAY BE MADE IN THE HUDSON'S BAY FISHERIES.

ALREADY the reader has obtained some idea of the immense wealth of the Hudson's Bay region in oil-bearing animals, such as the whale, the walrus, the porpoise, the narwhal, the seal, etc.; and I must now direct attention to the economic fishes of those waters. The cod abounds in countless legions in many portions of the Strait, and in all the coves and inlets which everywhere characterize the shores of Ungava Bay. Everybody has heard of the codfish, but few are aware of the excellent sport in catching them. During our voyages on the Hudson's Bay Expedition we had many opportunities of enjoying this, and I availed myself of them on more than one occasion.

The cod is one of the most useful fishes that inhabits any water, and at certain seasons of the year is captured in quantities so vast as to fill one with astonishment. The shores of Newfoundland and of the entire Labrador coast are, in the spring and early summer, literally alive with these fish, except in seasons, which rarely occur, when they appear in scattering numbers, and the cod-fishery becomes a failure, and thousands go hungry in consequence. The cod-fishery, considered as a whole, is an immense industry. On the shores of Newfoundland and Labrador there are thousands of vessels employed, and some seasons over fifty thousand souls engaged in fishing for and curing the cod.

They are always caught by the hook and line. The lines are of two descriptions. One is a long line to which are attached a great

number of short lines, and the other is the ordinary "jigger." I have not seen the combination arrangement in operation, but a description of it is at hand:—"The long lines sometimes run to an extraordinary length, and shorter lines, technically called snoods, are affixed to them at definite distances. To the end of each snood is attached a baited hook, and, as the sharp teeth of the fish might sever a single line, the portion of the snood which is near the hook is composed of a number of separate threads fastened loosely together, so as to permit the teeth to pass between the strands. At each end of the long line is fastened a float or buoy, and when the hooks have been baited with sand lance, limpets, whelks, and similar substances, the line is ready for action. The boat, in which the line is ready coiled, makes for the fishing place, lowers a grapnel or small anchor, to which is attached the buoy at one end of the line, and the vessel then sails off, paying out the line as it proceeds, and always "shooting" the line across the tide, so as to prevent the hooks from being washed against each other or twisted round the line, which is usually shot in the interval between the ebb and flow of the tide, and hauled in at the end of about six hours. As soon as the long line has been fairly shot, and both ends firmly affixed to the grapnels, the fishermen improve the next six hours by angling with short lines, one of which is held in each hand. They thus capture not only codfish, but haddock, whiting, hake, pollock, and various kinds of flat fishes. On favourable occasions the quantity of fish captured by a single boat is very great, one man having taken more than four hundred cod alone in ten hours." *

But the fisherman of to-day on the Labrador coast generally takes the cod with the "jigger." Over thirty thousand souls, men and women, put out from their scanty homes in Newfoundland every spring for the Labrador. Anchoring in some one of the innumerable small harbours of that rugged coast the men go out in their boats and "jigg" at certain stages of the tide, returning to the vessel at evening, or perhaps twice a day, heavily laden with these fish. They are thrown on deck with a sort of fork, and cleaned by the women, and,

* Woods' Natural History.

indeed, the women may often be seen out in the boats "jigging" with the men.

"Jigging" is good sport, but one will soon tire of it. A "jigger" is simply two or more codfish hooks springing out of the mouth of a leaden caplin, from the tail of which a cod line extends to the desired length. This is let down from the side of a boat until it touches bottom, then pulled up about six feet. The line is now in position, and the "jigging" consists of jerking the line quickly about two feet, as fast as it will sink to position by the weight of the leaden caplin. The latter is of a light colour, and appears just like a live caplin sporting in the water. The cod make a rush to devour it, and are captured.

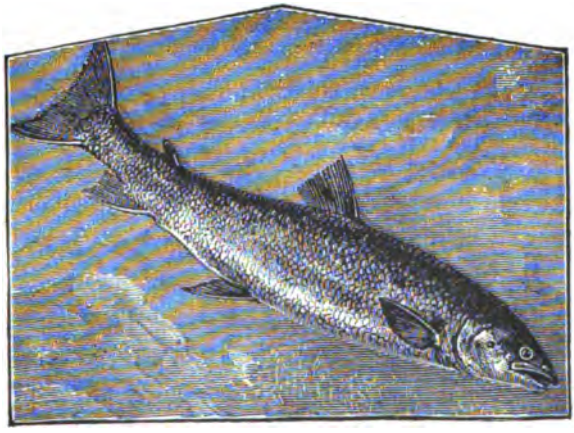
Sometimes, in attempting to swallow the caplin, they will get one of the hooks in their great mouths, and will come to the surface caught in that way; but much oftener they are hooked in the side or belly by the sudden movement of the hooks in the water. When you feel a cod on the hook the sensation is delightful. Sometimes it requires considerable strength to hold them and land them safely in the boat; and if you are lucky or unlucky enough to hook a shark, which frequently occurs, then look out. Unless you are well up to the business you will lose both shark and jigger, but by good management you may bring him close enough to use the spear.

Frequently, in jigging cod, you will land two, and sometimes even three, at one time. One afternoon while at Cape Chidley, at the entrance to Ungava Bay, I went out in one of the Neptune's boats along with Mr. Bridge, the second engineer, and enjoyed nearly two hours' most delightful sport. We anchored and commenced to jigg. The water was very clear, and I could see down some ten or twelve feet. At a depth of ten feet the cod were so thick that the only way I can describe their numbers would be to say that there were millions and millions of them to the acre. We captured nearly four hundred in an hour and twenty minutes; and as our dory would hold no more, we were obliged to stop and return to the ship. The skin was worn from my fingers in many places by the process of jigging; but so exciting was the sport that I did not observe this until it was all over.

There are plenty of cod in Hudson Strait, and no doubt they will shortly find their way into the Bay also. In any of the inlets of Ungava Bay a schooner might be loaded in a few days. This fishery is exceedingly valuable, and steps should be taken to protect it. Now that it is known that cod are so plentiful in that quarter fishing vessels will not be long in rounding the Cape, and skirting the shores of Ungava in quest of these valuable fish.

All things considered, I think the salmon is destined to become the most valuable fishery of the Hudson's Bay region.

The Rev. Mr. Cook, a clever naturalist, has said that the salmon is the "king of British river fish." He is right; but this does not go far enough. The trout must be included. The salmon is, indeed, a beautiful fish; "the silvery sheen of its glittering scales, its wonderful tact and activity, affording magnificent sport to the angler, the interesting nature of its life from the egg to full maturity, and last, but not least, for the exquisite flavour and nutritive character of its flesh;" for these reasons is the salmon much sought after.



A SALMON.

Here is a sort of lament of the salmon lover:—"In former days, before civilization had substituted man and his dwellings for the broad meadows and their furred and feathered inmates, the salmon was found in many an English river. Now, however, there are but few streams where this splendid fish can be seen; for in the greater number of British rivers the water has been so defiled by human agency that the fastidious salmon will not suffer itself to be poisoned

by such hateful mixture of evil odours and polluted waters, and in the few streams where the water is still sufficiently pure for the salmon to venture into them, the array of nets, weirs, and all kinds of salmon traps is so tremendous, that not one tithe of the normal number is now found in them."

The writer of the above should go to the rivers, and brooks, and torrents, and leaping, foaming, dashing streams that everywhere empty their turbulent waters into Hudson Strait. There the salmon has taken up his abode; there, far away from the haunts of civilized man; there, where cataracts roar and rapids foam; and where is only the spear of the wily Eskimo to avoid, and the jaws of the porpoise, the walrus and the seal, the otter and the agile polar bear to shun, dwells the salmon in its virgin beauty.

The salmon is of course a migratory fish, annually leaving the sea, its really permanent home, and travelling up the rivers and into all sorts of streams to meet the fresh water for the purpose of depositing its spawn. The perseverance and skill of this fish in working its way up the streams is wonderful. It penetrates the swiftest currents, and scales the swiftest rapids, nor even is it always checked by falls. It will sometimes spring out of the water, leaping several feet above the surface, and scaling the falls in a manner that is altogether incredible. In this way it often ascends a series of falls in a river, some fifteen or twenty feet, and having gotten above them it burrows into the gravelly bottom and there deposits its spawn.

The salmon abound in the streams running into Hudson Strait so plentifully that a ship can be loaded with them in a few days. Already, at Ungava Bay, the Hudson's Bay Company have opened a salmon fishery, and ship a refrigerator steamship load to the Old Country annually. These salmon are pronounced the finest in the world—much better in quality than those caught on the Pacific slope or in the more southern waters of the Dominion. They abound in such immense quantities, in such a vast stretch of country, that the possibilities of development of the industry are unlimited, and we may fairly expect that in the near future fresh salmon will not only be sent in a frozen state from the Hudson's Bay country to all the

principal parts of the world where there is a demand for these fish, but that large salmon canneries will make their appearance on the shores of our northern waters, reaping good profits to those who invest capital and labour in the enterprise.

Pretty much all I have said of the salmon may be said of the sea trout which fill the streams of the north in certain seasons in "countless legions." They are like the salmon, beautiful, fastidious, sportive, and delicious for the table. Their number, if possible, is even greater than that of the salmon in the north. They are nearly as large as the salmon, being a little longer, but not quite so stout. The Eskimos spear them and feed upon their sweet, luscious flesh in the spring and early summer, and consider them, as well they may, a great luxury. They brought numbers of them to the Neptune during our stay in the Strait, and traded them for powder and shot, and of course we were ready purchasers.

In many places the Hudson's Bay Company are carrying on extensive trout fisheries by means of simple traps, which they set in the shallow streams when the tide rises some ten or twelve feet. At ebb-tide they often find thousands of these excellent fish secured in these nets. They are salted in casks or barrels, and shipped to England.

If a Canadian company were organized, with even a limited capital, and equipped for cod, salmon, and trout fishing, with stations at suitable places on Hudson Strait, these fish might be annually exported to the value of hundreds of thousands of dollars. It would require a much greater outlay of capital, as also more experience and skill, to deal successfully with the oil-bearing animals; but I have no doubt the returns reaped would be correspondingly greater. In either case it would require but the space of a few years to amass an extensive fortune. The wealth is there in inexhaustible supply awaiting skill, labour, and capital to develop it. Who will be first?

There is a variety of smaller fish in those waters, but they are not of so much importance, and I had no opportunity of learning anything concerning them.

CHAPTER XXVI.

FUR-BEARING ANIMALS.

THE SILVER, BLUE, GREY, RED AND WHITE FOXES—THE ERMINE—THE MARTEN—THE OTTER—THE VARYING HARE—THE LYNX—THE WOLF—THE WOLVERINE—THE SABLE—MUSK-OX—THE POLECAT—THE BADGER—THE MUSK-RAT—THE RACOON—THE FUR TRADE.

I HAVE spoken of the oil-bearing animals, the economic fishes, and will now briefly direct attention to the fur-bearing animals of the Hudson's Bay country. I may tell you, in the first place, that should the traveller in that region depend upon the Hudson's Bay Company's employes for his information concerning these resources, he would remain in ignorance. These people, when being questioned concerning the furs or other products, can manage to talk and yet say the least of any persons I have ever met with. Without being personal, I will give the reader a sample of an interview with a Hudson's Bay Company man of the north. The same one will fit anywhere you go. They have all learned the one lesson:—

"Did you get many furs last year, sir?"

"Not many, sir. They are very scarce now."

"Do you get any of the silver or black fox skins, these days?"

"A very few, sir. Just one or two; they are very scarce, sir."

"Are the porpoise very plentiful in these waters?"

"No, sir. They are very scarce, sir."

"Did you get many last season?"

"No, sir; very few, sir."

"How about the walrus?"

"They are very scarce too, sir."

"Did you get any last season?"

"Just a few, sir."

"Are there many black whales?"

"No, sir. Very few; only one here and there."

"Of course the seals are plentiful?"

"No, sir. They are very scarce, sir; only one here and there."

"Oh! Are there any deer?"

"Very few, sir. Only one here and there."

"Of course there are plenty of marten?"

"No, sir, only a few. We get one now and then, sir."

"Oh, indeed. How about the otter?"

"They are very scarce too, sir; only one here and there."

And so it goes. Everything is scarce; and yet the Hudson's Bay Company load five ships from the products of the Labrador and the

THE BEAVER.

Hudson's Bay country annually, exporting these products to the value of not less than $500,000.

In many districts all that the Hudson's Bay Company's people say concerning fur-bearing animals generally will certainly apply to the beaver. This valuable animal is indeed "very scarce, sir, only one here and there;" and yet no one can write of the furs of northern Canada and forget the beaver; but it is only in the more southern portions of the Hudson's Bay Company's domain that these animals are met with, so that I will not detain the reader with a description of their valuable furs at present.

But the foxes, they are still plentiful. Of these there are many kinds, and the value of their skins range from one dollar to five hundred, so that the fur trader must be well versed in all these varieties in order to know the value of the various skins brought to him for traffic. Foxes have so many names, and there are so many different names for the same fox, that one meets with a difficulty in attempting to describe them. We hear of the black, the blue, the silver, the grey, the cross, the red, and the white fox.

I suppose the most fashionable fur of to-day is that of the silver fox, which is found plentifully in the Hudson's Bay region. It is a rich, deep, glossy black, with a bluish tinge; so beautiful are they

THE RED FOX.

that $500 have been given for a single skin, and La Houtan states that, in his time, the skin of one of these foxes brought its weight in gold. Skins frequently bring $250. Of the two thousand caught yearly in different parts of North America, about one thousand are used in England; and they are occasionally seen in the United States upon the streets. The choicest skins are taken on the northern shores of Hudson Strait, and on the rough coast of the extreme north-western portions of Hudson's Bay. Some are caught in Russia, but the fur is of a poorer quality, and not valued so highly.

The cross, red, blue, grey and white foxes are all of considerable importance, each having a certain commercial value. The best cross

fox skins are worth $40 each, and over 10,000 are shot or trapped in the northern regions yearly. The blue fox skins are worth $20 apiece, and about 7,000 are captured annually, but some of these are secured on the borders of the White Sea and Greenland. The other varieties bring from one to five dollars. Of the ordinary red fox over 100,000

BLUE, GREY, AND WHITE FOXES.

are secured every year among the Hudson's Bay Company's posts of the north.

The ermine, or the stoat, is a fur of ancient times, when only the nobility were allowed to wear them; but the demand for them to-day is as great as when they were confined to royalty.

The best specimens are caught in Ischia and Siberia, but a few are taken in the extreme northern parts of North America. In the summer they are useless, their colour being a dingy yellowish-brown, changing in the winter to a pure white, except at the tip of the tail, which is jet-black. The change is undoubtedly a protective measure, rendering the animal invisible as it creeps along, with its peculiar snake-like motion, upon the snow. The change is not effected by the loss of the summer coat, as many would suppose, but by the actual change of colour in the fur. The skins are now rated at about $150 apiece, and the coat of Louis IX., made of these skins, was probably worth at the time $2,500.

The skin of the marten is in good demand. There are two or

THE MARTEN.

three varieties obtained in the north, the best on the east main coast of Hudson's Bay. They are found all over the north, and many thousands are taken annually. Ordinarily they are worth about five dollars a skin, but the price varies according to size and quality. Some are valued at twenty dollars. The mink and the squirrel are also valuable.

The otter produces most valuable fur, and is very plentiful in our north land. It is an amphibious animal, living both on the land and in the water. Its feet are webbed, its nostrils are provided with valves for diving, and its lungs, being large, it is able to remain under water for a considerable time. The otter is very destructive to fish, which it brings to land to eat. It is very wasteful. Catching a

salmon, it will eat only a narrow strip along the back, and leave the rest to decay on the rocks. The fur is exceedingly beautiful, the skins being valued at from $20 to $30 each. They are quite large, some being from four to six feet long, the average being about three and a half feet. There are vast numbers of the otter in the far north, and especially to the west of Hudson's Bay. Thousands of them are taken annually by Eskimos and Indians, and the skins traded at the Hudson's Bay posts.

The hair or fur of the Canada lynx, which is of a dark grey, flecked with black, is quite long. Large and indistinct patches of the fur are of a considerably darker tint than the generality of its coat. The hairs are all white at the tips, which gives them a pecu-

THE OTTER.

liar hue. The limbs are darker than the rest of the body, and the ears almost entirely white. The peculiar colour of the fur varies according to the season. In summer it becomes a sort of chestnut, but in the depth of winter it attains its whitest hue.

The limbs of the lynx are very powerful. Its somewhat massive feet are furnished with long, white claws, completely hid from view by the bushy fur which covers them. Its favourite diet is the hare, which it devours ravenously. The lynx is a good swimmer, being able to cross streams two and three miles wide. One of its peculiarities is the ease with which it may be killed. A slight blow on the back with a small stick is sufficient to destroy its life. The

natives eat its flesh, which is tender, but not well-flavoured. It is larger than a cat, being about three feet long. The skins have a high commercial value and are always in good demand.

Of the weasel family, the sable and ermine are of great value. There is one highly-prized species of the sable found in Russia, another in Japan, but that taken in the northern part of America is equal to the best. An ordinary skin is worth $35, and many have been obtained which command as much as $60 or $75.

The sable loves to dwell in the mountain snow wastes where its drifts, heaped about like mountains, are ever changing position and shape. Here they are followed by the hunter with great difficulty, and sometimes with positive danger. They have their winter homes in holes in the ground or rocks, and readily disappear beneath the snow on the approach of danger. They make warm nests out of moss, dried leaves, etc.

They are frequently captured in traps, and sometimes, where large numbers of them dwell together, they are taken by digging into their holes and catching them in nets as they are forced to escape by a kind of smoke which is injected. If the unfortunate little animal takes shelter in the branches of a tree, a noose is thrown over its head and it is secured in that way.

A great peculiarity of the sable fur is that it will lay any way you stroke it, equally smooth. It is long in proportion to the size of the animal, and extends down the limbs to the claws. It is an exceedingly rich brown, mottled with white about the head, with grey on the neck, and always brings high prices.

The fisher is also much sought after, and, in the west, large numbers are annually captured.

But even the detested polecat becomes valuable under the refining influence of northern snows. It is not quite so large as the marten, but is more vicious, and will destroy hares with great ease. It is famous, not only for its blood-thirsty disposition, but for the unpleasant odour which it has the power to emit at will. When wounded or annoyed in any way, it fills the air with this insufferable odour, driving both man and beast from its vicinity. The skins are valuable, and a large number are annually taken in the far north-

west by natives, and traded at the Hudson's Bay Company's posts for powder, shot, tobacco, etc.

There, too, is found the inoffensive badger, whose skin is always present in the fur packs at Cumberland House or at York. The food of this quaint animal is partly vegetable and partly animal. It is fond of snails and worms and insects. The badger is of the weasel family, and is furnished with an apparatus which secretes a substance of an exceedingly offensive odour, which it often emits when attacked.

It is a most curiously marked animal, its colors being grey, black and white, strangely distributed. The head is white with the exception of a rather broad and very definitely-marked black line on each side, commencing near the snout and ending at the neck, including the eye and the ear in its course. The body is of a reddish grey, changing to a white-grey on the ribs and tail. The throat, chest, abdomen, legs and feet are of a deep blackish brown. The average length of the badger is two feet six inches, and its height at the shoulder eleven inches. The skins are of a decided commercial value, and are yearly secured by the Hudson's Bay Company in great numbers.

The musk-rat (*Ondatra*) is there, but he does not go as far north as some of his neighbours. However, in many of the low, marshy districts of the Churchill River they may be seen in great numbers. The upper portions of its body are of a dark brown. It is tinged with a reddish hue upon its neck, ribs and legs, the abdomen being ashy-grey ; the tail is of the same dark hue as the body. "In total length it rather exceeds two feet, of which measurement the tail occupies about ten inches. The incisor teeth are bright yellow, and the nails are white. The whole colouring of the animal is so wonderfully like the hue of the muddy banks on which it resides that a practised naturalist has often mistaken the *Ondatræ* for mere lumps of mud until they began to move, and so dispelled the illusion. The hinder feet of the *Ondatra* are well webbed, and their imprint on the soft mud is very like that of a common duck. The food of the *Ondatra* in a wild state appears to be almost wholly of a vegetable nature, although, when confined in a cage, one of these animals has

been seen to eat mussels and oysters, cutting open the softest shells and extracting the inmates."

The musk-rat lives mostly in burrows, which it digs in swamps or banks of rivers in which it finds its food. Where, in swamps, it is very wet, it builds little houses that rise three or four feet above the wet surface, and look like small mounds. Its fur has a standard commercial value, and many thousands of these skins are annually exported from America by the Hudson's Bay Company.

Here, too, we meet with the well-known racoon, with its peculiar long fur. The hairs composing its coat are of two kinds, the one of a woolly character, lying next to the skin, and the other of long, rather stiff hairs, that project through the wool for some distance. The woolly fur is of a uniform grey, while the long hairs are black and greyish white. At the top of the head and across the eyes the fur is of a very dark blackish brown. The tail is short and bushy, and is marked with five and sometimes six blackish rings upon a ground of grey.

The racoon feeds upon both animal and vegetable food, but is said to prefer the latter. It is about the size of a small fox, and slightly resembles the fox, but is heavier. Its skin has also a standard commercial value, and as the animal abounds plentifully and is easily captured, great quantities of the fur are annually exported.

One of the curious little animals of the far north is the varying hare, or, perhaps, the alpine hare. So far as a name goes, we had better call it the arctic hare. It is perfectly white in winter, and indeed it is pretty nearly white all the time. In a warm summer, when the ice disappears altogether from the Hudson's Bay region, and there is no snow either on the summits or in the sheltered ravines they become quite grey or a sort of brown; but in a backward summer, when the snow is in a large measure perpetual, these little creatures remain pretty nearly white all the year.

Naturalists tell us that these, and nearly all other, varying animals change their fur when they change their colour; but I am sceptical on this point, so far as the hare is concerned, and also so far as the ptarmigan are concerned. Indeed, I would like to find some really sound authority on this subject. My travels in the north lead me to

believe that nearly all varying birds and animals vary in the colour of their feathers and fur without changing them. This is known to be true of the ermine, and I believe it is true of the hare. I have met with reliable parties in the north who say that, there, hares change their colour somewhat three or four times in the course of as many months. If there be two or three weeks of rainy weather they become grey, and if it becomes cold and dry, with snow, whether it be in August or October, they become white. Be this as it may, when the rocks of the north are naked these hares are pretty much of the same colour, and when covered with snow, and the whole region is draped in white, they are white also; and, squatting down

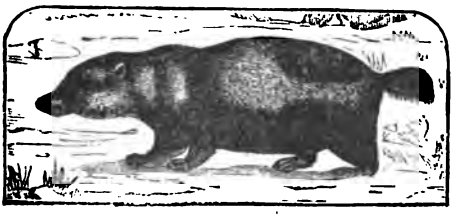
A WOLF.

on the snow, one cannot distinguish between their forms and the general appearance of the uneven surface.

Both the ordinary wolf and the wolverine are found in the far north. The wolf in the icy regions is as ferocious as his neighbour farther to the south. He is solitary and sullen, and I am told frequently perishes from hunger on the barren rocks of that sterile country. In appearance the wolf of the north differs but little from those seen in these parts. Their heads are perhaps a little longer, and their noses sharper. Their teeth are long and horrid looking. Their ears are very sharp, and stand up stiff and straight. The tail is quite long and very bushy. They are generally a pale, yellowish brown, and their eyes are a bright dark green.

When hungry—and a state of intense hunger is its normal condition—the wolf of the north is very dangerous. He will not only attack natives, but reindeer and the musk-ox, and I am told that they have even ventured to assault the white bear; but in this contest they always suffer defeat. They will eat anything from human beings down to lizzards, and will devour the flesh of their own kind with a keen relish. A weak, sickly or wounded wolf is sure to fall a prey to the sharp teeth of its companions. They are fearfully ravenous, and if one becomes greatly besmeared with the blood of the prey that has been devoured, he is instantly attacked and eaten up by his companions.

The wolves usually hunt in bands, and woe be to the animal that is unlucky enough to be pursued by a pack of these hungry brutes. No matter how fleet it may be, it will be overtaken and devoured at last. A great number of these animals are annually captured in the far north, and their skins are of considerable value, always marketable, commanding high prices.



A WOLVERINE.

The wolverine, is sometimes called the glutton, and is noted for its ferocity. In appearance it is something like a young bear. It is of a brownish black, its muzzle is entirely black as far as the eyebrows, and the space between the eyes is quite brown. There are generally a few white spots on the under jaw. The sides of the body are tinted a light brown. The paws are black, the claws of ivory. These claws are highly prized among the natives. I saw an Eskimo lady—a great beauty in the estimation of her people—who wore the claws of a wolverine ingeniously fastened together, with the upper ends hid by a tuft of fur, as a brooch or ornament. The skin of the wolverine commands a high price, and is much in request. A great many are annually taken in the Hudson's Bay region.

I have already referred to the celebrated ermine, commonly called the stoat. It may be a surprise to some to know that the costly

ermine and the everywhere detested stoat are one and the same. The stoat, in a warm climate, is a mean-looking reddish weasel-like animal, a little smaller than a cat, avoided by everyone, but in the north his fur becomes the softest and the purest cream white, and the most valuable of all the furs obtained. The change of colour which takes place by exposure to the cold of the ice and snow-bound regions of the north is not accomplished by a gradual substitution of white for dark hairs, as was always supposed, but is caused by an actual whitening of the fur.

The ermine is more or less valuable according to the degree of cold to which it is exposed. An ordinary Toronto winter would not render its fur worth anything, while away up, almost to the arctic circle, where they are often found in great multitudes, their skins are worth fabulous prices. The hairs are of a most delicate cream white when completely bleached by the cold, but the tip of the tail is always black.

THE ERMINE.

As may be supposed, from the extreme delicacy of the skin and great value of the fur, the capture of the ermine by the Eskimos and Indians of the north is attended with great difficulty. The traps which are used by some for the purpose of catching these little creatures are formed so as to kill them without breaking the skin. A good many are also snared in the ordinary way. One is naturally much astonished at the great value of these little skins, being, according to their size, when caught under proper conditions, worth more than the skin of any other fur-bearing animal in the world.

The skins of the polar bear and the reindeer—animals that have been fully noticed in a previous chapter—are valuable articles of commerce at the Hudson's Bay posts of the north, and great numbers of them, especially of the latter, are annually exported to England, along with other furs, where they find a ready market.

I must not forget to mention the Oomingmak of the Eskimos, or the musk-ox, which inhabits the north even up to the seventy-fifth parallel of north latitude, penetrating the ice-bound regions even farther than the hardy Eskimos themselves. It is a fleet and active animal, and traverses the rough, uneven plains with such ease that there is no other animal swift enough to overtake it. It is frequently dangerous to hunters, often charging upon the daring Eskimo, and laying him low by one blow from its great horns.

Its long woolly hair falls almost to the ground in every direction, so that its legs are nearly altogether concealed, as also its wonderful head. The horns are extremely large at the base, and form a kind of shield. They then sweep boldly downward, and are again hooked upward at the points. The horns of the female are set very widely apart from the sides of the forehead, and are slightly curved. The head is entirely covered with long hair, except at the end of the nose.

Its flesh is strongly perfumed with musk, especially in certain months of the year, but in the winter season the Eskimo finds it wholesome and desirable food. It is usually very fat. It is not a large animal, but the great length of its hair makes it appear much larger than it is. Its colour is a yellowish brown. They roam over the far northern barrens in hundreds of thousands, and multitudes are captured annually by Eskimos, their flesh appropriated for food and their skins brought to the trading stations where they are always in good demand. For sleigh robes the skin of the musk-ox is prized higher than that of the well-known buffalo.

The skins of these and other animals that I have not mentioned are taken in their season by Eskimos and barren-ground Indians and by the Indians still further to the south, and exchanged for powder, shot, tobacco, guns and other necessaries of native life, at the Hudson's Bay posts, which are scattered along from the coast of Greenland to the Pacific slope in the far north, and by this means the fur trade, which has been going on for upwards of three centuries, has been conducted to the great advantage of the far-famed Hudson's Bay Company.

As an indication of the volume of the fur business, even in these

days, the following list of the furs collected at Cumberland House in the winter of 1882 will be interesting:

Bear	372	Beaver	4,684
Ermine	226	Fisher	50
Blue Fox	4	Cross Fox	30
Red "	91	White "	332
Silver "	3	Lynx	442
Marten	2,157	Mink	7,790
Musk-rat	180,791	Otter	424
Skunk	6	Wolverine	175
Wolf	76	Weenisk	1
Musk-ox	1		

CHAPTER XXVII.

The Eskimo Inhabitants.

THEIR ORIGIN—THEIR COUNTRY—APPEARANCE AND DRESS—DWELLINGS—OCCUPATION — IMPLEMENTS—FOOD—MORAL CHARACTER—RELIGION—LANGUAGE—POPULATION—MARRIAGE, COURTSHIP, ETC.

ESKIMO, or Esquimau, is the name applied to that peculiar people, in widely separated tribes, scattered along the coasts of the arctic regions of America and Asia. The French name for these people is Esquimau, or Esquimaux. The Danish form of the word is Eskimo, or Eskimos, and the latter has taken the place of the former in general use. The meaning of the word is "those who eat raw flesh." The name which these people apply to themselves is "Innuit," or "the people."

The Eskimos are the most widely-spread aboriginal people in the world. They are unknown in Europe, and are confined to the arctic coast of America, and to a small portion of the shore of Behring's Strait in Russian America. In America they are found in broken, scattered tribes, from east Greenland to the shores of Alaska, never very far inland from the coast or south of the icy regions. They thus stretch for much over three thousand miles.

They do not maintain much intercourse with each other, yet the separate tribes of these people have preserved a common language and common customs for over a thousand years.

It is conjectured that they originally belonged to America, but at a very remote period. There is also the idea that the Eskimos were formerly fishing Indians, living on the banks of the great rivers flowing into the arctic sea, and were gradually driven seaward by the more southern Indians, against whom, for some reason, they maintain, until the present day, a thorough hatred.

From the western coast of the continent they probably migrated eastward, finding convenient homes along the lake and river systems north of the 55th parallel of latitude, and on the shores of Hudson's Bay and Strait, and finally in Greenland. They are supposed to have crossed Smith's Sound near Cape Union. They are now in every part of Greenland, and on both shores of Davis's Strait and Baffin's Bay, and everywhere on the coasts of Smith's Sound.

They remain for the most part pretty close to the shores. Even on hunting expeditions they follow closely to some coast. On the eastern side of the continent they extend southward to the 50th parallel of latitude, while on the western side they are seldom found south of the 60th, on the eastern shore of Behring's Strait. On the shores of Hudson's Bay 55° north latitude is their southern limit.

Throughout this vast domain no other tribes intervene, except in two places on the western shore, where Kennayan and Uglange Indians come down to the sea for purposes of fishing. Rink divides them into the following groups:—

1. The East Greenland Eskimos, few in number, every year advancing further south.

2. The West Greenland Eskimo, civilized, living under Danish rule, and extending from Cape Farewell to 74° north latitude.

3. The Arctic Eskimos, living in the neighbourhood of Smith's, Whale, Murchison's and Wolstenholme Sounds, not, within the memory of man, having any intercourse with those residing south of them, They are very isolated, having greatly diminished in numbers of late years. These Eskimos did not, until very recently, possess the kayak—skin-covered canoe—the uomiak, or open skin boat, or the bow and arrow. They are bold hunters, pagans, and are thoroughly typical Eskimos. There are at present about three hundred of these people, and one authority says that they have begun to increase in numbers again.

4. The Labrador Eskimos, mostly civilized.

5. The Eskimos of the Interior, occupying the coasts on Hudson's Bay, Hudson Strait, and westward to Barter Island beyond Mackenzie River, inhabiting a stretch of country two thousand miles long and eight hundred miles wide.

6. The Western Eskimos, from Barter Island to the western shores of America. These differ somewhat from the others in their habits and style of dress, and they are allied to certain Indian tribes in Alaska.

7. The Asiatic Eskimos, different altogether from those of America, with whom they have no connection whatever.

Of these divisions I will confine myself to those of the Labrador and the interior of the northern part of the American continent.

First, as to their appearance. They are not a very small race. Their height is about five feet eight inches or five feet ten inches, sometimes six feet, but rarely; but their style of dress makes them look smaller than they are. Both men and women are muscular and active, having pleasant, good-natured faces. Sometimes they are handsome. They are sure to "grin" on the slightest provocation.

Their faces are oval, broad and flat, with fat cheeks. The forehead is not high and quite retreating. Their teeth are good, but owing to the character of their food are worn down to the gums in old age. Their noses are flat generally, but not always. Their eyes are small, black, and bright. Their heads are large, and covered with coarse, black hair, which the women generally keep in braids, or fix up into a top-knot on their crowns, and the men clip in front and allow to fly loose behind. The men have a slight moustache and insignificant whiskers. The skin, when cleaned of grease and smoke, is only so slightly brown that red shows readily in the cheeks, especially of the women and children.

They soon age, and seldom live to be over sixty. Their hands and feet are small and well-formed, and as a rule are better looking than the best of the Indians. The men, women and children dress entirely in skins of the seal, reindeer, bear, dog, and even fox; but the first two greatly predominate. The men and women dress much the same. The jacket of the men has a hood which, in cold weather, is used to cover the head, leaving only the face exposed. This jacket must be drawn on over the head, as it has no opening either in front or behind. The women's jacket has a fur-lined "amowt," or large hood, for carrying a child, and a very absurd-looking tail behind, which is generally trimmed.

The trousers are usually fastened into the tops of boots well made from prepared seal-skin. The women's trousers are nearly always ornamented with eider duck's necks or embroidery of beads, or other decorations. In the winter they wear two suits of clothes, boots, trousers, jacket and all, one with the fur out, and the other—that worn inside—with the fur turned in. They also sometimes wear shirts of bird-skins, and stockings under their boots of dog or young reindeer skin, but this is noticeable only in the case of chiefs.

Their clothes, like all other articles of Eskimo manufacture, are very neatly made, fit perfectly, and are sewn with "sinew-thread" with a bone needle, if a steel one cannot be had. In person they are usually filthy, and never wash themselves. The children, when very young, are sometimes cleaned by being licked with their mother's tongue before being put into the bag of feathers, which serves them as bed, cradle and blankets, when they are lucky enough to have such bags, they being more generally consigned to the "amowt," without clothing of any kind.

In summer the Eskimos live in conical skin tents, and in winter in half underground huts (igloos) built of stone, turf, earth, etc., entered by a long tunnel-like passage which can only be traversed on all fours. Sometimes they erect neat dwellings from blocks of snow, with a sheet of ice for a window. These are comfortable only in cold weather. As soon as the soft weather of spring comes they begin to leak and are deserted.

In their dwellings one will always find the stone lamp, the flames of which, the wick being of moss, supplied by oil, of which they generally secure a plenty, serve as fire and light. On one side of the tent is the bed or the lounge where, on innumerable skins of all kinds, they sleep and lay round day and night. The floor is usually very filthy, characterized often by a pool of blood or the carcase of a seal.

These tents or huts are always surrounded by a host of wolf-like dogs. These, in the summer, sleep outside, but in winter in the huts, or in the passages leading to them. Sometimes one hut or tent accommodates two or three families, and often each family will have a dwelling by itself.

They are exclusively hunters and fishers, and derive nearly the whole of their subsistence from the sea. They use no vegetables, and live exclusively upon the flesh of animals and fish. The seal and other oil-bearing animals, the reindeer, the polar bear, supply them with food, clothing, fuel and light, and frequently also, when drift-wood is scarce, the material for various articles of domestic economy.

The shuttle-shaped kayak, covered with hairless seal-skin, stretched on a wooden frame, is sometimes made on a frame of bones from the walrus, or horns from the reindeer. I have fully described the kayak in another part of this volume. The Eskimo in this kayak is generally covered with a water-proof entrail dress, tightly fastened round the mouth of the hole in which he sits; so that, should the craft overturn, which sometimes happens, not a drop of water will enter. A skilful kayaker can turn a complete somersault, kayak and all, through the water.

The umiak is a flat-bottomed skin luggage boat, open at the top, generally rowed by women. I have seen as many as twenty of these people, men, women and children, in one of these peculiar vessels, They have also the sledge, made of two runners of wood or bone. united by cross bars tied to the runners by walrus thongs, and drawn by from four to eight dogs harnessed abreast.

Some of their weapons are specimens of great ingenuity. This is particularly the case with the harpoon, with the point detachable after it has struck the seal, narwhal, or white whale. The line to which the harpoon is fastened, with the inflated seal-skin at the end, which tires out the prey, besides marking its course, and buoys it up when dead; the bird spear, with bladder attached, is a curious contrivance; so also is the rib bow.

They sometimes cook their food, especially wild fowl, but this is done only on rare occasions, and this in stone kettles over the stone lamp with an oil fire. They scarcely ever cook the flesh of the oil-bearing animals, but eat the flesh and drink the oil with a keen relish. They are enormous eaters. Two Eskimos will dispose of a whole seal at one meal. They eat no imported food whatever—no vegetables. Their rations will consist, in scarce times, generally of two and a half to four pounds of flesh with blubber, and, in season, one pound of fish

a day; but when there is plenty an Eskimo will eat ten pounds of raw meat in a single day. Often he is scarcely able to move round from stuffing himself.

They move about from place to place during the fishing and shooting season, following the game in its migrations. They have no regular or set property, and do not often lay up a large supply of food. They possess only such utensils as harpoons, spears, kayaks, dog harnesses, sledges, and frequently guns. If one family is out of food they share with their neighbours, and are usually very generous toward each other.

The Eskimos are not a vicious people. Their intelligence is considerable. In some instances they display not only a taste, but a talent, for music, chart-making, drawing, and show an abundance of humour. They are excellent mimics, and are not long to learn the songs and dances of the white people. They gamble a good deal, but are moderate. Whatever they have for sale they leave to the purchaser to determine its price. It is affirmed by those competent to judge that they avoid indecency calculated to give rise to public offence, but in their private lives their state of morality is low. They are naturally very honest, but will soon learn to steal, especially from whites, and lying is common among them in the same way.

In many places they have become moderately well educated. At Nain, where there is a partly civilized settlement of over three hundred, nearly all of sufficient age have learned to read and write in their own language. They have also made considerable progress on the east main coast of Hudson's Bay. The syllabic characters used are the same as those adopted for the Cree and Chippewayan languages.

Their religious teachers, the missionaries, find them quite ready to participate in the Sabbath and other services, especially in the singing, and to facilitate their worship, hymn, tune, and prayer-books have been provided for them. These may be found in use at the Moravian mission stations on the northern Labrador, and at some of the Hudson's Bay stations further to the north and west. Following is the Lord's Prayer and two well-known Gospel hymns,

"Knocking, Knocking," and "Safe in the Arms of Jesus," in the Eskimo language:—

45. ᐃᓕᐅᔪᓂᓕ ᓴᓗᒥᒃ ᐃᓂᓕ.

1. ᐊᓭᒋᓐ, ᐊᓭᒋᓐ
ᑭᓕᓗᑦ ᑭᓇᐅᓴ
ᐊᐱᓚᑦᑐᑦ ᐅᒪᓕᑦ?
ᒪᓴᓯᐅᑦ ᐃᓭ
ᐃᑎᐳᒪᓕᒃ ᐃᓕᓴᓄᓐ.
ᐅᐊᑯᐃᐅᑎᓭᐅᔪᑦ.

2. ᐊᓭᒋᓐ, ᑭᓕᓗᑦ,
ᑎᑯᐃᑦ! ᐄᓂᓗᑦ,
ᑭᒥᔾᓕᓐᓂ ᐊᐄᓕᓐ
ᔅᑐᐄᒪᓕᒃ ᐱᓭᔭᑎᓐ;
ᐃᓭᓕᐅᓭᐅᔪᑦ ᐃᓭ
ᐃᓕᓴᓐ ᓄᑯᐃᒍ.

---

46. ᐃᓕᐅᔪᓂᓕ ᓴᓄᔪᑎᒃ ᐃᓂᓕ.

1. ᑎᓕᓴᐃᓚᒥᑲᓂᓂᓂ
ᑭᓕᑦ ᐃᓚᒪᓱᐊᓂ,
ᒋᐊᒧᒪ ᒋᓕᑭᓂ
ᑯᐱᐊᑯᓭᓴᓕᖅ!

THE HYMN "KNOCKING, KNOCKING," ETC.—ESKIMO.

A good deal has been written about the religion of the uncivilized Eskimo

ᐊᒋᐅᔪᑦ ᑭᓭᓕᒃ! ᐊᑎᑦ ᓀᑯᑎᔾᓕ ᓇᓕ
ᑲᐅᓂᒃ ᑲᓭᓕ ᐱᒃᑯᐅᔪᑎᑦ ᒪᓭᑐᐅᓭᓕᑦ ᓄᓇᒥ ᓂᓗ
ᑭᓭᓕᒃ ᐅᓪᓗᒥ ᐱᓱᓕᕐᓂᓂᓂᒃ ᐅᓂᕐᐊᑭᓂᒃᓴ.
ᐃᓄᑦᓂᓕᓂᓂᓂᑦ ᐃᓕᒪᓕᕐᓂᓂᓂᑦ ᓂᓗ ᐅᓭᑦ
ᐅᓭᓕᕐᓂᓂᑦ ᐊᓭᔪᓐᓭᓕ ᐃᓕᒪᓕᕐᓂᓂᓕᕐᓂᑎᒃᓴ.
ᐅᐱᔪᓕᓂᓕᔪᑎᓂᑦ ᐱᑎᓕ ᐱᓭᓕᑎᓭᓕ ᐃᓂ-
ᓂᓂᓕᕐᓂᓂᓂᑦ. ᓇᓕᑲᐅᓴ ᐱᕐᔪᑎᓂᓗ ᐊᓕᓐᓂ-
ᓂᓗ ᐱᑭᓴᓂᓂ ᐃᓕᓴᕐᓂᓂᓕᓕᒫᓴ. ᐊᒥᓂ.

THE LORD'S PRAYER—ESKIMO.

and I am inclined to think that much of it is unreliable. In his natural state he has but few, if any, religious ideas, and bothers himself with worship of no kind

	a	e	o	ă	
	ᐁ	ᐃ	ᐅ	ᐊ	
p	ᐯ	ᐱ	ᐳ	ᐸ	ᐹ
t	ᑌ	ᑎ	ᑐ	ᑕ	ᑖ
k	ᑫ	ᑭ	ᑯ	ᑲ	ᑳ
ch	ᒉ	ᒋ	ᒍ	ᒐ	ᒑ
m	ᒣ	ᒥ	ᒧ	ᒪ	ᒫ
n	ᓅ	ᓂ	ᓄ	ᓇ	ᓈ
s	ᔆ	ᔅ	ᔇ	ᔉ	ᔊ
l	ᓓ	ᓕ	ᓗ	ᓚ	ᓛ
y	ᔾ	ᔨ	ᔪ	ᔭ	ᔮ
v	ᕓ	ᕕ	ᕗ	ᕙ	ᕚ
r	ᖃ	ᖅ	ᖆ	ᖏ	ᖐ

ESKIMO SYLLABARIUM.

whatever; but his contact with Europeans has developed a disposition of worship and a spirit of religion vague and uncertain in its outline.

It is an error to state that the Eskimos have no chiefs, or "Uttericks," as they call them. They do not dwell in large settlements, but in every district the number of families dwelling there submit themselves in many things to the ruling voice and advice of their chief man, and generally contribute to his support. They are, however, but little governed, and never go to war with each other, and seldom quarrel. However, they are not without courage. On the Coppermine and Mackenzie Rivers, where they sometimes come into collision with the Indians, they fight fiercely, and are greatly dreaded.

Again, I must correct most writers on the customs of these people in saying that polygamy is rare among them. All their head men maintain two or three wives, and it is a sign of importance that a man supports more than one wife. Moreover, they often separate, the man finding another wife, and the woman another husband.

Their courtship and marriage is very simple. Parents generally agree as to the marriage of their children while the latter are yet very young, and as soon as they grow up to realization, they find that their matches are made for them. They have only to do a certain amount of courting, and at a very early age—say ten or eleven for the girl, and twelve or thirteen for the boy—they dwell together as man and wife. There is neither marriage nor burial ceremony. Nothing. All is simplicity, and very unromantic. Sometimes the matches made between children by their parents will not hold good. The children thus betrothed may grow up to dislike each other, and in that case there is no marriage. If, however, the girl dislikes the boy, and the boy is fond of the girl, she will have to submit and become his wife.

The whole Eskimo population of the world is put down at forty thousand. It is probably less. There are probably not more than ten thousand between Cape Chidley on the north Atlantic and Alaska; certainly not over fifteen thousand.

In the narrative of the movements of the Hudson's Bay Expedition I have made many observations on the Hudson Strait Eskimos, which, not being repeated here, ought to be read in connection with this brief sketch.

CHAPTER XXVIII.

Navigation of Hudson's Bay and Strait.

THE DISCOVERY AND EXPLORATION OF HUDSON'S BAY — HUDSON STRAIT—THE TIDAL AND OTHER CURRENTS—WINDS AND WIND-STORMS—METEOROLOGICAL DATA—FOGS—TEMPERATURE OF THE AIR, ETC.

THE first occupation of the shores of Hudson's Bay, although shrouded in considerable uncertainty, was accomplished by means of the navigation of Hudson Strait. It is claimed that the Cabots discovered the mouth of the Strait in 1497, but this is disputed by those who hold that neither of the brothers ascended a higher latitude than the northern shores of Newfoundland.

The French claim to have discovered Hudson's Strait in 1504, through some of their adventurous fishermen, and a French work sets up this claim as far back as 1671; and although recent writers discredit it I have not seen any evidence to overthrow it, and am inclined to believe it to be well founded.

Of course the first authentic record we have of the discovery and exploration of the Bay and Strait tells of the daring and unfortunate adventures of Henry Hudson, who, on the 10th of April, 1610, sailed in the ship Discoverie, and passed through the Strait, and across the waters of the Bay. The waters of the latter received his body in keeping until the resurrection, and both will throughout all time bear his name.

The sad story of his fate may be briefly related. After gaining entrance through the Strait, in 1610, he and his crew wintered on the shores of James' Bay, and in the spring of 1611, while on their way north, probably in the vicinity of Little Whale River, on the east main coast, Hudson, his son, and seven of his men, were, owing

to a mutiny, placed in a shallop and sent adrift. It was on a fine midsummer day. Their fate is unknown. They were never heard of afterwards.

The guilty crew suffered great hardships before reaching home, some of their number having fallen victims to the Eskimos, made furious by their indiscretions. The bodies of such of the Discoverie's crew as fell into the hands of the natives were eaten by them, it is said, on the Digges Island, near Cape Wolstenhome. We visited the island this summer, but there were no Eskimos residing there, but we found evidence of their previous occupation. There is a good anchorage—the same, probably, occupied by the Discoverie in 1611, while her crew were on shore in search of game to prevent starvation. There is a tradition among the Eskimos that on account of this unfortunate transaction which occurred on the island, it is bad luck to reside there, and for that reason it has been deserted for centuries. Dr. Bell pronounced the evidences of habitation we met with on the island as indicating an occupancy of more than two centuries ago.

Those of the Discoverie's crew who were fortunate enough to escape the indignant Eskimos succeeded in reaching England, where the ship had been fitted out by a company of English merchants. The same company at once equipped another expedition with two vessels called the Resolute and the Discoverie, and Captain (afterwards Sir) Thomas Button was appointed to the command. Sir Thomas passed through the Strait, across the Bay, and entered the Nelson River, where he wintered during 1612-13.

Sir Thomas Button has left his name in Hudson's Strait to commemorate the success of his expedition, the islands—Button Islands, off Cape Chidley—being called after him. I should mention here that these expeditions, and those that followed, were for the purpose of discovering a north-west passage. Sir Thomas returned to England in 1613, when another expedition was fitted out, which left for Hudson Strait in 1614, commanded by Captain Gibbons. He did not succeed. Missing the entrance to the Strait he returned the same year.

Now seems to follow a blank in the north-west passage business

until 1631, when Captain Fox, the same who gave his name to the well-known Fox Channel, found his way in the Charles into Hudson's Bay, and made somewhat extensive examinations of the north and west shores. He also entered the Nelson River. On his return in August he fell in with Captain James with the Mary, who was also in search of the supposed passage. The latter must have expected to find the passage, for he carried letters of introduction from Charles the First to the Japanese Emperor.

Again follows a period in which there seems to have been nothing done to further the north-west passage enterprise. "In 1632 peace was concluded between the English and French, and by the treaty of St. Germain-en-Laye, New France was relinquished to the French without any particular designation of its limits. The provisions of the Treaty of 1632 seem to have been respected for a period of thirty-six years, when in 1668 the next English expedition entered the Bay, which was the first trading voyage ever made by British subjects, and which resulted in the formation of the Hudson's Bay Company, and the grant of the charter two years after. In saying this was the first purely commercial enterprise of the British in Hudson's Bay, it is to be understood that the previous enterprises were undertaken with the definite object alone of reaching the Pacific." *

A Frenchman named Jean Bourdon made a voyage into Hudson's Bay in 1656, but whether or not his expedition was purely commercial, or in the hope of discovering the passage through to the Pacific, does not appear. Some writers claim that the voyage was never made, but I fail to find the claim disproved.

The expedition of 1668, to which Mr. Bell refers, was of more than ordinary importance, and marks the beginning of an era in the history of Hudson's Bay. The expedition was purely commercial, and was undertaken by the English at the suggestion of two French Canadians named De Grozelier and Radisson. These enterprising Canadians had already been engaged in the fur trade of the Hudson's Bay region, but the French Government refused to give them exclu-

* Bell's "Northern Waters."

sive privileges. Hence they went to England and succeeded in interesting English capitalists. The expedition was placed under the command of Capt. Gillman.

Now, from this movement, can be traced the first beginning of the Hudson's Bay Company, and the competition between French and English fur traders, resulting in a bitter warfare. Forts were soon erected, and annual voyages became a matter of course. It is not my purpose, however, to write a history of the Hudson's Bay Company, nor to give an account of the wars between their outposts and rival traders. From the date of Gillman's expedition to the present day, with some few interruptions, vessels have passed between the mother country and the trading posts on the shores of Hudson's Bay by means of which a regular traffic has been kept up. This shows that for a certain season each year the navigation of Hudson's Bay and Strait has been utilized for more than two centuries, with a regularity that furnishes no insignificant recommendation of the route.

There are three entrances to Hudson Strait from the north Atlantic, viz.: that between Cape Chidley and the Button Islands, five or six miles wide; that, the main channel, between those islands and Resolution Island, about forty-five miles wide; and that between Resolution and the north main coast, about ten miles wide. The first is called Grey Strait, and the latter Gabriel Strait. These are the narrowest channels, except at the western extremity, where Nottingham, Salisbury and Mill Islands divide the Strait into four channels. The main one, and that usually travelled between Nottingham and Cape Wolstenholme, or Cape Digges, is about thirty-five or forty miles wide; that between Nottingham and Salisbury is not more than twelve miles wide; that between Salisbury and Mill, about the same; and that between Mill and the north main coast (Fox Land) probably fifteen miles. Except at the points named, and excepting also between North Bluff and Cape Prince of Wales, in the centre of the Strait where the distance is about sixty-five miles, the width of Hudson Strait is over one hundred miles.

At the entrance from the North Atlantic the water is very deep, over three hundred fathoms in the centre of the Strait. The shores

on both sides throughout are high, rugged and barren, with deep waters close to the cliffy, rock-bound coast. As you proceed westward toward Hudson's Bay the water becomes shallower. In the centre of the Strait, say between Cape Prince of Wales and North Bluff, it is a little less than two hundred fathoms, while at the western end, in the centre of the channel between Nottingham Island and the south shore, it is less than one hundred fathoms, while between Nottingham and Salisbury it is not twenty-five fathoms. The average depth of the water in Hudson's Bay is about eighty fathoms, except in the southern portion, where it does not much exceed sixty.

The distance from Cape Chidley, at the eastern end of the Strait, to Cape Digges at the western end, is about four hundred and fifty miles; the distance from Cape Digges across the Bay to Churchill Harbour is not more than five hundred and fifty miles, and that from Cape Digges to the mouth of the Nelson is about the same. The whole distance, therefore, from Churchill, or York, to the borders of the North Atlantic at Cape Chidley is one thousand miles, or a little less, and not thirteen or fourteen hundred miles as has been previously stated.

In discussing the question of the navigation of the Bay and Strait, we must consider the currents, the fogs, the winds and storms, the character of the ice, the temperature of the air and water, the depth of the water, absence or presence of dangerous reefs, rocks, etc., etc.

I should say that the currents met with between Cape Chidley and Churchill are the tides, the general flow of the waters towards the ocean, and that portion of the arctic current flowing southward through Fox Channel. The tidal current runs at the rate of from five to eight miles an hour, according to location; and in narrow channels along the coast, through islands, and at the mouth of the rivers it is often hard to overcome. For instance, in entering Churchill Harbour at half ebb-tide, a current is met with in which full steam power is required to make headway.

The general movement of the waters from the west towards the North Atlantic, by which the vast territory through which the

Hudson Bay system of rivers runs is drained, is scarcely perceptible. No doubt the tidal records kept at the observing stations will show less time occupied by the incoming tide than is consumed by the outflow. The flood current, under the pressure of this general easterly trend, will naturally come to rest sooner than the ebb current, which, on the other hand, will be slightly prolonged by it.

There is a cold current coming down Fox Channel into Hudson Strait, bringing with it, in some seasons, a vast volume of heavy ice. This is carried southward between Mill, Salisbury and Nottingham Islands, and far away to the south shore at Cape Wolstenholme, and easterly or westerly according to the winds. The Atlantic entrance to the Strait is also slightly affected by the main arctic or Labrador current, which, coming down from Baffin's Bay and Davis Strait with great force, finds its way into the Strait when the tidal current is favourable. By this current, when easterly winds prevail, the entrance to the Strait is sometimes partly blocked with ice from Baffin's Bay.

The rise and fall of the tide (springs) in Hudson Strait is from eighteen to thirty-five feet according to location, and future investigation may discover places where it is much greater. At North Bluff, half-way through the Strait, and on the north main coast, it is thirty-two feet. Following is the record of the tide guage at that point from five o'clock a.m. until five p.m., on the 20th of September last, with flood tide, at forty minutes past eight a.m.:—

TIDAL RECORD, NORTH BLUFF, HUDSON STRAIT, LAT. 62° 32′ 44″ NORTH, LONG. 70° 45′ 15″ WEST.

	Feet.		
5:00 a.m.,	12·0	above zero,	rising.
5:30 "	14·0	"	"
6:00 "	20·3	"	"
6.30 "	23·8	"	"
7:00 "	27·0	"	"
7:30 "	29·8	"	"
8:00 "	31·0	"	"
8:30 "	31·8	"	"
8:35 "	31·9	"	at rest.
8:40 "	31·9	"	"
8:45 "	31·0	"	"
8:50 "	31·8	"	falling.
8:55 "	31·8	"	at rest.
9:00 "	31·7	"	falling.
9:05 "	31·6	"	"
9:10 "	31·5	"	"
9:35 "	30·2	"	"
10:10 "	27·8	"	"
10:30 "	25·7	"	"
11:00 "	22·2	"	"
11:30 a.m.,	18·8	above zero,	falling.
12:00 noon,	14·7	"	"
12:30 p.m.,	10·8	"	"
1:00 "	6·5	"	"
1:30 "	3·5	"	"
2:00 "	1·5	"	"
2:30 "	0·1	"	"
2:50 "	zero,		"
2:55 "	0·05	below zero.	
3:00 "	zero,		rising.
3:05 "	0·1	above zero,	rising.
3:10 "	0·1	"	at rest.
3:15 "	0·2	"	rising.
3:20 "	0·3	"	"
3:25 "	0·5	"	"
3:30 "	0·7	"	"
4:00 "	3·0	"	"
4:30 "	5·8	"	"
5:00 "	8·2	"	"

This tide continued to fall for six hours and ten minutes, during which time the water fell from 31·9 feet above zero, on the staff, to 0·05 feet below zero, or within 0·05 feet of a total fall of 32 feet, which is the greatest fall recorded at that place up to the date of our visit on the return voyage. The rise during the six hours previous was 32 feet. Taking 8.40 a.m., as high tide, at rest, it will be seen that during the 3 h. 40 m. previous, the rise was 19·9 feet, while during the 3 h. 50 m. immediately following, the fall was 21·1 feet. However, continued observations may somewhat modify this record.

As to the temperature of the air and water, and the general character of the weather in the Bay and Strait nothing can be said beyond the meteorological data hereinafter submitted, and nothing beyond what is indicated in this way can be positively known until the observing stations are heard from. The prevailing winds, taking

the year through, are undoubtedly from the west and north-west, but it not unfrequently blows from the south-east and north-east, but with the latter there is generally unsettled weather.

Fine weather is generally experienced when the wind is from the west or north-west. So far as we could judge from our experience and from the information received, gales are of rare occurrence. A gale of even fifty miles an hour was not encountered but twice during the whole of the voyage, and on these occasions it was of a very brief existence.

We met with but one serious fog, and that was really in the North Atlantic. In the Strait proper, and in the Bay, fogs seldom occur, and, when they do, their duration is very short. Sometimes thick, misty weather is to be met with; but there is no serious obstacle to navigation in the fogs, wind, or general character of the weather.

The meteorological observations taken by the staff of the Expedition during the voyage give a very clear indication of the general character of the weather in July, August, and September, and part of October. I have divided these into three classes, viz.: the outgoing and return voyages on the Labrador coast; the outgoing and return voyages in Hudson Strait; and the voyages in Hudson's Bay, as follows:—

METEOROLOGICAL OBSERVATIONS, LABRADOR COAST.*

Date.	Mean Bar.	Mean Temp. Air.	Mean Wet Bulb.	Mean Temp. Water.	Mean Veloc. Wind.	Mean Tenths Clouds.	General Weather Notes.
July 25...	29 53	50·9	50·0	51·2	22·8	9·0	Light rain most of day.
" 26...	29·63	48·2	45·5	41·6	29·3	9·0	Light rain forenoon. Fine rest of day.
" 27...	29·83	43·4	41·8	40·8	18·7	7·5	Moderately fine day.
" 28...	29·74	42·2	40·9	41·8	9·2	2·8	Fine forenoon. Foggy afternoon.
" 29...	29·68	43·9	43·1	41·8	4·6	9·5	Cloudy, but dry all day.
" 30...	29·81	45·0	43·4	49·6	3·7	8·1	" " "
" 31...	29·81	42·2	41·4	41·0	6·5	3·8	Fine most of day. Little fog toward evening.
Aug. 1...	29·66	43·7	42·5	45·9	12·5	9·8	Little fog in morning, Fine rest of day.
" 2...	29·52	40·2	39·7	39·4	6·8	10·0	Fine in forenoon. Light rain afternoon.
" 3...	29·68	38·7	38·5	34·8	9·0	10·0	Heavy fog all day.
" 4...	29·70	36·2	36·2	84·7	13·8	10·0	" "
Sept. 30...	29·86	32·1	30·4	34·0	4·1	5·5	A fine day.
Oct. 1...	30·16	32·7	30·0	84·3	2·0	1·2	"
" 2...	30·06	35·0	32·3	34·3	11·4	5·2	"
" 3...	29·95	30·7	27·8	34·1	10·8	6·2	"
" 4...	29·59	32·9	30·6	34·3	4·6	1·0	"
" 5...	30·10	36·4	37·9	34·0	6·4	10·0	"
" 6...	30·31	35·6	33·4	34·0	3·6	2·0	"
" 7...	30·05	37·4	36·5	34·8	21·5	4·0	Fair in forenoon. Light rain afternoon.
" 8...	29·51	37·0	36·6	35·6	12·3	10·0	Foggy, but fair toward evening.
" 9...	29·51	38·9	38·8	36·1	22·5	6·4	Cloudy, with a little rain at noon.
" 10...	29·80	39·0	38·0	36	12.0	2·0	A fine day.

* Compiled from observations taken every four hours.

METEOROLOGICAL OBSERVATIONS,* HUDSON STRAIT, OUTGOING VOYAGE.

Date.	Mean Bar.	Mean Temp. Air.	Mean Wet Bulb.	Mean Temp. Water.	Mean Veloc. Wind.	Mean Tenths Clouds.	General Weather Notes.
Aug. 5...	29·63	44·0	41·0	39·5	8·3	5·0	Foggy in morning; clear rest of day.
" 6...	29·62	59·9	42·2	39 3	7·1	6·4	A fine day.
" 7...	29·68	41·4	39·7	39·0	1·6	8·0	"
" 8...	29·71	42·9	40·4	37·0	5·0	4·3	"
" 9...	29·56	36·4	35·1	32·9	14·6	6·5	Little fog in forenoon; rest of day fine.
" 10...	29·36	35·6	34·6	32·6	25·0	8·7	Fine day; light showers; rain at noon.
" 11...	29·74	37·6	35·8	33·0	14·1	3·6	" " " "
" 12...	29·49	37·9	36·8	33·6	5·1	9·1	Cloudy, with light showers.
" 13...	29·61	38·0	35·9	33·0	24·0	9·6	Fine but cloudy.
" 14...	29·53	38·1	36·1	34·5	39·6	9·5	" "
" 15...	29·74	38·1	36·3	35·1	11 7	7·0	Fine day; light shower of rain at noon.
" 16...	29·52	36·0	34·0	53·2	7·3	9·5	Fine forenoon; snow at noon; rain towards evening.
" 17...	29·76	37·3	34·9	34·2	8·6	8·5	A fine day.
" 18...	29·80	38·3	36·8	34·6	6·6	9·3	Fine in forenoon; rain in the afternoon.
" 19...	29·30	38·0	36·4	33·8	5·7	10·0	Overcast, and light rain all day.
" 20...	29·58	38·0	37·0	32·3	4·3	6·6	Fine, with showers morning and evening.
" 21...	29·88	36·1	35·0	32·6	21·1	6·3	Rain and snow morning and evening. Fine middle of day.
" 22...	29·12	36·8	35·4	32·8	3·3	6·8	Fine day, with snow-storm in evening.
" 23...	29·60	34·3	33·0	32·7	7·7	4·0	A fine day.
" 24...	29·82	37·0	34·2	32·7	6·1	3·0	"
" 25...	29·82	35·0	34·0	32·8	2·0	8·3	A fine day, with fog in morning.
" 26...	29·61	36·0	33·6	32·1	6·3	7·5	A fine day.
" 27...	29·74	38·4	35·8	32·3	0·	4·1	"
" 28...	29·84	37·0	35·0	34·1	0·	1·3	"
" 29...	29·86	35·4	32·2	32 3	3·1	8·3	"
" 30...	29·84	38·0	36·0	34·1	6·5	8·1	"

* Compiled from observations taken every four hours.

METEOROLOGICAL OBSERVATIONS*—HUDSON STRAIT. HOMEWARD VOYAGE.

Date.	Mean Bar.	Mean Temp. Air.	Mean Wet Bulb.	Mean Temp. Water.	Mean Veloc. Wind.	Mean Tenths Clouds.	General Weather Notes.
Sept. 16...	29·40	32·0	28·0	32·8	5·5	7·0	A fine day.
" 17...	29·49	39·5	27·6	32·0	5·5	3·7	"
" 18...	29·60	33·0	31·0	31·8	5·6	9·4	"
" 19...	29·55	38·5	32·8	32·0	4·4	10·0	Snow in forenoon. Mist and fog afternoon.
" 20...	29·54	35·2	33·2	32·0	6·4	7·6	Light fog in morning. Fine rest of day.
" 21...	29 54	34·1	32·4	32·4	8·4	8·0	A fine day.
" 22...	29·44	34·6	33·1	33·0	11·3	9·5	Foggy, misty, cloudy and dull.
" 23...	29·49	34·3	32·5	32·5	6·0	10·0	A fine day.
" 24...	29·74	33·9	32·1	32·0	5·8	10·0	"
" 25...	29·66	32·0	30·0	32·5	13·0	7·3	"
" 26...	29·84	30·0	28·0	32·0	14·3	8·6	"
" 27...	29·78	33·0	31·1	33·8	8·0	9·6	"
" 28...	29·82	31·0	29·0	34·0	0·3	10·0	"
" 29...	29·76	31·0	29·6	33·0	7·5	10·0	"

* Compiled from observations taken every four hours.

METEOROLOGICAL OBSERVATIONS,* HUDSON'S BAY.

Date.	Mean Bar.	Mean Temp. Air.	Mean Wet Bulb.	Mean Temp. Water.	Mean Veloc. Wind.	Mean Tenths Clouds.	General Weather Notes.
Aug. 31...	29·77	38·1	36·3	34·8	10·7	3·3	A fine day.
Sept. 1...	29·66	43·3	40·8	40·1	4·0	5·3	"
" 2...	29·76	42·1	40·0	39·4	7·5	7·7	"
" 3...	29·15	40·5	40·0	41·0	33·3	10·0	Light rain all day.
" 4 ..	29·42	40·0	39·8	41·9	22·2	10·0	" "
" 5...	29·80	40·0	32·2	41·0	32·5	8·0	Squally.
" 6...	29·78	39·5	38·5	44·0	10·3	9·7	Fair, but light rain at noon.
" 7...	29·99	42·0	39·5	43·0	7·5	2·7	A fine day.
" 8...	30·05	46·6	44·0	43·0	5·0	0·4	"
" 9...	29·97	41·3	39·5	43·3	7·6	7·5	"
" 10...	29·99	39·7	38·4	41·7	11·5	9·1	Fair, but little rain at noon.
" 11...	30·15	41·1	39·1	45·7	8·1	10·0	A fine day.
" 12...	30·30	46·1	43·0	39·7	4·1	5·0	"
" 13...	30·39	42·3	40·7	36·0	5·0	4·0	"
" 14...	30·31	35·3	34·0	35·0	8·0	5·7	A fine day, but little rain at noon.
" 15...	29·72	34·6	34·5	35·0	13·4	10·0	Foggy in forenoon ; overcast in afternoon.

* Compiled from observations taken every four hours.

From the above compilation it will be seen that the weather throughout the whole voyage was, upon an average, very good. After the Strait was entered, on August 5th, we did not meet with a day of continuous fog. The greatest gale was on the 14th of August, on the north shore of the Strait, at Ashe's Inlet. At four o'clock a.m., it was blowing eighteen miles an hour; at eight a.m., forty-five miles an hour; at twelve m., fifty miles an hour; at four p.m., forty-five miles an hour; at eight p.m., forty miles an hour, and at midnight still forty miles an hour, but it soon subsided. This gale commenced blowing forty miles from the S.S.W., veered to the N.W., then N.N.W., when it attained its greatest strength. It then dropped back to N.W., and remained there until its record came down to three miles. It was followed by a light rain on the 15th, and then fair weather. On the 21st it blew for four hours from the north, at thirty miles an hour, with mixed rain and snow, but aside from these exceptions, the wind, while in the Strait on the outward voyage, seldom reached a velocity of ten miles. On the homeward voyage it was still better.

On the 4th and 5th of September, while in Hudson's Bay on the voyage from Marble Island to Churchill, we had heavy north-westerly gales and thick weather. The record for the two days is as follows:

Date.	Hour.	Velocity of Wind.	Direction.	State of Weather.
Sept. 4.....	4 a.m.....	30 miles	N.N.W.	Cloudy.
"	8 a.m.....	30 "	"	"
"	12 m.	35 "	N.W.	"
"	4 p.m.....	35 "	"	"
"	8 p.m.....	35 "	"	"
"	12 mid	40 "	"	Light rain.
Sept. 5.	4 a.m.....	35 "	"	Cloudy.
"	8 a.m.....	45 "	"	Squally.
"	12 m.	45 "	"	"
"	4 p.m.....	30 "	"	"
"	8 p.m.....	20 "	"	"
"	12 mid.....	20 "	"	"

This was the longest blow we experienced on the Expedition. The waters of the Bay were rough, and the Neptune laboured in the sea for the two days, but it was not to be compared to the Labrador winds, which are much heavier. Aside from these two, the seventeen days we spent on the Bay were exceptionally fine and pleasant.

I may say that the worst weather we encountered was while in Hudson Strait on the outward voyage, and that was comparatively very good. The following summary, which is the best possible test of its true charater, gives the pressure of vapour, relative humidity, and dew point, taken out at 8 a.m., 12 m., 8 p.m., and at midnight:—

METEOROLOGICAL OBSERVATIONS—HUDSON STRAIT.

Date.	Hour.	Force of Vapour.	Relative Humidity.	Dew Point.
Aug. 3	8 a.m.....	·229	100·0	38·0
"	12 m.	·246	100·0	39·8
"	8 p.m.....	·229	100·0	38·0
"	12 mid.....	·244	91·4	39·8
" 4 ...	8 a.m	·211	99·0	38·9
"	12 m.	·229	100·0	88·0
"	8 p.m.....	·204	100·0	35·0
"	12 mid.....	·204	100·0	35·0
" 5	8 a.m.....	·197	100·0	34·1
"	12 m.	·208	92·3	35·5
"	8 p.m.....	·244	60·6	47·0
"	12 mid.....	·199	57·2	43·0
" 6	8 a.m.....	·247	71·6	39·9
"	12 m.	·215	69·1	36·5
"	8 p.m.....	·205	68·4	35·2
"	12 mid.....	·236	62·0	38·8
" 7	8 a.m.....	·216	90·7	36·3
"	12 m.	·221	99·9	37·1
"	8 p.m.....	·241	89·9	39·9
"	12 mid.....	·241	89.9	39·9
" 8 ...	8 a.m.....	·243	71·3	39·5
"	12 m.	·230	79·5	38·0
"	8 p.m.....	·190	81·3	33·5
"	12 mid.....	·186	81·1	32·7
" 9	8 a.m.....	·202	100·0	35·0
"	12 m.	·165	71·9	30·0
"	8 p.m.....	·199	100.0	34·0

METEOROLOGICAL OBSERVATIONS—HUDSON STRAIT—*continued.*

Date.	Hour.	Force of Vapour.	Relative Humidity.	Dew Point.
Aug. 9	12 mid.....	·183	89·8	32·2
" 10	8 a.m.....	·183	89·8	32·2
"	12 m.	·207	90·0	35·2
"	8 p.m.....	·201	95·0	34·8
"	12 mid.....	·170	80·0	30·4
" 11	8 a.m.....	·176	81·0	31·3
"	12 m.	·165	71·9	29·4
"	8 p.m.....	·173	72·6	30·7
"	12 mid.....	·199	90·3	34·4
" 12	8 a.m.....	·207	90·5	34·4
"	12 m.	·207	90·5	34·4
"	8 p.m.....	·207	90·5	34·4
"	12 mid.....	·178	80·7	35·0
" 13	8 a.m.....	·194	81·6	33·8
"	12 m.	·181	73·2	32·0
"	8 p.m.....	·157	71·0	28·6
"	12 mid.....	·222	86·0	37·2
" 14	8 a.m.....	·193	75·7	34·4
"	12 m.	·176	85·0	31·3
"	8 p.m.....	·178	80·7	31·5
"	12 mid.....	·172	76·3	30·7
" 15	8 a.m.....	·175	89·5	31·0
"	12 m.	·207	100·0	36·0
"	8 p.m.....	·190	73·8	33·5
"	12 mid.....	·186	81·1	33·0
" 16	8 a.m.....	·165	71·9	30·0
"	12 m.	·178	81·0	30·6
"	8 p.m.....	·181	95·8	32·0
"	12 mid.....	·191	90·0	33·2
" 17	8 a.m.....	·170	80·2	30·5
"	12 m.	·157	71·2	28·5
"	8 p.m.....	·147	63·6	27·0
"	12 mid.....	·186	81·1	32·6
" 18	8 a.m.....	·207	90·5	35·4
"	12 m.	·203	82·0	34·9
"	8 p.m.....	·199	90·3	34·5
"	12 mid.....	·212	100·0	36·0
" 19	8 a.m.....	·199	90·3	33·4
"	12 m.	·225	91·0	38·5
"	8 p.m.....	·204	100·0	35·0
"	12 mid.....	·212	100·0	36·0
" 20	8 a.m.....	·204	100·0	35·0
"	12 m.	·220	100·0	37·0

METEOROLOGICAL OBSERVATIONS—HUDSON STRAIT—*continued.*

Date.	Hour.	Force of Vapour.	Relative Humidity.	Dew Point.
Aug. 20	8 p.m. ..	·216	90·7	36·5
"	12 mid.....	·186	81·1	32·7
" 21	8 a.m.....	·185	100·0	32·5
"	12 m.	·203	82·0	35·9
"	8 p.m.....	·157	71·2	28·5
"	12 mid.....	·149	70·5	27·3
" 22	8 a.m.....	·154	63·8	28·2
"	12 m.	·181	73·2	32·0
"	8 p.m.....	·175	89·5	31·1
"	12 mid.....	·175	89·5	31·1
" 23	8 a.m.....	·183	89·8	32·3
"	12 m.	·183	89·5	32·3
"	8 p.m.....	·181	100·0	32·0
"	12 mid.....	·181	100·0	32·0
" 24	8 a.m.....	·175	89·5	31·1
"	12 m.	·178	80·7	31·4
"	8 p.m.....	·144	62·8	26·5
"	12 mid.....	·136	61·9	25·0
" 25	8 a.m.....	·183	89·8	32·5
"	12 m.	·189	95·0	33·0
"	8 p.m.....	·183	89·8	32·5
"	12 mid.....	·191	90·0	33·4
" 26	8 a.m.....	·149	70·5	27·3
"	12 m.	·136	61·9	25·0
"	8 p.m.....	·170	80·2	30·4
"	12 mid.....	·162	79·7	29·3
" 27	8 a.m.....	·168	65·3	30 1
"	12 m.	·190	73·8	33·3
"	8 p.m.....	·199	74·4	34·4
"	12 mid.....	·155	79·2	30·0
" 28	8 a.m.....	·162	79·7	29·5
"	12 m.	·231	83·3	38·5
"	8 p.m.....	·173	72·6	31·0
"	12 mid.....	·162	79·7	29·5
" 29	8 a.m.....	·186	81·1	32·7
"	12 m.	·183	81·0	32·5
"	8 p.m.....	·183	81·0	32·5
"	12 mid.....	·173	72·6	31·0
" 30	8 a.m.....	·162	79·7	29·2
"	12 m.	·212	82·4	36·0
"	8 p.m.....	·192	90·3	35·5
"	12 mid.....	·203	82·0	34·5

CHAPTER XXIX.

NAVIGATION OF HUDSON'S BAY AND STRAIT—*Continued.*

CLIMATE—TEMPERATURE OF THE WATER—VEGETATION—COMPARATIVE TEMPERATURES.

THE condition of the weather in Hudson's Bay and Strait is uniformly good, especially in the Bay. The observations taken by the Expedition cover, of course, only a brief period; but from what I learned from those whom we met with, and from meteorological data preserved at York Factory and other places, it seems to me that a very close estimate of the mean average temperature of each month in the year, at the following places, may be arrived at. At any rate the calculation will not be found greatly off the mark :—

YORK FACTORY.

Lat. 57° 2' north, Long. 94° 16' west.

April	32°	Fah.	above zero.	December	4°	Fah. below zero.
May	38°	"	"	January	8°	" "
June	49°	"	"	February	9°	" "
July	57°	"	"	March	3°	" "
August	56°	"	"			
September	46°	"	"			
October	32°	"	"			
November	26°	"	"			

N.B.—In some cases the above has been verified by data; but in April, November, December, January, February, and March the mean average monthly temperature given is approximated. Some of the figures given by one of the officers at York are ridiculously absurd.

CHURCHILL

Lat. 58° 44' 43" north, Long. 92° 25' west.

April	33°	Fah.	above zero.	December	5°	Fah. below zero.
May	39°	"	"	January	9°	" "
June	50°	"	"	February	7°	" "
July	57°	"	"	March	4°	" "
August	55°	"	"			
September	43°	"	"			
October	30°	"	"			
November	24°	"	"			

N.B.—This estimate of the mean average temperature at Churchill is based upon such records as the Hudson's Bay officer there has kept, and upon general information. It may be slightly inaccurate.

LAPERRIERE HARBOUR—CAPE DIGGES.

Lat. 62° 34′ 33″ north, Long. 77° 55′ 10″ west.

April	24° Fah. above zero.	December	6° Fah. below zero.
May	28° " "	January	10° " "
June	35° " "	February	9° " "
July	37° " "	March	8° " "
August	33° " "		
September	29° " "		
October	24° " "		
November	20° " "		

N.B.—This estimate is simply hypothetical, but is probably not widely astray.

PORT DE BOUCHERVILLE—NOTTINGHAM ISLAND.

April	22° Fah. above zero.	December	5° Fah. below zero.
May	29° " "	January	10° " "
June	36° " "	February	8° " "
July	38° " "	March	6° " "
August	33° " "		
September	29° " "		
October	25° " "		
November	22° " "		

N.B.—This estimate is based only upon a general estimate, but is probably not far out of the way.

ASHE'S INLET—NORTH BLUFF.

Lat. 62° 32′ 44″ north, Long. 70° 45′ 15″ west.

April	23° Fah. above zero.	December	5° Fah. below zero.
May	30° " "	January	10° " "
June	37° " "	February	8° " "
July	37° " "	March	4° " "
August	34° " "		
September	32° " "		
October	26° " "		
November	23° " "		

N.B.—These figures are the result only of a general estimate, and may not be strictly accurate.

STUPART'S BAY—CAPE PRINCE OF WALES.

Lat. 61° 34′ north, Long. 71° 52′ 30″ west.

April	24° Fah. above zero.	December	5° Fah. below zero.
May	33° " "	January	10° " "
June	39° " "	February	8° " "
July	39° " "	March	4° " "
August	36° " "		
September	34° " "		
October	27° " "		
November	23° " "		

N.B.—This statement is given in a somewhat speculative sense, and may be not strictly accurate.

PORT BURWELL—CAPE CHIDLEY.

Lat. 60° 22′ north, Long. 64° 48′ 12″ west.

April	23° Fah. above zero.	December	5° Fah. below zero.
May	32° " "	January	10° " "
June	38° " "	February	8° " "
July	38° " "	March	4° " "
August	35° " "		
September	33° " "		
October	26° " "		
November	22° " "		

N.B.—This is an approximate estimate only, and may not be strictly accurate.

In the above approximate mean average temperature tables, I have placed eight months in the left hand column in each case, and four months in the right hand column. I will adhere to this classification throughout, on the claim, which I shall endeavour to support by facts and arguments, that the Hudson's Bay route is navigable during the first-mentioned eight months, but impracticable during the last four—not, however, on account of the ice, but the intensity of the cold, which during December, January, February and March will render out-door operations in those parts difficult and unprofitable.

Those who expect to find such a very low temperature record in the Hudson's Bay region should remember that, so far as reliable observations have been secured, the severity of the winters there is not so much greater after all than in Manitoba. The records of the meteorological office of the Dominion afford the following comparison as to lowest temperatures on any day during the year at Winnipeg and York factory for the years named :—

Year.	Winnipeg.	York Factory.
1876	44° Fah. below zero.	53° Fah. below zero.
1877	47° " "	45° " "
1878	36° " "	33° " "
1879	50° " "	40° " "
1880	44° " "	40° " "
1881	40° " "	39° " "

The highest temperature at York Factory in 1876 was 99° Fah. above zero, and in 1878, 106° Fah. above zero, while in the same years the highest temperature in Manitoba did not exceed 97° Fah. Of course the mean average temperature during the year is considerably higher in Manitoba than on the shores of Hudson's Bay, but the difference is not so great as one might suppose. We are not yet in a position to make comparisons as to the temperature in Hudson Strait. Beyond the observations taken by the Hudson's Bay Expedition, but few records exist, and the approximate estimates given above will either be sustained or corrected by the observations now being recorded at the Government observing stations located there. In any event, the lack of agreement between the two will not be very great.

The reader has already observed that, so far as Churchill and York Factory represent Hudson's Bay, there is a wide difference between the climate of the Bay and Strait. This arises from the fact that the Strait is situated in a higher latitude than that portion of the Bay upon which trading posts are located, and to which reference is usually made, and also because there is a vast arctic outlet through Fox Channel into the Strait, which has a decided effect upon the temperature of its waters, and the air as well. The climate on the shores of the Bay north of Churchill is pretty much the same as that on the shores of the Strait, with such exceptions as are produced in the immediate locality of the Fox Channel stream and the Labrador or Davis Strait polar current.

There is even a greater contrast between the temperatures of the water of the Bay and Strait than of the air. Take, for instance, the temperature tables already submitted. On September 6th, 1884, the temperature of the water in Churchill Harbour was 43° Fah. above zero, and on the 3rd of the same month, between Marble Island and Churchill, in the open Bay, it was 41° Fah., while on the 18th of the same month at Cape Digges, at the entrance of the Strait it was 31.8° Fah,, or, on the 12th of August, at North Bluff, it was 33.6° Fah. The temperatures of the water of the Bay are sustained by Dr. Bell, in his geological report for 1877. He says:—"I took the temperature of the sea upwards of twenty times during our

voyage (about 550 miles north of Moose on the east main coast), which extended over the greater part of July, August and September, and found it to average 53° Fah. I also noted the temperature of the rivers we visited, and found that the average of five of them was 61° Fah. We bathed in the water almost daily, and found the temperature agreeable. We saw no ice, with the exception of a little "bay ice" at the commencement of our journey, which had been driven into the neighbourhood of the mouth of Moose River, after northerly winds had prevailed for many days. There was very little rain, and only two or three days of fog. Average temperature of the sea at three to four feet below surface for trials, during three months, was 53°, and of the air 62½°. These observations were taken at various hours between 7 a.m. and 9 p.m."

As to the agricultural possibilities of the country round Hudson's Bay and Strait there are none. There cannot be found on either side of the Strait, and for more than a distance of twenty miles inland, a tree or bush of any sort. The country is wholly and completely barren, but the ravines and marshes are covered with a sort of bog, composed of stunted grass, and sometimes of heather. Properly speaking, there is no such thing as soil of any kind. In these ravines, and nestled at the base of towering ledges of barren rocks, a large variety of flowering plants is noticeable. The arctic poppy is most abundant, but a species of sorrel, growing sometimes quite luxuriantly, is often met with. These remarks will apply also to the country round the northern portion of the Bay.

There is considerable timber of a moderate size to be found on the east main coast of the Bay, and on the west main coast also, which improves as you advance from the sea-shore. This timber on the east main shore does not, however, extend as far north as the Strait. On the west shore its northern boundary is not much higher than the Churchill, except inland, where it reaches a remarkably high latitude. Indeed, the whole country west of Hudson's Bay to the Athabaska is more or less wooded, some of it being of commercial value.

CHAPTER XXX.

NAVIGATION OF HUDSON'S BAY AND STRAIT.—*Continued.*

ICEBERGS AND THEIR ORIGIN — VARIOUS KINDS OF ICE FOUND IN HUDSON STRAIT — LOCAL ICE — ITS THICKNESS, MOVEMENTS, AND INTERFERENCE WITH NAVIGATION—THE FOX CHANNEL ICE—ITS THICKNESS AND FREQUENCY OF APPEARANCE IN THE STRAIT—THE SEASON OF NAVIGATION.

ICE, in certain seasons of the year, will always be an obstacle to the navigation of Hudson Strait; but I hold the opinion that having acquired a full knowledge of the character and movements of the ice, and being furnished with steam vessels suited to those waters, the mariner will have but little difficulty in making expeditious voyages from the west shore of Hudson's Bay to the ports of Europe, during at least eight months in each year.

The ice met with in Hudson Strait is of three classes, viz. icebergs, ordinary field-ice, produced in the Bay and Strait, and arctic ice.

There will never be much difficulty with the bergs—not half as much as is annually experienced in the Strait of Belle Isle, where, owing to the narrowness of the channel, vast numbers of these huge floating ice-mountains come together, rendering the navigation dangerous in fogs and thick weather. Not so in Hudson Strait. They are always sufficiently scattered to render them easily avoided. We saw large numbers of these bergs in the Strait, principally along the north shore, but I do not think that during all our crossing and re-crossing of the Strait, the Neptune was even once compelled to change her course on account of their presence.

So far as known, there are but two inlets through which icebergs enter Hudson's Strait. Nine-tenths of them gain access through Fox

Channel, where, in latitudes yet unexplored, glaciers exist, yielding to the waters of the sea their mighty treasures—an annual supply—some of them of immense size. There is no doubt of their exclusive glacial character, and of the fact that Fox Channel, which is but a northerly continuation of Hudson's Strait, finds the source of its currents far up into the Arctic and Polar Seas, and that its shores are mountainous, and otherwise contain all the requisites for the production of these wonders of northern waters.

Icebergs also enter the Strait through Gabriel Channel, a connection between Davis's Strait and Hudson Strait, between Resolution Island and East Bluff, or the north main coast. The strength of the polar current in this channel is great; and, when winds are favourable, numbers of bergs find their way through it into Hudson Strait only to be driven out into the North Atlantic again by strong currents and north-west winds.

Aside from the icebergs, which are scarcely worthy to be regarded as an obstacle to navigation, there is the ordinary field-ice, the product from the waters of Hudson's Bay and Strait: or what I shall call local ice. This ice forms in immense quantities in the months of December, January, February and March, and is never stationary, except in bays and inlets, and in sheltered places along the shores. It is ever on the move, surging to and fro with wind and current, and continually passes out into the North Atlantic, to be carried with the polar current to warmer latitudes, where it is dissolved.

The local ice attains to a thickness of from five to eight feet, seldom thicker, and, owing to the velocity of the tidal currents and the force of the winds, is generally broken into sheets or pans, ranging in superficial measurement of various sizes, some not more than three by five yards, and others twenty by sixty yards, the average being about five by fifteen yards. These sheets are very irregularly shaped, and as a consequence cannot be driven so closely together as that open water is not always everywhere visible among them.

There are times of course in the months of winter when, with a strong tidal current and a stronger contrary wind, these ice-floes are

piled into huge heaps and thrown one upon the other. In these conflicts, "rafting" often takes place, and one pan is frozen upon another, so that a thickness of ten or twelve feet may be produced. This rafted ice is seldom seen in Hudson Strait, though it undoubtedly exists there in the winter season.

There is probably no season of the year, however, when there is not at least one, and, in many places, two or three channels pretty much entirely clear of this ice. The great tidal wave passing from the North Atlantic into Hudson Strait, and through it into and across Hudson's Bay affords an interesting study. That current is not as wide as the Strait; but on either side for miles there is an eddy created, which, running in a direction contrary to the main stream, has a peculiar and decided effect upon the floating ice. The general effect which this action of the tide-streams has upon the ice is to keep the channel of the main current open, and to jam it into the broad eddies and along the shores, where, for ten miles on either side, more or less according to location, the waters move with much less velocity.

I may say, in proof of this statement, that in both the outward and homeward voyages of the Expedition, while passing through the Strait, we found no ice in the central channels. In previous chapters I have described the ice-floes encountered while entering Ashe's Inlet (North Bluff), and in entering and leaving Stupart's Bay (Prince of Wales Sound). In these descriptions I have not underrated the extent or formidableness of that ice, and yet I have now to state that, had we been passing through on a voyage from the north Atlantic to Churchill—that is to say, had we not been going from one shore to the other in search of suitable places to locate observing stations, we would not have encountered one foot of that ice, and very probably would not have even sighted it. The Strait at these points is between sixty and seventy miles wide. We estimated that the field-ice extended about twelve miles from the north shore, and possibly eighteen from the south. This left an open channel at least thirty-five miles wide. Therefore, you will please observe, that all the descriptions you have read of the Expedition in this ice goes for nothing, so far as a voyage through the Strait in a steamship is concerned.

In this connection, although more will be said upon the subject farther on, I desire to point out the inefficiency of the observing stations that have been located upon the shores of the Strait, to determine anything concerning the character or movements of the ice beyond a distance of ten miles at the most, seaward, from their several positions. The observer may see as far as his glass will carry his vision, and that will not exceed ten miles in any case, naught but ice, hills of ice, mountains of ice if you please, covered with many feet of snow; while ten miles further out the blue waters of the stronger currents may be smiling defiance to the lowest temperature. Do not understand me as underrating the value of these observing stations. They will collect information of a meteorological and magnetic character of great usefulness, but they cannot settle the one great question: how many months the Strait is navigable. That can only be known by actual experience—by sending out a suitable steam vessel, in command of a man experienced in ice, year after year, earlier and later each year; until finally, when the country has gained the courage to send such an expedition early enough, you will find the ship going in and coming out in April, May, June, July, August, September, October, and November, meeting with more ice in July and August than in any of the other months of the eight that I have named.

But it is unnecessary to show that the main channels of the Strait are free of local ice during these eight months, in order to prove that the navigation is practicable for that period. Not at all; on the contrary, they may be more or less filled for the whole time, —which they are not—and still the navigation is eminently practicable. It is quite impossible for one who has not witnessed it to imagine, from anything one can write, the difference between steam and sail navigation in ice-floes. The sailing vessel falls a prey to the ice of her own weakness. If there is a calm, and a stretch of ten or twenty miles of ice is approaching her with the tide, she cannot avoid it, and is soon fastened within its pans, to be carried to and fro in its course until a favourable wind enables her to work a tedious passage to the open water. A sailing vessel can neither avoid the ice, nor force a way through it, when overtaken by it.

How different it is with a strongly-constructed wooden steam vessel. In many cases she will avoid the ice altogether, by shaping her course to suit the circumstances; and when it is necessary to penetrate the floes, it will be heavy local ice, indeed, that will reduce her speed below five miles an hour. We passed through a stretch of local ice, off Prince of Wales Sound in the steamship Neptune, and much of it was eight feet thick, and for more than ten miles it was packed tightly together. Do you ask how she got through it? I answer, in about the same way that a snow-plough would clean a foot of light snow from the track of the Grand Trunk Railway: with perfect ease. The engines worked without a jolt, or a strain, and the steamer forced the pans aside or crushed them under her keel with a power and speed that challenged our wondering admiration. We did not consider it so much an impediment to our progress as the means of furnishing us amusement. Indeed, I can scarcely conceive of local ice so heavy, or compact, or jammed, that it would delay a steamer, such as I have described, more than ten or fifteen per cent. of her usual speed. And again, I affirm that, if there be nothing in the North Atlantic at the mouth of Davis's Strait to hinder, Hudson Strait is navigable—navigable as a commercial highway—at least eight months in each year, or as long as the temperature is sufficiently high to admit of out-door operations.

That which is most to be dreaded by the navigator of Hudson Strait is the arctic ice—not icebergs—that comes down Fox Channel. There are a good many theories concerning it, but time and investigation alone can demonstrate the correctness or fallacy of them. It is held by those most experienced, and I believe Dr. Bell entertains this opinion, that this ice comes down into the Strait, say for five years in succession, and that, following this period, it does not present itself again for about twenty years. It will be a great boon to commerce if this turns out to be correct. The theory is supported by the experiences of Hudson's Bay Company's ship captains for a period of nearly two hundred years.

It is called by navigators of northern waters, island-pan ice, and is well named. Its thickness is from ten to thirty feet, and the pans are of all dimensions, some twenty by forty yards, but most of them

smaller. Certain it is that the island-pan ice is the product of many winters, five at least. In the months of August and September, when we encountered it, it was as hard as flint. An iron ship could not live in the midst of its surging masses.

This is the sort of ice the Expedition encountered on approaching Nottingham Island, and in which the Neptune broke her propeller. We worked a passage through the thickest of it with considerable difficulty; but picking out the weakest places, our good ship forced a passage, often with great effort, rolling, and trembling, and grinding, when goaded by these floating pans.

This ice never finds its way into the Strait until very late in July, and generally disappears by the last of August. On our return voyage in September, it was almost entirely gone. If you examine a map of the Bay and Strait, you will see that Fox Channel, a vast strait of from sixty to one hundred miles in width, is but a continuation of Hudson Strait, turning abruptly to the north, where Hudson Strait receives the waters of Hudson's Bay. Where Fox Channel and Hudson Strait join, are three islands, viz.: Mill, Salisbury and Nottingham. These constitute a great impediment to the progress of the Arctic ice which often becomes greatly jammed between King's Cape on the north main shore, and Mill Island, and again between Mill and Salisbury Islands, and still again between Salisbury and Nottingham Islands; so that vast quantities of this ice are often carried south of Nottingham Island far towards Cape Wolstenholme, before finding free entrance to the Strait.

During our visit at Nottingham Island on the outward voyage, in August, we could not tell what existed north of Salisbury; but the channel between Nottingham and Salisbury was filled, and it extended for at least ten miles southward from our anchorage. However, in leaving Nottingham, we found that the farther southward we advanced the more open the water became, until, approaching within fifteen miles of the mighty cliffs of Cape Wolstenholme, there was an open channel into which the sailing vessels we sighted struggling in this ice were striving to force a passage. This channel was probably kept open by the strong current of the tides flowing into and out of Hudson's Bay.

This arctic ice is the worst of all impediments to the navigator in the waters of the Strait, and from its presence a vessel will always suffer more or less delay. It is said to have existed this year to a greater extent than in any of the past twenty; but, notwithstanding, it would not have caused us much delay had we been bound through without having to make an anchorage at Nottingham Island. On the homeward journey I put this question to Capt. Sopp, commander of the Neptune:—"Supposing you had been bound from Cape Chidley to Churchill, or from Churchill to Cape Chidley, with a cargo, how long, in your opinion, considering all the obstacles we met with, ice and otherwise, would you have been delayed?"

The captain, after careful consideration, answered: "Not more than twenty-four hours." Lieut. Gordon, I believe, answers this question by saying "forty-eight hours;" but I am sure that Captain Sopp does not understate it. My own opinion is that, had we kept well to the south, hugging pretty close to Cape Wolstenholme in a through voyage, our delay occasioned by the ice would not have exceeded ten hours. However, Capt. Sopp's judgment is certainly entitled to exceptional reliance. There is no man to whose opinion concerning this navigation I would attach more weight than to his.

If it should turn out to be correct that the Fox Channel ice makes its appearance in the Strait about three years consecutively only every twenty or twenty-five years, it will prove a less formidable obstacle to navigation than it appeared to us on the outward voyage of the Expedition. But, in any event, continued investigation will discover a channel, nearly always open, or partly open, well to the south of Nottingham Island, through which steam vessels will be able to pass without much, if any, delay.

The records of sailing vessels are very misleading. We have accounts of their being frequently detained, helplessly fast, in the ice, two and even three weeks at a stretch, in July, and even in August. This is very easy of explanation. Suppose the vessel to be beating against a north-west wind on her southerly tack, she may run in between two stretches of ice, approaching her but not yet visible. On her northerly tack, as also on her southerly, she is sailing close to the wind, and of course making a decided western

headway. With the wind I have mentioned, there will be a marked westerly advance on the southerly tack; and if the ice-floes are moving forward, as they usually do in stretches very nearly at right angles to the wind, she is caught in spite of herself on the northerly tack. In an attempt to escape by leaving the ice astern, she will frequently find herself hedged about by ice on every hand,—that passed sometime previous having come to rest in a jam.

A steam vessel may easily avoid all this. Sighting the ice for a distance of at least five miles, open channels or weak places may be selected, and the floes penetrated without difficulty or delay. The wind does not control her movements, as with a sailing vessel. Again, in the darkness of night, or in fogs and thick weather, the steamer has a still more remarkable advantage over the sailing craft. If ice-floes are encountered, she may either lay to or await clear weather, or change her course at will regardless of the wind; and, better than all, she may turn her prow to the ice, and, with full steam, force a passage through the thickest of it. With a steamship, that which cannot be avoided in thick weather may be overcome; and although in the heavier floes her speed may be reduced, she will soon find her way into open water, and, penetrating stretch after stretch of field-ice, will find it less an obstacle to progress than any one has supposed.

Take the worst seasons that have been known by Hudson's Bay Company's ships, or by whaling vessels, and there has not been an experience so bad as to delay a strong wooden steamship more than forty-eight hours in a voyage from one end of the Strait to the other.

Of the eight months which I have mentioned as the season of navigation in the Strait, I believe that, so far as local ice is concerned, July will be found to be the worst. I have already intimated that the water, for ten miles out along both shores, is covered with ice, often jammed and piled into huge masses during the winter months. This shore ice may move up and down with wind and tide, with surging, smashing force, so as to continually change its surface appearance, presenting the prospect of a rugged, undulating, hilly, snow-covered landscape one day, and a series of hills, or small

mountains another, according to the force and direction of the winds acting with or contrary to the tides; but until the general breaking up of such ice, which occurs about the 25th of June, it will not find its way to the ocean or be disconnected from the general mass. But from the 25th to the end of June (and in many cases earlier), all shore and river ice on the northern Labrador, and along both sides of the Strait, as well as on the coasts of the Bay, breaks up and starts in a general movement for the ocean. During this movement, which continues in the Strait and adjacent waters from the 25th of June until the 15th of July, local ice is liable to be met with anywhere in the Strait; and, so far as local ice is concerned, I am confident that in Hudson Strait there is more obstruction to navigation during the twenty days just named than during any other like period of the whole year. And yet, during this period, a steam vessel will penetrate it without much difficulty.

Such I believe to be the possibilities of the navigation of Hudson Strait—a volume of water connecting the great North American Inter-Ocean with the Atlantic—that is destined to become a commercial highway far outstripping the fog-bound Strait of Belle Isle, and surpassed only by the widely-famed English Channel. Indeed, Capt. Sopp of the Neptune was one day heard to remark in the presence of the members of the Expedition: "I would sooner navigate Hudson Strait than the English Channel."

CHAPTER XXXI.

NAVIGATION OF HUDSON'S BAY AND STRAIT.—*Continued.*

CHARACTER OF THE ICE IN HUDSON'S BAY—NEITHER ICEBERGS NOR ARCTIC ICE—OPINIONS FAVOURABLE TO THE PRACTICABILITY OF THE ROUTE BY DR. R. BELL OF OTTAWA—EXTENT AND PRODUCTIVENESS OF THE HUDSON'S BAY BASIN—FUTURE GREAT IMPORTANCE OF THE HUDSON'S BAY ROUTE AS A COMMERCIAL HIGHWAY.

NEITHER icebergs nor Arctic ice-floes are ever met with in Hudson's Bay, and the only local ice found there is that which forms along the shores of the Bay and in the rivers emptying into it. In no case does the shore ice extend out more than fifteen miles from the land; and, aside from this, the great body of the Bay, like the centre of the Strait, is open winter and summer alike.

The shore ice of Hudson's Bay breaks up from the first to the 15th of June, according to location; and that which is not melted under the strong rays of the sun and warm land breezes in the southern portion of the Bay finds its way to the ocean through Hudson Strait, carried by the general trend of the waters.

Ice is never an obstruction to navigation in Hudson's Bay except in certain seasons in the northern portion. The eastern shore of the Bay is generally high and rocky; but its western shores, as also the shores of James Bay, are low and level, stretching far into the interior. The Bay is, in every sense of the word, a vast inter-ocean 600 miles wide and nearly 1,000 miles long, with an area of about 500,000 square miles.

The basin of Hudson's Bay—that is, the vast stretch of territory drained by the rivers flowing into it—is about 2,100 miles from east to west, or from the Lake of the Woods to the Rockies, and to the

height of land eastward of the Athabaska, and about 1,500 north and south, or from the Bay itself far southward into the United States. This basin is estimated to contain over 3,000,000 square miles, and to embrace the largest area of good bread, beef and pork producing lands in the world. It has been estimated that the great fertile area in question is sufficiently productive of the staple foods named to yield of them, under proper industrial cultivation, sufficient annually to supply the whole world.

When this wonderful expanse of productive soil—productive alike of the three great staple foods of mankind—has been fully peopled, it will sustain a commerce with the world outside of it greater than the entire volume of trade of the United Kingdom of Great Britain and Ireland to-day; and I am justified in saying that at least, two-thirds of the carrying trade of that commerce will find a highway over the waters of Hudson's Bay and Strait. The time is not far distant—it will be partly realized within the life-time of the present generation, and fully before the middle-age of the one succeeding it—when that which we now hesitatingly call the "Hudson's Bay Route" will be the greatest artery of commerce in connection with railways between the Atlantic and Pacific Oceans.

And not only are these statements supported by facts, but the resources of the waters of the Bay and Strait, in economic fishes and oil-bearing animals, will, when developed, sustain a volume of trade to the extent of millions of dollars annually.

It will require some years and much practical demonstration to remove existing prejudice against the Hudson's Bay route from the minds of the Canadian people, especially the people of the eastern Provinces; and the citizens of the North-West will have much to be grateful for, if the future long life of this prejudice is not discovered to be founded upon a disposition to strangle the Hudson's Bay outlet in its infancy; sectional injustice alone can be guilty of such a misfortune.

Lest I should be thought over-enthusiastic on the possibilities of this route, I will bring to my support the writings of Dr. R. Bell, Assistant Director of the Geological and Natural History Survey of Canada. Dr. Bell has devoted the best part of the past seven years

to an examination of the geological character of that region, and to an investigation of the navigability of its waters. He has been twice through Hudson Strait, and has spent much of his time on the shores of the Bay. I will quote, at length, from his various writings and evidence given by him before Parliamentary committees:—

* "We now come to consider the practicability of the navigation of Hudson Strait and Bay for the ordinary purposes of commerce. And, first, we must premise that, while the experience of sailing vessels in the past cannot be taken as evidence of what may be accomplished by properly equipped steamships in the future, still that such evidence, fairly considered, is upon the whole very favourable. Since Hudson's discovery of the Bay in 1609-10, about seven hundred and thirty round voyages (all by sailing ships) have been made into it up to the present year. The ships have belonged to the Hudson's Bay Company (or been chartered by them), the British and French navies, expeditions of discovery, and American or other whalers. Out of this large number there have been remarkably few losses, and none at all in the Straits. Considering that the coasts are quite unsurveyed, the want of charts, beacons, lighthouses, pilots, etc., it must be admitted that this is a remarkably favourable record. In 1864, two ships belonging to the Hudson's Bay Company were run ashore at the same time in daylight on Mansfield Island. But this was owing to gross carelessness, as the sea was smooth and the vessels had their studding-sails set. The captains were said to have been "visiting" on board two American whalers in company with them, but which judiciously kept behind the others, and, seeing their mishap, steered off. At York Factory the dates of the annual arrivals and departures of the Company's ships have been noted for the last ninety-two years, and at Moose Factory for the past one hundred and forty-six years. They show an almost uninterrupted record, extending through these long periods. When so much could be accomplished by old-fashioned, slow-sailing ships for the sake of a limited trade in peltries, what may we expect as possible to be done in order to secure the carrying business of a continent?

* "A New Route to Europe."—*Dr. Bell.*

"The land is high and bold all along both sides of Hudson Strait, with deep water near the shores. In places it rises to a height of 1,000 feet and upwards, immediately overlooking the shore. A few signal stations could be placed upon these heights so as to command a view of the entire surface of the water. By means of the telegraph between these stations they could be enabled to communicate to vessels the position of drifting ice when any was present, which might, in the absence of such information, interfere with their movements. It is believed that steam vessels would thus be able to pass through the Strait without difficulty during a sufficiently long period of the year.

"The length of the season during which it is possible to navigate Hudson Strait by steamships is unknown. The Bay might be navigated during the whole year. The whole region is by no means of such an arctic character as is popularly supposed. Moose Factory is south of London, so that a great part of the Bay lies in the same latitudes as the British Islands. It is sufficiently far removed from the cold ocean current, which passes down the east coast of America, to escape its prejudicial influence; while the region on the west side of the Bay begins to enjoy the benefit of the moderate climate of the great North-West Territories of Canada. At Martin's Falls, on the Albany River, a record of the weather extending continuously over fifty years shows the open season to last for six months. The dates of the opening and freezing of Hayes' River at York Factory have been preserved for fifty-two years, and the average period of open water is there found to be rather more than six months. Nelson River, which is much larger, remains open for a considerably longer time each year.

"The ships of the Hudson's Bay Company, having to make only one voyage a year, naturally choose the season most convenient for themselves. The New England whalers pass in and out of the Bay at other seasons. They no doubt carry on a successful and profitable business, but it appears to be difficult to obtain information in this quarter in regard to the navigation of the Strait, as the parties interested wish to retain the advantages of their experience for their own benefit. Messrs. Job Bros. & Co., prominent

merchants of St. John's, Newfoundland, writing in reply to an enquiry from W. N. Fairbanks, Esq., of Emerson, Manitoba, state that they have no doubt of the practicability of navigating the Strait and Bay with proper steamers during the months of June, July, August, September and October. Counting the time necessary to make the ocean passage outward in the spring and homeward in the autumn, this would represent nearly six months of navigation.

"From all that can be learned on the subject, it appears probable that the Strait and Bay are navigable for steamships for *at least four months of the year*, or from the middle of June till the middle or end of October, or say five months, including the ocean passage in the first spring and last autumn voyages. This will bear comparison with the navigation of the St. Lawrence, which is by no means free from the ice difficulty either in the spring or fall.

"When the shores of the Strait and Bay shall have been surveyed, so that good charts may be obtained, and the signal stations referred to erected, these waters may be navigated with much greater ease and still more successfully than they have been in the past. With respect to depth of water and freedom from shoals and rocks, the Hudson's Bay route is unsurpassed. The portion of the Bay to be passed through is also free from islands, and is absolutely unimpeded. The harbour of Churchill, on the west side, which lies directly opposite the western outlet of the Strait, offers a free and unobstructed approach from the open sea. This splendid harbour, which is just within the mouth of the Churchill River, is the finest one on the west side of the Bay. It is entered by a channel about half a mile wide and twelve fathoms deep. The depth inside is from eight to fifteen fathoms, with excellent holding ground. The east side affords the best site for the construction of wharves.

"The route from Liverpool, by way of Hudson's Bay, is by far the shortest one to the North-West Territories of Canada. Churchill Harbour is situated near the centre of the North American continent, and yet, owing to the convergence of the meridians toward the north it is actually nearer to Liverpool than either Montreal or New York. The distance from Churchill Harbour to Liverpool, *via* Hudson Strait, is about two thousand nine hundred and twenty-six miles;

from Montreal, *via* Cape Race, it is two thousand nine hundred and ninety, and from New York, *via* Cape Clear, three thousand and forty miles, showing sixty-four miles in favour of Churchill as compared with Montreal, and one hundred and fourteen miles as compared with New York.

"The fact of a seaport existing in the very heart of the continent more than one thousand five hundred miles nearer than Quebec to the centre of the North-West Territory, has scarcely begun to be realized by the public; yet its importance can hardly be overrated. Churchill Harbour is only four hundred miles from the edge of the greatest wheat-field in the world, or not so far as from Quebec to Toronto. The lands of the North-West capable of supporting an agricultural population exceed 200,000,000 of acres in extent. An available seaport which will, as it were, bring this enormous tract so much nearer the markets of the world, may become the means of developing it in a way which cannot be accomplished by long railway lines. Should the route indicated be established, not only this vast region, but part of the United States to the south, would send their heavy freight over it, and a railway to Churchill Harbour from Lake Winnipeg (the centre of a vast system of inland navigation), or connecting in its neighbourhood with other railways from the interior, would secure the business of almost half the continent. Churchill Harbour is some two hundred miles nearer the Pacific, at the mouth of the Fraser River, than to the Atlantic at Halifax, so that a transcontinental railway starting from the former port would not be half as long as from the latter.

"At the mouth of the Churchill, in latitude 58° 49′, potatoes and turnips are the only crops cultivated, but in the interior wheat is grown in the Mackenzie Valley up to latitude 60°. The warm summer weather enjoyed by the vast region east of the Rocky Mountains and north of the United States line is partly due to the warm winds from the south; still, it can be shown that during the growing and ripening season of wheat, lasting for about one hundred days, or from May to September, the sun's heat between the parallels of 50° and 60° is nearly as great as it is in the ten degrees south of 50°, while the days are considerably longer, and the addi-

tional sunlight appears to compensate, in promoting the growth of plants, for the slightly-diminished quantity of heat.

"The distance from the central part of the agricultural lands of the North-West Territories, say from a point between the North Saskatchewan and the Peace River to Churchill Harbour, is about the same as to the city of Winnipeg. Now, as the sea voyage from the former to Liverpool is rather shorter than from Montreal to Liverpool, it follows that, by adopting the Hudson's Bay route, the whole distance from Winnipeg to Montreal is saved. By way of Lake Superior this amounts to one thousand two hundred and ninety-one miles, and by way of Chicago to one thousand six hundred and ninety-eight miles. The total distance from Winnipeg to Liverpool, *via* New York, is still greater than by Montreal. Thus, a consignment of grain or beef sent from the Saskatchewan or Peace River districts, by way of Churchill, might be in Liverpool as soon as it could arrive in Montreal if sent by the St. Lawrence route. Even from Winnipeg, in the south-eastern part of the great fertile area, the distance to Liverpool is at least eight hundred miles less by Churchill than by Montreal.

"Of course, if this route were once opened, the above immense saving in distance, and consequently in time and passenger and freight rates, would secure for it the preference over all others. The establishment of such an outlet would at once considerably increase the value of all kinds of farm produce throughout the North-West, and consequently of the farms themselves. Indeed, some of the cheaper or more bulky kinds of produce, which would not bear the cost of transportation at all by the longer land lines, might be profitably exported by this route. On account of the cool temperature by this northern route, grain, meat and dairy produce could be sent with much greater safety than by any of the more southern outlets.

"The question as to whether the grain crops of the North-West can be exported the same year as harvested is a very important one, and awaits solution. The harvesting of these crops occupies nearly the whole of the month of September. The season of steam navigation in Hudson's Bay and Strait may prove long enough to enable the earlier part, if not the most of the crop, to be sent out. The harbour

of Churchill does not freeze up until the end of November. This fact is recorded by the Danish Captain, John Monck, who wintered here in 1619-20, or two hundred and sixty-one years ago, and it has been verified by observations extending up to the present year. More than one hundred years' experience of the Hudson's Bay Company has shown that the average duration of the voyage of a sailing ship from York Factory to London is four weeks, or to the Land's End about three weeks. From Churchill, the time required would be a little less.*

"If the grain crop of the North-West cannot be sent to Europe *via* Hudson's Bay the year it is harvested, neither can it be by the St. Lawrence; and if sent by rail to Halifax, St. John or New York, the price which could be paid for the grain would necessarily be so low that it could with more profit be stored in elevators and exported the next summer by way of Churchill. Owing to the coldness of the climate, there would be no risk of damage to the grain by thus storing it over winter. Even should grain in the North-West prairie country always bring lower prices than in the older provinces of Canada, it may still be grown at greater profit, owing to the saving of years of time and the great labour necessary to clear the land of timber in the latter; and, as Colonel Dennis remarked in his pamphlet: 'Should there prove to be even a four months' navigation on this (Hudson's Bay) route, and especially should such period extend sufficiently into the fall to permit of moving to market the preceding harvest, it would be difficult indeed to take an over-sanguine view of the future of the magnificent territories now lying dormant in the North-West.'†

"The comparatively new business of exporting live stock to Europe may in future be largely carried on in the North-West; but in order that this may be successfully accomplished, an easy route to the seaboard is almost indispensable. The great system of inland navigation formed by the rivers and lakes of the Winnipeg basin

* For a steamship, Captain Sopp estimates from twelve to fourteen days as the average time required from Liverpool to Churchill.

† It is now known that navigation continues late enough to move most, if not all, of the year's crop over the Hudson's Bay route.

s em as if they had been destined by nature for carrying down live stock to the head of the Nelson Valley, from which the animals could be driven along a common road, or carried by a comparatively short railway to Churchill Harbour. This business, or even the export of dead meat, by the cool northern route, is probably destined to give great additional value to the north-western prairies and the stock-raising country northward of the region in which wheat may be grown. Apart from the difficulty as to the great distance for sending live stock to Europe through the older provinces or the United States, should any of the diseases which occasionally afflict these animals be prevalent in these countries and not in the North-West, the Hudson's Bay route might be available when all others were closed.

"For heavy or bulky imports, the short route by Hudson's Bay would stand unrivalled. For example, most of the railway and other iron and of the coal required in the North-West would be brought in by this route, the vessels taking back agricultural produce, of which in the future vast quantities will be seeking an outlet. Experience shows that the price of coal in any part of the world depends not so much upon distance as upon the exigencies of trade. Coal from Britain might be laid down cheaper in the North-West prairies than from any other source.

"The increase in the value of such immense tracts of land, which would be due to cheapened transportation is a matter well worthy of the consideration not only of the Government but of all parties interested in real estate in the North-West.

"For immigrants to the Canadian North-West this route presents advantages offered by no other. To say nothing of the saving in time and money, it is really the only independent route to these territories which we possess. The original colonists and traders of Manitoba came this way, and it has been found throughout America that the course of trade and travel pointed out by nature, and first adopted by the pioneers, is sure to become eventually the great highway of the region. Immigrants destined for our North-West Territory, in passing through the United States, as is well known, are induced in large numbers to abandon their original intention and

settle in that country. They are beset by these agents with equal freedom in passing through Quebec and Ontario, and even on board ship on the voyage out; and there is no means of preventing this great loss except by bringing the immigrants direct to the land of their adoption. There is every probability that a great emigration to our North-West Territories will take place in the near future. We see, on the one hand, most of the countries in Europe overcrowded with redundant populations, and on the other almost unlimited quantities of fine land ready for the plough, inviting them to come over and take possession. All that is now wanted is a cheap and direct means of transporting the people to the land. By the proposed route immigrants from Europe may reach their destination on the Saskatchewan or Peace River almost as soon and as cheaply as they could reach Western Ontario *via* Quebec, and much more cheaply and expeditiously than they could arrive in the Western States *via* New York.

"This independent route may also prove of value for military purposes. Troops have already been sent to the Red River settlement on two or three occasions by way of York Factory, traversing in safety the intervening wilderness. By the aid of a railway from Churchill to the foot of Lake Winnipeg, a whole army might be transported easily and expeditiously."

General Sir J. H. Lefroy, President of the Geographical Section of the British Association, in his address at the Swansea meeting (1880) said: "Hudson's Bay itself cannot fail at no distant date to challenge more attention. Dr. Bell reports that the land is rising at the rate of five to ten feet in a century, that is, possibly, an inch a year. Not, however, on this account will the hydrographer notice it, but because the natural seaports of that vast interior now thrown open to settlement, Keewatin, Manitoba, and other provinces unborn, must be sought there. York Factory, which is nearer Liverpool than New York, has been happily called by Prof. H. Y. Hind the Archangel of the West. The mouth of the Churchill, however, although somewhat farther north, offers far superior natural advantages, and may more fitly challenge the title. It will undoubtedly be the future shipping port for the agricultural products of the

vast North-West Territory, and the route by which immigrants will enter the country." Sir Henry Lefroy is a well known authority on matters relating to these regions, having resided in the interior of the country, and being also personally acquainted with Hudson's Bay.

The above are Dr. Bell's opinions expressed some time ago. Since then he has visited Hudson's Bay and passed through the Strait twice in company with the Hudson's Bay Expedition, and he is now of the belief that navigation extends for at least five months, and thinks that further investigation will prove it to be considerably longer.

ALASKA
NORTH
OCEAN
PACIFIC
BRITISH
COLUMBIA
ATHABASKA
ALBERTA
Queen Charlotte Is
Vancouver
GREAT TRANSCONTINENTAL
MANITOBA
CANADIAN
CALGARRY
WASHINGTON
OREGON
WYOMIN
NORTHERN
Peace R.
Smoky R.
Athabaska R.
Pembina R.
Bay
65
70
60
55
50
45
40
110

CHAPTER XXXII.

The Hudson's Bay Route.

CONTEMPLATIONS AT CHURCHILL — THE TRANSCONTINENTAL SHORT LINE—PORT SIMPSON TO CHURCHILL—THE CALGARY, PRINCE ALBERT AND HUDSON'S BAY LINE—THE WINNIPEG AND HUDSON'S BAY ROAD — ROADS FROM WINNIPEG TO THE PACIFIC COAST—THE FUTURE OF CANADA AND THE NORTH-WEST—GOVERNMENT CONTROL OF RAILWAYS.

LET the reader accompany me to Churchill, and there let us together betake ourselves to the high, broad, grass-covered ramparts of old Fort Prince of Wales, and, with the accompanying map in our hands, view the vast country to the south and west, and the placid waters of the Bay to the east, and contemplate the future of our country. Here, upon the walls of this gigantic ruin, nearly as old as the foundations of Montreal, we are strangely impressed with the idea that we are in the centre of the continent, not far east of the longitude of Winnipeg. At our feet is one of the world's finest harbours—one that may be entered by any navigator without a pilot, and without the slightest danger. The entrance is something less than half a mile wide. It is between two points of rock, some twenty-five feet above high water, which overlap, that on the western shore—the side the fort is on—being situated half a mile farther north than the point on the eastern side, thus guarding the harbour from any storm that may arise in the Bay. The depth of the water in the channel is from ten to twenty fathoms at low water.

In this channel the tide-race is very strong. Its rising waters lead into a magnificent basin from one to two miles broad and from two to three miles long. An anchorage may be had anywhere in

this basin in from six to twenty fathoms, as desired. Here in this harbour a thousand sail may rest safely at anchor. It is indeed a wonderful port in the completeness of its natural features, but is destined to become still more wonderful on account of its future commercial importance.

On all sides are great hills of rock awaiting the hands of industrial enterprise to be transformed into piers and docks and wharves for the accommodation of trade. In no other place in the world could needed improvements be more cheaply or more conveniently made. At least ten miles of the shores of this beautiful basin may be converted into wharves, and everywhere the approaches to them from the interior would be most happily accessible. There are no mountains, or gorges, or obstacles of any sort to prevent the approach of the iron horse from the west or from the south to the very water's edge. As I have said, Nature has done everything possible to make Churchill Harbour one of the finest, as it is destined to become one of the greatest, commercially, in the world.

From our position on these ancient walls we may look out, aided by the imagination, over the vast territory drained into Hudson's Bay. To the shores of this mighty inter-ocean come, flowing down over more than a thousand rapids, the waters of the Red River from the great fertile prairies of Minnesota and Dakotah ; the waters of the Assiniboine from the Qu'Appelle valley and the hills of Fort Ellice ; the waters of the Souris from the rich wheat-fields of southern Manitoba ; the waters of the Bow and Belly rivers from their mountain sources in the far-off west, through the herds of cattle and horses in those districts ; the waters of the Red Deer and South Saskatchewan rivers from the immense agricultural districts and coal-beds through which they run ; the waters of the North Saskatchewan and its vast tributary system of rivers which wind their courses from the recesses of the Rockies and form the watershed of the Athabaska ; and the waters from unnumbered lakes, rivers and streams, some of them fifteen hundred miles to the south and west, on the borders of which are golden harvest fields and happy homes, and thousands of cattle and horses, and other evidences of progress in the development of our great north-west that has been so recently

begun; and as these waters trend toward the northern sea they sing but one song, teach but one lesson, and impress upon all but one great truth. That song and that lesson and that truth are but a continuous declaration that their channels shall become the channels of commerce of the north-west. As these waters find their way through Hudson's Bay and Strait to the Atlantic Ocean, so shall the wheat and the flour, and the beef and the pork, and the other products of all that vast region which is now challenging the attention and the wonder of the world, find their way through the same waters to the Atlantic and beyond its borders to the markets of Europe. And not only this; but the returning ships that carry these sources of wealth will bring back, over the same route, the fabrics, the sugar and the tea, and the thousand and one other articles of merchandise requisite to the comfort and happiness of the people.

But let us consult the accompanying map of the Dominion and the lines of existing and proposed railways marked upon it. First, there is the northern line running from Port Simpson on the Pacific coast of British Columbia to Churchill. The whole distance of this is less than 1450 miles, and it runs through a country easy of railway construction, and through the Pine River Pass of the Rockies, the greatest altitude of which is but 2440 feet above the level of the sea, or nearly two thousand lower than the highest point of the Canadian Pacific Railway.

This being the shortest line that can be drawn between the Atlantic and Pacific Oceans, must one day become a great highway of commerce for trans-Pacific trade. It unites Europe with Japan by a route several thousands of miles shorter than any other that is possible. Moreover, it connects the vast productive areas of the Athabaska and Peace Rivers with the Atlantic by a navigation route open probably eight months of the year, by a line more than fifteen hundred miles shorter than any other that can be proposed. Hence, may we not suppose that one day, not very far distant, the freights of steamships from China and Japan will be transferred to railway cars at Port Simpson, and from the same cars again to steamships at Port Churchill, *en route* to Liverpool; or, reversing the order, that freights will be transported from Europe to

the countries beyond the Pacific over the waters of Hudson's Bay and the proposed railway in question.

The region of the Athabaska and Peace Rivers, embracing a territory of over 200,000 square miles of exceedingly fertile soil, yet unpopulated, must, in the progress of events, become the home of millions of producing inhabitants. Such a population will be nearer the markets of Europe than are the farmers of western Ontario, and will by this route be able to maintain a direct exchange of products with the merchants and manufacturers of Great Britain, independent of all other countries in the world. Looking at this proposed line of railway in connection with the Hudson's Bay route, with a consideration of the great productive areas that it traverses, one is overcome with the magnitude of the future prospects of our country.

But there is another railway line projected on the map before us, called the Calgary, Prince Albert and Hudson's Bay Railway, traversing the entire Saskatchewan Valley—a stretch of fertile lands containing more than 300,000 square miles, portions of which are being already rapidly settled. These areas will also become one day the abodes of a mighty industrial population. The great Saskatchewan Rivers and their tributaries, flowing toward Hudson's Bay, point out the direction of the future commerce of these territories; and the proposed transportation line of which we are speaking must become the highway over which the immense tonnage of bread and beef and pork, and other products of that region, will find its way to the natural outlet over the waters of this inter-ocean. And why? Because the route projected before us is immeasurably shorter than any other by which this future population will be able to reach the great markets of the world.

This map also shows a line running from Winnipeg to the shores of Hudson's Bay. It is projected on both the east and west sides of Lake Winnipeg. Already the people of that city have taken active steps to secure the construction of this road. The Canadian Parliament has granted an immense land subsidy, and some effort has been made towards the organization of a company with sufficient means to undertake so great an enterprise. There are many difficulties in the way at present; but not many years will elapse before

this line will, in the natural bent of progress, be opened. Not until its construction is assured, will the Province of Manitoba renew its lost commercial vitality.

Just as the Hudson's Bay route is the natural eastern outlet of the wonderful regions of the Peace and Athabaska Rivers, and the vast fertile plains of the Saskatchewan Rivers, so also is it the natural outlet of the Province of Manitoba; and unless the people of that Province place themselves in an attitude to secure the early completion of their much-desired road to Hudson's Bay without delay, they will find much of their future shorn of its possibilities.

I am inclined to the opinion that too much reliance must not be placed upon private railway companies such as are annually created by Act of Parliament at the urgency of charter speculators. No line from either Manitoba or the North-West to Hudson's Bay or anywhere else will ever be constructed by this means. Time and money and support expended in this way are wasted, and the result can only be delay and disaster.

Such enterprises can succeed only under the immediate support and control of Government, either in a manner similar to that which characterizes the construction of the Canadian Pacific, or under the direct supervision of a minister of the Crown, at national expense. The question has been opened as to whether this Hudson's Bay route, and the roads necessary to be constructed to make it available, should be undertaken by the Federal Authorities or the local Governments of the North-West Provinces. I have up to the present time held that the entire enterprise should rest with the Government at Ottawa, and shall find no occasion to change my views in this respect unless the eastern provinces of Canada develop a disposition to oppose the undertaking, which is somewhat to be feared, and which, if it comes to pass, will greatly cripple the usefulness of the Central Government in connection therewith.

It is only fair that the Federal Authority, vested as it is with the domain of the North-West, should, while it refuses to pass the inheritance over to the local Governments, provide the means for these interprovincial railways. Nor will the obligations of the Ottawa Government to the present and future inhabitants of the

North-West be discharged with the construction of the Canadian Pacific Railway. Indeed, should the lands of the great prairie country be exhausted in procuring funds for that railway, and no means remain for the construction of lines in communication between the North-West and Hudson's Bay—three of which at least are necessary—an injustice will be accomplished which the North-West Provinces of the future will never be able to overcome.

There are but two methods open, it seems to me, for railway development in the North-West. The one, that the Federal Government retain the lands and carry on the work of railway construction under direct Federal patronage and supervision; the other, that the central authorities cede the lands to the local Governments, and that the requisite Hudson's Bay roads be undertaken by the latter. There are some strong objections to the last method on national grounds—objections which ought to rule unless the eastern provinces show a disposition to delay the construction of Hudson's Bay railways; and in that case the people of the North-West will be justified in demanding control of the proposed roads and the lands with which to build them.

Some may regard the proposal to make the Hudson's Bay route the principal outlet of the North-West as fraught with too much opposition to the Canadian Pacific Railway. If so, it is a great mistake. The Hudson's Bay route will not injure the Canadian Pacific, and the friends of that line will commit a grave error to show the slightest opposition to it. On the contrary, the Canadian Pacific which has cost Canada so much money, and which is justly the pride and the boast of the Canadian people, will be greatly benefited by the fullest and most speedy development of communication between the North-West and the northern sea.

There are ten millions of unhappy people in Europe who should find their way to happy prairie homes in the North-West during the next quarter of a century. This can only be done by opening the Hudson's Bay route. The greater the population of the prairie country, the larger will be the volume of trade between it and the eastern Provinces, and the more the Canadian Pacific will benefit. Hence we propose no war on Canada's transcontinental highway,

no estrangement of the North-West from the grand Canadian Confederation; but, on the contrary, a scheme of national development, measures that will restore immigration and revive commercial enterprise in the North-West, and raise Canada still higher in the estimation of the world.

The reader will observe that the accompanying map shows other railways for the North-West aside from those running to Hudson's Bay. There is a line from Winnipeg to Port Moody—the Canadian Pacific; a line virtually from Winnipeg, *vid* Battleford, to Bute Inlet—the Manitoba Central; and a line from Winnipeg to Port Simpson, *vid* Prince Albert and the Pine River Pass. The first is almost completed, the second is mostly chartered, and the third is under construction. No doubt in the future they will all reach the Pacific Ocean.

There is a future of great possibilities in store for Canada, and especially for the Canadian North-West. The distance between the Canadian people and these possibilities will be greatly reduced or annihilated altogether, by the establishment of the Hudson's Bay route between the prairie country and the markets of Europe.

CHAPTER XXXIII.

From the Pacific to Hudson's Bay.

FROM PORT SIMPSON TO THE PINE RIVER PASS—THE HARBOUR OF PORT SIMPSON—THE VALLEY OF THE SKEENA—THE FORKS OF THE SKEENA—LAKES BABINE, STEWART, McLEOD, ETC.—THE PINE RIVER PASS—TEMPERATURE—RAILWAY ADVANTAGES—RESOURCES, ETC.

ALREADY in this volume the reader has been given an account of an Expedition from Halifax to the western shores of Hudson's Bay, *vid* the Labrador and Hudson Strait. This is now known as the Canadian Government Hudson's Bay Expedition. From the North Atlantic, through Hudson Strait, and across Hudson's Bay, our voyage for half the distance across the continent was north of the 58th parallel. It is my purpose now to complete the distance across the continent on about the same parallel; but instead of travelling from Hudson's Bay to the Pacific coast, we will select Port Simpson, on the borders of the Pacific, in British Columbia, as a starting point, and journey through the Rockies across the vast productive areas of the Peace River country, the alluvial plains of the Athabaska, and the wonderful series of watersheds from the Athabaska to Churchill Harbour on Hudson's Bay, north of Reindeer Lake—a stretch of country unsurpassed in the beauty of its natural scenery; much of it unequalled anywhere in the world in the productiveness of its soil; and unparalleled on the American Continent in its advantages for the location of a transcontinental railway—a railway which, connecting with the Hudson's Bay route, will bring Japan and Europe into closer and more convenient connection than any other country across the hills and plains and valleys of America.

I have selected as the basis of information for an account of this journey and a description of the country traversed, the records of the expedition commanded by Dr. Selwyn, Director of the Geological Survey in 1875; those of the expedition commanded by Dr. Dawson, of the Geological Survey, and the reports of other exploration and surveying parties that have traversed those regions.

The coast of Northern British Columbia, from which we are to select our starting point for this journey, dissected as it is with inlets, has by no means an abundance of good harbours. The inlets are, however, for the most part, deep, with bold rocky shores, and traversed with strong tidal currents. The heads almost always receive rivers, each of which has formed a shoal bank about its mouth owing to which shallowness of the water they are unsafe anchorages. Take, for instance, the mouth and estuary of the Skeena. It is shallow and encumbered with bars and banks, and is unsuited for a harbour.

ALFRED R. C. SELWYN, LL.D., F.R.S.,
Director Geological and Natural History Survey.

Not far, however, to the north, and easily accessible from the valley of the Skeena, lies Port Simpson, one of the safest anchorages on the Pacific coast, and one of the finest harbours in the world. It is over three miles in length, with an average breadth of over one mile, is well sheltered and very easy of access. Moreover, it lies at the eastern end of Dixon's Entrance, through which vessels lying in that port have direct connection with the Pacific Ocean between Cape Knox, the northern extremity of the Queen Charlotte Islands, and Cape Muzon, the south-western extremity of Prince of Wales Island. Passing out of Port Simpson, through Chatham Sound, the Dundas Islands are on the left, and

Fort Tongus on the right. There are no obstructions, and nothing to interfere with navigation whatever.

The physical features of the coast in this neighbourhood are full of interest. Professor Dawson, who has made a geological examination of this section, says:—"The Coast or Cascade Range of British Columbia is that forming the high western border of the continent, but beyond it lies another half-submerged range, which appears in Vancouver and the Queen Charlotte Islands, and is represented in the south by the Olympian Mountains of Washington Territory, and northward by the large islands of the coast archipelago of Alaska. In this outer range there are three remarkable gaps, the most southern occupied by the Strait of Fuca, the central being the wide opening between Vancouver and the Queen Charlotte Islands, and the northern Dixon's Entrance. To the south of these, the lower part of the valley of the Columbia appears to occupy a similar depression, through which, and by Puget Sound, a moderate subsidence of the land would enable the sea to flow, forming of the Olympian Mountain region an additional large island. Whatever the ultimate origin of the gaps holding the Strait of Fuca and Dixon's Entrance, they are features of great structural importance, and are continued eastward in both cases by depressions more or less marked in the coast range proper."

These observations are borne out by the fact that the Fraser River, carrying the greater part of the drainage between the coast range and the Rockies, after flowing southward for several hundred miles, reaches the sea opposite the end of the Strait of Fuca; while the Skeena, the river we shall ascend, whose tributaries interlock with those of the Fraser, and derive their waters from the same great plateau, falls into the Pacific near the head of Dixon's Entrance We have but little to do with the Fraser, however, as our route leads us to its head-waters only. The Skeena, to which we desire to direct attention more especially, falls into the ocean near the head of Dixon's Inlet, not far south of Port Simpson. The tributaries of this stream interlock, as I have said, with those of the Fraser. It is a wonderful volume of water, not so much for its greatness as for the beauty of its scenery, and the magnificent

valley through which it flows. There is another large river flowing into the Pacific north of the Skeena. It is the Nasse, drawing its waters from the far north.

The country in the immediate neighbourhood of Port Simpson is not of great agricultural value. There are patches of good soil; but for the most part the covering of soil is nearly everywhere scanty. There is, however, an abundance of good timber, except on the mountain sides, which are nearly all too steep for vegetation to cling to.

Port Simpson, as you may judge, is an old seat of the Hudson's Bay Company. The post wears a decided military appearance, notwithstanding that its defences have long ago fallen into disuse. Besides the Company's officers and employes, there are quite a number of traders in the neighbourhood, as well as Indians; and, like almost all the other important posts of the ancient company, its mission church is one of its most attractive features.

There is a large colony of Indians about sixteen miles south of Port Simpson, called Metla-Ketla, where a station of the Church Missionary Society is in a flourishing condition. Still farther to the south, at the mouth of the Skeena, is a third Indian establishment, with one or two traders. These, with the exception of canning establishments, are all the settlements between the mouth of the Skeena and Port Simpson.

The fisheries here are fast becoming important industries. The salmon are of excellent quality, and are very abundant in both the Skeena and the Nasse to the north of it. These fish are chiefly taken in nets in the estuaries of the rivers, and a large number of Indians and Chinamen are employed in connection with the canning business. The sea fisheries of the coast also promise to afford a very profitable industry.

The climate of Port Simpson and neighbourhood is not subject to great extremes of temperature. There is much rain at all seasons, and occasionally in winter heavy falls of snow. I have at hand no meteorological data with regard to Port Simpson proper; but I have what speaks volumes in support of its excellent climate in the records of Sitka, two and a half degrees north of that place. How-

ever, the latitude of Sitka is but 57° 3′ N., or only about a degree north of Glasgow in Scotland, while Port Simpson is about 54° 33′ N. At Sitka the temperature observations, extending over a period of forty-five years, show that the mean temperature of spring is 41·2°; of summer, 54·6°; of autumn, 44·9°; of winter, 32·5°; and for the entire year 43·3° F. The extremes of temperature for forty-five years are 87·8° and –4·0°. However, the mercury has fallen below zero of Fahrenheit in only four years out of the forty-five, and has risen about 80° during but seven years of that period. The coldest month is January, the warmest August; June is slightly warmer than September. The mean of the minima for seven years of the above period is 38·6°, and of the maxima for seven years, 48·9°, showing a remarkably equable climate.

Fogs do not occur in the neighbourhood of Port Simpson as on the southern part of the coast. In proof of this I may quote the adventurous La Perouse, the mariner who subdued Fort Prince of Wales, on Hudson's Bay, in 1782. He speaks of fogs in this locality as of rare occurrence, and records obtained subsequent to his fully justify his observations. Professor Dawson, who has made extended observations around Port Simpson, says that the cause of the exceptional mildness of the climate of that district is to be found not alone in the fact of the proximity of the sea, but in the abnormal warmth of the water due to the Kuro-Siwo or Japanese Current. The average temperature of the surface of the sea, during the summer months, in the vicinity of the Queen Charlotte Islands, as deduced from a number of observations in 1878, is 53·8°. Between Victoria and Milbanke Sound, by the inner channels, from May 28th to June 9th, the average temperature of the sea surface was 54·1° In the inner channels between Port Simpson and Milbanke Sound, between August 29th and September 12th, 54·5°; and from the last-mentioned date to October 18th, about the north end of Vancouver Island, and thence to Victoria by the inner channels, 50·7°. Observations by the United States Coast Survey, in 1867, gave a mean temperature for the surface of the sea between Victoria and Port Simpson and outside of the Prince of Wales Archipelago, from Port Simpson to Sitka, in the latter part of July and early in

August, of 52·1°. In the narrower inlets of the coast, the temperature of the sea falls, owing to the quantity of cold water mingled with it by the entering of the rivers.

The coast about Port Simpson and the mouth of the Skeena is not very well sheltered from the rain-bearing winds. When these winds come in contact with the mountainous mainland the heaviest rain-fall occurs, in exact correspondence with the height to which the moist air is forced up into the higher regions of the atmosphere, and cooled there by its expansion and loss of heat by radiation. Owing to these causes the heavy rain-fall is not found to be maintained in travelling eastward by the Skeena.

Our journey is from Port Simpson to Churchill. We travel first to the mouth of the Skeena, to the village of Port Essington, or Spuksute, a native hamlet. The surface of the country here is low, level and swampy, and rough with stumps and logs, the remains of an originally dense forest growth. Behind the little flat on which the village stands is a ridge rising in one place to a remarkable peak.

As we are going over this route with a view to its practicability for railway location, I must observe that, from the Skeena, Port Simpson may be easily reached by the iron horse. Mr. Crombie, C.E., in his report in 1877, says: "The distance to Port Simpson (from the Skeena) is probably eight miles greater than to a point on the mainland opposite Cardena Bay; but the obstacles to the construction of a railway line are not so great, and the cost of building it would probably be less."

The mouth or entrance to the Skeena was first explored by Mr. Whidbey of Vancouver's staff in July, 1793. He appears to have gone no further up than the mouth of the Ecstall, and to have been too easily convinced that the inlet was one of no particular importance. To Vancouver the name Port Essington is due, and was by him originally applied to the whole estuary. It is singular that, notwithstanding the diligence and skill of Vancouver in his exploration of the west coast, he passed the mouths of the three largest rivers, the Fraser, the Skeena, and the Nasse, without specially noting them.*

* Prof. Dawson's Report, 1879.

The mouth of the river has become pretty much filled with *debris* brought down by the current, so that notwithstanding the banks are bold the water is shallow. The mountains on either side as you ascend the river are steep, and pretty much covered with a dense forest. Their summits, though scarcely ever over 4,000 feet high, are generally covered with snow until early in July, and at any season large patches of perpetual white will always greet the beholder. In a few cases wide areas of bushes and swampy meadows seem to occupy the higher slopes, but frequent large bare surfaces of solid rock are visible, from which snow-slides and land-slips have removed whatever covering of soil may have originally clung there. The tide flows up the Skeena for a distance of eighteen or twenty miles above Port Essington. At this point the river valley narrows somewhat, and a mass of bare and rocky mountains appears on the north bank. The slopes of these are exceptionally steep, and end at the river bank in bluffs and cliffs of considerable height. Between the head of tide and the mouth of the Lakelse River, a distance of thirty-six miles, the Skeena receives several streams of some importance. The valley has an average width in the bottom of from one and a-half to two miles, the mountains bordering it everywhere reaching 3,000 to 4,000 feet at a short distance from the river. At about half way between the two points mentioned, however, the height of the mountains appears often to surpass 4,000 feet, and they probably reach 5,000 feet on both sides of the river west of the Lakelse. Near the Lakelse, with a decreasing altitude, they assume more rounded forms and show less bare rock, being covered with trees nearly up to their summits. The quantity of snow which accumulates on the higher mountains is evidently very great.

Through the greater part of the Skeena its dull, brownish water flows at the rate of four to six miles an hour, sweeping round its many islands, and pouring through the accumulated piles of drift logs with a steady rushing sound. No reaches of slack water occur. The river is evidently quite shallow, although it is navigable for steamboats for a considerable distance, or five miles above the Kitsumgalum, where the Sipkiaw Rapid is met with. Islands are

exceedingly numerous, and so divide the stream as to cause it to occupy in many places a great portion of the valley. Above the rapid mentioned there are but few islands in the river. About four miles above the Sipkiaw, the Zymoetz River from the south-east joins the Skeena. It is a stream of considerable size. The mountains among which it rises are over 6,000 feet high.

About five miles above the Zymoetz, or seventy-seven from the Pacific, is Kitsalas Cañon. The mountains at this point crowd closely on the river, especially on the north side, and though the cliffs and precipices are seldom over one hundred feet in height, they are rugged, and the hill-sides above them steep and rough. The channel of the river is also broken by several small islands. At the lower end of the cañon the river greatly expands; but in foaming torrents, or dashing eddies of the cañon are the favourite salmon fishing stations of the Indians. It is difficult to ascend the river through this cañon, but the task may be accomplished by skilful canoe-men with two short portages; the rapids may be descended safely without portaging.

There is a small Indian settlement on the north side of the river at the lower end of the cañon. The huts are mostly rude, with some strangely-executed carved posts, with figures of birds at the top. At the upper end of the cañon on the south bank is another small Indian settlement with about a dozen huts, some in a state of great dilapidation. This cañon is in lat. 54° 37′ 6″ N. Not far to the north of the cañon the mountains are over 6,000 feet high.

From Kitsalas Cañon to Kwatsalix, a distance of about twenty-four miles, the general course of the river is nearly north and south. Here the highest range of the coast mountains appears to be crossed; but the river has appropriated a natural valley, and not cut through the range. The river in this part of its course has several swift rapids, but when the water is not too high these are not hard to overcome. The valley continues to be about a mile and a half wide, and in places two miles, between the steep slopes of its bordering mountains. It winds considerably, but makes no abrupt turns. On either side of the stream, there is a flat, sometimes more extensive on one side than on the other, about thirty feet above the water,

well wooded, and containing a good soil. These intervals are, in season, mostly covered with wild peas, vetches, and other plants, growing luxuriantly, especially where the timber has been burned away. Speaking of the scenery in this part of the river, Professor Dawson says: "From various points a few miles above Kitsalas Cañon fine glimpses of the higher peaks are obtained, but a better view, including the whole snow-clad sierra, some tent-like peaks of which surpass a height of 8,000 feet, is gained on looking back on this region from the hills above the Forks. In several places small valleys in the upper parts of the range are filled with blue glacier ice, and one glacier, which appears to be of some size, is situated a few miles below Kwatsalix on the right bank. The semi-circular valley containing this, surrounded by peaks estimated at 7,000 feet in height and abundantly covered with snow, is probably the finest piece of mountain scenery on the river. The glacier occupies the bottom of a narrow V-shaped valley, and is probably about a quarter of a mile in width, rising up between the slopes like a broad waggon-road. The ice appears from a distance to be completely covered with fallen stones and *debris*, and though the slope of the valley is considerable, the motion of the glacier must be slow, as the stream flowing from it was, at the date of our visit, nearly without earthy impurity. The end of this glacier is about four miles back from the river, and was estimated to be about 600 feet above it."

Kwatsalix Cañon is a part of the river less than half a mile in length where steep rocks and low cliffs come down to the water's edge; but, although the water runs swiftly, there is scarcely a true rapid, and canoes may be worked up without great difficulty. There are a few Indian huts at Kwatsalix, but the larger Indian village, Kitwanga, is situated on the right bank of the river some twenty-four miles above it. It consists of about fifteen or twenty huts, located on a flat of considerable extent, and at a height of about twenty feet above the river. A trail leads from this place across to the Nasse River, which is three days' journey to the north. The huts are of the usual style, and the village is marked by several posts curiously carved.

About seven miles above Kitwanga the mouth of the Kitsegu-

ecla River is met with, and some of the strongest rapids on the Skeena are situated near the confluence of this river. From a point above this to the Forks the current is less powerful. There is a small Indian village near the mouth of the Kitseguecla, consisting of about ten houses, and of quite modern style. "The Forks, or Hazelton, is situated on the left bank of the Skeena, a short distance above the junction of the Watsonkwa. It stands on an extensive flat elevated ten or fifteen feet above the river, and at the base of a higher terrace, which rises very steeply to a height of one hundred and seventy feet. Two or three traders live here, and there is an Indian village of about half-a-dozen barn-like buildings, each accommodating several families. The Indian village is quite new, and there are no carved posts, though the people speak of erecting some soon. The old village, where carved posts are still standing, is about a quarter of a mile further down stream. The low region about the Forks and wide valleys of the Skeena, Watsonkwa, and Kispayox, seem to be shut in on all sides by high mountain ranges."

The Skeena country, or valley through which we have travelled so far, may to some extent be called an agricultural country. On the lower part of the river, with the exception of a few islands, there is no good land. At about twenty-five miles below the Forks, however, the higher terraces at the sides of the river, and a few hundred feet above its level, extend in many places many miles back from it. These plains contain excellent soil, consisting of a sandy loam with a considerable mixture of vegetable matter. Eastward from the Forks the valley and plateaus present the same characteristics, only that the fertile areas are more extensive. Most of the rivers flowing into the Skeena have more or less extensive valleys all well suited to agriculture.

The climate of the Skeena country, especially in the neighbourhood of the Forks, is similar to that of Montreal, except that the winters are colder. Snow generally falls first in October but melts again, the winter snow not coming until the middle of December. The winter is in general steadily cold, similar in all respects to that of Winnipeg except that there is always a thaw in February. Spring

comes even earlier than in Manitoba. Grass begins to grow green, and many varieties of trees to bud out, the first week in April. Some little cultivation has been carried on. Potatoes are annually grown; they are usually fit for use by the first of July, and are harvested before the end of September. Wheat has been tried and found to do well. Oats do exceptionally well, and in 1878 two successive crops ripened before the frosts came. The second of course was a "volunteer crop." Squashes, cucumbers and other tender vegetables can be grown successfully. Cattle and horses are wintered with ease in this section; but, as in Manitoba, they require to be stabled and fed during the winter months.

The Skeena opens during the last week in April, and ice forms over it during the last week in December. It is generally highest in July, and is lowest immediately after the ice goes out. Its vast volume of water is supplied from the melting snow on the mountains. The snow-fall is from five to ten feet on the lower Skeena, but in the neighbourhood of the Forks it does not exceed an average depth of three feet. Above the Forks it is less than two feet, being less throughout than in any location for a long distance south of it. Upon the whole, the general characteristics of the climate are much the same as those of Manitoba.

On the Watsonkwa River, which joins the Skeena from the south-eastward at the Forks, there is a magnificent valley throughout its entire length. It is partly prairie and sustains a magnificent growth of grass.

I have thus far scarcely referred to the Indian population of the Skeena region. The coast Indians of British Columbia generally claim the country along the rivers to the head of canoe navigation. Following this rule, they stretch much further inland on the Skeena than elsewhere. The Indians of the Forks speak the same language with the Tshimsians of the coast, with but slight dialectal difference; while those of the Ahwilgate and Kyahwilgate villages, a few miles up the Watsonkwa, are people of the Tinneh or Carrier stock. Dialects of the Tshimsian are spoken for about eighty miles above the Forks on the line of the river, and up the Babine River to the Cañon. The people of the Kispayox village on the river of the same

name, about eighty miles north of the Forks, also speak the Tshimsian language; but these and those of the upper part of the Skeena approximate in their manner of speech to the Nascar Indians of the Nasse. The Nascars have permanent villages about twenty-five miles above tide-water on the Nasse, and claim the country for about fifty miles still further up. The division between all the branches of the Tshimsians and the Tinneh or Carrier people appears to be quite distinct.

The Indian population of this region is estimated as follows:—

Tshimsian.	On the Skeena:	
	Kitsumgalum	25
	Kitsalas, uncertain, owing to the number of people away at the coast and elsewhere, yet calling this place their home, about	300
	Kitseguecla	150
	Skeena Forks	250
	Kuldōr, above the Forks	150
	Kispayox	350
	Kit-ka-gas, three miles up the Babine River from its mouth	400
	Kit-wun-kool, between the Skeena and the Nasse	250
Tinneh	Ahwilgate and Kyahwilgate on the Watsonkwa.	200
		2,075

These estimates are no doubt about correct, and are based upon the reports of Prof. Dawson, Mr. Hawkin and others.

From the Forks eastward to the summit of Pine River Pass there are many routes which the traveller may take; and it is impossible to state, until further exploratory surveys are made, which is most suitable for a railway line. It is sufficient to say that there is a choice of some three or four, any of which offer good facilities for railway construction. Owing to the fact that the Skeena River above the Forks is very rapid, and the Babine River which flows into it quite impassable in the cañons for canoes, and making besides a long *detour* to the north, we will leave the Skeena at the Forks for the north end of Babine Lake. The distance is about forty miles in a straight line; by the trail nearly fifty; and the direction almost due east.

The Skeena Forks, or Kitma, is the site of an Indian village where about two hundred and fifty Tshimsians reside, at which the waters of the Bulkley river, flowing from the south-east, mingle with those of the Skeena, which, at and above this point, flow from the north. The waters of the Bulkley come from the same series of small lakes in which the Nechaco River takes its rise, flowing easterly to Fort George, beyond which it is lost in the Fraser.

Our present route from the Forks to the north end of Babine Lake is on a trail, known as the old Indian route. It was cut out and improved by the Government of British Columbia a number of years ago, so as to afford easy access to the Omenica mining district. It is still used to a great extent by the Indians, who make a regular business of carrying goods and provisions across. After leaving the somewhat flat country at the Forks, the trail passes over a nearly level country for several miles. It is wooded with poplar, cotton-wood and birch, mixed with evergreen trees, and seems to have a good soil and to be well fitted for cultivation. Grass with wild peas and vetches grow in great luxuriance; and, travelling through this beautiful district in the spring or early summer months, one will find all the thickets fragrant with wild roses. A great variety of wholesome berries and choke-cherries abound, beyond the limit of description, and strawberries, in their season, might be gathered by the ton. It is indeed a wonderful country.

Not far from the Forks the trail reaches the gently sloping hill-sides on the right bank of the Watsonkwa, which it continues to follow for seven or eight miles, till a stream called the Suskwa is reached, just above its junction with the Watsonkwa. In following the hill-sides, the valleys of several small streams, flowing in courses of greater or less depth, are crossed. The valley of the main stream, between the bases of the mountains at its sides, is wide, but the immediate valley of the river is steep-sided, and the river itself flows onward between rocky banks with great force. The Indians in this part of the country construct bridges across streams too rapid to be crossed in canoes with safety, when not too wide for the means at disposal. These have been called suspension bridges, and are ingenious in plan. The Watsonkwa is spanned by one of these about

five miles above the Forks. The river is here about fifty feet wide, rushing between rocky cliffs of about fifty feet in height. "At each side two beams are placed, projecting at an angle of twenty or thirty degrees, their butt-ends being firmly planted in a rude crib-work of logs weighted with stones. The ends of the projecting beams from opposite sides are then joined by a pair of light but strong horizontal pieces which are lashed to them. The footway or floor of the bridge may consist of a single large flatted beam, or of several lengths of poles spliced together and laid parallel. The footway is suspended to the superstructure above described by a series of vertical poles with hooked ends, withes being used as lashing, or, as in the instance now described, telegraph wire,—being a portion of that left by the Western Union Company at the time of the abandonment of their enterprise." * About six miles from the mouth of the Suskwa, it is joined by the Skil-o-kis, from the north, a very rapid stream fifty-seven feet wide and two feet deep. This is crossed by a newly-constructed Indian bridge like that previously described. Five miles further on, in a general eastward direction, the main valley of the Suskwa turns to the south south-east, while the trail continues eastward by that of a large tributary. The sources of this stream, known as the Oo-ats-anli, are reached in about fourteen miles, and the summit passed at a distance of seven miles from the north end of Babine Lake.

The summit of the range separating the valleys of the Watsonkwa and Skeena from that of Babine Lake is passed in a low altitude where mountain sheep are met with; the mountain goat is to be seen in all directions. From this summit, looking eastward, Babine Lake is seen stretching far to the south-eastward like a silver ribbon, its banks generally low, with flats or rounded hills of moderate elevation bordering it. Before reaching the lake the trail crosses a small stream called the Tzes-a-tza-kwa, or canoe-making river. It is about fifty feet wide by one foot deep at low water.

The group of lakes, says Prof. Dawson, of which Babine is one, may be regarded as occupying two parallel valleys, which conform to the general north-westerly and south-easterly bearings which

* Prof. Dawson's Report.

govern the main features of the whole country lying between the Rocky Mountains proper and the coast. Babine Lake, for the greater part of its length, lies nearly parallel to the Watsonkwa valley, but at its southern end bends abruptly eastward, a wide valley running through from its extremity to the head of Stuart Lake. The water-shed between the Skeena and Fraser River systems is situated in this valley: Babine Lake discharging northward by the Babine River, which, after following the general direction of the valley occupied by the lake for some distance, cuts across the line of the Babine Mountains and reaches the Skeena; Stuart Lake discharging by the Stuart River into the Nechaco, and thence to the Fraser. The valley of Stuart Lake opens widely at the south-eastern extremity to the low country of Nechaco and Chilacco. Stuart Lake occupies the south-eastern part of the second or north-eastern of the great valleys above referred to; and to the north-west of it in the same line lie Trembleur, Tacla and Bear Lakes. Stuart Lake is about forty miles in extreme length, Tacla forty-six miles, and Bear Lake about twelve miles; while the dimensions of Trembleur, Traverse or Cross Lake are not known. Trembleur and Tacla Lakes discharge south-eastward into Stuart Lake, while Bear Lake forms the source of the Skeena. With the generally more mountainous character of the country to the north the height of the water surface in the lakes increases, being approximately as follows: Stuart Lake 2,200, Tacla Lake 2,271, Bear Lake 2,604.

The Tinneh Indians of this interior district are divided by dialect into two great groups known as the Porteurs or Carriers, and the Siccanies. The Carriers extend on the Fraser as far down as Soda Creek, near the mouth of the Chilcotin. They inhabit the valley of the Blackwater, and stretch westward to Gatcho Lake and the Coast Range, Fraser, Stuart, and Babine Lakes and the Watsonkwa valley, north of Fort St. James to Middle River, and east to Fort McLeod and the Fraser River, above Fort George, to about 120° 39′ of longitude. The Siccanies lie to the north and east of the Carriers, occupying the west part of Tacla Lake and the region about Bear and Connelly Lake. They extend up the North Finlay about seventy-five miles, and down the main stream of the Peace

River to Hudson's Hope. North of the Siccanies and towards the coast are the Na-ha-nies, who are said to speak a different dialect, while the Indians still further north, about Cassiar, are said to be again different. The Na-taw-tīn, or people of Babine Lake, number about 300. The Na-kas-le-tīn, or people of Stuart Lake, are divided as follows:—Villages at Fort St. James, 75; at Pinchi River, 40; at Tache River, 32. At Grand Rapid, ten miles up the Tache, are the Kus-chē-o-tīn, now numbering 22 souls; at Stony Creek, south of the Nechaco, are the Ta-tshik-o-tīn, numbering 24; and at Nool-ke Lake, the Nool-kē-ot-īn numbering 56.

The route from Fort Babine, on the northern portion of Lake Babine to Fort St. James, at the southern extremity of Stuart Lake, is by the lakes as above described. It is a six days' journey with a pack train from Fort St. James to Fort McLeod, on the north end of McLeod Lake, which is in latitude 55° north, or the same as Fort Babine. From Fort McLeod to the summit of the Pine River Pass, the distance is short, and the direction north-easterly. From Stuart to McLeod Lakes the region, as a whole, is flat, and characterized rather by low ridges and terraces than by hills. Its eastern part drains toward Stuart Lake, but the greatest area is unwatered by Salmon River and its tributaries, which, flowing southward, join the Fraser near Fort George. East of the Salmon River lies the Pacific and Arctic watershed, beyond which the Long Lake River—a small stream—is found flowing toward McLeod's Lake. On leaving Stuart Lake the ground rises gradually till a height of 400 feet is gained at eight or nine miles from the lake. The surface is generally undulating, has been frequently burned over, and shows fine grassy meadows, suitable for cultivation. From this place to the crossing of Salmon River the country consists of undulating uplands, the highest point of which is about 700 feet above Stuart Lake. Carrier Lake, two and a half miles long, is passed to the left, besides several other small ponds.

The country between Stuart and McLeod's Lakes is thus somewhat higher than the Nechaco and Chilacco country to the south, and quite different in character, wanting the extensive deposits of white silt which there form a fertile soil. The soil is here generally

light, sandy, or gravelly, and is at present covered for the most part by burnt woods. A considerable area would doubtless be available for pasture land if the forest were completely removed by fire, and there are numerous swamps and meadows along streams producing natural hay. It formerly yielded large numbers of skins of marten, mink and other forest-inhabiting animals, but since the extensive spread of fires—some of the most important of which occurred about fifteen years ago—fur-bearing animals, with the exception of the bear, are scarce.

We may travel from the Hudson's Bay post—Fort McLeod—at the northern end of McLeod Lake, to the summit of the Pine River Pass, by way of the Misinchinca River. The Pack River, issuing from McLeod Lake, is about two hundred feet wide, and has an average depth of about two feet in July. It flows northward about fifteen miles to its junction with the Parsnip River, which joins it from the south-east. The tongue of land lying between the two rivers is mountainous opposite the end of McLeod's Lake, rising to a height of from 1,500 to 2,000 feet above the water. At about seven miles north of Fort McLeod these mountains end, and a plateau or terrace-flat, with an average elevation of about one hundred and thirty feet, stretches from the expansion of the Pack River, known as Lac la Truite, or Tutia Lake, across to the Parsnip, near the mouth of the Misinchinca.

At the mouth of the Misinchinca the Parsnip, according to comparative barometer readings, is 2,170 feet above the sea. It has a width of five hundred feet, and is generally quite deep. The current is rapid, averaging probably three or four miles an hour, the waters being brownish and muddy, and evidently in great part derived from melting snow. Above this place the Parsnip has not been explored since the date of Sir Alexander Mackenzie's visit in June, 1793. He ascended the stream to its sources, and portaged his canoe across to a small river running toward the Fraser. From his account it would appear that there are very high mountains about its head, and probably true glaciers. This seems to be confirmed by the small possible drainage area of the river compared to the volume of water it carries.

The country on the east side of the Parsnip, towards the Misinchinca and the Pine River Pass, is densely wooded, or covered with wind-fall or *brulé*. The surface rises gradually. Following the south bank of the Misinchinca, we pass over sandy and gravelly benches, which are generally less than one hundred feet above the river, and covered with pine of small growth. Crossing the river in latitude 55° 14′ 39″, where it touches the hills on the left of the valley eighteen miles above its mouth, we continue in broad flat-bottom lands until within two miles of where it is joined by the Atunacthe. The river then changes its character, flowing swiftly over coarse gravel and boulders, and spreading widely in seasons of flood through "sloughs" and alternate channels by which the valley bottom is cut up. Most of the land in the bottom of the valley is elevated only a few feet above the river, and some of it is evidently liable to overflow. The mountains at the sides of the valley rise boldly to heights of 2,500 or 3,000 feet above it in some instances, and are densely tree-clad, with the exception of the highest points. Large trees of black spruce and cottonwood occur in some places, several of the latter being observed to attain five feet in diameter.

But we are nearing the Pine River Pass. The valley which is occupied by the lower part of the Misinchinca may be said to come to an end at the mouth of the Atunatche, inosculating with a second which runs in a north north-west by south south-east course parallel to the main direction of flexure and elevation in this part of the Rocky Mountains. In the opposite direction this depression becomes the Atunatche valley, and further on that of the upper part of the Pine River, which, after flowing north north-westward for eleven miles, turns abruptly to the eastward and finds its way to the Peace River below Fort St. John.

From the mouth of the Atunatche River to the lower end of Summit Lake, a distance of about four miles, the valley is about half a mile in width, of flat ground or gentle slopes. Summit Lake is a small body of water; its south end is bounded by a low, grassy flat. The lake drains into the Atunatche; but about three-fourths of a mile beyond its north-western end a stream, forming the source

of the Pine River, is found entering the valley from the mountains to the south-west. Here it is about twenty-five feet wide and six inches deep in July, with a rapid current. Between it and Summit Lake are a series of beaver swamps, where in wet seasons the water runs both ways. Here on this summit, in latitude 55° 24′ 17″, the height is but 2,440 feet above the sea, or, according to all authorities, less than 2,500 feet.

From this point we are to descend to the great agricultural plains of the Pine and Athabaska Rivers, and the vast fertile regions of the Peace River and its tributaries. We have hurriedly sketched the distance from Port Simpson on the Pacific to this Pass, in view of its fitness for the location of a railway line to connect the Pacific Ocean with the Atlantic, *via* Hudson's Bay. It is almost needless to cite authorities in support of the Pine River Pass as the most available railway route through the Rockies, but some may not be acquainted with its great advantages. Dr. Selwyn, Director of the Geological Survey of Canada, who has travelled through the Pass, says:—"From what I have myself seen, and from what I have been able to ascertain from others, respecting the route by the Leather Pass, when compared with that—my knowledge of which is also partly from personal examination and partly from the testimony of others—by the Athabasca and Smoky Rivers, and thence by the Pine Pass to Giscome Portage and Fort George, I have no hesitation in saying that the latter route is probably in every respect the best in the interests of the railroad and of the country at large. Taking Edmonton, on the Saskatchewan, and Fort George, on the Fraser, as the initial points, it will, I believe, be found that by Pine Pass the line could not only be carried almost the whole distance through a magnificent agricultural and pastoral country, but that it would be actually shorter than the Leather Pass route, and that it would probably not present any greater engineering difficulties."

Professor G. M. Dawson, of the Geological Survey, speaking of the most difficult section of a railway from the Pacific coast to the prairie country, *via* the Pine River Pass, says:—"The total distance by the river valley, which a railway line would have to follow

to the Lower Forks of Pine River, is one hundred and eight and a-half miles. In a straight line it is eighty-one miles. Of the distance by the valley, ninety-three miles may be classed as easy work, two and a-half miles as moderately heavy work, and thirteen miles as heavy work."

I also offer the opinions of Mr. Marcus Smith, C.E., who has made a personal examination of the route. He says:—

"At the outset it became evident that there is no harbour at the mouth of the Skeena suitable for a railway terminus. A fair anchorage is to be had in Cardena Bay, at the southern end of Kennedy Island, but it would be extremely difficult, if not impracticable, to reach that neighbourhood with a railway line.

"Attention was therefore directed to Port Simpson, at the northern end of the Tsimpsean Peninsula, a well known and excellent harbour, and on examination it was found that there are no great obstacles to carrying a line along the north side of the Peninsula to that point.

"The distance is probably ten miles longer than to Cardena Bay, but, of the two, this harbour is far better adapted for commercial purposes, and the cost of constructing the railway would probably be much less.

"From Port Simpson, for about thirty-five miles along the north side of the Tsimpsean Peninsula, and across the dividing ridge, two hundred and fifty feet high, to the banks of the Skeena, the works would be heavy.

"In ascending the Skeena through the Cascade Mountains the works would generally be heavy, but less so than by either the Fraser or Homathco valleys, through the same chain of mountains.

"For the first thirty-five miles the hills descend in steep inclination to the water's edge, and there are indications of snow-slides at several points. The valley averages a mile in breadth, but the river is thickly studded with islands, and has channels washing the bases of the mountains on either side.

"Above this, for a distance of about eighty miles till the eastern face of the Cascade range is reached, the valley narrows a little, but the side-hills are not so steep. The valley then opens out somewhat,

and the works would be moderate for about forty miles, which distance would bring the line to the Forks of the Skeena, near which there is an Indian Village named Kitmo on the map. The elevation at this point is about seven hundred feet above sea level, and the gradients would be very easy throughout the whole distance from the seaboard."

Mr. Smith further says in his official report:—"The highly favourable reports received respecting the character of the Peace River district, and the prospects held out of a satisfactory route being obtainable through the Pine River Pass, made it expedient to obtain further information in that direction. . . . Thus the question of the feasibility of the Pine River Pass is at last solved. The full report has not yet been received; but the distance between Fort McLeod on the west side of the mountains, and the Forks of Pine River on the east side, is roughly estimated at ninety miles.

"The gradients are stated to be generally easy, with the exception of about four miles near the summit of the Pass, where they will probably be about sixty feet to the mile; and the work in the construction of a railway would be moderately light, except for a length of about eight miles near the summit of the Pass, and a short length at the Forks of Pine River where they would be heavy.

"The land in the Pine River Valley, for fifty miles above the Forks, is described as of excellent quality and well suited for agricultural and grazing purposes.

"It should be observed that this fertile strip of land, lying nearly in the heart of the Rocky Mountains, is an extension of the Beaver Plains which connect with the great fertile belt stretching from Manitoba to and beyond the Peace River.

"Should the engineering character of a line by this route prove, on closer survey, as favourable as reported, the results from the exploration will be amongst the most important that have been obtained since the commencement of the surveys. Some of the serious difficulties in crossing the Rocky Mountains will have disappeared, and this formidable chain, once held to be insurmountable, and even now felt to be a grave obstacle to railway enterprise, can

then be passed with very favourable gradients, and with works not exceeding in magnitude those generally required on other portions of the line.

"In addition to the manifest advantages offered by this route, there is, further, the important consideration that in the place of a bleak, sterile country, wherein settlement is an impossibility for hundreds of miles, the line would traverse an area of remarkable fertility with but a few short intervals of country unfit for settlement. This route also passes between the vast mineral districts of Omenica and Cariboo. The extraordinary results of recent mining operations in the latter give promise, when their resources are more fully developed—as they can only be with the assistance of direct railway communication—of rivalling, if not surpassing, the far-famed gold and silver regions of the neighbouring States, which lie in the same mountain zone.

"Port Simpson may possibly be considered, at present, too far north for the terminus of the Canadian Pacific Railway; but it is important that the fact should be borne in mind that, by virtue of low altitudes and consequent easy gradients, together with the comparatively moderate character of the work required to reach it, this terminal point offers advantages which would enable a Canadian line to defy competition for the trade with China and Japan, Port Simpson being fully five hundred miles nearer to Yokohama than Holme's Harbour, at the mouth of Puget Sound, the proposed ultimate terminus of the Northern Pacific Railway, while the advantage it possesses over San Francisco is correspondingly greater.

"But the Pine River Pass is not merely the key to Port Simpson: it affords comparatively easy communication with Bute Inlet, and all the intermediate inlets between that point and Port Simpson, the valleys of the rivers leading to these inlets radiating from the Stuart Valley, south-west of the Pass, with exceptional directness. Thus many of the difficulties in the way of reaching Bute Inlet and the inlets to the north of it, *via* the Yellowhead Pass, can be avoided, and this probably without increasing the length of the line."

There is still further evidence in the report of Mr. Joseph Hunter, C.E., to Mr. Marcus Smith, in 1878. He says:—"The

approximate position of a line along the route explored, from the railway surveys on the Upper Fraser by way of Pine River Pass to the Lower Forks of Pine River, a distance of one hundred and eighty-seven miles, is shown on the accompanying plan by a red line. This route is well marked out by the natural physical features of the country, and the following brief notes, with respect more especially to the general grades obtainable, may be useful:—

	Distances in Miles.	Grades.	
		Ascending Feet per Mile.	Descending Feet per Mile.
From Division N. location up Valley of Salmon River to summit on portage....	12	21	...
From summit on portage to west end of Summit Lake.....	3	...	37
From west end of Summit Lake to outlet of same.....	4	...	Level.
Outlet of Summit Lake to north end of McLeod's Lake.....	54	...	3
From north end of McLeod's Lake to Tutia Lake at the eightieth mile.....	6	...	5
From the eightieth mile to summit of ridge between Pack and Parsnip Rivers.	6	33	..
From the summit of ridge to the crossing of Parsnip River.....	2	...	57
From crossing of Parsnip River to crossing of Misinchinca, near mouth of Atunatche.....	19	15	...
From crossing of Misinchinca to south end of Azuzetta Lake	4	53	...
From south end of Azuzetta to summit of Pine River Pass.....	2½	4	...
From summit of Pine River Pass to Lower Forks	74½	...	14

"For the first one hundred and six miles the work would be mostly in gravel. From the one hundred and sixth mile there would be some heavy work along the Atunatche, with considerable rock-cutting and probably some tunnelling near the precipice from which, to the Lower Forks, seventy-three and one-half miles, the work would be generally light, with a few rock cuttings.

"The crossing of Pine River below the Lower Forks would be 1,200 feet wide, and seventy feet above the river, and some heavy work might be expected along the river slopes in gaining the plateau to the eastward.

"Finally, the following may be noted as the salient facts ascertained from this exploration, viz.:—That a depression occurs in the Rocky Mountain range, extending from 55° 15′, to 55° 45′, north latitude. That a pass exists in this depression which, together with its approaches from east and west, is, with respect to railway construction, of a generally favourable character. That the summit of this pass is 2,440 feet above the level of the sea, which summit, for the sake of convenient comparison, it may be observed, is 1,293 feet lower than that of the Yellowhead Pass; 1,065 feet lower than the watershed between the Fraser and Homathco Rivers; 660 feet lower than the summit to Dean Channel; and, to carry the comparison a little farther, 5,802 feet lower than the highest point on the Union Pacific Railway."

We have now to examine the country from the Pine River to Churchill on Hudson's Bay, and see what its advantages for railway construction are, and to note some of its requirements from the standpoint of cheap transportation. This will complete our observations of the country traversed by the proposed transcontinental Short Line from the Pacific Coast to Europe, *via* the Pine River Pass and the Hudson's Bay route. We may then turn our attention to the great valleys of the Saskatchewan and the Red Rivers, and point out their attractions and the necessity existing for speedy railway connection between them and the shores of Hudson's Bay.

CHAPTER XXXIV.

FROM THE PACIFIC TO HUDSON'S BAY.—*Continued.*

FROM THE PINE RIVER PASS TO CHURCHILL—A VIEW OF THE GREAT FERTILE PLAINS OF THE NORTH-WEST—THE PEACE RIVER COUNTRY—THE ALLUVIAL PLAINS OF THE ATHABASKA—THE FIVE FUTURE PROVINCES OF THE NORTH-WEST—TRANSPORTATION—THE HUDSON'S BAY ROUTE—DISTANCES.

IN the previous chapter we have taken a hurried glance at the country from Port Simpson, on the Pacific, eastward to the Pine River Pass of the Rockies, *en route* to Hudson's Bay. In the present chapter we will complete that journey. From The Pass we will travel hundreds of miles through the finest agricultural country in the world. The descent from the summit is gradual toward the great plains. But looking from it eastward the prospect is fraught with many wonderful characteristics. The great fertile valley, or lower plain, with its mighty rivers, its pure lakes and innumerable streams, stretches away toward Hudson's Bay for more than six hundred miles; northward to our left for nearly five hundred miles to Fort Simpson on the Mackenzie River and beyond; southward for more than seven hundred miles to Fort Hamilton and the sources of the South Saskatchewan; and south-eastward for more than two thousand miles to the great lakes. The area comprises over 300,000,000 acres of rich productive lands belonging to the Canadian North-West, and there is nowhere else upon the earth's surface such an extensive tract of wealth-producing territory.

Down to our left, on the broad plains of the Peace River country, in the valleys of the tributaries of that stream, there is the climate of the most favoured portions of British Columbia, with the finest

soil in the world. There countless herds of cattle may roam and fatten upon the rich grasses that everywhere abound, without the shelter of barn or stable, and without being exposed to the severity of an ordinary winter climate. There all kinds of orchard and garden fruits may be cultivated and grown in plenty, and the best cereals of the northern temperate zone harvested in yields unequalled anywhere.

Down before us to the eastward, beyond the Smoky River, are spread out the limitless alluvial plains of the Athabaska and its tributaries, an expanse of fertile territory that must soon become thickly populated with a prosperous agricultural community; while away to the south-east, in the country of the North Saskatchewan, the heart of the wheat belt is reached.

These areas include a territory that will be comprised in five Provinces of over 200,000 square miles each. They are all very much the same, not strictly a prairie country, nor yet monotonously undulating; but comprising, for the most part, gently sloping ridges or swells between the various rivers and lake systems. "Much of the country" (near the Rockies), says Prof. Dawson, "is park-like, with groves of poplar, while extensive tracts are quite open. . . The soil is uniformly fertile black loam."

I am anxious that the reader may form some adequate conception of the extent and fertility of the great northern plains that lie east of the Rockies and are drained into Hudson's Bay, as well as of the advantages to that region of the proposed Hudson's Bay route. Mr. Sanford Fleming, C.M.G., in a paper read by him in 1878 before the Royal Colonial Institute, London, England, gives the following description of the prairie region. He said: "It has been found convenient in describing the general characteristics of Canada to divide it into three great regions. Its leading botanical, geological and topographical features suggest this division. One region, except where cleared of its timber by artificial means, is densely wooded, another is wooded and mountainous, the third is a vast lowland plain of a prairie character. The Mountain Region is on the western side; the Prairie Region is in the middle; the remainder, which embraces the settled Provinces on the St. Lawrence, originally

covered with a growth of timber, may, for the sake of simplicity of description, be considered the Woodland Region.

"I shall first consider the Prairie Region. If we place before us an orographical map of North America, it will be noticed that a great continental plain stretches north and south between the Gulf of Mexico and the Arctic Ocean. It is bounded on the western side throughout its whole extent by the Rocky Mountain zone, and on the eastern side in part by a less elevated region, the Appalachian zone. This great plain occupies the whole of the continent of North America between the western and eastern mountain ranges. It is divided by its river systems into three perfectly distinct drainage basins. One drains to the south into the Gulf of Mexico, another north into sub-Arctic waters, and the third east into the Atlantic by the channel of the great river St. Lawrence.

"Of these three basins, that of the St. Lawrence is by far the smallest, and the northern is fully as large as the other two together. The St. Lawrence basin, on the boundary between the United States and Canada, occupies part of both countries; the southern basin is almost wholly in the United States; the northern basin is almost wholly in Canada; and the line of contact between the two latter basins is in part approximately coincident with the 49th parallel of latitude—the southern limit of the interior of Canada. It will thus be seen that the great continental plain of North America is divided naturally, as well as artificially, through the centre. It is divided politically into two adjacent countries, under distinct governments, and naturally into three vast drainage basins, the smallest of which occupies a comparatively narrow strip along the eastern portion of the International Boundary Line, while the other two discharge their waters in diametrically opposite directions.

"The Prairie Region of Canada lies in the northern drainage basin; it may be considered to extend from south to north more than a thousand miles, and nearly the same distance from east to west. It is not all a treeless prairie; a considerable portion is thinly wooded; yet the whole is considered as more or less partaking of a prairie character. The Prairie Region, so called, is somewhat triangular in form. One side coincides with the International Bound-

ary Line, and extends from the 95th to the 113th meridian; another side follows the eastern slope of the Rocky Mountains from the 49th to about the 64th parallel of latitude. The third side, about 1,500 miles in length, skirts a remarkable series of lakes, rivalling in size Lakes Erie and Ontario. These great water-filled depressions lie in a generally straight north-westerly and south-easterly direction. They embrace Great Slave Lake, Lake Athabaska, Lake Wollaston, Deer Lake, and Lake of the Woods, and they appear to occur geologically, on the separating line, between a broad band of Laurentian or metamorphic rocks and the softer Silurian formations. This great triangular-shaped region is estimated to measure about 300,000,000 acres. Its base, running along the series of lakes mentioned, will probably average less than 1,000 feet above the sea; and its apex, near where the International Boundary Line enters the Rocky Mountains, will probably be about 4,000 feet above sea level. This region may generally be described as a great plane sloping from its apex in a north-easterly direction downwards to its base, but the inclination is not uniform and unbroken. Several terraces and well-defined escarpments stretching across the country are met with at intervals. A great proportion of the surface is gently rolling, and hills of no great height occur here and there. The rivers of this division of the country flow for a great part of their course in deeply-eroded channels, frequently of considerable width, and as the superficial formations are for the most part drift or soft rock, the channels which have been furrowed out are but little obstructed by falls or steep rapids. They generally present a uniform descent, and the long stretches of some of the rivers, although the current be swift, are capable of being navigated. A wide expanse of the region to the south of the main Saskatchewan is a prairie, without trees or shrubs of any kind; the treeless prairie passes by easy gradations into copse woodland with prairie intervening. To the north of the Saskatchewan, woodland appears in various localities. On Peace River there are extensive prairies; there is also an agreeable mixture of woodland and prairie; and this character of country appears to prevail for a considerable distance still further north.

"It is scarcely to be supposed that a region so extensive would be found all fertile land. The great American desert, which covers a wide area in the centre of the United States, was at one time thought to extend north for a considerable distance into Canada. The Boundary Commission's reports, however appear to show that the arid and unproductive tract is more limited on the Canadian side than was previously supposed; and that a great breadth of the country previously considered valueless may be used for pastoral purposes, and some of it ultimately brought under cultivation. There are other places within the territory described as the Prairie Region which are unfavourable for farming pursuits; and although certain drawbacks claim recognition, there can no longer be any doubt respecting the salubrity of the climate and the existence of vast plains of rare fertility. Information on this head has been obtained year by year. Professor Macoun, a well-known botanist, has recently been commissioned specially to investigate this subject. He estimates that there are no less than 260,000,000 acres of land available in this region alone for farming and grazing purposes.

"The mineral riches of this great division of Canada are but imperfectly known. It has, however, been established that immense deposits of coal exist in many parts, chiefly along the western side. The examinations of Mr. Selwyn, Director of the Geological Survey, carry the impression that the coal-bearing rocks pass with their associated coal seams and iron ores beneath the clays farther east, and it may be that shafts would reveal workable seams of coal at such limited depths beneath the surface as would render them available for fuel and for industrial purposes in the heart of the prairies. Should these views of Mr. Selwyn prove correct, their realization will be of the greatest possible importance to the country. Besides coal and iron ore, petroleum, salt and gold have also been found. The Red River settlers, exposed to many vicissitudes during a space of half a century, did not greatly prosper. But since the incorporation with Canada of the whole country formerly under the sway of the Hudson's Bay Company, marvellous progress has been made. The Province of Manitoba has been created around the place which was once the Selkirk settlement; its population has increased from

a mere handful to many thousands, and it has to all appearance entered on a career of unexampled progress.

"Manitoba, although a Province with prospects so brilliant, occupies but a small corner of the fertile lands in the interior of Canada. The Prairie Region, as set forth in the foregoing, is alone ten times the area of England, reckoning every description of land. Such being the case, it may be no vain dream to imagine that in due time many Provinces will be carved out of it, and that many millions of the human family may find happy and prosperous homes on these rich alluvial plains of Canada."

Since the above was written by Mr. Fleming, much that he predicted has been realized. Extensive coal mines have been opened in the Saskatchewan Valley, and are proving of vast utility to the people of the North-West. Petroleum has been discovered in large quantities, and arrangements are now being made to bring it into market; and the agricultural capabilities of the region are proving to be much greater than the estimate then placed upon them. The whole prairie region has been divided into five divisions, viz.: the Province of Manitoba, extending from the western boundary of Ontario westward to the 102nd meridian, and northward to the 53rd parallel; the districts of Assiniboia and Saskatchewan, extending from the western boundary of the Province of Manitoba to the 111th meridian, and northward from the International Boundary Line to the 55th parallel, the former comprising the south half of the territory described, and the latter the north half; the District of Alberta, extending from the western limits of Assiniboia and Saskatchewan to the eastern limit of British Columbia, and northward from the International Boundary to the 55th parallel; the District of Athabaska, extending northward from the northern limit of Alberta to the 60th parallel, and eastward from the eastern boundary of British Columbia to the 111th meridian. The last four will, in due time, be erected into Provinces with responsible governments, with about their present boundaries.

These five future Provinces are larger than any five of the north-western States, and must, at no distant day, contain as great, and possibly a greater, population than the States of Michigan, Wis-

consin, Illinois, Minnesota and Dakota, and sustain a commerce many times more extensive than that of the Dominion at the present time. The carrying trade of that commerce will find its principal channel through the waters of Hudson's Bay; and the proposed railway line we are describing, from Port Simpson to Churchill, will not only bring Japan and Europe closer together by thousands of miles than by any other possible route, but must become the chief avenue of transportation for the whole District of Athabaska and the greater portion of Alberta to the south of it.

As will be seen on the accompanying map of the Dominion this proposed line runs from the Pine River Pass across the plains of the upper Peace River, and its large tributary the Smoky River, through the fertile valleys of the Athabaska, and from the eastern limit of the fertile Prairie Region across the series of watersheds between Lakes Athabaska, Wollaston, and Reindeer Lakes and Hudson's Bay, to Churchill Harbour. The whole distance from Port Simpson to Churchill, for a railway line, is less than 1,500 miles, and the gradients are very much lighter than by any other route across the American continent.

This will be the direct route across the continent in connection with Hudson's Bay navigation. The distances as compared with other routes are as follows:—

TRANSCONTINENTAL SHORT LINE.

From Liverpool to Cape Chidley (Atlantic)	1,940 miles.
" Cape Chidley to Cape Digges (Hudson Strait).....	450 "
" Cape Digges to Churchill (Hudson's Bay).....	550 "
" Churchill to Port Simpson (Railway)	1,450 "
Total	4,390 miles.

CANADIAN PACIFIC ROUTE.

From Liverpool to Montreal (Atlantic and St. L.)	3,000 miles.
" Montreal to Port Moody (*via* Winnipeg).....	2,895 "
Total.....	5,895 miles.
Difference in favour of "Short Line".....	1,505 miles.

The total difference in favour of the northern route is 1,505 miles, but it will be observed that of this distance most of it is in railway.

But there is still another phase in which to view the advantages of the northern route. It is that of trans-Pacific trade. The distance from any central part of

Japan to Port Simpson	3,865 miles.
" " Moody	4,374 "
Difference.....	509 miles.

This makes the entire distance between Japan and Liverpool *via* Hudson's Bay 8,255 miles, and that from Japan to Liverpool *via* the Central Pacific Railway 10,255 miles, or over 2,000 miles in favour of the Hudson's Bay route. But there are other advantages. The highest altitude attained by the Short Line is only 2,440 feet, while the highest point reached in the Kicking Horse Pass (C.P.R.) is nearly 2,000 feet higher. The question as to the length of the navigable periods of the waters of Hudson's Bay and the St. Lawrence River, must be decided in favour of the former, so that, all things considered, I am justified in predicting a great future for the Hudson's Bay route. As to the climate of the country through which the road will pass from Port Simpson to Churchill, there is no point on the line where it is worse than at Winnipeg, and if the location of the routes be compared in this respect, the result will be much in favour of the Short Line route. I am persuaded that the projected line of transportation in question will not only become the principal channel of transportation for all the districts that I have indicated, but that it will be the highway by which most of the immigration will reach the great plains of the Athabaska and Peace Rivers from Europe.

CHAPTER XXXV.

The Klotz Overland Hudson's Bay Expedition.

THE GREAT SASKATCHEWAN COUNTRY—THE NORTH AND SOUTH SASKATCHEWAN—THE PROPOSED CALGARY, PRINCE ALBERT AND HUDSON'S BAY RAILWAY—DISTANCES AS COMPARED WITH THE CANADIAN PACIFIC RAILWAY—ADVANTAGES OF THE ROUTE.

WHILE the Minister of Marine was preparing to send an Expedition to Hudson's Bay by water, the Minister of the Interior was arranging to dispatch an Exploration Party overland to the same point. The object of the latter was to place the Government in possession of reliable information concerning the character of a part of the country, at least, over which it was proposed to construct the Manitoba and Hudson's Bay railway. Accordingly in April, 1884, an Exploration Party was fitted out, and placed in charge of Otto J. Klotz, C.E., D.T.S., President of the Dominion Land Surveyor's Association, of Preston, Ontario, and instructed to examine the character of the country and river from the Forks to Lake Winnipeg, on the Saskatchewan, and from the Lake to York Factory on Hudson's Bay, on the Nelson.

This Expedition was placed under the command of an able man. Mr. Klotz is a German. He was educated at University College, Toronto, and at the University of Michigan, and has been prominently connected with the Government Surveys of the North-West for several years. The objects of his undertaking were to make a micrometer survey of the Saskatchewan and Nelson Rivers, to note the general topography of the adjacent country, and to make special magnetic observations for scientific purposes.

Having organized his party, Mr. Klotz proceeded to Winnipeg, where he purchased supplies and sent them across Lake Winnipeg to

Norway House, on the Nelson River. He took from Ontario the well-known Peterborough canoes, which are held to be much superior to any other canoes made. From Winnipeg he travelled by train to Swift Current. From this point his outfit was transported overland about thirty miles to the waters of the South Saskatchewan, where, on the 9th of May, after christening his two canoes, Agnes and Maud, he embarked on the long and tedious voyage to Lake Winnipeg.

Mr. Klotz appropriated the Agnes for his own use, his assistant, Mr. Cadenhead, occupying the Maud. All being in readiness, the start was made on the 9th of May. The distance from the point of embarkation to the Forks is 350 miles, and as the survey, exploration, etc., were not to be begun until the latter point was reached, it was gone over as quickly as possible. The staff consisted of five men, including an interpreter.

OTTO J. KLOTZ, D.T.S.,
President Dominion Land Surveyor's Association.

The day of departure was quite windy, causing the swift current of the Saskatchewan to be sufficiently rough to test the canoemanship of the men. The canoes were necessarily very heavily laden, but good progress was made without mishap. The 350 miles were made in twelve days, the party arriving at the Forks on the 21st of May. The course of the river through which they travelled presented nothing particularly interesting, but there were evidences on every hand of the wonderful fertility of the soil of the great plains which extend for hundreds of miles from either bank of the river. There is no waste country in the South Saskatchewan Valley whatever. There are but few settlers yet in that part of the North-West.

From Swift Current to Saskatoon, the capital of the Temperance Colony, there are none; but from that point to the Forks there are scattered inhabitants.

The navigation of the South Saskatchewan is tedious for even canoes. In many sections great numbers of sand-bars jut out from the high clay banks, and these have to be gone round, so that it is necessary frequently to alternate from one side to the other. However, the river is navigable for a considerable period every spring for properly constructed boats with light draught, such as are used on the Missouri.

Game, in nearly all seasons, is to be met with on this river and in the adjacent country. The Expedition met with wild geese in vast numbers, also ducks, cranes, swans, prairie chickens, partridges, and here and there antelopes coming to the river to drink. As the moose woods are approached there are many evidences of the presence of the beaver, such as cut trees, holes dug, houses built, etc. In some places they have cut canals to the river, which the gathering waters enlarge in the spring, so that they are enabled to float down small trees cut into handy lengths, and thereby save carrying them.

As I have said, the journey down the South Saskatchewan is unattended by sights or incidents of great consequence. Passing the Elbow, one may see evidences of misguided speculation. The reader will remember that at one time it was understood that the Canadian Pacific would cross the river at that point, and in that belief speculators rushed to the spot and put up miserable little shanties, as the first duty under the homestead law; but, later on when it was known that the road would not cross there, these were deserted, and they stand there to-day, a picture of desolation upon the bosom of the rich prairie country.

Saskatoon, the shire-town of the Temperance Colony, is, says Mr. Klotz, "the making of a pretty little town, and the country round is everywhere rich and fertile. There are ten buildings in the town plot, which is prettily laid out, with a flag-staff in the centre, and the flag of the Dominion flying from it." The colony started late in 1883, but got in 150 acres, and were visited by no frosts as in other

places further east. This year, 1884, they have 1,000 acres under crop.

Farther down there is a French half-breed settlement on the east bank of the river, consisting of a few mud-plastered huts. These people are raising good crops, and await only the advance of civilization and commerce to become thrifty. Fifty miles above the Forks, Pokan is reached. This is a Hudson's Bay Company's post, in the midst of a magnificent rolling prairie, with rank grass, and a great variety of rich flowering plants. From this point to the Forks the current of the river is very strong, and on every hand the country is uniformly good.

At the Forks the North and South Saskatchewan Rivers join and flow on in a mighty volume to Cedar Lake, Cross Lake, and Lake Winnipeg, where, along with the waters of the Red River system, they are lost in the great Nelson River which empties the surplus waters of a vast basin into Hudson's Bay.

The Forks of the Saskatchewan is an interesting point. It may become, one day, one of the most important inland commercial centres of the world. From Lake Winnipeg, or the Grand Rapids at the mouth of the river, to the Forks, the distance is 416 miles. From the Forks to the head-waters of the North Saskatchewan, in the valley of the Howse Pass of the Rockies, following the course of the river, the distance is over 1,000 miles; while that from the same point to the head waters of the South Saskatchewan at Kootenay Pass, following the stream, is about the same distance. The branches diverge until, at their respective sources, they are nearly 400 miles apart.

The Saskatchewan is navigable from the Grand Rapids at its mouth to the Forks, and thence to Edmonton, and beyond, on the North Branch, a distance of nearly 1,000 miles. Three steamers are now plying those waters. This great Saskatchewan district, which may be called the central area of the Prairie Region, contains over 400,000 square miles of fine agricultural and pastoral country. Its western side, at the base of the Rockies, is over 400 miles long, and it extends eastward, narrowing in its trend, until on the eastern border of the fertile belt, in the silt country, it is but a few miles

wide, and comes to an end where alluvial soil is rapidly forming, carrying the prairie country still further to the north.

Not far above the Forks, on the North Saskatchewan, is Prince Albert, and a little way farther is Fort Carleton, and, far above that, Battleford, at the mouth of Battle River, and still farther, Edmonton, are reached. In the neighbourhood of Prince Albert and Carleton, there are thriving settlements, and the people in that vicinity, alive to their great future, are already agitating for the Hudson's Bay route. On the accompanying Dominion map, it will be observed that a line is drawn from Calgary, on the Canadian Pacific to Churchill, through Battleford and Prince Albert. This line will join the proposed Winnipeg and Hudson's Bay Railway, north of Lake Winnipeg.

I have already explained that the proposed Transcontinential Short Line will serve the broad areas of the Athabaska and Peace River countries, *via* the Hudson's Bay route; and a glance at the map will make it apparent that this proposed Calgary, Prince Albert and Hudson's Bay Railway will, when constructed, become the great artery of communication of the Saskatchewan Valleys with the outside world. The distances are altogether in favour of the route:—

From Calgary to Winnipeg	900	miles.
" " " Churchill (*via* Winnipeg)	1,550	"
Difference	650	"
From Calgary to Montreal (C.P.R.)	2,360	"
" Montreal to Liverpool	3,000	"
Total	5,360	"
From Calgary to Churchill	900	"
" Churchill to Liverpool	2,940	"
Total	3,840	"
Difference in favour of Hudson's Bay route	1,520	"
From Prince Albert to Churchill	650	"
" " " Winnipeg	650	"
From Prince Albert to Liverpool (H.B. route)	3,590	"
" " " " (C.P.R. route)	4,932	"
Difference in favour of Hudson's Bay route	1,342	"

The vast plains of the Saskatchewan Rivers are yet unsettled and undeveloped; but at no very distant future millions of prosperous inhabitants, sustaining an immense commerce, will find comfortable and happy homes in that region. From the above approximate distances, it is quite easy to see that this vast territory must be served by the Hudson's Bay route. But we must continue our journey from the Forks to Lake Winnipeg, and thence by the Nelson River to Hudson's Bay.

CHAPTER XXXVI.

THE KLOTZ OVERLAND HUDSON'S BAY EXPEDITION.—*Continued.*

FROM THE FORKS TO LAKE WINNIPEG—FORT A LA CORNE—CUMBERLAND HOUSE—THE PAS—CHEMAHAWIN—GRAND RAPIDS—THE CHARACTERISTICS OF THE SASKATCHEWAN.

FROM the Forks, where the Saskatchewan divides into the north and south branches, to the mouth of the river at Lake Winnipeg, the distance is 416½ miles. It was the business of Mr. Klotz's party to make a micrometer survey of the river over this distance, and then, after crossing the lake, to follow down the course of the Nelson to Hudson's Bay. The main trunk of the Saskatchewan was pretty well known in a general way; but the Government were not in possession of anything official pertaining to its peculiarities or the general formation of the adjacent country. Hence the importance of the task.

In one sense the river may be divided into three sections. First from the Forks to the foot of Tobin's Rapids, a distance of about one hundred and twenty miles. This section is high table land, with considerable timber along the banks, especially on the north. On the south the country is mostly open. The whole district is available for agriculture. The second division is from Tobin's Rapids to Cedar Lake, a distance of about two hundred and twenty-five miles. This is the silt or river-deposit country, a vast area emerging from morasses and lakes, and destined to become equal to the best Manitoba soil, as soon as it is built up high enough. Its western extremity is well wooded and already ripe for agricultural pursuits. The eastern portion is not so well wooded, the banks are lower, and when Cedar Lake is reached the banks of the river are lost in a vast swamp or marsh, especially at high water. Here there is no

longer a river properly speaking; but, of course there are channels, and the shores are marked by a rank growth of reeds. And, thirdly, the rocky district, extending from Cedar Lake to Lake Winnipeg a distance of about seventy miles. This section is pretty heavily timbered with spruce.

The only settlements on the whole river are Fort à la Corne, Cumberland House, The Pas, and the Indian settlement of Chemahawin, where the Hudson's Bay Company maintain a winter post. The three places first named are regular Hudson's Bay posts. The whole distance from the Forks to Lake Winnipeg may be divided as follows:—

From the Forks to	Fort à la Corne	241½	miles.
" "	A la Corne Rapids	291½	"
" "	Tobin's Rapids	120¼	"
" "	Sepenock Channel	135¾	"
" "	Cut-Off	139¼	"
" "	Mouth of Big Stone River	192¾	"
" "	Cumberland House	200	"
" "	Tearing River	211½	"
" "	Carrot River	268	"
" "	The Pas	269¾	"
" "	Upper Moose Lake River	288½	"
" "	Rock formation	311½	"
" "	Kettle Island	333⅓	"
" "	Lower Moose Lake River	342¾	"
" "	Chemahawin	347¼	"
" "	Cedar Lake (east side)	375¾	"
" "	Demie Charge Rapids	396	"
" "	Cross Lake	396½	"
" "	Cross Lake Rapids	404	"
" "	Roche Rouge	405½	"
" "	West End Tramway	409⅜	"
" "	Head Grand Rapids	410	"
" "	Foot " "	413¾	"
" "	H. B. Post, Grand Rapids	414¾	"
" "	Lake Winnipeg	416½	"

From the Forks, as one passes down the river, there are everywhere evidences of changing banks. Vast pieces of land are sliding

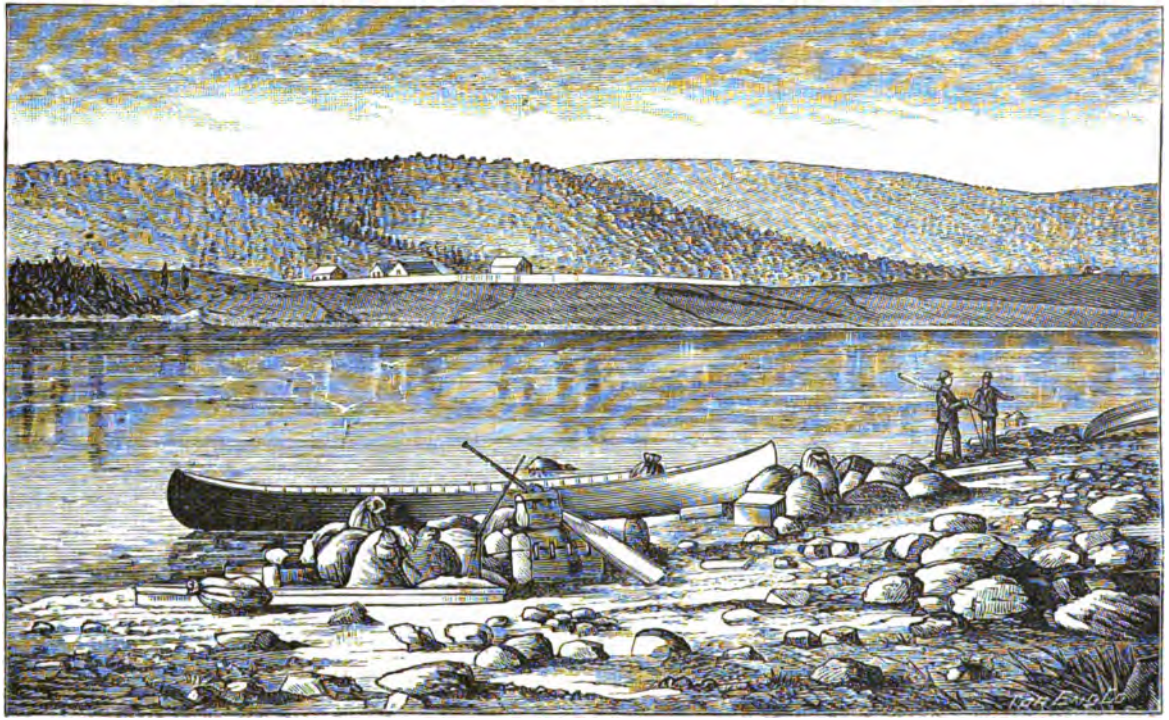
into the river, leaving cut banks far above the water. Some of these land slides comprise hundreds of acres, and now compose a sort of river bottoms. The banks thus formed are mostly perpendicular. There are places in these broken districts where the trees are thrown into great confusion, some being left almost bottom-side up, and others nearly horizontal. Those with the washed out gorges, boulders and gravel, comprise a perfect chaos.

The mud-streams are a strange feature in the banks of the Saskatchewan. This mud, softened by the melting ice and snow, flows down the ravines like glaciers. Woe to the careless one who trusts to this mud to bear up his weight, as he will sink in it very quickly. There are immense boulders, as it were, floating on its surface, leading one to think that it is perfectly safe to walk upon; but should you step upon one of them it will shoot down as if in water. These mud-ravines and gorges are to be met with along the shores frequently.

Leaving the Forks, the timber increases in size and quantity as you near Fort à la Corne, and at the latter place there is good spruce, tamarack, Norway pine, balsam, birch, whitewood and poplar. The underbrush is often very thick with willows and alder, with various flowering shrubs, which give parts of the river a very pretty appearance. Wild peas, honeysuckles, columbine and other flowering plants grow in wild luxuriance. Here the banks are high and frequently sliding into the river; and now and then one may see a double shore, where one bank, it may be half a mile long, has been carried down by the ice and set in front of another.

Small game is not very plentiful; but one may see, every now and then, moose and black bears walking leisurely along the shores. The latter afford very entertaining sport.

Fort à la Corne is a Hudson's Bay trading post. It is named after an old French trader, who, more than eighty years ago, conducted a small trading station there. He fled on the approach of the Blackfeet Indians, who had come to rob him. It is believed to this day that there is a cache somewhere in the vicinity where he buried his liquor before taking his departure, and the natives in the vicinity, Crees, are still hoping that some day they will come across it. Fort



FORT A LA CORNE.

à la Corne is in a sheltered nook on the south side of the Saskatchewan. The buildings are on a terrace about thirty feet above the water, behind which the ground rises for more than 260 feet above the plateau. There is the usual stockade around the buildings, enclosing a small yard. The buildings are small, of logs, and very common looking huts; but the store-room, if your visit is in the proper season, will be well filled with valuable furs. There are no half-breeds at this post; but a number of Indian wigwams decorate the adjoining grounds.

Not far away from the post, to the south, excellent prairie lands are reached, and scattered settlers may be met with, while to the north there is a continuous forest, through which the Indians roam and hunt during the winter months. The crops of wheat and other cereals produced in the neighbourhood of Fort à la Corne are very satisfactory. It is one of the finest agricultural regions of the North-West. Wheat is harvested in September, barley in August, the former yielding over thirty bushels to the acre. Vegetables do splendidly, as also do all kinds of root crops. Potatoes yield over one hundred bushels from one bushel of seed. In this neighbourhood the frost does not penetrate the ground more than four feet—less than in the Province of Manitoba. The soil is about twenty inches in depth, with a clay sub-soil.

At Fort à la Corne winter sets in about the first of December, sometimes a little earlier, and it breaks up about the first of April, when the snow leaves the ground. June is the hottest month; and in July the most rain falls. From records kept, there appear to be cycles of wet and dry years of ten years each. The ice is generally all out of the river by the 10th of April. The river commences to rise about the 10th of June, and continues for about ten days, when it reaches its highest mark in the year. There is generally another rise in August, and the river reaches its lowest mark in September. The greatest difference between high and low water at Fort à la Corne is never more than twenty feet, and seldom over fifteen.

The chase affords the Indian musk-rats, beaver, moose, deer, mink, marten, fisher, otter, black bears, and an occasional grizzly,

and lynx. In the river, with nets, they catch sturgeon, whitefish, pike, suckers, gold-eyes, and perch. From the first the squaws take out the isinglass, which is one of the most valuable articles of commerce at the post. There was a neat little mission church at the Fort, but it was burned to the ground on the 26th of May, 1884, caused by bush-fires in the neighbourhood.

From Fort à la Corne to Cumberland House, a distance of about one hundred and seventy-five miles, the country is full of interesting features. The river for a long distance preserves a uniform width of about nine hundred feet, contains no sand-bars, and but few rapids of a very insignificant character. At the largest of the latter, à la Corne Rapids, the steamer has occasionally to make use of a head-line to overcome the current. On the north bank of the river, not far below Fort à la Corne, there are a number of iron springs, and the deflection of the magnetic needle in the neighbourhood indicates valuable iron deposits.

One of the greatest difficulties to be met with in travelling down the Saskatchewan in late years, is the fire, which at certain seasons abounds almost everywhere, rendering great insecurity. Mr. Klotz's party were frequently compelled by the fires to shift camp, and on more than one occasion they were exposed to great danger, being surrounded by fire on every hand, from which the air was hot and filled with smoke to such a degree that it was almost unbearable.

Another difficulty to be met with, by persons travelling by canoes, is the scarcity of good camping grounds. Frequently a sand-bar in the midst of tall, dusty willows, or a clump of boulders, or a wet beach, or a swampy flat, will have to be selected. In these places one will get mud and sand to the full. The latter is often raised by the wind into clouds of dust which penetrates one's clothing and makes life disagreeable. Mr. Klotz said: "We had sand in our bread, sand in our bacon, and in our tea and our beds—sand everywhere." This of course may be avoided in the lower country, where the banks are low and easily ascended, and where one may camp in the woods.

As you descend the river it becomes larger, and the banks, which are two hundred and eighty feet high at the Forks, gradually

decline to a few feet. The timber changes from poplar to spruce and poplar, then to balsam, whitewood, pine, tamarack, maple, elm, ash, etc., until at last one can find almost any sort of bush indigenous to the country. Some of the spruce is large, measuring three feet in diameter. The whitewood grows to a great size also. The brush is sometimes thick and much tangled, and is mostly alder.

The Sepenock Channel is one of the odd features of the Saskatchewan. Through it a portion of the water of the main stream is carried into the Carrot River, which joins it again at The Pas, about one hundred and twenty miles below. Not far below the Sepenock, the traveller comes to the Cut-Off—a new channel forced by the ice through the heavy forest, thereby cutting off a long bend of the river. At this point we see how the river ranges at will over the country. After the water passes through the Cut-Off, instead of taking its regular course in the river, most of its waters flow up its old bed, and have forced their way by another channel into the Sturgeon River that flows into Pine Island Lake, and thence, through the Big Stone and Tearing Rivers, empties into the Saskatchewan. From the point where the channel first mentioned enters the old bed of the Saskatchewan to where the Big Stone River enters it, there is but little water, and still not very much until the confluence of the Tearing River is reached. The old bed from the Cut-Off to the mouth of the Big Stone may eventually dry up and disappear. The water, sometimes, between Pine Island Lake and the Saskatchewan, in the Big Stone, flows both ways, depending upon the height of water at its extremities.

Cumberland House, an old Hudson's Bay post, and the trading capital of the Cumberland district, is situated on the south-east side of Pine Island Lake, a small body of water on the north side of the Saskatchewan, and connected with it. The lands in the neighbourhood are low, and the scene can scarcely be called picturesque. There are numerous small islands in the lake. Besides the Hudson's Bay Company's buildings, which are surrounded by the usual stockade, there are a number of half-breed houses, and, near by, Indian huts and wigwams.

There is a Catholic mission at the post, and the Church of England

maintains a chapel just across the little bay, where there is a considerable half-breed and Indian settlement.

Mr. Klotz found at Cumberland House a sun-dial left there by Sir John Franklin in 1826. He took observations upon it for the purpose of ascertaining its position, adjusting it, etc. The original post upon which it rested had rotted almost entirely away.

Pine Island Lake is badly named. There are no pine trees in the vicinity—only spruce. The shores are quite low and rocky, and the soil of the surrounding country is good. Wheat has been grown very successfully. The place is not subject to early frosts, and agricultural pursuits may be carried on with profit, except where the ground is low and subject to floods.

Not far from the post is a row of loose stones, forming three sides of a square, placed in position by human hands. The origin of the pile is unknown. It is on a scale of about one hundred feet square. The principal woods in the neighbourhood are near the river, being mostly of birch, poplar and spruce—most of the latter being over fourteen inches in diameter, and some of it three feet.

Cumberland House is an important fur-trading centre. There the packets arrive every spring, from the posts in that vast district, with valuable furs from as far north as Lac du Brochet on Reindeer Lake. In the store-rooms may be seen great packages of fox, mink, marten, musk-rat, beaver and other skins, as also goose-quills isinglass, castoreum, pemmican, etc. The fur press has a lever thirty feet long, 10 x 22 inches, and is drawn down by one-and-a-half inch rope passing through heavy blocks, the power being had by the use of a large capstan twenty-three inches in diameter, with six-feet arms.

Cumberland House has its full supply of Indian dogs, hungry brutes that often go into the lake and eat fish out of the nets. They will eat old shoes, or pieces of leather, and chew up a lantern to get at the oil, or carry off a frying-pan to get an opportunity to lick it. And yet these dogs, vicious as they are, could not be dispensed with. They are very useful as draught animals, and often haul the rough sleds for hundreds of miles in the winter season.

The Hudson's Bay Company maintain cattle at Cumberland

CUMBERLAND HOUSE.

House, and have, therefore, plenty of good milk and butter. They are supplied with abundance of game, including deer, reindeer tongues, etc. Three thousand reindeer tongues were brought down from Lac du Brochet to Cumberland House in one season.

The products of the Cumberland district for the year 1883 were as follows :—

Bears,..... 372	Mink.....7,790
Beavers,.....4,684	Musk-rat.....180,791
Ermine.....226	Otter.....434
Fisher..... 50	Skunk.....6
Blue Foxes.....4	Wolverine..... 175
Cross " 30	Wolf..... 76
Red " 91	Weenisk.....1
White " 332	Musk-ox..... 1
Silver " 3	Castoreum.....214 lbs.
Lynx.....442	Isinglass .....80 "
Marten.....2,159	

Few people are aware of the number of Hudson's Bay Company's trading posts in the Dominion of Canada, or of the great volume of trade conducted annually by that corporation. Following is a list of the posts in the Dominion, not including winter posts :

Fort Chippewayan.	Peel's River.
" McMurray.	Fort Good Hope.
Fond du Lac.	" Liard.
Red River.	" Nelson.
Fort Vermillion.	" Providence.
" Smith.	" Rae.
" Resolution.	" Norman.
" Dunvegan.	Nut Lake.
" St. John's.	Manitoba House.
Hudson's Hope.	Fairford.
Battle River.	Waterhen River.
Lesser Slave Lake.	Shoal River.
Whitefish Lake.	Duck Bay.
Grand Prairie.	Rat Portage.
Fort Simpson.	Fort Frances.
Rampart House.	Lac Seul.
Lapierre's House.	Eagle Lake.

Wabigoon
Whitefish Bay.
White Dog (Lake Winnipeg).
Trout Lake " "
Seine River.
North-West Angle.
Norway House.
Nelson River.
Behrens River.
Grand Rapid.
Poplar River.
Oxford House.
Island Lake.
York Factory.
Severn.
Trout Lake (Keewatin).
Churchill.
Winnipeg.
Lower Fort Garry.
Doghead.
Fort Alexander.
Indian Settlement.
Portage La Prairie.
Isle a la Crosse.
Portage la Loche.
Green Lake (English River).
Souris River.
Cumberland House.
Moose Lake.
Pas.
Pelican Narrows.
Lac du Brochets.
Rapid River.
Grand Rapids.
Calgary.
Edmonton.
Lac la Biche.
Jasper House.
Lac Ste. Anne's.
Victoria.
Battle River.

Prince Albert.
Carleton House.
Battleford.
South Branch.
Fort Pit.
Turtle Lake.
Fort à la Corne.
Frog Lake.
Fort Qu'Appelle.
" Ellice.
Riding Mountain.
Fort Pelly.
Russell.
Touchwood Hills.
Egg Lake.
Cariboo.
Barkerville.
Quesnel.
New Caledonia.
Stuart's Lake.
Skeena.
Fraser's Lake.
Babine.
Conolly's Lake.
Fort George.
McLeod's Lake.
Montreal.
Michipicoten.
Aquawah River.
Pic.
Nepigon House.
Long Lake.
Red Rock.
Lake Missanabie.
Sand Lake.
Pine Portage.
La Cloche.
Whitefish Lake (Huron).
Mississaque.
Green Lake (Huron).
Wahnapitaeping.

Pagamasing.
Mattawa.
Temiscaminque.
Hunter's Lodge.
Grand Lake.
Barriere.
Trout Lake.
Totogan.
Pembina.
Oak Point.
Moose Factory.
Albany.
Henley.
English River.
Marten's Falls.
Osnaburgh.
Rupert's House.
Woswonaby.
Mechiskim.
Mustassing.
Nichequon.
Eastmain.
Fort George.
Great Whale River.
Little Whale River.
Fort Trial.
Long Portage.
Kinoqumisse.
Matawagaminque.
Natachewan.
New Brunswick.
Victoria.
Massett.
Hazelton.
Fort Langley.
" Hope.
" Yale.
Kamloops.
Thompson's River.
Temagiminque.
Nepissinque.
Abitibi.
Winawaya.
Weymoutachinque.
Coocache.
Kickendach.
Manoman.
Pointe Blin.
Bersamis.
Seven Islands.
Moisie.
Mungan.
Musquarro.
Rigolet.
North-West River.
Davis Inlet.
Nachoak.
Fort Chimo.
George's River.

But returning to our journey on the Saskatchewan, there are about seventy-five miles of the river from above the Cut-Off to below the Big Stone, where there is not a stone of any kind to be seen, and but few thereafter until Cedar Lake is reached. The Indians have to carry stones in their canoes for sinkers for their nets in this district, as none can be found along the banks of the river. The formation is entirely silt, or a sandy river deposit containing but very little clay. When dry it is blown about like sand. There is a thin coat of vegetable mould on the surface. The vege-

tation is principally goose-grass and willows. Evidently the whole country in that district was once a lake.

A few miles east of the Big Stone, Birch Portage is reached; this leads to Birch River, that flows into the Carrot River. Here water-fowl become scarce, and but few Indians are met with, the nature of the country and character of the hunt preventing them from travelling in large bands. The banks of the river at an average stage of water are about six feet high, and on either side is a series of lakes and marshes which approach almost to the river and are connected with it by many channels; and, at high water, the whole country for many miles on either side is a sea.

Ash, elm, maple and spruce now give way to poplar, and further down, poplar to willows, until the marshy country is reached where tall grass and reeds abound. Away to the south, however, before the Pasquia Hills are reached the land becomes high and dry and fit for cultivation. The cut banks of the river are almost always higher than the country immediately behind them. This is caused by the drift-wood and *débris* and sand being jammed and lodged on the willow banks adjoining, thus forming an additional embankment.

Such is the character of the country until The Pas, at the junction of the river of the same name with the Saskatchewan, is reached. The Pas, that is the Hudson's Bay post, is situated on a low ridge of boulders which extends from the Saskatchewan to the Pasquia Hills. The latter may be seen from the river, in the distance, to the southward. This ridge has but a small elevation above the swampy country, but has, nevertheless, attained to the dignity of being called the Pasquia Mountains. The word in Indian signifies a narrow ridge.

The Pas trading station is not unlike other Hudson's Bay posts on the Saskatchewan. There is in connection with it a mission church maintained by the Church of England Society. Besides a neat church there is a commodious frame parsonage. The church boasted a lofty spire until last year when it was taken down to save it from falling. There are a goodly number of Indian huts and wigwams scattered along the shore, which, with the buildings belonging to the Hudson's Bay Company, give the place the appear-

ance of a small village; the buildings of the post proper are stockaded.

The ridge, or Pas Mountain, which is covered with spruce, tamarac and poplar, runs along the east bank of Pasquia River for about thirty-five miles, where there is a break of about four miles of wet, low land. Then it continues to the elevation called the Pasquia Mountains. The character of the country is such that one can travel in a canoe from The Pas to Cumberland House through swamps, lakes, channels, etc., without entering the Saskatchewan at all.

The Indians of The Pas, through the liberality of the Government, maintain quite a herd of cattle. They are supplied with plenty of milk and butter, and considerable beef. There is but little farming land in the vicinity owing to the low, swampy character of the country. The river is very wide, its shores or banks but slightly defined, and at high water the whole district is an immense lake. In 1878 the water was so high that no landing-place could be found between Cumberland House and The Pas. For seven years previous there was high water each year just the same. The whole country between the Saskatchewan, Sepenock Channel, Carrot River, Pasquia River, and Cedar Lake, is all lake or marsh. It is also similar to the north of the Saskatchewan. Forty years ago a lad could throw a stone across the river at The Pas, now it is 900 feet wide.

The Indian settlement at The Pas is quite large, and most of their huts are well built. There are also a few half-breeds. Birch bark is plentifully supplied from the birch trees of the Pas hills, and the Indians construct many canoes from it. They are quite industrious, prosperous, and altogether a happy lot.

As I have said, the swampy country continues to Cedar Lake; for most of the distance the banks of the river are lost, and there are many channels. As you approach Chemahawin, an Indian village, the banks of the river can be distinguished only by the grass and reeds. There are no woods, with the exception of clumps of poplar now and then along the shores. About nineteen miles below The Pas a large channel, known as the Moose Lake River, leaves the Saskatchewan to the north. It is at present used instead of the

main river by steamers, as it contains a greater body of water, the latter being at this point divided into many channels, thereby decreasing the quantity of water in any one. This Moose Lake River joins the parent stream again several miles above Cedar Lake. As the latter is approached the marshes on either side appear to the eye boundless. They are covered with reeds, from six to ten feet high, and look like a vast field of grain. Here Kettle Island is the only place for many miles where a landing can be made, and because it is the only spot where the Indians can find dry land enough to boil the kettle, it has been called Kettle Island.

For six miles below Kettle Island the river has no banks whatever, but runs through a boundless marsh, without trees or bush of any kind. There one of the channels of Moose Lake River joins it, and the banks become two feet high, and are again quite heavily timbered. Two miles farther down, the main or steamboat channel of Moose Lake River joins the Saskatchewan. Moose Lake River might now with propriety be called the Saskatchewan. This must not, however, be confounded with Moose Lake Creek, which discharges the water of Moose Lake into it.

For about one mile above Cedar Lake, the distance is called Chemahawin, where, along both banks, which are in that place well defined, Indians dwell in considerable numbers, and make a comfortable livelihood by fishing and hunting. The principal fish is the sturgeon, which here obtains a length of over six feet. The Indians collect from them a considerable quantity of isinglass which they trade at the Hudson's Bay station. At the upper end of Chemahawin there is a winter Hudson's Bay post, where the Indians do their trading.

Anywhere along Chemahawin, if the traveller camps, he will find the Indians waiting to gather up the cast-away tea leaves and re-steep them. These Indians use only the miserable "Labrador tea," and most keenly relish even the second use of the better kind. They are a jolly set, but have been Christianized, and one of their own number now acts as preacher, and on the Sabbath they may be seen in vast droves repairing to a favourable place, where, in the open air, the native sermon is delivered in true Cree eloquence. The service

MOUTH OF THE SASKATCHEWAN.

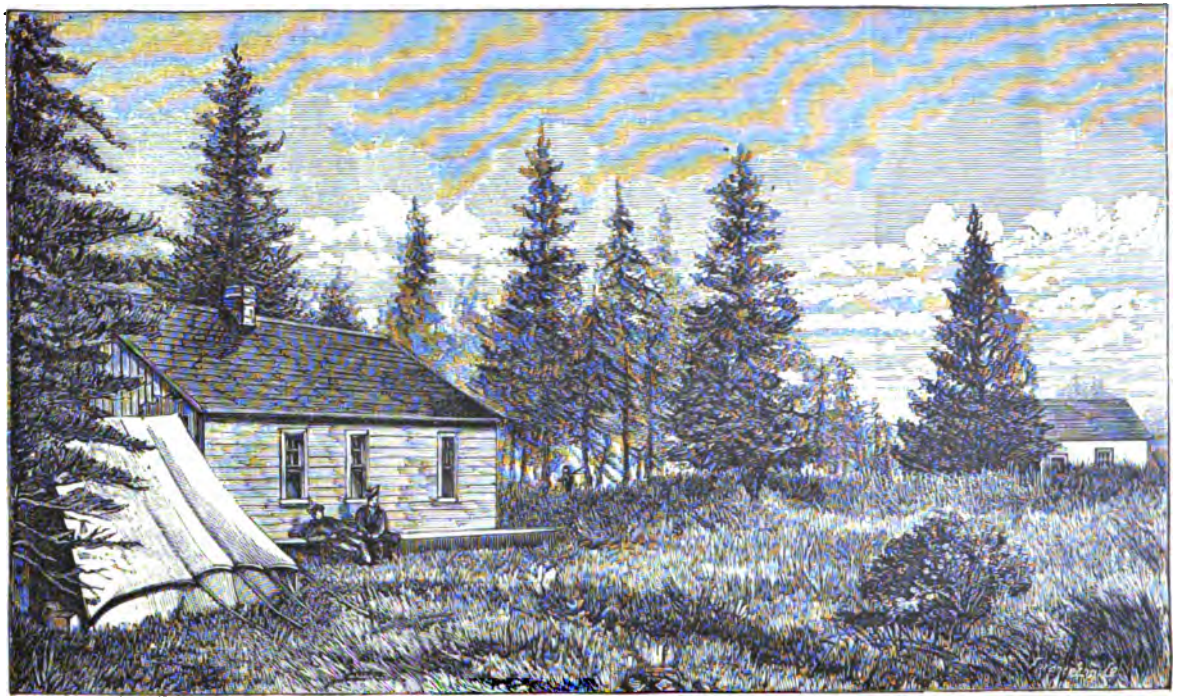
is conducted in the Church of England style, and a goodly number of the worshippers use the service book printed in their own language. After the service they generally spend the remainder of the day (Sunday) in games and foot-races.

From Chemahawin, the traveller enters Cedar Lake, which is remarkable for the scarcity of cedar and the presence of spruce and tamarac. However, the lake at the mouth of the river, with its evergreen islands, presents a picturesque appearance. The shores of the lake are rugged and rocky, but nowhere more than twelve feet in height. The whole country round is still flat and low. It is wooded, but the soil is shallow.

The lake is sometimes very rough, westerly winds prevail, and the water is often lashed into such fury that the steamers cannot cross. The prettiest scenery on the whole Saskatchewan route is in the channel connecting Cedar Lake with Cross Lake. It is equal to the Thousand Islands of the St. Lawrence, and much the same. At the head of Cross Lake are the Demi-Charge Rapids, so named from the fact that York boats, in being towed through them, carry only half of a cargo. Adjoining the rapids is Calico Island, so called because the first steamer plying on the river, the Saskatchewan, that attempted to ascend the rapids, was sunk, and thousands of yards of calico were hung up on the island to dry.

Cross Lake is about four miles wide, has many deep bays and some beautiful islands. From the east side of Cross Lake the Saskatchewan River resumes its course, with an increased current, passes over the Cross Lake Rapids, then the Roche Rouge Rapids, and finally over the roaring Grand Rapids, over three miles long, into Lake Winnipeg.

A little above the head of Grand Rapids is the west end of the "pioneer railway," or tramway, over which freights are transported from steamers on Lake Winnipeg to steamers on the Saskatchewan, and which ascend the river from the head of the rapids to Edmonton, on the North Branch. The limestone formation of the banks of the river along the rapids rises twenty feet almost vertically. At the west end of the rapids, on the north side of the river, the steamboat company's offices are located. The Hudson's Bay Company also



HUDSON'S BAY COMPANY'S POST, GRAND RAPIDS.

maintain a small office at the same place, but the trading post of that Company is located at the foot of the rapids on the same side of the river. This post is called Grand Rapids. There is a scattered Indian settlement in the neighbourhood, and about two miles from the post, on the south side of the river, there is another, with a Church of England mission. Our illustrations are of the post and landing, at the foot of the rapids.

The river here is three quarters of a mile wide, with a strong current. There is a good harbour opposite the Company's Post. The river and lake, which it joins here, are well filled with whitefish which the Indians employ themselves in catching, and upon which, for the most part, they subsist. From Grand Rapids across the northern portion of the lake to the head of the Nelson River, the distance is about ninety miles for a steamer ; for a canoe, to coast round the north-western shore, it is nearly two hundred and fifty miles. At Warren's Landing, at the beginning of the Nelson, the Hudson's Bay Company have large warehouses where goods are landed and shipped from and to the posts of that Company. These are located on the west side of the river. Here the country is low, flat and rocky, with considerable timber of spruce, tamarac and birch. From Warren's Landing to Norway House the distance is but twenty-three and a half miles; but we shall speak of the Nelson River and its outposts anon.

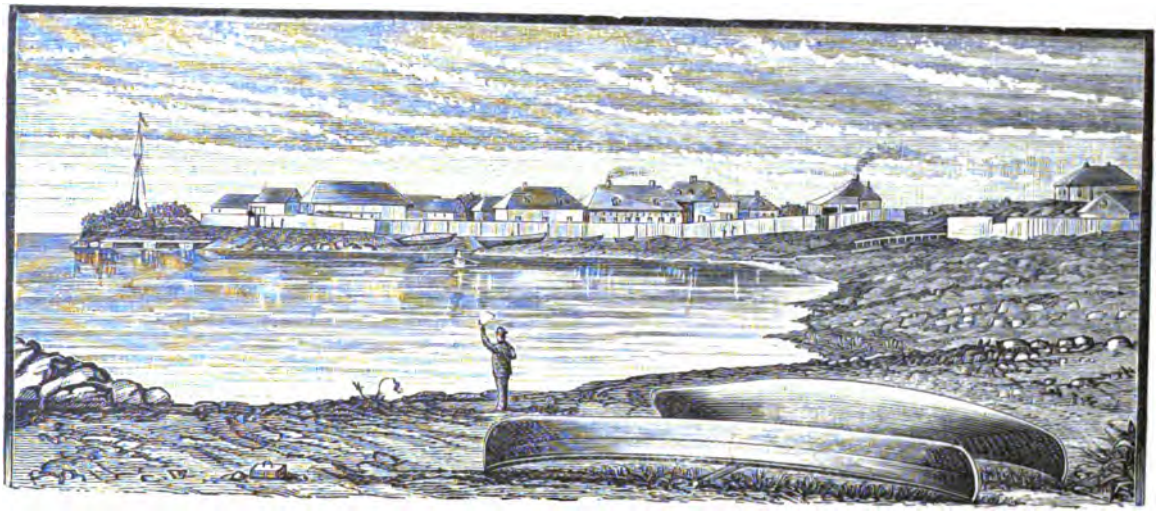
CHAPTER XXXVII.

From Lake Winnipeg to Hudson's Bay.

THE NELSON RIVER ROUTE—THE DASHING RAPIDS OF THE NELSON —NORWAY HOUSE—THE LAKES AND ISLANDS OF THE RIVER— THE TIMBER—THE MOUTH OF THE NELSON AS A HARBOUR— CHARACTERISTICS OF THE COUNTRY.

THE outlet of Lake Winnipeg—the head of the Nelson River —is situated about fifty miles south-eastward from the northern extremity of the lake. The distance from that point to York Factory on Hudson's Bay, *via* the Nelson, is four hundred and thirty miles. The Nelson is fairly entitled to be classed among the great rivers of the world. It drains a vast area of country, most of which is of great value. No wonder the waters of this stream go by many names, as it does not retain its river characteristics for any great distance in any portion of it. In fact, one half of it is lakes and islands, and these have each their names.

From Lake Winnipeg the river commences, about one mile in width, and after flowing less than four miles it expands into Great Playgreen Lake, the main body of which is about four miles in length. It is separated from Lake Winnipeg by a level peninsula of clay and sand called Mossy Point. A former post of the Hudson's Bay Company, called Norway House, once stood on this point; but it has long since disappeared, and the site is now overgrown with trees. Great Playgreen Lake is full of rocky islands. The Nelson leaves this lake by two channels which unite again in Cross Lake, forming Ross Island, which is between fifty and sixty miles long. Both channels are filled with islands—the eastern so much so that one cannot make his way without a guide. This eastern branch



NORWAY HOUSE.

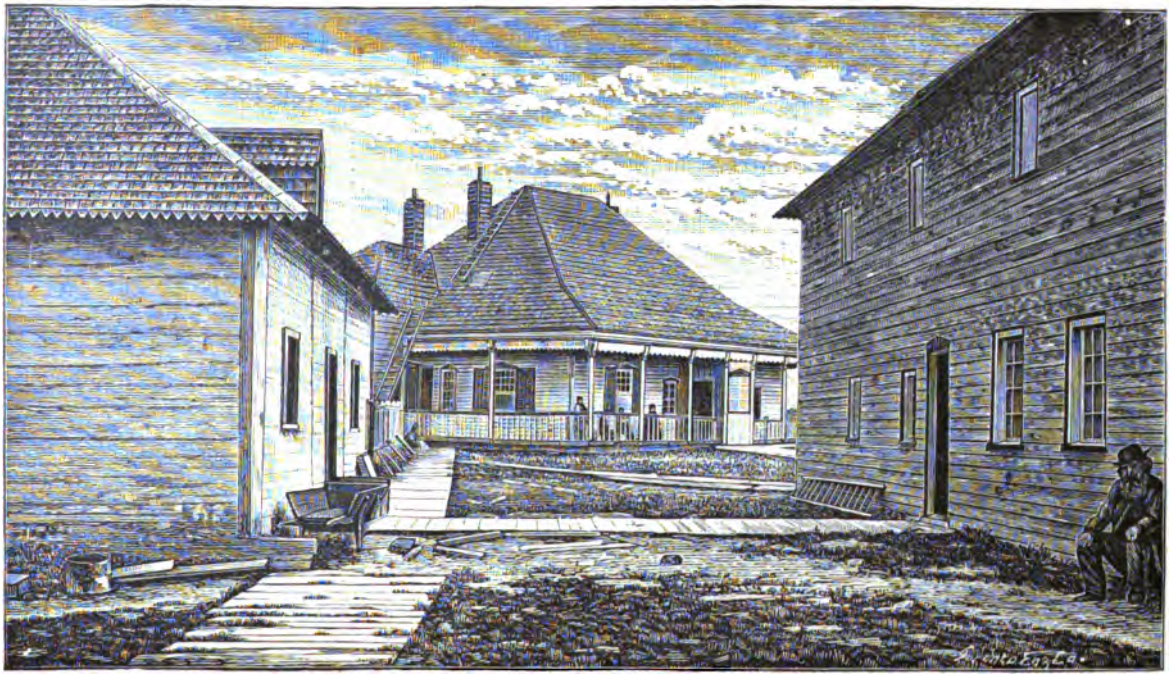
unites its many channels in Little Playgreen Lake, and the Norway House of to-day—once one of the most important Hudson's Bay posts in America—is situated on the south shore of this lake where one of these channels runs into it. The distance from Warren's Landing to Norway House is twenty-three and a-half miles.

It will assist the reader to look over the following table of distances on the Nelson River route before reading an account of the journey.:—

Lake Winnipeg to	Norway House	23½	miles.
"	Sea Falls	43⅜	"
"	Pipestone Lake	71	"
"	Cross Lake (H. B. P.)	83¼	"
"	Ebb-and-Flow Rapids	91⅞	"
"	White Mud Falls	96½	"
"	Forks, Duck Lake	106½	"
"	Red Rock Rapids	114¼	"
"	Lake Sepewisk	122½	"
"	Nelson River (proper)	154¾	"
"	Grand Rapids	225⅞	"
"	Split Lake	232¼	"
"	H. B. Post, Split Lake	246½	"
"	End of Split Lake	256½	"
"	Gull Lake	275⅜	"
"	Gull Rapids	285⅜	"
"	Last Limestone Rapids	354¼	"
"	Beacon Point, Hudson's Bay	429½	"

The commercial importance of Norway House has in a great measure departed. Previous to the opening of communication between Manitoba and the eastern Provinces of Canada, all the importations into the interior and exports from it by the Hudson's Bay Company were transported by way of Norway House; but for a number of years back this has not been the case, and the post has greatly fallen into disuse. At this place one meets with old Mr. Hector Morrison, who has been nearly sixty years in the Company's service, and who accompanied Sir John Richardson and Dr. Rae in their arctic expeditions.

There are something over twenty buildings belonging to the



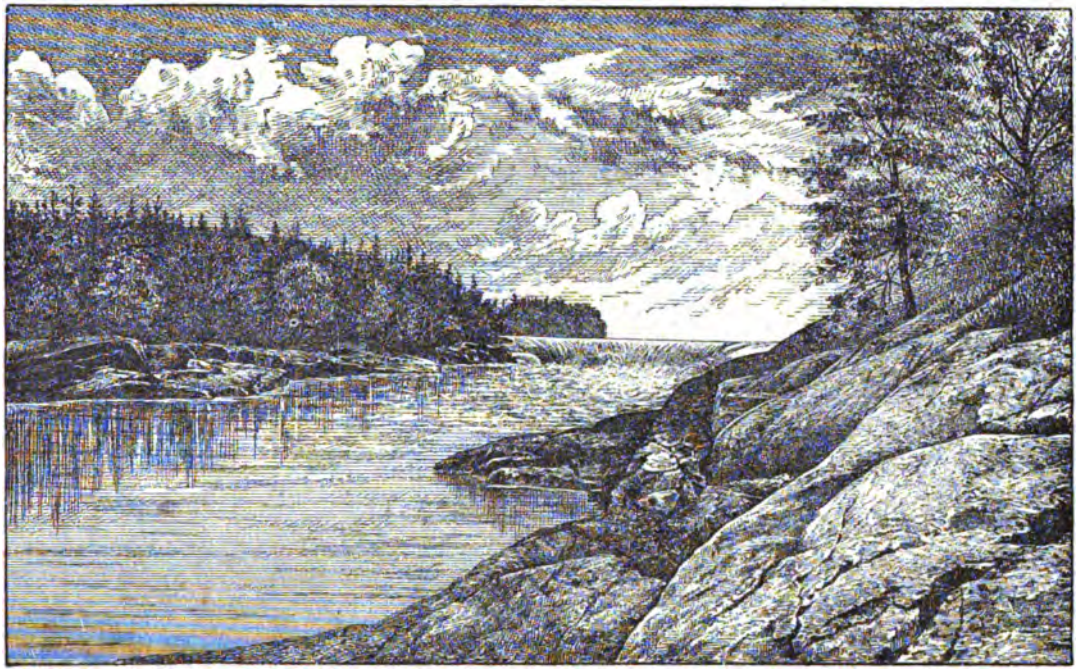
INSIDE OF STOCKADE, NORWAY HOUSE.

post within the palisade, and outside of it are a few huts and wigwams of the Indians; but the chief Indian settlement of the place is on the east side of the river. It is called Rossville. Here a flourishing Methodist mission is located, which has been very instrumental not only in Christianizing the natives, but in educating them to read and write in their own language. There is much of interest at Norway. One could write half a volume on such features as the now deserted "judges' room" and the old jail. Sir George Simpson, the founder of the Hudson's Bay Company's system of business, had a house at Norway.

The country adjoining is low and rocky, without much depth of soil. However, vegetables and potatoes are grown successfully. The woods consist of spruce and poplar, and a few birch and pitch pine, and willows. The timber is not large, the best of it in the immediate neighbourhood not being over ten inches in diameter. Much of the forest has been destroyed by fire, and fires are doing considerable damage almost every season. Until Pipestone Lake is reached the rock formation is granitic. Just before entering the lake there is an outcrop of talcose schist, the pipestone of the Indian.

The shores around Pipestone Lake are low and marshy, and continue so to Cross Lake. Both these lakes are full of islands. The latter extends about eighty miles from the river. Soon after leaving Cross Lake the first strong rapid is encountered, viz., the Ebb-and-Flow Rapids. There are two chutes, three and six feet, followed by a general rapid, rendering a portage of about a quarter of a mile necessary. A few miles beyond are the White Mud Falls —a fall of about twenty feet, through a narrow channel between granite walls over forty feet high and almost vertical. Not far below the banks are of white boulder clay. Here the eddies are very strong and dangerous. The water is turbulent, and, in places, covered with froth more than a foot thick.

The forest in the vicinity of White Mud Falls is much better than at Norway. The spruce is from twelve to fifteen inches in diameter, and the balsam is also of good size. Below each rapid the channel expands, and is divided and broken by many islands.



WHITE MUD FALLS, NELSON RIVER.

It becomes narrower as soon as another rapid is approached. The entire length of the river is a series of lakes and channels with rapids, making frequent portages necessary. Not long after leaving White Mud Falls, Bladder Rapids have to be avoided by a portage of twenty chains. Then the Forks are reached, where a part of the river flows off toward Duck Lake. A short distance below these forks another portage has to be made to overcome the Paskitotowwiniga Rapids. Scarcely are these left behind when another one is to be crossed, which is immediately followed by Red Rock Rapids, where two portages are made. A few miles below this are the Rock Rapids, where five rocky islands lie obliquely across the stream. The water dashes and foams between them furiously. The trap formation here is very peculiar. The cleavage is both vertical and horizontal, presenting the appearance of a stone wall.

From Cross Lake to Lake Sepewisk, one is always within ear-shot of a rapid. The country is low, level and rocky from Lake Winnipeg to Lake Sepewisk; but at the head of the latter it becomes slightly undulating. This lake is but a river of many channels, and is very picturesque. It is full of rocky islands covered with a garmenting of evergreen. After leaving it we have, for the first time since leaving Lake Winnipeg, all the waters of the Nelson connected into one channel. The stream here is but twenty chains in length, is very deep, with a strong current. From the head of this channel the country on each side rises. Of land there is practically none. It is the rock of ages; yet the whole surface is wooded principally with spruce, with some tamarac, pitch-pine, birch and poplar. The spruce will average from eight to ten inches. Not far down the channel Devil's Creek discharges its waters into the river, through a cañon, and, owing to its dismal appearance, the Indians have a superstition that it is the dwelling-place of the evil spirit, and will not venture near it. Here the scenery is fine. The water tumbles, and lashes, and foams among the small rocky islands. Devil's Creek is but passed when the White Waterfalls of the Otter River—where the latter joins the Nelson—send the spray far into the air, and give life and strength to the situation. Not far below White Water River discharges the waters of White Water Lake, a

favourite hunting-ground of the Indians, into the Nelson. Farther down, at the Devil's Rapids, the river contracts to a width of but six chains, and, in consequence, the current is very strong. It is dangerous in the extreme to venture upon it in a canoe.

Shortly before reaching Grand Rapids a magnificent stretch of water meets one's view. Here a large river, ten chains wide, discharges its waters into the Nelson from the east, and a little way above Goose Hunting River comes into it from the west, bringing with it the waters of Stinking Lake. At Grand Rapids the river turns abruptly and flows round a point, with a dashing, foaming torrent. At the lower chute the river is not more than four chains wide, and the scene is magnificent. The waters dash and leap madly along, with a strength that seems to make the great rocks tremble. It seems almost incredible that the waters of the Winnipeg, and Red, North and South Saskatchewan Rivers, each far wider than this part of the Nelson, could be forced through such a narrow passage; but what is lacking in width is replaced by depth and velocity. After rounding the point, Grass River, about five chains wide, flows into the Nelson. A few miles beyond is the Chain of Islands Rapids, where, of course, another portage has to be made. Not far below this another rapid is run, and the traveller is in Split Lake, after having portaged fifteen rapids and run many more.

At this point the traveller, should he wish, may turn up Burnt Wood River, a very large stream leading to the westward toward Nelson House, a Hudson's Bay Post, located on one of the series of lakes constituting, at that place, the Churchill River.

The spruce is now growing smaller. It is not more than six inches in diameter. The lower limbs are dead and covered with moss, leaving only the green top. Tamarac, which generally grows in swamps, is found here in rocky places. On the hill sides the moss is knee deep, and especially beautiful is the white caribou moss. Split Lake is about thirty miles long and six wide. It is full of islands and bordered by deep bays. Its name is derived from the fact that a chain of islands split it. The principal river flowing into it, aside from the Nelson, is the Burnt Wood. There is a Hudson's Bay post on the north shore about midway of the lake. At

SCENE ON THE NELSON RIVER.

this point you may enter Fox River, thence the Little Churchill, *en route* for Churchill. This has been but a winter post up to the present time, but has been recently established as a permanent trading-post. There are but two buildings—log shanties. The Indians seldom descend the Nelson below Split Lake for any purpose, as its waters become more and more dangerous.

For a short distance after leaving Split Lake the Nelson has a uniform width, but it soon expands and has deep bays. Wherever it becomes narrow, there rapids will be found, some large and others small. Directly Gull Lake is reached, which is a part of the rive ten miles long and about one mile wide, black bears become so numerous in the neighbourhood that one can depend upon meeting with them at almost every turn. This lake ends where Gull Rapids begin. Here the river is divided into several channels by islands, and the rapids are simply immense. They are about four miles long. In the main channel there are no falls. It is a continuous chute over ledges and rocks. By taking the north or smaller channel, these rapids are overcome by six portages. At the foot, one, in looking back, may behold a long thundering gorge of white froth—a spectacle of great beauty.

From this point to the mouth of the river there is no travel by Indians or whites on account of the extreme dangers to be met with: the current foams and lashes, and the eddies rush backward with such force that the rocks against which they dash tremble from the force. Where Kettle Rapids are reached, the Kettle River falls into the Nelson with a fall of over six feet. Below this are Long Spruce Rapids—a field of rocks extending for miles. Far below are the Limestone Rapids, where the granite disappears altogether, and where from the north a river of the same name, some five chains wide, flows into the Nelson. This river rises in Limestone Lake, where the Hudson's Bay Company procure annually a supply of whitefish for use at York Factory. The last of the Limestone Rapids is long and flat, and is the last of the rapids on the Nelson. Fixed limestone extends on the Nelson from the foot of the Long Spruce Rapids to the foot of the Limestone Rapids, some twenty-seven miles. It is poor in fossils, and presents no interesting features.

From Limestone Rapids the current is swift and strong. The channel is never less than three-quarters of a mile wide, and numerous limestone reefs are met with. Here one may descend, with but little paddling, at the rate of ten miles an hour. The banks are of a whitish clay with but little sand, and farther down the reefs disappear. There are islands in the river, and fifty or sixty feet of water. Still farther down Seal Island is reached—twenty-five miles from Hudson's Bay—where the water becomes shallower and the river wider. There is a dangerous reef extending from Seal Island to the south shore, which is the head of tide-water to Hudson's Bay. Here Seal River, about one chain wide, comes in from the south. Flamboro' Head, a point on the north shore several miles below Seal Island, is in sight of the inter-ocean. Here the ice freezes nearly eight feet thick. It does not take over the river till Christmas, but never forms down nearer than ten miles of the Bay in mid-channel—all being open water beyond that throughout the year, except close along the shore.

Approaching Hudson's Bay we have Beacon Point on our right—the narrow neck of land between the Nelson and Hayes Rivers—projecting into the sea. This point is low and swampy, but there is a nice gravel ridge on the west side. After rounding the point and entering the Hayes River the land begins to rise, until from high-water mark it is thirty feet high at York Factory. Some five miles above the point Nelson River is not navigable—not even for canoes—except with many portages ; nor is there at its mouth a natural harbour, such as we met with at the mouth of the Churchill. However, Mr. Klotz is of opinion that a fair harbour can be formed on the north bank of the Nelson, where, by expensive improvements, a convenient anchorage can be made. The water at the mouth of the river is very shallow in every direction, and I do not think that a successful harbour can be maintained anywhere in the neighbourhood.

The shallowness of the water and the low monotonous character of the shores everywhere in this vicinity render it difficult to draw a definite line between land and water. Extensive shoals stretch for miles out from the extremity of Beacon Point and from the shores to the north and south of the estuaries of the two rivers.

NELSON RIVER—MISSINAIBI RIVER.

Owing to these circumstances, the outline between the land and water is widely different at high and low tide. The difficulty of mapping the shore accurately is increased by the fact that the sea is receding at an appreciable rate, and also from the circumstance that the tides are of very irregular height, owing to the shallowness of the water for long distances in all directions, and the great effect which the winds consequently have in increasing or diminishing the rise and fall.

The mouth of the Nelson River at high tide has a breadth of six or seven miles opposite the extremity of Beacon Point, but it contracts rapidly, having a trumpet-like outline, and for the first ten miles up, the width is from three to four miles. It continues to narrow gradually to Seal Island at the head of tide-water, or twenty-four miles from the extremity of Beacon Point (at high tide), where it is only one mile and a half broad. Above this, it varies from half a mile to a mile and a half.

When the tide is out the greater part of the space between the banks in the estuary of the river is dry, and consists of a dreary stretch of mud-flats dotted with boulders, constituting a continuation of the shoals farther out. A narrow channel, with a somewhat irregular depth of water, winds down the centre of the estuary. From soundings it appears to have an average depth of from two to three fathoms at low tide, from a point abreast of Beacon Point, for about twenty miles up. At the mouth of the river the ordinary spring tides amount to about twelve feet, and the neap tides to about six feet, so that, at high tide, from three to five fathoms may be found throughout the above distance.

The shallowest part of the river is abreast of Gillam's and Seal Islands, or just where the tide ends and the proper channel of the river begins. Here the water is only about ten feet deep. But from this point upward, the average depth of the centre of the river was found to be twenty feet, and sometimes over sixty feet.

Such is a brief account of a trip from Lake Winnipeg to Hudson's Bay by way of the Nelson, There is another route which leaves the Nelson not far below Norway House, called the "Hayes River route." This is the one usually travelled by the Hudson's Bay

people. It consists of a series of lakes, and streams lying to the south of the Nelson, and is a much shorter line of travel.

Lake Winnipeg has been ascertained to be seven hundred and ten feet above the sea. Notwithstanding this considerable amount of fall in going from Norway House to York Factory, the difficulties of boat navigation in descending are not great, but are more serious in returning. In the downward journey it is necessary to haul the boat over dry ground only three times: namely, at the water-shed of the Echimamish, the Robinson Portage and the Trout Fall. These portages measure twenty-eight, one thousand three hundred and fifteen, and twenty-four yards respectively. All the other rapids are run by York boats, and mostly with a full cargo; but at some of them, more or less of the load requires to be carried past by land. In the upward journey there are in all about twenty demi-charges, or hauling places; and in addition to the three complete portages which require to be made in going down, there is a fourth, the Island Portage, about forty yards in length.

The boat-route leaves the east channel of the Nelson River twenty-five miles below Norway House, and turns up a small, swampy and marshy stream called Echimamish. In the interval the river is full of islands, and would average about a mile in width, including them. The shores are rather low, but not often swampy. The banks consist of a light-coloured clay with gneiss frequently appearing underneath it, and forming the points and smaller islands. The timber consists of spruce, tamarac, Banksian pine, white birch, aspen, balm of Gilead and willows, with a little balsam fir.

A chute with a descent of about four feet, called Sea-river Fall, occurs in the east channel at seventeen miles below Norway House, or thirty-seven from Lake Winnipeg. Loaded boats run down this chute, but it is necessary to unload and track them up the current.

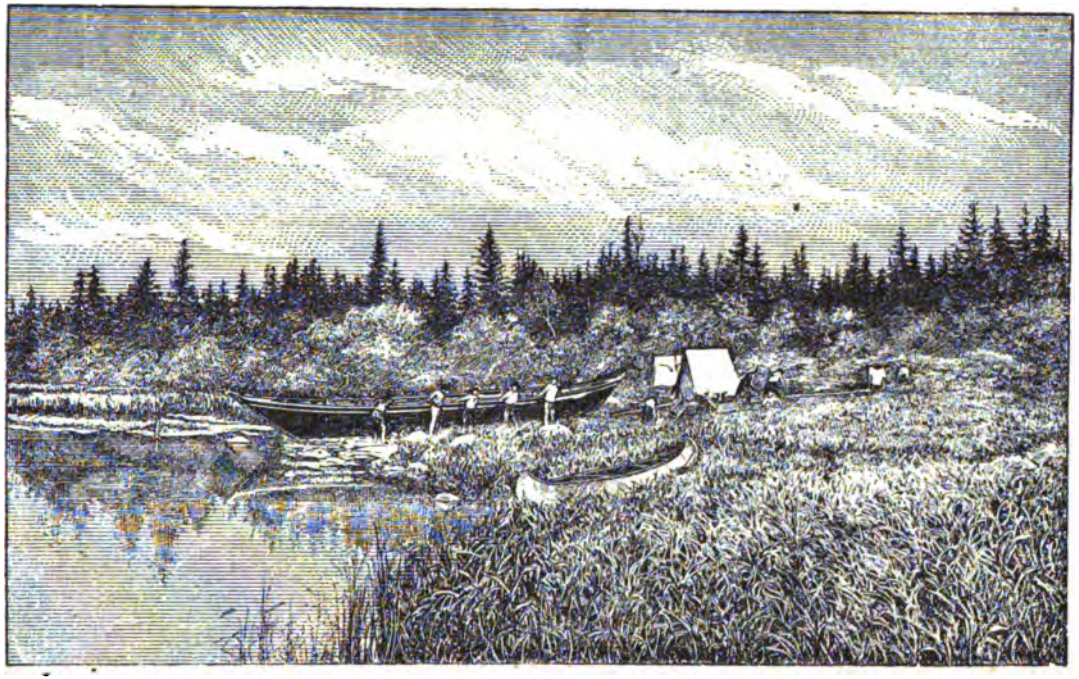
The Cree word "Echimamish" signifies a channel in which the water flows each way. Its course is eastward; and, at twenty-eight miles in a straight line from the east channel, we come to an abrupt termination of the western part, at a low rock called the Painted Stone, twenty-eight yards in width, which forms the watershed of the channel. Hairy Lake and two dams, with a rise of about

one foot at each, are passed in the above interval. The boats are unloaded and hauled over the little watershed, and launched into what is regarded as a continuation of the same channel. The White Water River, which discharges Little Lake Winnipeg, joins the eastern Echimamish on the south side, at seven miles from the watershed. From this point to Oxford Lake the stream is called Franklin's River, after the late Sir John Franklin, who had a narrow escape from drowning in it near the White Water, in 1819.*

Around Rainy Lake, and on either side of the valley of the Echimamish, low domes of rock occur occasionally near the route, and ridges which appear to rise to a height of seventy or eighty feet are seen in some places at a distance of two or three miles back. The Echimamish cuts off a small border along the southern edge of the Huronian trough, which will be described further on; but from the confluence of the White Water, gneiss was the only rock observed along Franklin's River all the way to Oxford Lake. Franklin's River flows successively through Robinson's, Pine and Windy Lakes. Robinson Portage, the most formidable one on the whole route, occurs at the foot of the lake of the same name. The carrying-trail, which is as wide and smooth as a good waggon road, passes over the light grey clay soil which prevails everywhere in this part of the country.

A swampy lake, without any name, extends for some miles eastward from the foot of Robinson Portage. Seven miles below this portage the river enters a narrow and nearly straight ravine, with walls of gneiss from thirty to seventy feet high, through which it flows for a distance of seven miles to Pine Lake, two rapids occurring in the interval. The south side of Pine Lake is bordered by small hills; but to the north-eastward a low tract extends all the way to Windy Lake, around which the country has a slightly undulating aspect. From this lake the river runs north-west, or at right angles to its usual course, and at the end of Four Miles Falls into the head of a marsh on the level of Oxford Lake. Here there is a chute called Wapinaipinis, or the Angling Place, with a descent

* Dr. Bell's Report.



THE ROBINSON PORTAGE.

of about six feet. The marsh referred to opens by a narrow strait into the south-western arm of Oxford Lake.

Oxford Lake runs north-east and south-west; and has a length of about thirty miles, with a maximum breadth of eight or nine miles. It contains many islands, and is much subdivided by long points. With the exception of the south-western arm, it is situated entirely within the Huronian trough, and the rocks around it may be described in connection with this basin. Oxford House, a post of the Hudson's Bay Company, is situated on a rising peninsula formed of light grey clay, at the north-eastern extremity of the lake. This lake is also called Holey Lake, or, more properly, Deep-Hole Lake, from a small conical hole on the north side, one mile west of Oxford House, which, according to the Indian belief, has no bottom, but is in reality only sixty feet deep. The extension of the lake beyond Oxford House is called Back Lake.*

From Back Lake the water passes by Trout River, which runs south-east to the head of Knee Lake; the distance, in a straight line, being eleven miles.

Knee Lake has a total length of forty miles. It consists of two principal expansions, each running north-east and south-west, connected together about midway between the inlet and outlet by a narrower portion, about nine miles in length, running north and south. The lower part is the widest, and has a maximum breadth of about six miles. The whole lake is studded with islands, but they are particularly numerous in the central part, which is a closely-crowded archipelago. A few small hills are seen at the head of the lake and at some other localities near its shores, but, with these exceptions, the country presents all around a low and horizontal outline. The soil consists principally of light grey clay and brown gravelly loam, but near the lake, on the north-west side of the lower expansion, much of it is sandy. The timber on this shore has been burnt within a recent period, but elsewhere it is green and of vigorous growth. Wolverine River, which forms part of the canoe-route to God's Lake, enters the north-eastern extremity of the upper expansion.

* Dr. Bell's Report.

Knee Lake discharges at its north-east extremity by Jack River into Swampy Lake. Jack River runs north-eastward, and has a length of ten miles in a straight line. It has a considerable descent in the lower half of its course, the rapids being over ledges of Laurentian gneiss and mica-schist, or boulders of the same rocks.

Swampy Lake is a narrow strip of water ten miles long, and has the same north-east course as the river above and below it. Its name is derived from a point composed of peat on the north-west side, about half way down. The surrounding country is low, but not apparently swampy. Around the upper part of the lake the rocks consist of dark-coloured mica-schist, with veins and masses of coarse granite. This is the last lake on the route.

From Swampy Lake to York Factory the river curves regularly round from a north-easterly to a nearly northerly course. It is called Hill River as far as the junction of Fox's River, when it becomes the Steel River to its confluence with the Shamattawa, from which the united stream, all the way to the sea, is called Hayes' River.

Leaving Swampy Lake, Hill River, for nineteen miles, flows through a labyrinth of small islands. Although the banks are low, there is a very considerable and tolerably regular descent in this distance, the river being broken by a great number of rapids, all of which, however, may be run by boats. The bed of the river, and the innumerable small islands, are mostly formed of angular blocks and fragments of gneiss. At the end of the stretch, so full of islands, clay banks first make their appearance on both sides, and continue all the way to the sea. Brassy Hill, or The Hill, from which the river derives its name, and which is the only hill known to exist in the whole region, is a remarkable isolated mound of gravelly earth three hundred and ninety-two feet in height. Its summit lies three-quarters of a mile east from the river, and four or five miles beyond the lower termination of the labyrinth of islands.

The clay banks are about thirty feet high where they begin, but in descending the stream they increase, by degrees, to one hundred feet in the neighbourhood of the rock, and then gradually diminish to sixty

feet at Fox's River. An average section of these banks in the interval consists of fifty feet of hard, bluish or yellowish-grey drift clay in which the pebbles are not conspicuous as components, and boulders are rare, overlaid by twenty or thirty feet of stratified bluish clay with occasional boulders. In the last nine miles before reaching Fox's River, Hill River winds, with great regularity of distance from bend to bend, between banks about eighty feet high, and three-quarters of a mile apart. They consist of forty to fifty feet of drift at the base, and twenty to thirty feet of stratified bluish clay, or the same thickness of yellowish-brown gravelly earth at the top, with occasionally a bed of gravel between them.*

From Brassy Hill to Fox River few islands occur in the river, which has an average width of only about two chains. Several rapids and chutes, over ledges of gneiss underlying the clay, occur in the first thirteen miles below Brassy Hill. The last one, at the end of the above distance, is one hundred and nine miles above York Factory. The character of the river changes at The Rock; and from that point downward no more rapids occur all the way to the sea. The stream is shallow at low water, and runs with a swift current to the head of tide-water, about nine miles above York Factory.

* Dr. Bell's Report.

CHAPTER XXXVIII.

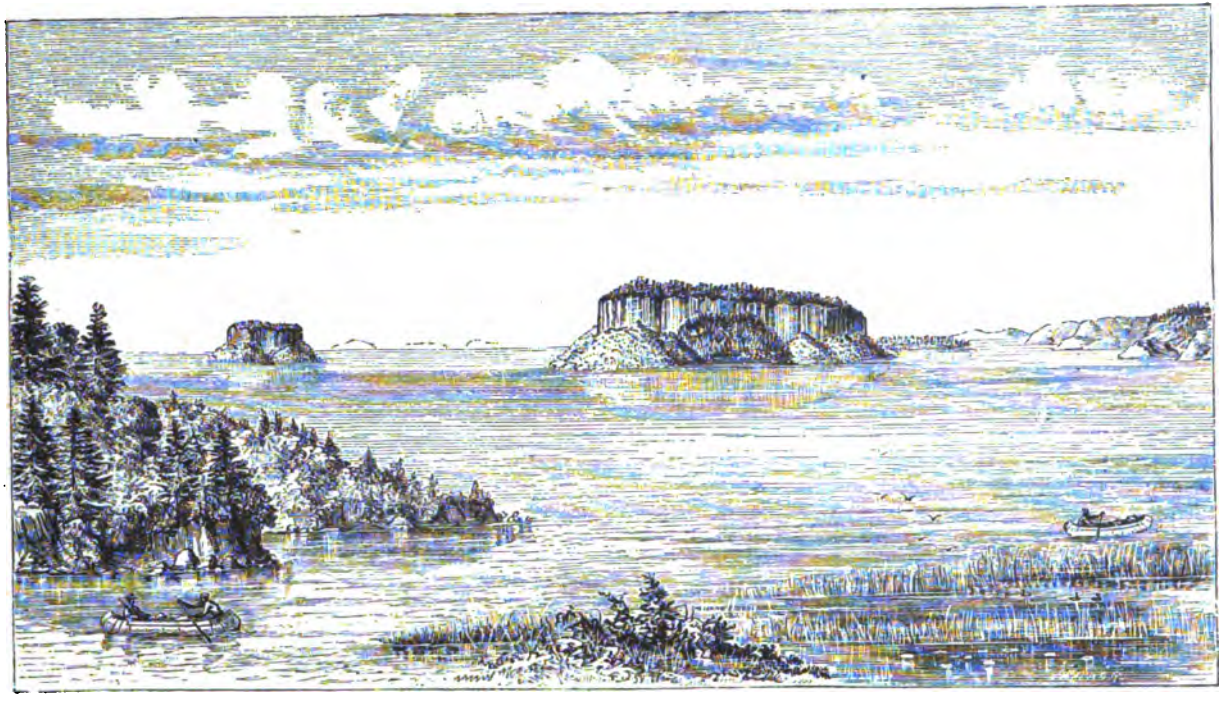
Dr. Bell's Hudson's Bay Explorations.

THE EAST MAIN COAST OF HUDSON'S BAY—VAST TRACT OF AGRICULTURAL LANDS LYING BETWEEN THE GREAT LAKES AND JAMES'S BAY—THE CLIMATE OF THAT COUNTRY—MINERALS OF THE EAST MAIN COAST—GENERAL FEATURES OF THE COUNTRY—TIMBER, ETC.

PREVIOUS chapters contain an account of the principal points on the west coast of Hudson's Bay. It is the purpose of this chapter to give a brief description of the east main coast; and, in doing so, I will rely chiefly upon the records of the expedition of Dr. Bell in 1877, in connection with the Geological Survey. His party made the journey to James's Bay, leaving Michipicoten, on Lake Superior, on the 11th of June, and, taking the ordinary canoe route, which is four hundred miles to Moose Factory, the distance occupied them just nineteen days. "Our loads," says Dr. Bell, "which amounted to between six thousand to seven thousand pounds, and the four canoes to about one thousand five hundred more, required to be carried on the men's backs twenty-seven times past falls, chutes and the height of land, and the whole or the greater part of the load upwards of a dozen times more, making in all some forty portages or 'demi-charges.' No accident of any consequence occurred on the trip, and the whole of our supplies were delivered at Moose in perfect condition."

At Moose Factory, through the courtesy of Mr. S. K. Parson, the gentleman in charge of the Hudson's Bay trading post there, Dr. Bell obtained the use of a schooner's jolly-boat for the journey of exploration along the east main coast of the Bay. His crew consisted of four voyageurs from Lake Superior, and one assistant.

Two Indian guides, belonging to the country, were tried in



THE "BARNS," LAKE NIPEGON.

succession, each for a short time, but as they proved to be worse than useless, they were obliged to depend entirely upon themselves, both in going and returning; and, having taken unceasing care to provide against every contingency, they met with no mishap whatever during the whole of the round trip.

Starting from Moose Factory on the 7th of July, they worked northward till the 24th of August, when they turned to come south again. They reached the south-eastern extremity of Portland Promontory, the most conspicuous point or headland on the east coast of Hudson's Bay, and which Dr. Bell named Cape Dufferin, in honour of the then Governor-General of the Dominion. This cape is situated at about six hundred miles from Moose Factory, or nearly two-thirds of the distance from that place to Hudson Strait. While going northward, as they followed the coast closely the whole way from Rupert's House, their track was probably upwards of eight hundred miles in length.

Cape Jones, in about latitude 55° north, is directly opposite Cape Henrietta Maria, and is the point at which one passes from James's Bay into Hudson's Bay proper. From that point northward the country becomes more interesting, and for a distance of three hundred miles to Cape Dufferin, as far as the coast has been explored, there are many curious and interesting features. Dr. Bell says that in this journey the distances were ascertained by Walker's patent ship log, the rate of speed of the boat, estimations of short distances by the eye, rough triangulation, and by observations for latitude, while the bearings were taken by compass, the variation of which was determined by numerous observations of the pole-star.

The soil and general characteristics of the country between Lake Superior and James's Bay are more interesting than one would suppose. That section is generally thought to be entirely barren. It is true that from Michipicoten to Missinaibi Lake the country is more or less rocky, yet even in this section the proportion of rock surface to the whole area is not large. However, after passing the "swampy grounds" north of Lake Missinaibi, the traveller cannot fail to be struck by the abundance and general fertility of the soil on every hand. These characteristics extend to Moose Factory.

The soil consists, for the most part, of a brownish, somewhat gravelly, loam or earth, resting upon "till," and frequently upon stratified clays or the solid rock. The latter is never seen, however, except along the river banks where there are rapids or falls. Dr. Bell says: "I examined the country for a mile or two back from the rivers in many places, for the special purpose of ascertaining the nature of the soil, and found it excellent in all cases, but tending to become more swampy in receding from the river in the Devonian region below the Long Portage. Samples of the soil were collected in a few places for subsequent examination. In traversing such a great extent of almost unbroken wilderness, one is apt to forget the possible value of this vast region for agricultural purposes. But the examples of the farms at New Brunswick House and Moose Factory show, upon a small scale, what might be extended over a great part of the country. I have no doubt that at some future time this territory will support a large population."

Thus it will be seen from the most reliable evidence that Canada has a vast stretch of territory situated between the Great Lakes and James's Bay—a tract of land large enough for a separate province—of exceptionally good soil, and well adapted to the pursuits of agriculture. The district in question has a fair seaport for light craft at Moose, by which its future surplus products may be exported to Europe over the waters of Hudson's Bay. The climate of the country is about the same as that of the Province of Manitoba, as will be seen by the following meteorological records:—

MOOSE FACTORY.

Abstract of Observations during the year 1879 at Moose Factory, James's Bay. Latitude, 51° 16′ N.; Longitude, 80° 56′ W.

	TEMPERATURE.									Average amount of cloud.	NO. OF WINDS FROM								Average force of wind.	RAIN.		SNOW.		No. of fogs.	No. of thunder-storms.	No. of auroras.
	7 a.m.	2 p.m.	9 p.m.	Mean.	Mean of highest.	Mean of lowest.	Absolutely highest.	Absolutely lowest.	Greatest range in 24 hours.		N.	N.-E.	E.	S.-E.	S.	S.-W.	W.	N.-W.	Calm.		Amount of	Days of	Amount of	Days of			
	°	°	°	°	°	°	°	°	°												in.		in.				
January	-7·63	0·23	-4·15	-3·92	5·04	-14·32	24·0	-40·3	38·1	6·1	20	1	1	3	7	24	18	14	5	2·2	.....	.....	9·6	16	.....	.....	6
February	-12·70	0·16	-7·17	-6·72	3·69	-17·43	19·1	-41·3	40·6	5·5	8	5	.....	3	4	13	18	19	14	2·2	.....	.....	8·1	10	.....	.....	6
March	8·22	19·35	10·37	12·04	23·31	-2·72	46·3	-33·4	57·5	6·3	10	2	3	6	12	18	13	12	17	2·5	0·60	3	9·8	13	.....	.....	9
April	22·40	29·32	22·53	24·19	30·35	15·77	52·2	-7·0	38·3	6·9	17	16	.....	1	4	5	2	39	6	2·7	1·00	5	15·8	12	1	1	4
May	39·06	45·01	37·87	39·95	49·61	29·70	73·3	22·5	40·5	6·7	24	22	3	1	4	13	7	15	4	2·7	2·08	7	2·0	5	2	.....	3
June	48·28	56·86	47·91	50·24	57·81	38·80	81·7	27·3	44·3	6·8	18	22	5	7	1	13	3	14	7	2·3	3·47	16	5·0	3	5	2	2
July	59·84	65·81	57·69	60·26	70·56	48·92	84·8	35·7	35·0	5·6	13	15	4	5	12	20	9	7	8	2·2	5·42	18	.....	.....	2	.....	1
August	56·28	63·39	55·72	57·78	66·51	49·58	82·8	38·1	29·0	6·4	16	25	4	3	8	7	10	12	8	2·3	2·60	13	.....	.....	4	3	7
September	45·98	53·82	48·00	48·95	56·43	41·94	70·1	27·6	24·2	7·3	8	7	2	7	13	19	19	11	4	2·6	4·20	17	.....	.....	2	.....	8
October	42·23	49·40	44·47	45·14	54·29	37·72	81·8	17·3	38·3	7·4	11	6	5	6	9	25	8	20	3	2·9	2·25	12	2·0	6	.....	1	4
November	18·73	23·03	20·71	20·80	26·35	14·89	53·2	-8·0	22·1	8·8	6	3	2	13	13	19	21	19	4	2·9	0·86	4	17·5	14	1	.....	.....
December	-15·53	-6·89	-11·19	-11·20	-1·52	-21·55	35·8	-45·3	48·3	5·2	9	7	3	4	4	20	26	11	9	2·5	0·65	2	15·8	12	.....	.....	3
	25·43	33·29	26·90	28·13	.....	.....	84·8	-45·3	57·5	6·6	160	131	32	49	91	196	154	193	69	2·5	23·13	97	85·6	91	17	7	53

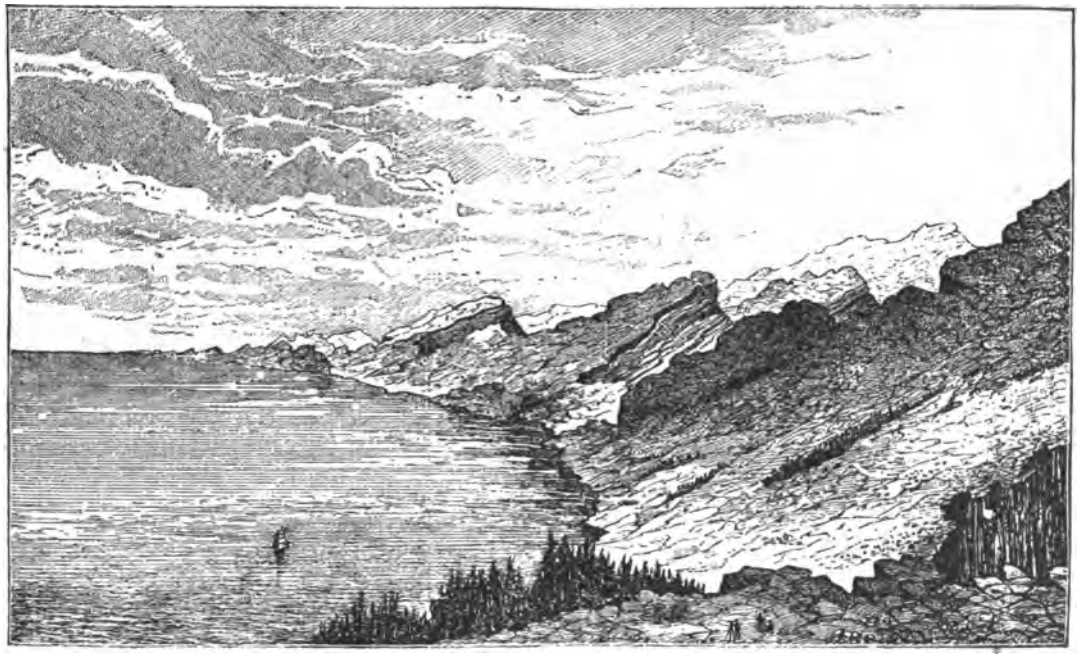
MOOSE FACTORY.

Mean Daily Temperature from Observations at 7 a.m., 2, and 9 p.m., 1880.

——	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.
	°	°	°	°	°	°	°	°	°	°	°	°
1	17·80	-20·93	-8·90	36·73	32·00	39·08	60·45	56·25	.....	.....	.....	.....
2	-8·00	-8·80	-1·13	33·62	30·47	39·25	68·25	53·63	.....	.....	.....	.....
3	5·87	.....	14·38	29·40	24·03	52·27	73·90	58·57	.....	.....	.....	.....
4	9·60	-16·13	-6·62	24·00	22·37	61·07	57·70	50·20	.....	.....	.....	.....
5	5·52	-11·27	-11·25	11·57	29·57	61·13	64·67	52·40	.....	.....	.....	.....
6	12·77	-18·85	-1·55	9·40	26·55	42·47	53·12	47·90	.....	.....	.....	.....
7	0·70	-12·97	-13·80	16·35	34·90	40·00	53·37	56·75	.....	.....	.....	.....
8	16·95	-19·57	-21·30	15·63	46·38	48·02	63·25	60·70	.....	.....	.....	.....
9	21·20	-16·67	-12·27	28·85	44·35	57·20	50·23	54·88	.....	.....	.....	.....
10	-6·05	6·90	-19·83	12·63	45·07	51·83	48·67	55·25	.....	.....	.....	.....
11	9·50	7·15	-13·75	8·62	39·22	42·17	54·50	61·82	.....	.....	.....	.....
12	-16·27	13·05	-12·05	9·13	33·37	38·00	55·25	64·08	.....	.....	.....	.....
13	-15·68	-8·65	0·70	3·73	33·07	46·85	49·53	51·95	.....	.....	.....	.....
14	11·55	-2·73	5·57	8·32	47·43	53·95	58·37	46·90	.....	.....	.....	.....
15	2·63	8·85	9·92	18·42	47·13	58·20	60·90	52·70	.....	.....	.....	.....
16	8·80	-6·23	2·08	21·57	39·95	60·83	58·57	55·08	.....	.....	.....	.....
17	10·50	26·80	2·70	28·63	32·48	73·03	52·20	66·60	.....	.....	.....	.....
18	14·45	-0·68	8·18	43·97	41·75	59·63	52·92	65·60	.....	.....	.....	.....
19	-10·45	-4·67	21·30	42·40	50·30	66·37	53·27	48·92	.....	.....	.....	.....
20	-17·40	10·77	-5·80	23·45	26·83	49·18	52·57	49·72	.....	.....	.....	.....
21	7·25	6·80	18·87	23·37	39·02	51·10	59·93	53·45	.....	.....	.....	.....
22	6·17	8·80	2·35	23·22	47·05	56·78	56·52	57·75	.....	.....	.....	.....
23	-4·50	-22·80	-6·67	29·45	46·08	67·83	62·42	57·25	.....	.....	.....	.....
24	2·10	19·62	-8·80	23·25	57·00	68·60	67·40	47·60	.....	.....	.....	.....
25	15·50	0·50	2·42	33·60	55·53	58·22	58·67	45·78	.....	.....	.....	.....
26	29·40	-4·77	25·47	19·75	38·70	55·07	53·48	55·20	.....	.....	.....	.....
27	8·57	-9·73	12·97	23·67	38·70	69·30	51·27	58·80	.....	.....	.....	.....
28	-13·97	-6·83	13·70	30·17	37·25	58·43	53·28	52·57	.....	.....	.....	.....
29	-18·98	-6·93	8·82	25·20	55·75	55·17	66·90	48·93	.....	.....	.....	.....
30	7·50	.....	14·85	21·13	53·83	65·13	76·75	54·40	.....	.....	.....	.....
31	-16·17	.....	38·43	.....	48·37	.....	77·95	64·65	.....	.....	.....	.....

The great object of Dr. Bell's expedition to the east main coast of Hudson's Bay in 1877, was, of course, to ascertain the nature and geographical distribution of the rock formation in the region explored, and to determine the probability or otherwise of the existence of valuable minerals. But he also made a general topographical survey, and obtained in addition a large amount of information in regard to the soil and general character of the country, the nature of the rivers, coast, the climate, timber and vegetation, fisheries, natural history and botany, as also the natives and other matters of interest. First, then, as to the geology of the coast, of which I shall have but little to say. From Rupert's Bay to Cape Jones, on the east coast of James's Bay, the general rock formation is that of Laurentian gneiss. There is a belt of Huronian schists at Cape Hope and another at the Paint Hills. On the extreme western point of Cape Hope (island), the rock consists of dark grey hornblendic schist, with some lighter and more silicious belts. Most of the schist is divided into small lenticular forms, each surrounded by granular white calcspar, which also occurs in patches and short veins. The rock is cut by numerous straggling veins of mixed calcspar and quartz, intercalated with schist. Some of them are wide, but short. They run in various directions. No metallic ores were obtained in any of them. The Paint Hills occur on a point, with several islands lying off it, at a distance of about thirty-nine miles north of Cape Hope. The most western or outermost hill on the point appears to be the highest. It has an elevation of about one hundred and fifty feet above the sea. Here the rounded rocks are in some places, especially along the north-west side, stained reddish and brownish, and resemble smooth, oxidized surfaces of metallic iron. In some parts they weather to a green colour. On the outermost islands, several miles to the south-eastward of the extremity of the point at the Paint Hills, the rocks consist of fine-grained dark greenish-grey hornblendic schist, with fine-grained silicious portions. Small veins of whitish granite also occur following the stratification.

The outline of the land from Rupert's Bay to Cape Jones is undulating and rather low. The coast is fringed with a great



EAST MAIN COAST OF HUDSON'S BAY.

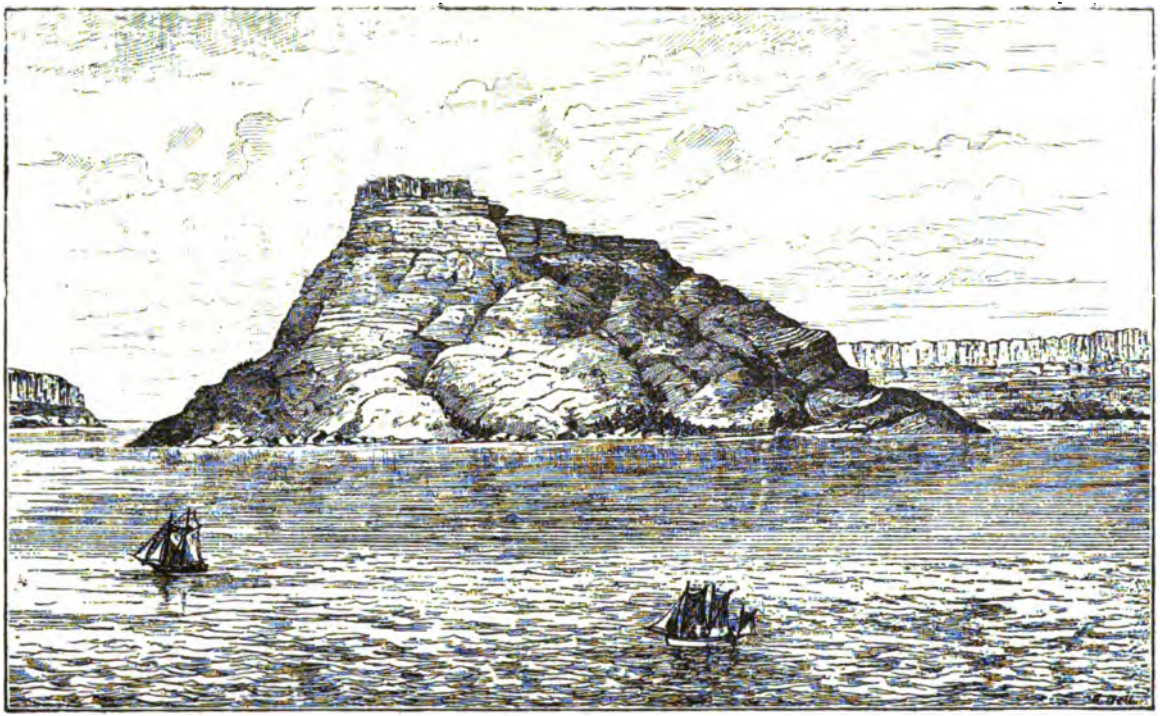
number of islands, with long points and peninsulas of the mainland among them. The water between these islands and points and for some distance out to sea is shallow. The majority of the islands are rather low and composed of boulders and shingle with few or no trees, but the solid rock occurs upon a large proportion of them. No regularity can be detected in the general arrangement of these islands. They present a kind of labyrinth, which it would be very difficult to map with accuracy, and which is not unlike that of the northern shore of Georgian Bay, Lake Huron, except that on the east coast of James's Bay the water is shallower and shows evidence of receding rapidly, and the islands are, as above stated, mostly covered by boulders and shingle.

From the neighbourhood of Cape Jones, all the way to Cape Dufferin, the coast is of a different character, and the rocks are more varied and interesting. The general outline of the land is higher and more uneven, and it rises gradually as we go north all the way to the head of Manitounuck Sound. Here it becomes bold, rugged, and often precipitous.

The islands along this part of the coast run in regular chains, nearly parallel with the shore, of which the principal are the Manitounuck, Nastapoka and Hopewell chains. Long Island, which begins a few miles north-east of Cape Jones, and measures about thirty miles from one extremity to the other, also lies parallel to the shore.

The gaps through which Little Whale River and other streams find their way to the sea are of glacial origin. There are also many gaps in the hills which were at one time occupied by water, but which are now more or less filled up with sand and shingle, and some of them have reached a considerable elevation above the level of the sea. Some of the cliffs in the vicinity of the lead mine, three miles north-west of the Hudson's Bay Company's post at Little Whale River, are very interesting. On the opposite or south side of the Little Whale River some of the hills appear to be over one thousand feet high.

In the south-western part of Richmond Gulf, and on the north side of the outlet, a remarkable castle-like peninsula rises to a height



ENTRANCE TO RICHMOND GULF, EAST MAIN COAST OF HUDSON'S BAY.

of seven or eight hundred feet. The lower part consists of coarse grey sandstone passing into conglomerate, with white quartz pebbles like that of Little Whale River, while the upper part consists of limestones slightly unconformable to the sandstones, and all capped with trap. On the same side, and between the Castle Peninsula and the narrowest part of the outlet, a boss of Laurentian gneiss, about one hundred feet high, protrudes through the sandstones and limestones.

The economic minerals of the east main coast of Hudson's Bay may yet prove of great value. In the lower part of the magnesian limestone portion of the series there is a band about twenty-five feet in thickness of an open or drusy character, in which galena, in bunches, occurs in sufficient quantities to be of economic value. In 1858-59, the Hudson's Bay Company obtained nine tons of this ore from numerous small openings which were made about three miles north-east of their establishment at Little Whale River; but it appears to be equally or more abundant in some spots in the same band of limestone on the south side of the river. This band is traceable to Richmond Gulf, at the entrance of which are bunches of galena which would weigh upwards of a hundred pounds. Specimens from "the mine" on the north side of Little Whale River were found by Dr. Harrington to contain 51·04 ounces of silver to the ton of ore. That from the south side of the inlet of Richmond Gulf he finds to contain, when separated from the gangue, 12·03 ounces of silver in every two thousand pounds of the ore.

Dr. Bell says, while on the coast, he was presented with some fine specimens of pure copper pyrites, also iron pyrites, which were found in a small vein cutting the gneiss on a point about one mile south of Great Whale River. This iron pyrites is gold-bearing. Besides the silver in the galena, already referred to, it was found along with the gold in the pyrites. Zinc was also found in considerable quantities. Valuable ores of iron were also discovered which, upon investigation, were shown to yield 25.44 per cent. of metallic iron, and over twenty-five per cent. of carbonate of manganese. Other minerals and a great variety of precious or ornamental stones were found in abundance on the coast.

As to the soil of the Eastmain coast, Dr. Bell says :—"Along the east side of James's Bay, from the vicinity of Rupert's House to Cape Jones, there is a strip of country, averaging perhaps twenty or thirty miles in width from the sea-shore, which, from all that I could learn from others or observe myself, appears as if it might, some day, have a certain agricultural value. Viewed from the bay, it has a gently undulating aspect, and slopes gradually down to the shore. It is wooded with spruce, tamarac, poplars, and small white birch. At Fort George I saw a quantity of good spruce logs which had been brought down the Big River for building purposes. Many of them measured two feet in diameter at the butt, and their average ages, judging by the rings of growth, was nearly one hundred years. The soil of the strip of country just described is generally sandy, often underlaid by stratified greyish clays, which occasionally come to the surface, with boulder-drift, or solid rock beneath all ; but either of these also sometimes forms the surface. The gardens of Rupert's House, Eastmain, and Fort George show that potatoes and all the ordinary vegetables thrive well. The Hudson's Bay Company's establishment at Eastmain is maintained for the purpose of raising stock. The cattle and sheep which we saw there were in excellent condition."

As to the climate, in going northward from the height of land beyond Lake Superior, it does not appear to get worse, but on the contrary to improve. Among other causes, this is owing to the constantly decreasing elevation of the country, the greater length of the summer day in the north, and the accumulation of warm river water in the head of James's Bay.

The country south of James's Bay is, most of it, quite heavily timbered. The original timber along the lower stretch of Moose River has been mostly burnt within the last fifty or sixty years ; but wherever the old spruces have escaped, they are of a larger growth than those seen on any other part of the route from Michipicoten. In regard to the distribution of the timber, it is a curious fact that small white elms appear below the Long Portage of the Missinaibi branch of the Moose, after having been last seen on the lower parts of the Michipicoten River near Lake Superior. The

northern limit of the white cedar is just south of Rupert's House. At Great Whale River, the white birch exists only as a large shrub. The poplars disappear between Fort George and this river. The tamarac was found nearly as far north as the spruce, which is last seen on the coast near the northern part of Richmond Gulf. The latter tree, however, is said to extend much further north at a distance back from the sea.

The principal rivers of the Eastmain coast are the Kitchi-sipi, or Big River, which enters James's Bay at Fort George, and is the largest stream on the coast. It appears to be fully as large as the Ottawa. It is navigable for boats to the first fall, about twenty-seven miles from the mouth. Next in size is the Eastmain River, which seems little inferior to the Big River. The following are the next largest rivers in the order of their apparent volumes: Rupert's River, Great and Little Whale Rivers, Nastapoka River, and Seal River.

CHAPTER XXXIX.

The Indians of the North.

THE CREES AND THE CHIPPEWAYANS—THE SIOUX AND THE BLACKFEET—THEIR HOMES, THEIR HUNTS AND THEIR HABITS—SLAVES OF THE HUDSON'S BAY COMPANY.

BRIEF as it is, this sketch of the Indians cannot include the natives in the far north-west. I have already briefly noticed these in the journey from the Pacific to Hudson's Bay. For the present we shall refer only to those occupying the Hudson's Bay basin. These consist of Crees, Sioux, Blackfeet and Chippewayans. The Crees are by far the most numerous and widespread. They, with the Chippewayans, may be called the thick wood Indians, while the Sioux and Blackfeet are the plain or prairie Indians. The latter, notwithstanding the influences of civilization, retain most of their savage customs. They wear but little clothing, and in the summer season go entirely naked, wearing only the breechcloth. They paint their faces in hideous colours, and decorate their heads with feathers.

The Indians generally appropriate every piece of cloth, of any kind, that comes into their possession, for clothing. Flour sacks are generally made into jackets for young squaws, by cutting a hole in the bottom for the head, and arm-holes at each side. It is then drawn on over the head. One of these was made so that the brand "Princess Louise" and a portrait of H. R. H. printed in blue ink came on the breast. This was thought to be a very gay dress, and the Indian girl who wore it was very proud of the ornament, without, I think, knowing whose likeness it was, or caring either.

Cleanliness is not one of the virtues of these northern Indians. Indeed, they are for the most part very filthy, and some of their

habits are too revolting to admit of description. Although most of them have come in contact with missionaries, they are still very superstitious, and nearly all of them extremely dishonest. There are, of course, exceptions to this rule, and, upon the whole, I should say that their condition is improved through the instrumentality of the mission. If their morals afford but little opportunity for congratulation, they are intellectually better. It is quite refreshing to enter the hut of a Cree Indian and find a copy of the Old and New Testaments on the rude table, printed in his own language; and still more pleasing to learn that all the members of his family who are of sufficient age can read it intelligently, and write the language as well. These instances are frequently to be met with, especially among the Crees and Chippewayans.

ALPHABET.

INITIALS.	SYLLABLES				FINALS.
	ā	e	o	a	•
a	▽	△	▷	◁	° ow
w	·▽	·△	·▷	·◁	X Christ
p	∨	∧	>	<	' p
t	∪	∩	⊃	⊂	′ t
k	٩	ρ	ɗ	ɓ	` k
eh	٦	ſ	ɹ	ʅ	¯ h
m	٦	⌐	⌟	L	ᶜ m
n	٥	σ	٥	٥	˒ n
s	٦	ſ	ɹ	ʅ	ᵔ s
y	٩	ſ	ɹ	ʅ	ˎ r
					˹ l

The dot over any syllable lengthens the vowel sound

CREE INDIAN SYLLABARIUM.

The latter are the principal fur hunters of the north, up to the fifty-fifth parallel, where, and beyond, the Eskimos occupy the country. They move about in canoes in the summer, and by dog-sleds in winter. The hunting season proper begins in the fall and continues until April. During this period they are hard at work; but in the summer

months they generally lounge around the Hudson's Bay posts, or in their own miserable villages, idle, hungry, lazy and very dirty. They live, for the most part, in wigwams poorly covered with birch bark ; but now and then settlements are met with where they have been enterprising enough to put up comfortable log-huts. In the summer season they live by fishing and shooting wild fowl; but often they have no powder, and are obliged to live exclusively on fish.

All the Crees are excessively fond of tea, and as they seldom have the means to buy regular tea at the post, they procure the leaves of an indigenous plant called "Labrador tea." The sturgeon and whitefish form the staple of their food. The latter are caught in the fall of the year. The inside is taken out, and they are strung on long poles and dried in the sun. The squaws extract the isinglass from the sturgeon, and dry it over willow twigs. Their fishing nets are made by the girls, with little wooden shuttles. With their nimble fingers they make the shuttle fly to and fro very quickly. They do their work neatly, rapidly, and with a high degree of perfection.

Until within a few years the plains Indians lived in tents covered with the skins of the buffalo ; but since the disappearance of those animals, they have been obliged to resort to the cotton covering instead.

Curious records are left by Hudson's Bay officials concerning the character of the Indians that live and trade at the posts. These are kept to guide future officials who may be strangers to them. Each Indian is numbered, and, as I have had an opportunity of looking at these records, I will give the reader a sample :—

No. 14. A good man, but not a good hunter.
" 15. Have nothing to do with him.
" 16. A good boy.
" 18. A great humbug.
" 22. Be careful.
" 24. An A 1 liar and rascal.
" 27. Not worth his salt.
" 33. Good pay in the long run.
" 35. A superlative rascal.
" 38. Trust him not. A thief.

No. 39. No hunter, but honest.
" 44. Honest.
" 45. Tries to get all he can, but never pays.
" 48. Can pray well, but pay bad.
" 57. Can't work since he got married.
" 62. Can pray and preach, but trust him not.
" 71. Cunning. Good hunter, but look out for him.
" 72. Worse than his father (71).
" 82. Poor old devil.
" 84. Not a bad fellow.
" 85. Defrauded on the first opportunity he got, also on the second and last.
" 113. Honest as the day is long.

Of money the northern Indians knew nothing until the distribution of the treaty money by the Government. This money is paid annually, but the Indians scarcely ever handle it; or, if they do, they are watched closely until it is paid over to the trader, who has already advanced goods to its value. For furs the Indians never receive money, they get either food, merchandise or orders for it. It is the same for work performed.

The Indians on the Lower Nelson and Hayes Rivers, and in the neighbourhood of York Factory, have a grievance—one that I am in duty bound to urge upon the attention of the Government. They are not recognized in any way. At Oxford House and at Norway House the Indians receive treaty money, but those further to the north get none, and for this reason they are very bitter against the Canadian Government, or—as they put it—the Queen's Agent at Ottawa.

There is a vast stretch of country on the shores of Hudson's Bay not covered by any treaty. The Crees do not put a high value upon the land; but they say it is worth something, and they are anxious to get it. An old chief who lives on the banks of the Nelson, about three hundred miles above York, who is at the head of two or three hundred families, and who has become greatly annoyed at the slight paid him, by the indifference of the Government toward his people, has made a full statement of his case, which he desires to have laid before the "Queen's Agent." He says:

"We are over four hundred families, and more than four to the family. We have lived in this country always. It is ours. We have been dependent upon the Hudson's Bay Company all our lives, and our fathers before us, and their fathers were, too. The Hudson's Bay men take all our furs, and give us nothing in return but tobacco and powder and shot, and when fish and game are scarce sometimes we are almost starved; but we get no help.

INITIALS.	a	e	i	o	u	FINALS.
'						
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b	ᐸ	ᐯ	ᐱ	ᐳ	ᐽ	·ᐃwi,·ᐅwo
ch	ᐨ	ᐩ	ᐲ	ᐴ	ᐵ	+ i
d	ᑕ	ᑌ	ᑎ	ᑐ	ᑓ	ᑕ d
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k	ᑲ	ᑫ	ᑭ	ᑯ	ᑰ	ᑲ k
kl	ᙴ	ᙵ	ᙶ	ᙷ	ᙸ	ᙴ r.
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m	ᒪ	ᒣ	ᒥ	ᒧ	ᒨ	·ᒪ m
n	ᓇ	ᓐ	ᓂ	ᓄ·	ᓅ	ᓇ n
s	ᔆ	ᔅ	ᔨ	ᔪ	ᔫ	ᔅ s
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tz	ᘁ	ᘃ	ᘄ	ᘅ	ᘆ	X Christ
y	ᔦ	ᔧ	ᔭ	ᔮ	ᔯ	

CHIPPEWAYAN SYLLABARIUM.

"These lands have been paid for. The Canadian Government paid a great many thousands of dollars for this country, including where we live, but they paid it to the wrong parties. They paid it to the Hudson's Bay Company; but that company never owned these lands. They are ours. The wrong parties got the money. The Queen's Agent should get the money back, and give us our share.

"The Crees to the south of us, our own brothers and our friends, part of ourselves, are getting treaty money every year. We cannot go up there and get anything. We are not recognized. We are

insulted. It is too bad. They tell of a great man at Ottawa, who is bigger than the Queen's Agent. Why does he (Sir John) not stir up the Governor, and make him do us justice? We do not want to complain. We want to be friendly, and to be for the Canadians. We do not complain when surveyors come into our country and make lines. We don't object to losing our country, but we want treaty money and presents every year, the same as the Crees at Oxford and Norway.

"Our country has been taken from us by the Hudson's Bay Company and sold to Canada. We have been robbed, and we ask the Queen's agent at Ottawa to do us justice. But he moves so slowly that I am afraid we will all die before we get anything, and we do not know whether our children after us will get anything or not. What we want is to have this matter settled now. Some of our people are starving every winter. Some die every winter from hunger. We ought not to starve while we own so much land.

"You are looking for gold and silver and coal in our country. Men will go farther for these things than for flour. Our lands will not grow wheat, but they are valuable. You have no right to survey this country without paying us. We do not ask much—only to be treated the same as other Indians. We are as good as they are. You may build your railway through our country. We do not want to keep you out. We want to see the white man come often, but we want him to bring us money and presents every year."

There is a good deal of truth and justice in the old chief's statement. There is no reason why these Indians should not come under the same treaty relations as those living around Oxford and Norway; and I trust the Government will see that they are included, as the additional expense will be very light.

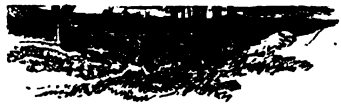
In almost every respect the Indians in question are similar to Indians everywhere else in North America. They are superstitious, improvident, filthy, but generously disposed toward white people. Their medicine men are held in high esteem and exercise great influence.

In the fall, when they go on their annual hunt, the Crees proceed

with their families in canoes to the hunting ground where they pitch their camps, from which their hunting excursions are made. Two Indians generally accompany each other in these. They carry nothing with them but guns, ammunition and matches, trusting for provisions to the hunt, which is not always successful, so that sometimes they may go for days without food.

When winter sets in, and canoes are no longer practicable, the dogs which have been idling and growling around the camp are harnessed up and used to transport their furs and venison to camp, and to bring the results of their chase to the trading post. A dog train will make forty miles a day with considerable ease; sometimes as high as seventy. The Indians seldom ride on the sled, but generally run after it.

The dogs in summer have to take their chances for a livelihood; but in winter, when at work, they are regularly fed once a day, and that in the evening. The one meal consists generally of two frozen whitefish (about eight pounds in weight in all) to each dog. At York Factory blubber with oatmeal is used for dog feed. At an Indian camp there are generally more dogs than persons, and when these commence howling (and they bark, and snarl, and howl constantly) the night is doleful enough.



CHAPTER XL.

The Great North-West.

EXTENT OF THE GREAT FERTILE AREAS—THE FIVE FUTURE PROVINCES OF THE NORTH-WEST—PROBABLE FUTURE OF THE CENTRAL PORTIONS OF CANADA—RAILWAYS—THE HUDSON'S BAY ROUTE—CAUSE OF THE AGITATION AND DISCONTENT IN MANITOBA.

AT the outset of this volume I gave a brief account of the circumstances which led to a consideration of the Hudson's Bay Route, and subsequently to the Hudson's Bay Expedition. Following this is a record of the experiences of that Expedition, with a description of the Hudson's Bay country and the resources of our northern waters. In addition to this I have sketched, in brief, other expeditions to the north and west, in such a way as to give the reader some idea of the vast extent and wonderful fertility of the great central portions of the Dominion. In connection with these records there are such references to the practicability and advantages of the Hudson's Bay Route as to leave little or no doubt in the minds of the reader concerning the future great importance of that natural channel of commerce. Having, therefore, considered the relations which the Hudson's Bay Route sustains, or is destined to sustain, to the Canadian North-West, it is left to us now to look at the present position of Manitoba and the North-West Territories in their relations to the older provinces, and to point out, as far as we may be able correctly to do so, the steps necessary to be taken in order to secure the early establishment of a direct line of traffic communication between the central portions of Canada and Europe, through the waters of Hudson's Bay and Strait; and, also, to promote most advantageously the general progress of the great North-West. But before

discussing the political relations between the North-West and the older portions of the Dominion, I wish, with a view to impressing the reader with the great agricultural and pastoral advantages and the vast natural resources of those areas to give yet a more complete description of that part of Canada.

The extent of the prairie country has already been hinted at. I refer to that portion of it within the Canadian North-West. It commences where the 49th parallel intersects the 95th meridian, and trends north-westwardly for more than fifteen hundred miles to the Peace River; and beyond its width varies from two hundred to five hundred miles. The whole area is computed to contain over 1,000,000 square miles, but the best informed authorities place the fertile lands within those limits at 300,000,000 acres. The whole territory has been divided into five districts, viz.: the Province of Manitoba, and the territories of Assiniboia, Alberta, Saskatchewan, and Athabaska. These are unquestionably destined to become the five future great Provinces of the Dominion, and to contain a population greater than all other portions of Canada together outside of them.

Although the five districts named conform to natural geographical divisions, there are no marked differences to place one in contrast with the other. The climate, in winter, will be found most severe in Manitoba and Saskatchewan, while in Alberta and Athabaska it is much milder. Assiniboia may be regarded as between these. For a long time it was supposed that these vast territories were scarcely habitable on account of the severity of the climate, and that only a small portion of them was fit for successful agricultural pursuits. Now it is well known that, although the winters are long and quite cold, there is no part of the world in which mankind reaches a healthier or hardier physical manhood than in the North-West. It is indeed the healthiest portion of the known world. Not only is this the case, but these vast territories are proven to be the greatest bread and meat producing areas on the face of the globe. These astonishing facts have been long in reaching the minds of men, but they are now pretty generally known, and, with their recognition, the status of Canada is greatly

changed. A short time ago, within the memory of the writer, Canada was not regarded, either at home or abroad, as a country of any considerable importance; no one believed there was, to say the least, a great future for this country. To the south of us, the great Republic of the United States, with its broad areas, stretching from Mexico to the 49th parallel, and from ocean to ocean, challenged the admiration of the world by its wonderful strides in material and national progress. All the while Canada was forgotten, or thought of only as a fragment of territory bordering the St. Lawrence, where a sort of wretched population, struggling under many natural disadvantages, wore out a miserable existence. But in those days Canada was really undiscovered, or locked up from the gaze of the world by the Hudson's Bay Company. Recently, however, there has been a great revelation in and of this country. Canada has grown, in the short space of ten years, from a miserable, winding, narrow, fragmentary stretch of sterile country, to the grandest territorial possession to be found anywhere on earth under one flag It is all at once discovered that by far the most valuable portion of the continent lies north of the 49th parallel, and that Canadians possess a country, stretching from the Atlantic to the Pacific, and northward to the Arctic Circle, that is absolutely unlimited in the possibilities of its future greatness. A few years ago we felt ourselves to be on the borders of a great country lying to the south of us, without the slightest possibility of nationality, and subjects for commiseration. Now, flushed with a slight but still inadequate appreciation of our vast heritage, we dare to enter into the great race of international competition, and set up a claim to national importance. We are a people of less than five millions; our commerce is comparatively small; our industrial enterprises are in the first pulsations of life; our civil and political institutions are in the first stages of growth; and yet we prophesy of a day when we shall be a people of over fifty millions, with a commerce unsurpassed by any other nation, and with an industrial trade vastly greater than that of the United States to-day. These hopes rest upon the great North-West.

In summing up the vastness of the Canadian North-West, Mr

Sanford Fleming, C.M.G., late Engineer-in-chief of the Canadian Pacific Railway, said:—"Since these views were first advanced, the circumstances upon which they were grounded have materially changed. Apart from the political and special considerations which enter into the discussion, we have acquired more accurate geographical and general information; and it would now appear that the habitable territory claiming attention is considerably more extensive than was at one time supposed. In consequence, a much more comprehensive railway and road system would seem to be required, and ought to be projected. Instead of a single line of railway through the fertile belt, at least two trunk lines, with cross connections and numerous branches, may ultimately be needed to serve the greater breadth of country. This does not, however, render it less important to regard the economical principles which ought to regulate the establishment of all the highways of the territory. The interior of Canada has, without any doubt whatever, a vast area of fertile soil; yet it cannot be denied that there are drawbacks to contend with. It may be said that the climate, especially in the winter season, is one. The great distance of this fertile area inland is undoubtedly another, and perhaps the most serious; and this circumstance makes it the more imperative that, to afford the fullest opportunity for successful colonization, the lines of communication should be established on sound principles."

Here we have Mr. Fleming, in 1878, telling the world that so great, so fertile, and so important is the Canadian North-West, that it will require not only one, but two trunk lines of railway across its prairies, with many cross connections, and numerous branch lines; but he says the great distance of this fertile area inland is its greatest drawback. He referred, of course, to its great distance from the Atlantic ports at Montreal, Quebec, Halifax, Portland, Boston and New York. This was indeed a great drawback. I question if ever the North-West, if left to depend upon these ports, and every possible communication with them, for outlets, would reach a high degree of development. But, fortunately, it is not left to such dependence. No sooner was the great Canadian prairie country discovered, and its advantages made known

to the world, than its natural channel of communication—the Hudson's Bay Route—was discovered and made known also. Mr. Fleming had a good appreciation of the extent and importance of the country; and he also made a sound estimate of the drawback to which I have referred; but to-day that drawback vanishes, and we find that the great territories of Assiniboia, Alberta, Saskatchewan and Athabaska, as also the Province of Manitoba, are as near to Liverpool as the Province of Ontario.

My map of the Dominion, presented herewith, showing future possible railway lines in the North-West, has already earned for me the title of being a "great builder of railways—on paper;" and yet I find that as far back as 1878, Mr. Fleming had in his mind a much more comprehensive system of railways for the North-West than I advance on the map referred to. He said:—"The map which I have prepared shows the possible position of the leading railway lines which, based on the information we have recently acquired, may be projected for the future service of the country. In the west, lines are shown to reach the Pacific tide-water at Port Simpson, at Burrard Inlet, and at Bute Inlet, with an extension to Vancouver Island, running to Esquimalt, Alberni, Fort Rupert and Quatsino. In the interior, the Bow River, Saskatchewan, Athabaska, Peace River, Lake LaBiche, Swan River, Assiniboine, and Red River districts are proposed to be served by main lines or branches; while to the east, lines are carried to Port Nelson and Moose Factory. Of course this is a mere projection, and it is presented to illustrate the comprehensive view which, in my opinion, should be taken of the question. All these lines, or modifications of them, I consider eligible for territorial roads; not that they should be built all at once, or even all at once surveyed, but simply to complete the scheme of great thoroughfares which, in course of time, may be established and used. They may at once be designated territorial road lines, and when they come to be surveyed they should be laid out with great care and forecast: a territorial road being understood to mean simply a railway in an incipient stage, capable of being used as a means of intercourse at all stages, its highest condition of development being a means of steam communication."

But while Mr. Fleming was telling the Royal Colonial Institute, of London, England, these magnificent truths, Prof. Hind, before a Committee of the Commons of Canada, was urging that "In view of the growing interests of the North-West, from whatever point these may be regarded, the time for enquiry has arrived whether communication with the Atlantic Ocean, with Port Nelson as a starting point, may not be made safe, speedy and economical. The enquiry has become a natural consequence of the extended knowledge now made public respecting the vast area in the North-West, suitable for grain growing and pasturage, which the Government surveys have supplied. It is also encouraged by the great changes which have taken place during the last ten years in the prosecution of the sealing industry, which have established the fact that properly constructed vessels of large capacity are, in skilful hands, perfectly adapted to push their way through ice-encumbered seas. It has been pressed forward by the new industry, so rapidly rising into importance, which gives additional wealth to the prairies of the west and south-west in the United States, by the European demand for their live products as well as for their grain. The establishment of a cheap and speedy means of communication between the North-West and the open Atlantic, *via* Hudson Straits, would not only secure the rapid settlement of Manitoba, but open to successful immigration a fertile area twenty times as large as that Province. The proximity of this vast extent of country to its own seaboard would, under such conditions, also secure the carrying trade of its own productions under one and the same flag."

Time has, perhaps, shown that Mr. Fleming and Prof. Hind should have substituted Churchill for Port Nelson. I do not, however, despair of Port Nelson altogether. It is possible that a fairly good harbour may be established at the mouth of the Nelson, and that, for small craft, a port may be found at the southern extremity of James's Bay; but the great western anchorage and the future commercial port of Hudson's Bay must necessarily be at the mouth of the Churchill.

With a contemplation of the Hudson's Bay Route, the possibilities of the Canadian North-West are greatly enlarged, and there

can be no doubt that when a full knowledge of the country is acquired in the old world, and the establishment of the route assured by the Parliament of Canada, there will be inaugurated a volume of immigration from Europe to the fertile prairies of Canada that will overshadow the scenes of Castle Garden in the days of its greatest activity.

Before further describing the productiveness of the fertile areas of the North-West, I find it necessary to call attention to and make some statements in explanation of recent occurrences in Manitoba calculated to create in the minds of people residing in Europe the impression that the present residents of the North-West were dissatisfied with the country which they have adopted; and in the first place, let me say, that however misguided the recent, and to some extent the still existing, agitation in Manitoba may have been, it in no way has its origin, or any part of it, in any dissatisfaction with the North-West as a country. There is nowhere to be found a single resident of the North-West who has been heard to complain of the natural advantages of his location. All agree that, in every respect, the Canadian North-West is unequalled any way as an agricultural district.

But there has been great discontent in the North-West—a discontent which, to some extent, still exists. The course of it lies not in anything pertaining to the country itself, but in the political and commercial events affecting it. The policy of the National Government concerning the Canadian Pacific Railway was the most fruitful source of this discontent. The great anxiety of the Government to secure the completion of the national highway, in order to connect the Canadian Provinces from ocean to ocean, led them to overlook or neglect, for the time being, the necessities of colonization. Mr. Fleming anticipated this in 1878, when he said:—"It may be assumed to be the desire of the Government and people of the Dominion that the great undeveloped interior of Canada should be colonized in the most successful manner possible. It could not be held to be successfully colonized unless peopled by inhabitants like themselves, hardy, self-reliant, vigorous, and determined; nor unless the many thousand miles of railway required were constructed in

such a way as to leave them, when finished, in a condition to do their work efficiently and without loss. This certainly would not be the case if, through too hasty and ill-considered construction, or through any other cause, liberal Government grants, as well as private resources, were swallowed up, and the lines left burdened with debt which no future traffic could support or remove. The system of highways to which I have referred is one of evolution, and would necessarily be of slow growth; it is, nevertheless, in my judgment, one which could not fail to succeed. It is, however, purely, a colonization scheme. I am prepared to admit that there are many weighty reasons why some one of the lines projected across the continent should be pushed to completion more rapidly than colonization purposes actually demand. I have already mentioned that the enterprise known as the Canadian Pacific Railway has been designed for a purpose beyond that of settling the vast interior of the country. One of its objects is to unite the Pacific and Atlantic coasts with a continuous line of railway without passing over foreign sea or soil."

True, indeed, the "Canadian Pacific Railway was designed for a purpose beyond that of settling the vast interior of the country;" and so far as the prairie section of that road has been adapted to the necessities of colonization, it was only shown plainer than ever that the national highway, although in many respects of great commercial advantage to Canada, is rather a national than a commercial success. Its construction has been the means of attracting many thousands of settlers to the North-West; but as a means of communication with the outside world, it has not met, nor will it when completed meet, the wants of the people in the central portions of Canada to any great extent. A glance at this Manitoba discontent opens at once the great problem of transportation between the Canadian North-West and the markets of the old world. The country itself has been demonstrated to be all that can be desired. Indeed the productiveness of the soil has proven to be greater than the most sanguine claims of its advocates; but, as Mr. Fleming said, the greatest of all its drawbacks, its great distance inland, turned out to be a great obstacle.

In 1883, Manitoba and the North-West already contained a considerable population. There was, comparatively speaking, but one railway in the Province. It extended from beyond its eastern limit to beyond its western boundary, but had no connection with the outside world at either end. In the west, to establish such connections, the main line was pushing forward eastward and westward with all possible speed, and the pressing wants of the people in the way of local railways were overlooked or unheeded. Besides, the people of the North-West already saw plainly that the Canadian Pacific Railway, when completed, would not meet the wants of that vast territory, and they clamoured for permission to open railway connection across the international boundary with the railway system of the United States, indiscriminately. This was forbidden by the Central Government, and the people, exasperated by the prospect of monopoly, became greatly excited. The farmers, who, of course, compose nine-tenths of the population, began to organize their Farmers' Unions, and prepare for their now famous "Farmers' Convention." Meanwhile, the Provincial Government was negotiating with the Federal authorities for a readjustment of the terms between Manitoba and the Dominion; and the failure of success attending these negotiations, partly owing to mismanagement, added to the general ferment.

The farmers complained of the extortion of the Canadian Pacific Railway; demanded the right of the province to control its own railway interests; complained of the excessive import taxation; and many other matters affecting the general welfare of the Province. In the heat of their convention deliberations, certain very unwise resolutions were proposed, and although they were afterwards withdrawn, they found their way into newspaper reports of the proceedings of the convention, and were telegraphed and re-published the world over, especially in Europe, where they have been very misleading, to the great injury of the North-West. The proposed resolutions to which I refer are as follows:—

"Therefore, be it resolved: That this Convention hereby petition the Premier (Hon. Mr. Norquay) at once to declare, by resolution of the House of Assembly, that this Province shall no longer continue a member of the

Federal Union unless accorded equal privileges with the other partners of the Confederation, and a modification of those duties which press so heavily on the agricultural interests.

"And further, that an appeal be made to Her Majesty, Queen Victoria, and to her Privy Council, to so amend the British North America Act as to allow of Manitoba withdrawing from Confederation, and graciously to allow of this country being a colony of Great Britain, with a separate constitution, separate laws, and with a Governor of its own:

"And this Convention further pledges itself to sustain the Premier in this course of action by any means in its power; and feels sure that the people of this Province will support them in securing that independence and freedom so dear to every British subject."

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"That in the opinion of the Convention, the burdens laid on the people of Manitoba are so great that agricultural operations cannot be made to yield a fair profit; that emigration, before the removal of these burdens, will benefit neither the Province nor the emigrants; and that this Convention cannot advise emigrants to settle in the Province till full redress of the grievances complained of by this Convention shall have been obtained."

In the first place the sentiments of the above resolutions were not those of any considerable number of the people, nor of the convention; but, as I have said, they gained publicity through the proceedings of the convention, and were regarded in many quarters as representing the feelings of the people. Moreover, they were misunderstood, also, as to the cause which led to their existence. Thousands of people in Europe regarded the discontent as caused by some inherent defect of the country, or some permanent disadvantage which could not be overcome, and were falsely persuaded not to settle within its limits. As a consequence of these, along with other causes, all of a temporary character, there has been a considerable falling off in immigration to Manitoba. I refer to the matter, in this place, however, in order to show that whatever of discontent may have existed, or may now exist, in the North-West, it is not in any way traceable to any disappointment of the settlers with the general advantages of the country, but to causes that are transient. The establishment of the Hudson's Bay Route will remove the last of these, and place the people upon a better footing, commercially, than the inhabitants of any other portions of Canada.

CHAPTER XLI.

The Great North-West—Manitoba.

THE CENTRAL PROVINCE OF CANADA — SOIL AND PRODUCTIONS OF THE PROVINCE — CLIMATE — THE HUDSON'S BAY ROUTE — THE GROWTH AND PROBABLE FUTURE OF WINNIPEG AND MANITOBA.

THE Canadian North-West has been divided into five districts, viz., the Province of Manitoba, and the Territories of Assiniboia, Alberta, Saskatchewan, and Athabaska; and notwithstanding all we have said of the region as a whole, it will be necessary to consider each of these districts separately, in order to form an adequate judgment of the extent and varied resources of the whole country. First, then, as to the Province of Manitoba, which Lord Dufferin said, "may be regarded as the key-stone of that mighty arch of sister provinces which spans the continent from the Atlantic to the Pacific. Manitoba is situated in the very centre of the continent, about midway between the great oceans. Its southern boundary is a little to the south of the parallel of Paris, or on a line with the southern portions of Germany, and of course the Province has the same summer suns as those most favoured portions of Europe, while the adjacent territories to the west and north-west, already named, are the equivalents of both the empires of Russia and Germany on the continent of Europe. Manitoba is bounded on the east by the Province of Ontario, on the south by the International Boundary Line, on the west by the Territories of Assiniboia and Saskatchewan, and on the north by the Territory of Keewatin, and contains about one hundred and twenty-three thousand two hundred square miles. Of this

territory there is but little waste land. In fact Manitoba contains less waste or worthless land, acre for acre, than any other Province of Canada. The climate is warm in summer and cold in winter. The summer means range from 67° to 76° Fah., which has been compared to western New York. But in winter the thermometer sinks to 30° and often to 40° Fah., below zero. The atmosphere is however so bright and dry that the climate is less severe than a temperature at the freezing point in a humid atmosphere. The climate of the adjacent territories is much the same, except that in portions of Alberta and Athabaska territories, the winters are much milder, and well adapted to stock-raising.

It is now a well established fact that Manitoba, as well as the territories to the west of it, are among the absolutely healthiest countries on the face of the globe, and, in many respects, the most pleasant to live in. There is no malaria, and there are no diseases arising out of any natural causes within the Province. The only drawbacks of the climate are extreme cold, and occasional severe storms in winter. The liability to summer frosts is less than in the farmed portions of New York State. Very little snow falls in the country, the average depth never exceeding eighteen inches, and in vast tracts of Alberta and Athabaska Territories, snow scarcely ever makes its appearance at all, so that horses and cattle may graze out of doors in luxury all winter. The snow disappears and seeding begins in April, more than a fortnight earlier than in the Province of Ontario. The Red and Assiniboine Rivers open at least a fortnight earlier than the Ottawa River. May, June, July, August and September may be regarded as summer months. Autumn lasts until November, when winter sets in. The harvesting is done in August and the early part of September.

The soil of Manitoba is rich, deep, black mould or loam, resting on a deep and very tenacious clay sub-soil. It is among the richest—indeed it may justly be called the richest—soil in the world, especially well adapted to the growth of wheat. This fact has been fully established by celebrated chemists in both Scotland and Germany, who have made a thorough analysis of the soil with the following results :—

(Translation of Letter to Senator Emil Klotz.)

KIEL, 29th April, 1872.

HON. SENATOR:

The analysis of the Manitoba soil is now completed, and the result is in 100,000 parts:

Potash	228.7
Sodium	33.8
Phosphoric acid	69.4
Lime	682.6
Magnesia	16.1
Nitrogen	486.1

Yours truly,

(Signed) V. EMMERLING.

(Extract from Letter of Senator Emil Klotz to Jacob E. Klotz, Agent for the Dominion Government.)

KIEL, 4th May, 1872.

After considerable delay I succeeded in obtaining the analysis of the Manitoba soil from Professor Emmerling, Director of the Chemical Laboratory of the Agricultural Association of this place, and hope it may be of service to you. Annexed I give you our analysis of the most productive soil in Holstein, whereby you will see how exceedingly rich the productive qualities of the Manitoba soil are, and which fully explains the fact that the land in Manitoba is so very fertile, even without manure.

The chief nutrients are, first, nitrogen, then potash and phosphoric acid, which predominates there; but what is of particular importance is the lime contained in the soil, whereby the nitrogen is set free, and ready to be absorbed in vegetable organisms. The latter property is defective in many soils, and when it is found defective recourse must be had to artificial means by putting lime or marl (a clay which contains much lime) upon the same.

According to the analysis of the Manitoba soil, there is no doubt that, to the farmer who desires to select for his future home a country which has the most productive soil and promises the richest harvest, no country in the world offers greater attractions than the Province of Manitoba, in the Dominion of Canada.

Analysis of the Holstein soil and Manitoba soil compared;

	Holstein Soil.	Excess of Properties of Manitoba Soil.
Potash	30	198.7
Sodium	20	13.8
Phosphoric acid	40	29.4
Lime	130	552.6
Magnesia	10	6.1
Nitrogen	40	446.1

ANALYTICAL LABORATORY, SURGEONS' HALL,
EDINBURGH, 14th December, 1876.

Analysis of Sample of Manitoba Soil.

Moisture		21.364
Organic matter containing nitrogen equal to ammonia, 23°.		11.223
Saline matter:		
Phosphates	0.472	
Carbonate of lime	1.763	
Carbonate of magnesia	0.937	
Alkaline salts	1.273	
Oxide of iron	3.115	
		7.560
Silicious matter:		
Sand and silica	51.721	
Alumina	8.132	
		59.853
		100.000

The above soil is very rich in organic matter, and contains the full amount of the saline fertilizing matters found in all soils of a good bearing quality.

(Signed) STEPHENSON MACADAM, M.D.,
Lecturer on Chemistry, etc.

The soil is so rich that it does not require the assistance of manure for many years after the first ploughing, and, in most places, the loam is so deep that it is practically inexhaustible. All the cereals grow and ripen in great abundance, but wheat or oats are especially well adapted to both the soil and climate. The wheat

produced is very heavy, from sixty-two to sixty-five pounds to the bushel. The average yield in the whole Province is nearly twenty-five bushels to the acre. In many instances the yield reaches forty bushels to the acre, but upon the whole the average is unequalled anywhere in the world. The quality of the wheat produced is exceptionally good, being of a hard or flinty character, and grading very high.

Many estimates have been made of the productive capacity of the Province of Manitoba, in wheat alone, but the following is probably not over-stating near future results :—

200,000 farmers each cultivating fifty acres=10,000,000 acres.
10,000,000 acres each producing twenty bushels to the acre=200,000,000 bushels.

These figures are astounding, but it does not appear improbable that there will be 200,000 farmers in Manitoba at no very distant day, and that the extent of lands mentioned will be brought under cultivation. But reduce the calculation by one half, if you will, and then multiply it by five to represent the Territories of the North-West that must soon be settled up and erected into provinces, and you have an aggregate annual tonnage of bread and meat—for the whole North-West is not by any means to be confined to wheat growing—for exportation, which a single line of railway could not move in five years. It is useless to apply figures to these calculations. The merest forecast will convince any one that such a great country must have a great future, and the idea that its trade relations must be confined to the older provinces, or to channels through them, is preposterous. The hope of Manitoba is in the Hudson's Bay route. By this natural channel of commerce the fertile areas of the Province are brought within three thousand five hundred miles of Liverpool—nearer to the world's greatest markets than any other vast bread and meat producing territories in the world. It is almost wonderful to contemplate the possibilities of the Province in connection with this highway of traffic. With a soil almost five times as productive as that of Western New York, the Manitoba farmer will be equally accessible to the world's best markets. With such

advantages the export trade of the Province will naturally reach vast proportions, and the great value of these exports must place the balance of trade in favour of the North-West, so that time alone is required to build up a wealthy community in that portion of Canada.

The variety of products of the soil of Manitoba is by no means small; wheat, of course, is the great staple product. Oats, however, grow still more abundantly and with less cultivation. In the autumn of 1882, full returns from many portions of the Province showed the yield of different kinds of grain to be as follows: Returns from eighty-eight points gave an agregate of 182,250 acres sown in wheat, yielding a total of 4,974,200 bushels, or an average of twenty-seven bushels to the acre; some of the returns placed the average at forty bushels to the acre, others over thirty bushels. These returns further showed from answers, from the same eighty-eight points, that there was an aggregate of 126,750 acres sown in oats, yielding a total amount of 6,614,500 bushels, or an average of fifty-two bushels of oats to the acre. Some of the returns gave an average of as high as eighty bushels, while others made returns of as low as thirty-five and forty bushels; the yield of this grain, the same as wheat, being dependent on the kind of farming. And further, with respect to barley, a cultivation of 33,990 acres gave an aggregate return of 1,091,400 bushels of barley, or an average of thirty-two bushels to the acre. Some of the returns gave an average of fifty, others of forty, bushels, while some were down as low as twenty bushels; the return of this grain, the same as others, being dependent on good farming.

Potatoes and all kinds of field and garden roots grow to large size and in great abundance. The same remark applies to cabbages and other garden vegetables. Tomatoes and melons ripen in the open air. Hops and flax are at home on the prairie. All the small fruits, such as currants, strawberries, raspberries, etc., are found in abundance. For grazing and cattle raising, the facilities are unbounded. The prairie grasses are nutritious and in illimitable abundance. Hay is cheaply and easily made. Trees are found along the rivers and streams, and they will grow anywhere very

rapidly, if protected from prairie fires. Wood for fuel has not been very expensive, and already arrangements have been made for bringing coal into market, of which important mineral there are vast beds farther west. The whole of the vast territory from the Boundary to the Peace River, about 200 miles wide from the Rocky Mountains, is a coal-field. Water is found by digging wells of moderate depth on the prairie. The rivers and coolies are also available for water supply. Rain generally falls freely during the spring, while the summers and autumns are generally dry.

Manitoba has already communication by railway with the Atlantic seaboard and all parts of the continent southward; this is over the United States system of railways. But the Canadian Pacific road, which already extends through the Province, will be completed in a few months, so that one can get into the cars at Halifax or Quebec, and travel continuously over Canadian soil to Winnipeg, and thence on to Port Moody in British Columbia. What the Province now requires is railway connection with Hudson's bay, the great North American inter-ocean; when this is established it will become the centre of attraction to European immigration, and hundreds of thousands of active, energetic settlers will throng to the north-western prairies.

At present the population of Manitoba and the North-West Territories is not large, but the percentage of its increase during the past five years is very great. The following abstract of the census of Canada for 1871 and 1881, compared, in respect of the Province of Manitoba and the North-West, will be interesting :—

CENSUS OF CANADA—1871 AND 1881 COMPARED.

PROVINCES.	Area in Sq. Miles.	Persons—1871.	Persons—1881.	Increase.		1871.		1881.	
				Numerical	Per Ct.	Males.	Females.	Males.	Females.
Prince Edward Island	2,133	94,021	108,891	14,870	15.8	47,121	46,900	54,729	54,162
Nova Scotia	20,907	387,800	440,572	52,772	13.6	193,792	194,008	220,538	220,034
New Brunswick	27,174	285,594	321,233	35,639	12.5	145,888	139,706	164,119	157,114
Quebec	188,688	1,191,516	1,359,027	167,511	14.0	596,041	595,475	678,175	680,852
Ontario	101,733	1,620,851	1,923,228	302,377	18.6	828,590	792,261	976,470	946,758
Manitoba	123,200	18,995	65,954	46,959	247.2	9,750	9,245	37,207	28,747
British Columbia	341,305	36,247	49,459	13,212	36.4	20,532	15,715	29,503	19,956
The Territories	2,665,252	52,000	56,446	4,446	8.5	.....	.....	28,113	28,333
Total	3,470,392	3,687,024	4,324,810	637,786	17.3	.....	.....	2,188,854	2,135,956

PROPORTIONS.

PROVINCES.	Proportion Per Ct. to each Province.		Persons to a Sq. Mile.	Acres to a Person.	Acres of unoccupied land to a Person.	Increase—Males and Females.				
	Acres.	Persons.				Numerical	Per Ct.	Numerical	Per Ct.	Females to 100 Males.
Prince Edward Island	.06	2.51	51.0	12.5	2.2	7,608	16.1	7,262	15.4	98.9
Nova Scotia	.60	10.18	21.0	30.3	18.1	26,746	13.8	26,026	13.4	99.7
New Brunswick	.78	7.42	11.8	54.1	42.2	18,231	12.5	17,408	12.4	95.7
Quebec	5.44	31.42	7.2	88.8	79.5	82,134	13.7	85,377	14.3	100.4
Ontario	2.93	44.47	18.9	33.8	23.8	147,880	17.8	154,497	19.5	96.9
Manitoba	3.55	1.52	.53	1,195.5	1,159.3	27,457	281.6	19,502	210.9	77.2
British Columbia	9.83	1.14	.14	4,456.9	4,409.5	8,971	43.7	4,241	26.9	67.6
The Territories	76.80	1.30	.02	30,219.3	30,213.7	.....	.....	.....	.....	100.7
Total	99.99	99.96	1.24	513.5	503.0					

Note.—The areas of the great waters, such as the great lakes of the Upper Provinces and the bays and arms of the seas in the Maritime Provinces, may be estimated at 140,000 square miles.

Although the population of Manitoba, in 1881, was a little less than 66,000, and, with the then added territory, over 93,000, it is now probably over 150,000; and ten years hence, if the requirements of the country in respect of railway communication are promptly met, it will exceed a million. There has been, and still exists, a slight depression in Manitoba, owing chiefly to the want of greater railway facilities. When this want has been met, and whenever the outlet *via* Hudson's Bay is assured, that depression will disappear, and an era of prosperity greater than has at any time hitherto characterized the Province will be inaugurated.

Manitoba has a glorious future, and Winnipeg, the commercial and political capital of the Province, is destined to become one of the greatest business centres of the world. Already Winnipeg has had a wonderful history. There is no city in either Canada or the United States that has, perhaps, attracted so much attention during the last few years, and it owes this exceptional fact to its having around and beyond it one of the largest and most fertile tracts of country on the habitable globe. It has, through this source, become the metropolis of what, in the not distant future, will doubtless prove one of the most wealthy and prosperous portions of this continent. It is frequently compared with Chicago in this particular, and very naturally so, as the circumstances surrounding the early growth of both cities are not dissimilar, with exceptional advantages in favour of Winnipeg. The site of the city is favourably chosen at the confluence of two great navigable streams—the Red and Assiniboine Rivers—into which many smaller streams flow. Through the medium of the first river, connection is had with Lake Winnipeg and all rivers having an outlet into that large body of fresh water. These rivers and lakes give Winnipeg a system of inland navigation possessed by few other cities in either the Dominion or neighbouring Republic, and with slight improvements must ensure a large mercantile marine and additional commercial prosperity to this growing city. Prior to 1870 the town was nothing more than a chief trading post of the Hudson's Bay Company, whose head-quarters were, for years, at Fort Garry. At that date the population was estimated at three hundred

souls, and of these the greater number were half-breeds and Indians who did service for the Hudson's Bay Company; besides these, however, there was the nucleus of what has since proved a populous city, and one that is destined to occupy a far greater and more important position than it has yet attained. In addition to the facilities afforded for inland navigation, railway enterprises in operation, and others projected, give every indication that Winnipeg may shortly become a railway centre that will rival Chicago itself. It is fair, then, to assume that a city, with direct communication with the coal systems of the mighty Saskatchewan, together with railway facilities to the Eastern Provinces, to the United States, and to the interior of the great North-West, and finally to Hudson's Bay, must become the entrepôt of a great commercial community.

From the beginning of 1881 Winnipeg entered upon over-reaching strides of progress, some of which were characterized by recklessness and consequent injury which will take time to overcome; but although hundreds became victims to the "boom," the city's future is assured. The corporate finances, like those of most of its citizens, have become badly entangled, and will require skill and patience to straighten and readjust. In a few months, we may say, the population of the city was more than doubled, and the value of property enhanced greatly beyond its true value. However, reckless speculation has entirely ceased, and a steadier and more certain stream of prosperity has set in, and Winnipeg, with the whole Province, will move forward in the highway of material development.

Some idea of the wonderful growth of the city may be gathered from the following figures taken from the Assessment Roll for 1882:

Ward.	1881.	1882.	Increase.
South.....	$3,374,880	$10,467,150	$7,092,270
North.....	1,923,820	8,103,870	6,180,050
West.....	2,257,385	7,780,300	5,522,915
East.....	1,640,350	4,080,950	2,440,600
	$9,196,435	$30,432,270	$21,235,835

The assessment is divided—real estate, $25,154,900; buildings, $3,277,550; personal, $2,090,270.

The steady and rapid growth of the city is shown by the following statement of population and assessment:

	Inhabitants.	Assessment.
1870	300	
1871	500	
1872	1,000	
1873	1,500	
1874	2,000	$2,676,018
1875	3,000	2,635,805
1876	4,000	3,031,685
1877	5,000	3,097,824
1878	6,000	3,216,980
1879	7,000	3,415,060
1880	8,000	4,000,000
1881	9,500	9,196,430
1882	25,000	30,432,270

I am aware that these figures are slightly exaggerated. The assessment is higher than in other cities of like population, but it serves to show the immense growth of the place—a growth, however, which has not yet fairly commenced. With the opening of a line of railway between that city and the western shore of Hudson's Bay, a new and greater era of prosperity will be started, the population of the city will again be doubled in a few months, and the vacant lands throughout the great Province will be taken up by incoming settlers from Europe. No doubt great cities will grow up to the west of Winnipeg, in the future Provinces of that vast territory, but none of them will be likely to exceed in population and commerce the future of the present commercial capital of the prairie country.

CHAPTER XLII.

The Great North-West—The Territories.

BOUNDARIES AND AREAS OF THE NORTH-WEST TERRITORIES—TESTIMONY OF TRAVELLERS AND EMINENT MEN ON THE EXTENT AND GREAT FERTILITY OF THE CANADIAN NORTH-WEST—THE CLIMATE OF THE HIGH LATITUDES—THE GREAT BREAD AND MEAT PRODUCING COUNTRY.

ASSINIBOIA, the first territorial division west of Manitoba, on the line of the Canadian Pacific Railway, lies to the west of the Province of Manitoba, and adjoins the International Boundary Line. It contains about one hundred thousand square miles. Its northern boundary is near the fifty-second parallel of latitude. On the west it is bounded by Alberta, by the line dividing the tenth and eleventh ranges of townships west of the fourth initial meridian. The eastern portion of the district is drained by the Assiniboine River and its tributaries, while the western part is watered by the Saskatchewan and the streams flowing into it.

Alberta comprises about one hundred thousand square miles of excellent agricultural and pastoral territory, bounded on the south by the International Boundary Line; on the east by the District of Assiniboia; on the west by the Province of British Columbia; and on the north by the eighteenth correction line.

Saskatchewan comprises about 114,000 square miles, bounded on the south by the District of Assiniboia, and the northern boundary of the Province of Manitoba; on the north it is bounded by the eighteenth correction line, and on the west by a line dividing the tenth and eleventh ranges of townships west of the fourth initial meridian.

Athabaska comprises an area of about 122,000 square miles, bounded on the south by the District of Alberta; on the east by the line between the tenth and eleventh ranges of townships west of the fourth initial meridian, until in proceeding northwards that line intersects the Athabaska River, then by that river and the Athabaska Lake and Slave River to the intersection of this with the northern boundary, which is the 32nd correction line, or about the 60th parallel of north latitude; and westward by the Province of British Columbia.

In these vast territories are immense lake and river systems. The Mackenzie is one of the largest rivers in the world, and empties into the Arctic Ocean. Its estimated length is two thousand five hundred miles, including the Slave River, which is part of its system. This river is generally navigable except at the base of the Rocky Mountains, where it is interrupted by cascades. The country through which it runs is very rich in mineral wealth. The Peace River, another great stream of the North-West, has an estimated course of one thousand one hundred miles, draining a vast country containing great agricultural and mineral resources.

Another great river which takes its rise in the Rocky Mountains, is the Saskatchewan, which empties into Lake Winnipeg, having a total length of about 1,500 miles. This river is navigable from the lake to Fort Edmonton, and it drains an immense agricultural region. There are numerous other rivers in this territory, such as the Nelson, the Churchill, the Winnipeg and the Assiniboine. The lakes are the Great Bear Lake, the Great Slave Lake, the Athabaska, Lake Winnipeg and others. The Great Bear Lake contains an area of 14,000 square miles. The Great Slave Lake has a length from east to west of three hundred miles, its greatest breadth being fifty miles. The Athabaska Lake has a length of two hundred and thirty miles, averaging fourteen miles in width, having, however, a very much greater width in some places. Lake Winnipeg has a length of two hundred and eighty miles, with a breadth of fifty-five miles, but its shape is very irregular. There are numerous other lakes of large size in the North-West. The Nelson River drains the waters of Lake Winnipeg into Hudson's Bay; and the extent of its discharge

may be imagined from the fact that this lake receives the waters of the Red River of the north, as well as of the River Winnipeg, the Saskatchewan and others.

A remarkable feature of this great extent of territory is its division along lines, running generally north-west and south-east, into three distinct prairie steppes, or plateaux as they are generally called. The first of these is known as the Red River Valley and Lake Winnipeg plateau. The width at the Boundary Line is about fifty-two miles, and the average height about eight hundred feet above the sea. At the Boundary Line it is about one thousand feet. This first plateau lies entirely within the Province of Manitoba, and is estimated to contain about seven thousand square miles of the best wheat growing land on the continent or in the world. The second plateau or steppe has an average altitude of one thousand six hundred feet, having a width of about two hundred and fifty miles on the National Boundary Line, and an area of about one hundred and five thousand square miles. The rich, undulating, park-like country lies in this region. This section is specially favourable for settlement, and includes the Assiniboine and Qu'Appelle districts. The third plateau or steppe begins on the Boundary Line at the 104th meridian, where it has an elevation of about two thousand feet, and extends west for four hundred and sixty-five miles to the foot of the Rocky Mountains, where it has an altitude of about four thousand two hundred feet, making an average height above the sea of about three thousand feet. Generally speaking, the first two steppes are those which are most favourable for agriculture, and the third for grazing. Settlement is proceeding in the first two at a very rapid rate; and in the third plateau numerous and prosperous cattle ranches have been established. But the district destined in all probability to excel them all is the Peace River country to the north and west of the latter.

A great deal has been written and published on the Canadian North-West, and most readers are familiar with all that has been said; but I wish to present, in this connection, the best sayings of the best people on this question. It will do the world no harm to revive this evidence in the days of Manitoba's depression. The

North-West should take courage by remembering that the darkest hour is just before the dawn; and nothing is more certain than that the dawn of great prosperity in the North-West will break over the country with the first assurances of the establishment of the Hudson's Bay Railway. Nearly all of these statements in evidence of the great fertility and wonderful extent of the Canadian North-West have been given to the world before, but I reproduce them now; for by re-establishing the greatness of the prairie country, I but predicate the importance of the Hudson's Bay route. For this reason the remainder of this chapter is devoted to the testimony of travellers and eminent men who have visited the country.

When Lord Dufferin visited the North-West in 1877, travelling over large stretches and camping out for several weeks together, after observation of its resources, and conversations with settlers, he declared in a speech of great eloquence at Winnipeg, that when the Dominion of Canada came to these vast regions, she was no longer "a mere settler along the banks of a single river, but the owner of half a continent, and—in the magnitude of her possessions, in the wealth of her resources, in the sinews of her material might—the peer of any power on earth."

His Excellency the Marquis of Lorne, the late Governor-General of Canada, made an extensive tour in the North-West, in 1881, crossing the plains in waggons until he came in sight of the Rocky Mountains, and spending his nights under canvas. He also made a speech at Winnipeg, in which he described with great eloquence the impressions he had received of the territory over which he had travelled. The following are extracts:—"Beautiful as are the numberless lakes and illimitable forests of Keewatin—the land of the north wind to the east of you—yet it was pleasant to 'get behind the north wind' and to reach your open plains. The contrast is great between the utterly silent and shadowy solitudes of the pine and fir forests, and the sunlit and breezy ocean of meadowland, voiceful with the music of birds, which stretches onward from the neighbourhood of your city. In Keewatin the lumber industry and mining enterprise can alone be looked for, and here it is impossible to imagine any kind of work which shall not produce results equal to

those attained in any of the great cities in the world. Unknown a few years ago, except for some differences which had arisen amongst its people, we see Winnipeg now with a population unanimously joining in happy concord, and rapidly lifting it to the front rank amongst the commercial centres of the continent. We may look in vain elsewhere for a situation so favourable and so commanding—many as are the fair regions of which we can boast. . .. .

"Nowhere can you find a situation whose natural advantages promise so great a future as that which seems ensured to Manitoba and to Winnipeg, the Heart City of our Dominion. The measureless meadows which commence here stretch without interruption of their good soil westward to your boundary. The Province is a green sea over which the summer winds pass in waves of rich grasses and flowers, and on this vast extent it is only as yet, here and there, that a yellow patch shows some gigantic wheat-field. . . . .

"Like a great net cast over the whole are the bands and clumps of poplar wood which are everywhere to be met with, and which, no doubt, when the prairie fires are more carefully guarded against, will, wherever they are wanted, still further adorn the landscape. The meshes of this wood-netting are never farther than twenty or thirty miles apart. Little hay swamps and sparkling lakelets teeming with wild fowl are always close at hand; and if the surface water in some of these has alkali, excellent water can always be had in others, and by the simple process of digging for it a short distance beneath the sod with a spade, the soil being so devoid of stones that it is not even necessary to use a pick. No wonder that under these circumstances we hear no croaking. . . . .

"There was not one person who had manfully faced the first difficulties—always far less than those to be encountered in the older Provinces—but said that he was getting on well, and he was glad he had come; and he generally added that he believed his bit of the country must be the best, and that he only wished his friends could have the same good fortune, for his expectations were more than realized. It is well to remember that the men who will succeed here, as in every young community, are usually the able-bodied. . . . . .

"Favourable testimony as to the climate was everywhere given. The heavy night dews throughout the North-West keep the country green when everything is burned to the south, and the steady winter cold, although it sounds formidable when registered by the thermometer, is universally said to be far less trying than the cold to be encountered at the old English Puritan city of Boston, in Massachusetts. It is the moisture in the atmosphere which makes cold tell; and the Englishman who, with his thermometer at zero, would in his moist atmosphere be shivering, would here find one flannel shirt sufficient clothing while working. . . . .

"With the fear of Ontario before my eyes, I would never venture to compare a winter here to those of our greatest Province; but I am bound to mention that when a friend of mine put the question to a party of sixteen Ontario men, who had settled in the western portion of Manitoba, as to the comparative merits of the cold season of the two provinces, fourteen of them voted for the Manitoba climate, and only two elderly men said they preferred that of Toronto. . .

"You have a country whose value it would be insanity to question, and which, to judge from the emigration taking place from the older provinces, will be indissolubly linked with them. It must support a vast population. If we may calculate from the progress we have already made in comparison with our neighbours we shall have no reason to fear comparison with them on the new areas now open to us. Exclusive of Newfoundland, we have at present four millions four hundred thousand people, and these, with the exception of the comparatively small numbers as yet in this Province, are restricted to the old area. Yet for the last ten years our increase has been over eighteen per cent., whereas during the same period all the New England States taken together have shown an increase only of fifteen per cent. In the last thirty years in Ohio the increase has been sixty-one per cent. Ontario has had during that space of time one hundred and one per cent. of increase, while Quebec has increased fifty-two per cent. Manitoba in ten years has increased two hundred and eighty-nine per cent., a greater rate than any hitherto attained, and, to judge from this year's experience, is likely to increase to an even more wonderful degree during the following decade"

One of the party who accompanied His Excellency the Marquis of Lorne on his journey in 1881, was the Rev. Dr. James McGregor, who has since written a descriptive article in the *Contemporary Review*. In that article he says:—"As day after day, and week after week, we drove across those fertile regions, it was a daily wonder to us all how they had been so long kept hidden from the hungry millions of Europe. From Winnipeg to the Rocky Mountains we did not come across a thousand acres that were not fit either for grazing or for agriculture. Of the marvellous fertility of the first prairie steppe, the Red River region, there is no doubt whatever. The soil is a rich, black, friable mould, from two to four feet in depth, and has in some places yielded crops of wheat for fifty years without manure. The unbroken prairie has a sward of the richest green, thick and close in the pile as velvet. Here is the evidence of hard-headed practical Scotch farmers who recently visited the country. Mr. Gordon, of Annandale, says that 'beneath that surface of dried grass and ashes, consequent upon the frequent fires, there lies hidden a treasure in fertility of soil which, when developed, will sustain millions of the human race.' 'Along the Red River,' says Mr. Snow, of Midlothian, 'the soil is a very strong black vegetable mould, and would carry paying crops of wheat for thirty years.' 'As a field for wheat raising,' says Mr. Biggar, of Kirkcudbright, 'I much prefer Manitoba to Dakota. The first cost of land is less; the soil is deeper and will stand more cropping; the sample of wheat is better, and the produce five to ten bushels per acre more; all of which is profit. On the whole I was favourably impressed with Manitoba. No one who sees the immense extent of fertile soil and the excellence of its products can for a moment doubt that there is a great future before that country.' A writer in *Harper's New Monthly Magazine* for September, 1881, says:—'If one-half of the ground of that comparatively small portion which is drained by the Red River and its affluents were sown to wheat, the product at an average yield would be five hundred million bushels, or more than the entire amount raised in the United States in 1880.'"

Of the second prairie steppe, Dr. McGregor says:—"This second

plateau, which appears at one time to be completely covered by forest, comprehends the splendid countries watered by the Souris River, the Assiniboine, the Little Saskatchewan, and the Qu'Appelle. No words can exaggerate the prettiness and the richness of the country along the line at which we crossed it. No words can convey the impression produced by travelling day after day, in the most delightful weather, through this magnificent land, and finding ever, as we moved onward, that the fertility remained wasted and hungering for the plough. From the time we entered that second steppe till we struck the North Saskatchewan, a journey occupying fifteen days, the general character of the country may be described as that of vast rolling plains from ten to thirty miles broad, stretching as far as the eye can see, and covered with rich succulent grasses, these plains lying between long and broad ridges of upland from five to ten miles across, running mainly north-west and south-east, and dotted with clumps of copse or bush. These copse clumps and glades, interspersed with pretty lakes, often look less like the work of Nature, than of the landscape gardener. . . . It required an effort often to believe that this was 'No Man's Land.' Taking notes of the country hour by hour as we journeyed on, I find the words 'park-like,' 'copsy glades,' etc., occurring with almost wearisome reiteration. Here for example, is what I note of the prairie near Humboldt, the largest and cleanest we had yet seen, stretching absolutely treeless north-west and south-east far beyond vision :— It was a fine breezy day as we drove along those vast downs, rolling like a lumpy sea, the colour precisely that of the Cheviots in autumn, and covered with rich close-piled and flower-flushed grass. As we reached a higher rising ground than usual, and looked around upon the boundless plain, unbroken by rock, or tree, or shrub, as smooth-shaven as a well kept lawn, the expression would force itself to the lips—'Wonderful!'"

Of the third prairie steppe, Dr. McGregor says :—"At the point where we struck it, the escarpment which divides it from the second steppe was most sharply defined, being nothing less than the fine and bold ridge of the Eagle Hills. On ascending these hills we found that there was no descent on the other side, but that before

us stretched a level prairie, whose difference in character as well as height from the prairie of the previous steppe was at once apparent. South and west stretched a great yellow circle, but with no wooded purple ridge, as formerly, on the horizon."

Speaking of the section of country where the cattle ranches are situated, on the third prairie steppe, Dr. McGregor says:—"The whole of this region may be said to be more or less under the beneficent influence of the warm winter winds, known as the 'Chinooks,' whose true physical explanation has not yet been accurately ascertained, but of whose extraordinary effects in tempering the cold winter there can be no manner of doubt. It is owing to these winds that snow never lies to any depth, and as a consequence cattle and horses find food and shelter for themselves all the winter through. The result is that ranching or stock-raising on a colossal scale has already begun."

The following is an extract from a letter of the Hon. Horatio Seymour, late Governor of the State of New York. It is interesting as containing an American opinion. Writing of what he saw in Manitoba and the Canadian North-West, the Hon. Mr. Seymour says:—"I saw thousands and thousands of acres of wheat, clearing forty bushels to the acre, weighing sixty-three and sixty-five pounds to the bushel, and was assured by undoubted authority that, on Peace River, one thousand two hundred miles north-west of where I was, wheat could be produced in immense quantities equal to the best I saw in Winnipeg, while great herds of cattle were being fed without cost on as fine grassy land as the world affords. In short, between our north-western line of forty-five degrees and fifty-four degrees forty minutes (General Cass's fighting point), there is a country owned by England with greater grain and stock-growing capacity than all the lands on the Baltic, the Black Sea and the Mediterranean combined. The land laws of Canada are now as liberal as ours as to the homestead, pre-emption, and free claims. People are crowding there rapidly and towns are springing up as if by magic. Their great railway will reach the Pacific before our Northern Pacific will, and it will be extended eastward promptly to Montreal. The distance to Liverpoool will be six hundred miles

shorter than any American line can get the wheat of Dakota there."

To take another American witness, the following is an extract from a letter of the late Honourable William Seward, the Foreign Secretary to the late President Lincoln during the war with the South. His statement is both frank and explicit:—"Hitherto, in common with most of my countrymen, as I suppose, I have thought Canada a mere strip lying north of the United States, easily detached from the parent State, but incapable of sustaining itself, and therefore ultimately, nay, right soon, to be taken on by the Federal Union, without materially changing or affecting its own development. I have dropped the opinion as a national conceit. I see in British North America, stretching as it does across the Continent from the Atlantic to the Pacific, in its wheat-fields of the West, its invaluable fisheries, and its mineral wealth, a region grand enough for the seat of a great empire."

"It is a physical reality of the highest importance," says Captain Palliser, "to the interests of British North America, that this conntiuous belt can be settled and cultivated from a few miles west of Lake of the Woods to the passes of the Rocky Mountains; and any line of communication, whether by waggon or railroad, passing through it, will eventually enjoy the great advantage of being fed by an agricultural population from one extremity to the other. No other part of the American Continent possesses an approach even to this singularly favourable disposition of soil and climate. The natural resources lying within the limits of the Fertile Belt, or on its eastern borders, are themselves of great value as local elements of future wealth and prosperity; but in view of a communication across the continent, they acquire paramount importance. Timber, available for fuel and building purposes, coal, iron ore, are widely distributed, of great purity and in considerable abundance; salt, in quantity sufficient for a dense population. All these crude elements of wealth lie within the limits or on the borders of a region of great fertility."

His Honour Lieut.-Governor Robinson.—The following is an extract from a letter of His Honour Lieut.-Governor Robinson, of the Province of Ontario, to the Hon. J. H. Pope, Minister of Agriculture, dated Nov. 1st, 1882, descriptive of a recent visit to the

North-West:—"Judging from what I saw myself, and from what I heard from others conversant with the territory, whom I was continually meeting, its agricultural area is almost unlimited, the fertility of its soil unequalled, producing crops, such as I, a native of this Province, or the Ontario farmer, never saw before. I met a great many I had known in Ontario, and others as well, settled all over this new country, and never heard a complaint from one of them; all speaking as if they individually had made the best selection, and that their particular location or grant from the Government was the best. I never met a more contented or hopeful lot of men, and well they may be, for they have the finest land under heaven as a free gift, ready by nature for the plough, and safe by the industry of a few years to place themselves and families in comfortable circumstances for the rest of their days. I saw several whose first year's crop had so gladdened their hearts that they already fancied themselves above all want. Two friends, lately from England, accompanied me, and liked this grand country so much that they bought land for their sons, intending on their return to send the boys out next spring; and they are men who have seen many countries, and are consequently well able to choose and judge for themselves. I left that section of the North-West, say four hundred miles west from Winnipeg and the Qu'Appelle Valley nearer Winnipeg, towards the end of October. The weather was bright and clear; the mildness of it astonished me. No one could wish for better; it was thoroughly enjoyable, and just the climate for strong exercise without fatigue. I do not know if you care to hear it, but I may as well tell you of that which pleased our English friends who love sport so much—that game, such as snipe, duck and prairie grouse were abundant, and that we were all well supplied with these luxuries on the prairies."

The following is an extract from a letter dated October 24th, 1882, written by Mr. R. W. Cameron, of New York, to the Hon. J. H. Pope, Minister of Agriculture. Mr. Cameron is a man of great experience:—"For agricultural purposes the whole plain from Winnipeg to beyond Moose Jaw, a distance of nearly five hundred miles, is, with small exceptions, as fine in soil and climate as any that has

come under my observation. I have traversed Kansas, Nebraska, Wyoming and Colorado, and in none of them have I seen the depth of rich soil that I saw on the line of the C. P. R. R. The soil around Winnipeg, Portage la Prairie, Brandon and Regina, is the richest I have ever seen; and as to the climate, I visited it for the sake of my health, which for some time previous was much shattered and received more benefit from my month's stay in the North-West than I believed possible. I found myself capable of more physical exertion than I could possibly have stood in this climate at any time within the past ten years. A walk of ten miles, which I made without extra exertion in two and a quarter hours, fatigued me less than a walk a third the distance would have done here. The climate is bracing and exhilarating beyond any hitherto experienced by me."

The following extract is taken from the work on Climatology by the eminent American author, Mr. Blodgett. The statements are in themselves interesting, and contain principles of the greatest importance. Both have been verified in a remarkable manner by the evidence of facts since the author's pages were written:—"By reference to the illustration of the distribution of heat, we see that the cold at the north of the great lakes does not represent the same latitude farther west, and that beyond them the thermal lines rise as high in latitude, in most cases, as at the west of Europe. Central Russia, the Baltic districts, and the British islands, are all reproduced in the general structure, though the exceptions here fall against the advantage, while there they favour it through the influence of the Gulf Stream. Climate is indisputably the decisive condition, and when we find the isothermal of 60° for the summer rising on the interior American plains to the 61st parallel, or fully as high as its average position for Europe, it is impossible to doubt the existence of favourable climates over vast acres now unoccupied.

"This favourable comparison may be traced for the winter also, and in the average for the year. The exceptional cold for the mountain plateaux, and of the coast below the 43rd parallel, mask the advantage more or less to those who approach these areas from the western part of the Central States, and from the coast of California; but though the distant mountain ranges remain high at the

north, the width of their base, or of the plateau from which they rise, is much less than at the 42nd parallel. The elevated tracts are of less extent, and the proportion of cultivable surface is far greater.

"It will be seen that the thermal lines for each season are thrown farther northward on passing Lake Superior to the westward in the charts of this work than in those of the military report prepared by the author. . . . A further collection and comparison warrant the position now given to the thermal lines, placing them farther northward than before, and extending them in a course due northwest from Lake Superior to the 58th parallel. For the extreme seasons, winter and summer, this accurate diagonal extension of the thermal lines across the areas of latitude and longitude is very striking. The buffalo winter on the Upper Athabaska at least as safely as in the latitude of St. Paul, Minnesota; and the spring opens at nearly the same time along the immense line of plains from St. Paul to Mackenzie River.

"The quantity of rain is not less important than the measure of heat to all purposes of occupation; and for the plains east of the Rocky Mountains there may reasonably be some doubt as to the sufficiency; and doubts on this point—whether the desert belt of lower latitude is prolonged to the northern limit of the plains. If the lower deserts are due to the altitude and mass of the mountains simply, it would be natural to infer their existence along the whole line, where the Rocky Mountains run parallel and retain their altitude; but the dry areas are evidently due to other causes primarily, and they are not found above the 47th parallel in fact. It is decisive on the general question of the sufficiency of rain, to find the entire surface of the upper plains either well grassed or well wooded; and recent information on these points almost warrants the assertion that there are no barren tracts of consequence after we pass the bad lands and the Coteau of the Missouri. Many portions of these plains are known to be peculiarly rich in grasses; and probably the finest tracts lie along the eastern base of the mountains in positions corresponding to the most desert. The higher latitudes certainly differ widely from the plains which stretch from the Platte

southward to the Llano Estacado of Texas, and none of the references made to them by residents or travellers indicate desert characteristics. Buffalo are far more abundant on the northern plains, and they remain through the winter at their extreme border, taking shelter in the belts of woodland on the Upper Athabaska and Peace Rivers. Grassy savannas like these necessarily imply an adequate supply of rain; and there can be no doubt that the correspondence with the European plains in like geographical position—those of Eastern Germany and Russia—is quite complete in this respect. If a difference exists it is in favour of the American plains, which have a greater proportion of surface waters, both as lakes and rivers.

. . . . . .

"Next, the area of the plains east of the Rocky Mountains is no less remarkable than the first for the absence of attention heretofore given to its intrinsic value as a productive and cultivable region within easy reach of emigration. This is a wedge-shaped tract, ten degrees of longitude in width at its base, along the 47th parallel inclined north-westward to conform to the trend of the Rocky Mountains, and terminating not far from the 60th parallel in a narrow line, which still extends along the Mackenzie for three or four degrees of latitude, in a climate barely tolerable. Lord Selkirk began his efforts at colonization in the neighbourhood of Winnipeg as early as 1815, and from personal knowledge he then claimed for this tract a capacity to support thirty millions of inhabitants. All the grains of the cool, temperate latitudes are produced abundantly. Indian corn may be grown on both sides of the Saskatchewan, and the grass of the plains is singularly abundant and rich. Not only in the earliest exploration of these plains, but now, they are the great resort for buffalo herds, which, with the domestic herds and horses of the Indians and the colonists, remain on them and at their woodland borders throughout the year. The simple fact of the presence of these vast herds of wild cattle on plains at so high a latitude is ample proof of the climatological and productive capacity of the country. Of these plains and their woodland borders the valuable surface measures fully five hundred thousand square miles."

Thus I have given the most unquestionable testimony of the

Thus I have given the most unquestionable testimony of the great productiveness of the Canadian North-West. But to all this I must add the testimony of Professor Macoun, especially with regard to the higher latitudes. He says:—"At Vermillion, latitude 58° 24', I had a long conversation with old Mr. Shaw, who has had charge of this Fort for sixteen years; he says the frosts never injure anything on this part of the river, and every kind of garden stuff can be grown. Barley sown on the 8th May, cut 6th August, and the finest I ever saw; many ears as long as my hand, and the whole crop thick and stout. In my opinion this is the finest tract of country on the river. The general level of the country is less than one hundred feet above it.

"At Little River I found everything in a very forward state. Cucumbers started in the open air were fully ripe; Windsor, pole beans and peas were likewise ripe August 15th. Fort Chippewayan, at the entrance to Lake Athabaska, has very poor soil in its vicinity, being largely composed of sand; still, here I obtained fine samples of wheat and barley, the former weighing sixty-eight pounds to the bushel, and the latter fifty-eight pounds. The land here is very low and swampy, being but little elevated above the lake. At the French Mission, two miles above the Fort, oats, wheat and barley were all cut by the 26th August. Mr. Hardisty, Chief Factor in charge of Fort Simpson, in lat. 61° N., informed me that barley always ripened there, and that wheat was sure four times out of five. Melons, if started under glass, ripen well. Frost seldom does them much damage. Chief Trader Macdougall says that Fort Laird, in lat. 61° N., has the warmest summer temperature in the whole region, and all kinds of grain and garden stuff always come to maturity. He has been on the Yucon for twelve years, and says that most years barley ripens under the Arctic Circle in long. 143° W.

"The localities mentioned were not chosen for their good soil, but for the facilities which they afforded for carrying on the fur-trade, or for mission purposes. Five-sixths of all the land in the Peace River section is just as good as the point cited, and will produce as good crops in the future. The reason so little is cultivated is owing to the fact that the inhabitants, whites and Indians, are flesh eaters. Mr. Macfarlane, Chief Factor in charge of the Athabaska

District, told me that just as much meat is eaten by the Indians when they receive flour and potatoes as without them.

"At the Forks of the Athabaska, Mr. Moberly, the gentleman in charge, has a first-class garden, and wheat and barley of excellent quality. He has cut an immense quantity of hay, as the Hudson's Bay Company winter all the oxen and horses used on Methy Portage at this point. He told me that in a year or two the Company purposed supplying the whole interior from this locality with food, as the deer were getting scarce and the supplies rather precarious. This is the identical spot where Mr. Pond had a garden filled with European vegetables when Sir Alexander Mackenzie visited it in 1787. It will be seen that about the 20th of April ploughing can commence on Peace River, and from data in my possession the same may be said of the Saskatchewan regions generally. It is a curious fact that spring seems to advance from north-west to south-east at a rate of about two hundred and fifty miles per day; and that in the fall winter begins in Manitoba first, and goes westward at the same rate. The following data selected from various sources will throw considerable light on the question of temperature. It is worthy of note that Halifax, on the sea coast, is nearly as cold in spring and summer as points more than twelve degrees further north.

"Spring, summer and autumn temperatures at various points—to which is added the mean temperature of July and August, the two ripening months—are given as follow:—

	Latitude north.	Summer.	Spring.	Autumn.	July and August.
Cumberland House.....	53.37	62.62	33.04	32.70	64.25
Fort Simpson	61.51	59.48	26.66	27.34	62.31
Fort Chippewayan.....	58.42	58.70	22.76	31.89	60.60
Fort William.....	48.24	59.94	39.67	37.80	60.52
Montreal.....	45.31	67.26	39.03	45.18	68.47
Toronto.....	43.40	64.43	42.34	46.81	66.51
Temiscamingue	47.19	65.23	37.58	40.07	66.43
Halifax	44.39	61.00	31.67	46.67	66.55
Belleville.....	44.10 temperature nearly that of Toronto.				
Dungevan, Peace River	56.08 average summer six months				54.44
Edmonton.....	53.31	.....	39.70	.....	.....
Carleton.....	52.52	.....	35.70	.....	.....
Winnipeg.	49.52	64.76	30.13	35.29	65.32

"Any unprejudiced person, making a careful examination of the above figures, will be struck with the high temperatures obtained in the interior. Edmonton has a higher spring temperature than Montreal, and is eight degrees farther north and over two thousand feet above the sea. The temperatures of Carleton and Edmonton are taken from Captain Palliser's explorations in the Saskatchewan country during the years 1857 and 1858. It will be seen that the temperature of the months when grain ripens is about equal throughout the whole Dominion, from Montreal to Fort Simpson, north of Great Slave Lake. The country, in my opinion, is well suited for stock raising throughout its whole extent. The winters are certainly cold, but the climate is dry, and the winter snows are light both as to depth and weight. All kinds of animals have thicker coats in cold climates than in warm ones, so that the thicker coat counterbalances the greater cold. Dry snow never injures cattle in Ontario. No other kind ever falls in Manitoba or the North-West, so that there can be no trouble from this cause. Horses winter out without feed other than what they pick up, from Peace River to Manitoba. Sheep, cattle and horses will require less attention and not require to be fed as long as we now feed them in Ontario. Owing to the light rain-fall the uncut grass is almost as good as hay when the winter sets in, which it does without the heavy rains of the east. This grass remains good all winter, as the dry snow does not rot it. In the spring the snow leaves it almost as good as ever, so that cattle can eat it until the young grass appears. From five to six months is about the time cattle will require to be fed, and shelter will altogether depend on the farmer."

CHAPTER XLIII.

THE GREAT NORTH-WEST—*Continued.*

TESTIMONY AS TO THE SUITABLENESS OF THE NORTH-WEST FOR AGRICULTURE AND STOCK-RAISING FROM THE SETTLERS THEMSELVES—THE "DISCONTENT" EXPLAINED—THE RESOURCES OF THE NORTH-WEST.

ALREADY a pretty extended account of the vastness and immense resources of the Canadian North-West has been given. We have read the testimony of travellers and eminent men on the suitability of the country for agriculture and stock-raising, and its extensive natural resources. To this may be added the evidence given by the settlers in the country themselves. The Canadian Department of Agriculture, a year or two ago, sent out questions to farmers in the North-West, and received written answers from one hundred and fifty, testifying :—

(1.) That both the country and the climate are very healthy.

(2.) That the soil everywhere is exceptionally rich, yielding excellent crops without manure.

(3.) That they have found good water plenty, and that in nearly all cases wood is not hard to be got.

(4.) That natural hay exists in unlimited quantities, and may be had, almost everywhere, for the cutting and hauling.

(5.) That the effects of the long cold winters are not unfavourable to either man or beast.

Thirty-seven farmers testify that Indian corn can be ripened successfully. Eighty-nine testify to an average yield of wheat, per acre, of twenty-six and three-quarter bushels in 1877 ; of twenty-six and one-third in 1878 ; twenty-six and three-quarters in 1879 ; and of twenty-nine and one-third bushels in 1880. The weight of this

wheat is very heavy, being from sixty-three to sixty-six pounds per bushel. One hundred and fifteen farmers testify to the yield of oats per acre, namely: in 1877, fifty-nine and three-quarter bushels; in 1878, fifty-nine and three-quarter bushels; in 1879, fifty-eight bushels; and fifty-seven and three-quarter bushels in 1880. In barley, the testimony of one hundred and one farmers gives an average yield of thirty-seven and two-third bushels per acre in 1879, and forty-one bushels in 1880. Twenty-one farmers testify to the yield of peas per acre, giving an average of thirty-two bushels in 1877, thirty-four bushels in 1878, thirty-two and a-quarter in 1879, and thirty-eight and a-half bushels in 1880. Some of the yields of peas were very much larger and some smaller than these averages, the yields evidently depending on the farming.

Ninety-two farmers testify to an average yield of three hundred and eighteen bushels of potatoes per acre in 1880. Mr. W. H. J. Swain, of Morris, has produced eight hundred to one thousand bushels of turnips to the acre, and sixty bushels of beans have also been raised by him per acre; Mr. S. C. Higginson, of Oakland, has produced cabbages weighing seventeen and a-half pounds each; Mr. Allan Bell, of Portage la Prairie, has had cabbages forty-five inches around, and turnips weighing twenty-five pounds each; Mr. Thomas B. Patterson has realized forty tons of turnips to the acre, some of them weighing as much as twenty pounds each; Mr. Robert E. Mitchell, of Cook's Creek, raised a squash of six weeks' growth measuring five feet six inches around the centre; Mr. William Moss, of High Bluff, has produced carrots weighing eleven pounds each, and turnips measuring thirty-six inches in circumference; Mr. James Airth, of Stonewall, states that the common weight of turnips is twelve pounds each, and some of them have gone as high as thirty-two and a-half pounds; Mr. Isaac Casson, of Green Ridge, has raised two hundred and seventy bushels of onions to the acre; Mr. John Geddes, of Kildonan, states that he has raised three hundred bushels of carrots and eight hundred bushels of turnips per acre; Mr. John Kelly, of Morris, has produced from eight hundred to one thousand bushels of turnips to the acre; Mr. Joshua Appleyard, of Stonewall, also states his crop of turnips to have been one thousand bushels per

acre, the common weight being twelve pounds each; Edward Scott, of Portage la Prairie, raised four hundred bushels of turnips from half an acre of land; Mr. W. H. J. Swain, of Morris, had citrons weighing eighteen pounds each; Mr. Francis Ogletree, of Portage la Prairie, produced onions measuring four and three-quarter inches through the centre.

"It must be remembered," says the Hon. Minister of Agriculture, "that none of the farmers mentioned above used any special cultivation to produce the results we have described; and out of nearly two hundred reports which we have received from settlers concerning the growth of roots and vegetables in the Canadian North-West, not one has been unfavourable."

The culture of fruit and apples in the North-West is yet in its infancy. Farther to the north-west, in the Peace River country, there is a vast fruit region, equal to the western portions of New York State. However, even in the Province of Manitoba certain varieties can be grown with good success. There is an abundance of wild fruits all over the North-West, such as strawberries, raspberries, whortleberries, cranberries, plums, black and red currants, blueberries and grapes, so that there is no scarcity in this respect for the settler, and he will find the flavour of the wild fruit of the North-West most delicious. In fact, strangers, when tasting our strawberries and raspberries for the first time, invariably pronounce them superior to the cultivated varieties.

Lately, some of the farmers of the North-West have paid special attention to the growth of flax and hemp with most satisfactory results. There is not the least doubt that, as the climate of the North-West is peculiarly favourable to the production of a good quality of both flax and hemp, they will play an important part in the future resources of the country. There is, however, another product to which I would draw attention, and that is the sugar beet, a root for the cultivation of which the North-West is peculiarly adapted. A good deal of attention is already being paid in different parts of Canada to the cultivation of the sugar beet, and it promises to be one of the future important pursuits of the North-West.

Game of nearly all kinds is abundant, and in the rivers and lakes

there is an abundance of fish of the following kinds: whitefish (regarded by many as equal to that caught in Lake Superior), pickerel, pike, catfish, sturgeon, rock bass and black bass, perch, suckers, sunfish, gold-eye, carp, and, in some parts, trout and maskinonge. The dry air of the North-West, the clear skies and the rich flora of the prairies and woods indicate that bee-culture can be carried on successfully. Several farmers have already paid successful attention to the production of honey, and in the woods swarms of wild bees can be found. While agriculture will undoubtedly be the principal industry in the Canadian North-West for generations to come, that of stock-raising will be next in importance.

Its vast prairies covered with rich grasses, the sheltering groves and forests here and there, the abundant supply of good water to be found almost anywhere, and the favourable climate, all proclaim this fine country as certain to become one of the best for grazing in the world. We have already shown that the wild grasses are considered by many as superior even to the cultivated species. The winters, owing to the atmosphere being dry, are most favourable and in addition to this the great area of pasture available for the grazing of immense herds, would indicate that stock raising will ere long be followed on a large scale in the North-West. The same advantages in connection with the raising of the larger class of stock apply also to sheep; and the experience of many of our old settlers shows conclusively that wool growing in the Canadian North-West is a branch of industry which will prove of great profit to every farmer undertaking it. Already, in the valleys of the tributaries of the Upper South Saskatchewan, stock raising has become a profitable industry, and is growing into very great proportions on a scale so rapid that one is struck with wonder and amazement.

Horses, too, thrive equally well, and rapidly increasing droves of the latter are already to be seen in the same neighbourhood. When this industry of cattle and horse raising reaches a degree of success even partly equal to its possibilities, and when that vast and fertile grazing country north-west of the Athabaska on the alluvial grove-dotted plains and park-like meadows of the Peace River country is occupied, hundreds of thousands of these animals, over and above the

home demand, will be annually exported to Europe. The home market for meat will continue to grow in proportion to the rapid development caused by railway construction, and as new towns and cities spring into existence the demand on the stock-raiser will increase in proportion. The prosecution of railways and public works will also create a great demand for meat and agricultural produce to feed the large numbers of men employed; but, besides all this, the trade in cattle, which is now being carried on so extensively between America and Great Britain, and which is likely to increase every year, will open up a large field for enterprise in the North-West.

But if agriculture is to be the first, and stock raising the second, great industry of the Canadian North-West, that of pork-raising, not yet undertaken to any great extent, will be the third, and will struggle hard for second place. As yet, but few have turned their attention in this direction; but when it is considered that peas and potatoes can be grown in such great abundance, and that wheat-bran is superabundant—the ingredients which, when united in the proper proportions, produce the best pork in the world—we may expect that, before very long, pork-raising and pork-packing will become in the North-West what they are in the States of Illinois, Indiana, and Ohio, to-day. The day is not distant, I fancy, when the farmers of the North-West will raise an average of fifty hogs each, and some who will find it profitable to go into the business almost exclusively, will boast their droves of thousands.

The fuel question of the Canadian North-West is now settled. There is an abundance of coal of good quality. Indeed, the whole territory from the International Boundary Line along the base of the Rockies to the Peace River and beyond it, is one immense coal-bed, and the day is not distant when good coal for domestic and manufacturing purposes will be laid down at the dwellings and business houses in that country at from three dollars to five dollars a ton according to the distance from the mines. Every day brings new and more favourable discoveries in the coal-fields, so that the question of the future supply is no longer one of anxiety.

Petroleum, too, has been found, and although but little has been done thus far to prove its quality or quantity, enough is known to

justify the statement that the richest petroleum fields in the world, so far as they are known, exist north-west of the Saskatchewan. This becomes an exceedingly important fact when it is remembered that recent discoveries make it plain that the future great steam-producing fuel of the world will be petroleum and water.

There is an impression gone abroad of late—and I fear certain sentiments expressed at the late Farmers' Convention, at Winnipeg, have produced it—to the effect that the settlers in Manitoba and the North-West have become discontented with the country and are discouraged concerning their future. I have in a previous chapter explained the nature and cause of the discontent in that part of Canada. It arose from no fault of the country, but owing entirely to the policy of the Dominion Government toward that section, which became a source of complaint, especially in relation to the Canadian Pacific Railway. However, as these pages will find readers in both Europe and America, I will—lest there should still exist in the minds of the people in certain quarters the idea that the settlers of the Canadian North-West are dissatisfied with the country—reproduce here letters from settlers in nearly all parts of that section, which show to the contrary:—

"I am a native of Western Ontario and have been farming fifteen years. This is my fifth year here, and I much prefer this country to anywhere else."—JAMES STEWART, Meadow Lea.

"The usual time of sowing wheat, oats and peas is from the beginning of April to the middle of May; barley from the middle of May to the beginning of June. The weather during seeding and harvest is generally dry. The usual time to harvest is from the middle of August till September."—JNO. MCKINNON, Three Creeks, Portage la Prairie.

"In my opinion the month of September is the most favourable for settlers to come here, and in no case should they come earlier than May. Let them bring good, medium-sized, close-made horses with them. Have been here eight years, and know the requirements pretty well."—NELSON BROWN, High Bluff.

"I would just say that there are no obnoxious weeds here. When a field is ready to be reaped, as a rule, you cannot see anything only grain. Flax grows well in this country. It can be grown with profit. I have

seen it grow as tall as I saw it in Ireland. Vegetables of all kinds grow splendidly without much labour and with no manure."—MATHEW OWENS, J. P., High Bluff.

"Land ought to be ploughed in the fall and sown as early as possible in the spring. Seeding is from 10th to 15th of April, and harvest from 10th of August to 15th of September. The Mennonites here grow all their tobacco, and it stands about four feet high."—JOHN W. CARLTON, Clear Springs.

"The month of May is generally fair; June wet; August and September fair weather. All kinds of roots and vegetables should be sown as early as the ground is in fit condition, and will be fit for gathering about middle of October. Brush ground broken in spring will yield a good crop of oats or potatoes the same season."—JAMES SINCLAIR, Greenwood.

"I have been in the country six years and have found the driest summer to give the best crops, even though there was no rain except an odd thunder-shower. New settlers should come in May, and break their land till July; then, after cutting and saving plenty of hay for all the cattle, they can prepare their buildings for the winter."—HENRY WEST, Clear Springs.

"For stock-raising purposes the district is unequalled, as the supply of hay is unlimited, and a man can raise as much stock as he is able to cut fodder for."—DAVID CHALMERS, St. Anne, Point Du Chene.

"The potatoes raised here are the finest I ever saw. I have not been in the country but one year, but I am very well pleased with it. All kinds of roots grow better and larger here than in Ontario."—WILLIAM START, Assiniboine.

"I started with one cow, one horse and a plough eighteen years ago, and to-day my assessment was for $13,000. I did not fail one crop yet in eighteen years of my farming here, and I must say this year's crop is better than I have had before."—BENJAMIN BRUCE, Poplar Point.

"Rye does well in this country. I have been in Scotland, England, and the United States, and in Ontario, but this country beats them all for large potatoes."—ROBERT BELL, Burnside.

"I would suggest that intending settlers in the North-West who come to settle down on prairie land should break up an acre or two around where they build, on the west, north and east, and plant with maple seeds. Plant in rows four feet apart, the seeds to be planted one foot apart; they afterwards can be thinned out and transplanted. I have them twelve feet

high, from the seed planted four years ago, and they will form a good shelter. I find, after a residence of nine years, that this north-west country is well calculated for raising the different kinds of grain sown by farmers."—JAMES STEWART, High Bluff.

"Farmers should have Canadian horses, and get oxen and cows, and purchase young cattle. By so doing they will double their money every year. I am in the business and know by experience."—JAMES MCEWEN, Meadow Lea.

"I can tell from experience that all root crops grow to a very large size, better than ever I have seen in other places. Turnips, carrots, mangold-wurtzels, beets, onions, potatoes, cabbage, tomatoes, melons, cucumbers, citrons, corn, beans. All these grow splendidly here. The time to sow from 1st to 15th of May, and to gather them from 1st to 15th October."—DUNCAN MACDOUGALL, Meadow Lea.

"I would recommend intending settlers to try stock-raising, more especially sheep."—SAMUEL J. PARSONS, Springfield.

"I have seen fair crops raised by breaking early in the spring and sowing oats; but by breaking about two inches deep in June, and turning back in fall, getting up all the subsoil you can, is the best way for the following spring crops."—EDWIN BURNELL, Nelsonville.

"I would advise immigrants to fetch all the cash they can. They can suit themselves better by buying here about as cheap, and they will only get just what they need."—GEORGE FERRIS, St. Agathe.

"Timothy, White Dutch and Alsike clover grow well here. I have just cut a crop of seven acres, that will average two and one-half tons to the acre, and have thirty acres seeded down for next year."—JAMES BEDFORD, Emerson.

"Spring weather, at time of seeding, is generally bright, with some warm showers of rain. In harvesting we rarely have rain; usually clear, fine days."—H. C. GRAHAM, Stoneville.

"I consider this country the place to come, provided any man wants to make a home and knows something about farming, that has about $400 or $500 to begin with."—JOHN GEORGE, Nelsonville.

"Strawberries, currants, gooseberries, raspberries, and in fact all small fruits bear in the greatest abundance and give every promise of being very profitable."—W. A. FARMER, Headingly.

"Hops will do well cultivated. I have planted wild hops out of the

bush into my garden along the fence and trained on poles, bearing as full and fine and as large as any I ever saw at Yalding and Staplehurst, in Kent, England."—LOUIS DUNESING, Emerson.

"The longer a farmer lives here the better he likes it."—JULIUS F. GALBRAITH, Nelsonville.

"Now that we have the locomotive, we shall be able to compare with anything in the Dominion, and take the lead with roots; and I defy the United States for samples of grain of all kinds. They have only the start of us in fruits, but we are progressing well in that respect. If folks would work four months in the year they might be independent in this country. I came here in 1873 with only $30 in my pocket, $10 of which I paid for my homestead of one hundred and sixty acres. It is going on two years since I began to cultivate the place I am now living on, and I have seventy-four acres under cultivation, with a suitable house and other fixtures, and I could get $3000 for one of my quarter sections."—JOHN A. LEE, High Bluff.

"Agricultural implements are reasonable here, and can be bought cheaper than by individual importation."—JOHN FRASER, Kildonan.

"My claim is situated on the banks of the Assiniboine, and we therefore enjoy direct steamboat communication with Winnipeg. The land is not flat, but rolling prairie, no need of drainage, but still it is well watered by running springs. All crops look well. I planted potatoes on the 1st June, and in eight weeks we had our first meal of them. I expect about three hundred bushels to the acre. The climate of the country is all that can be desired. Any man who wishes to furnish a home for himself should try and locate in this country, and if he be a man of any energy he will not be long in making a comfortable and profitable home for himself and family. It was a happy day that I first landed on this soil."—GEO. C. HALL, Portage la Prairie.

"There is no person need be afraid of this country for growing. There never was a better country under the sun for either hay or grain."—A. V. BECKSTEAD, Emerson.

"Flax does extra well in this country."—GEO. A. TUCKER, Portage la Prairie.

"Plough as much land as you can in the fall, and sow as soon as the frost is out of the ground enough for the harrow to cover the seed. As far as my experience goes, the ordinary vegetables, such as turnips, carrots, cabbage, onions, beets, peas, beans, etc., grow well here. I have raised as good vegetables since I have been here, with comparatively but little

cultivation, as I have seen raised in my native place, County Kent, England, where market gardening is carried on to perfection."—THOS. HENRY BROWN, Poplar Point.

"Native hops are grown as large as any I ever saw cultivated."—FRANCIS OGLETREE, Portage-la-Prairie.

"Hemp and flax I have tried, and they grow excellently. Tame grasses of all kinds do well, especially timothy. My advice to all is to come to this country, where they can raise the finest samples of grain of all kinds that ever were raised in any country."—ANDREW J. HINKER, Greenridge.

"Spring is the best time to come to this country, as the settler can then get a crop of oats put in on breaking, which will yield him twenty-five bushels to the acre, and potatoes grow well ploughed under the sod. He can raise enough to keep him for the season. That way I raised fifty bushels from a quarter acre."—ARTHUR D. CADENHEAD, Scratching River.

"GENTLEMEN,—The average yield of my grain last year was: Oats, sixty-five bushels; wheat, thirty bushels; potatoes, three hundred bushels, although some of my neighbours had over six hundred; turnips, I should say, about seven hundred and fifty bushels. I would much rather take my chances here than to farm with the spade in any of the old countries. If you doubt my words, please come and see for yourself."—JOHN BRYDON, Morris.

"Settlers should come without encumbering themselves with implements, etc., etc., as everything can be had at a cheap figure. Oxen we deem advisable to begin farming with. We expect to have a very plentiful garden supply this year, though we sowed in May and June, April being the usual time, yet all is coming on well. Cucumbers growing in the open air, we have had already. Melons and tomatoes we expect to have in any quantity the end of this month or the beginning of next. Wild strawberries and raspberries and many other kinds of fruit are to be had in abundance. The soil we find rich and capable of growing anything that we have yet tried, and that without any trouble. We plough the garden, doing any real fine work with the spade."—ANDREW DAWSON, Headingly.

"Intending settlers should not bring the long-handled Canadian plough, as it does not work well here, nor should they bring heavy iron axle waggons. The best thing to bring is some improved stock cattle, sheep and pigs."—CHAS. LOGAN, Portage-la-Prairie.

"The weather in seeding as a rule is all that could be desired. Roots are gathered the first week in October, when the weather is all that could

be desired for the ingathering of the fruits of the soil. Prices of grain are good, and farmers are doing well."—PETER FERGUSON, Gladstone.

"I would recommend settlers to get oxen for breaking the soil. Horses cost much more to keep, as they require grain. Oxen can be worked on the grass. I am more in the stock line, and I can say the country is well adapted for stock-raising. The pasturage could not be better. Abundance of hay all for the cutting; and with a little care cattle winter well and come through in good condition."—D. F. KNIGHT, Ridgeville.

"Would advise new settlers to buy oxen instead of horses, as they can be fed cheaper and can do more work if well treated and fed on grass and good hay."—JAMES D. STEWART, Cook's Creek.

"I would advise any young man with good heart and $300 to come to this country, for in five years he can be independent."—JOSHUA APPLEYARD, Stonewall.

"I like the country well, and would not change."—JNO. KELLY, Morris.

"I have found the cold in winter no worse to stand here than in Ontario, because it is dry."—WM. GREEN, St. Agathe.

"The weather in April and May is usually dry and clear. A good deal of rain in June, followed by very dry, fine harvest, which usually begins in the second week in August. Have grown buckwheat successfully. Have seen good crops of flax among the Mennonite settlers. Timothy and clover also do well. Planted twenty apple trees two years ago which are growing very well."—ARTHUR J. MOORE, Nelsonville.

"I cultivate wheat, seldom seeding with other grains. This season I commenced seeding on the 10th April; season being backward did not finish seeding till 5th May, and had then eighty acres under crop. Commenced harvest on 9th August, expect an average of thirty bushels, and a better sample than any since 1873. Have broken up one hundred acres more this season. A prompt attention to fall ploughing is absolutely necessary for success. I am so well satisfied with my experience of farming here that I intend opening up two other farms the coming season."—F. T. BRADLEY, Emerson.

"Bring your energy and capital with you; leave your prejudice behind you. Do not bring too much baggage. Buy your implements after you arrive, they are quite as cheap and better suited to the country. Be sure to locate a dry farm. Break your land in the rainy season (June), when it plows easy and rots well. Sow wheat, oats and potatoes. Barley don't do well on new land. Take advice from old settlers."—ISAAC CASSON, Greenridge.

"I really think one cannot get a better farming country than this. I tell you, sir, I have cropped five acres of land on my farm for six years successively without a rest, and this year a better crop I never saw. That is soil for you. I think immigrants will be satisfied with this country when they come here. You can't say too much in praise of it. I wish them all good luck that come this way. All I say is, come, brother farmers; come and help us plough up this vast prairie country. You can raise almost anything in this country."—GEORGE TAYLOR, Poplar Point, Long Lake.

"I have run a threshing machine here for the last five or six years, and the average of wheat is from twenty-five to thirty bushels, oats forty to sixty bushels, and barley thirty to fifty."—JABEZ GEO. BENT, Cook's Creek.

"I have over one thousand apple trees doing very well, and also excellent black currants."—JAMES ARMSON, High Bluff.

"Having only had two years' experience here, I cannot do justice to the country as I would like to do, for I believe it to be a good country. I was nine years in Ontario, and in Ireland up to manhood, and I prefer this country before either of them, taking the average of everything. The three crops I have seen enables me to believe that any man that works in this country will like the place, for he will have something for his trouble." —EDWARD J. JOHNSTON, Springfield.

"Those who have no farms of their own, come here and farm. Bring no horses; oxen are the things for a new settler."—JAMES AIRTH, Stonewall.

"The weather, both in spring-time and harvest, is very suitable for both operations. As a general rule the rainy season usually commences after seeding, in June, and settles again before harvest, and continues dry through the fall and until snow sets in in the latter end of November, allowing good time for fall ploughing and threshing out grain. I would advise settlers in a general way to start with oxen, as they are less expensive in cost, and keep the first year at a less risk than horses. I would advise them not to bring any implements with them, but procure the best of all classes here, as they are especially adapted for this country."—JNO. FERGUSON, High Bluff.

"Flax and hemp have been grown successfully here and manufactured by hand, many years ago, both by myself and several other old settlers. I have seen stalks of hemp grow twelve feet high."—JOHN SUTHERLAND, Senator, Kildonan.

"Wild hops grow to a larger size than I ever saw in any hop-field in Ontario."—S. C. HIGGINSON, Oakland.

"Any one who wants land, this is the place."—ARCH. GILLESPIE, Greenwood.

"Roots and vegetables can be grown here as well or even better than in England; as that is our native place, we should be able to judge."—WILLIAM HAYWOOD, JAMES SWAIN, Morris.

"A farmer cannot make a mistake by settling here."—NEIL MCLEOD, Victoria.

"I never knew crops to fail; only when destroyed by grasshoppers, and that was only twice that I know of during my lifetime—now fifty years. I never took any notice of the size of our vegetables until strangers began coming into the country, who used to admire the growth of crops of all kinds. Then I began to think our country could hold its own with any country—yes, beat them, too. If our soil here was worked as folks tell me land is worked in other places, the crop would grow that rank that it never would mature to perfection."—ROBERT SUTHERLAND, Portage-la-Prairie.

"I am well satisfied with climate, farming facilities, &c., and consider them far ahead of where I came from."—JAMES MATHEWSON, Emerson.

"I would sooner live here, as I think I can do better than I could elsewhere."—ANDREW NELSON, Stonewall.

"I consider this country the garden of the Dominion, and by all appearance the granary not only of the Dominion, but of Great Britain. I have grown flax here for several years; it grows equal to any I ever saw. I have grown timothy for eight years, and have got from two to three tons per acre."—THOMAS DALZELL, High Bluff.

"I have been in this country nine years, and I would not return to Ontario or any part of Canada to make a living. I have prospered better here with less manual labour or trouble than I could possibly do elsewhere. The soil is good, the climate is excellent, and everything is in a prosperous condition."—JAMES F. VIDAL, Headingly.

"Any man with a family of boys as I have got, that intends living by farming and raising his boys to farm, is only fooling away his time in other places, when he can average a hundred per cent. more each year with his labour here, as I have done. I have farmed in Europe, State of New York and Ontario, and I can say this safely."—THOMAS H. ELLISON, Scratching River.

"I would not advise any man coming out here to farm to bring any more luggage with him than he can actually help. I have sometimes

weighed roots here and found them to surpass any I ever grew in Canada. I do not think there is any use telling the immigrants the weights, as they will hardly believe it. It is enough for them to know that this country can produce more to the acre, with less cultivation, than any part of Canada."—GEORGE TIDSBURY, High Bluff.

"Let them come—this is the best country I ever struck for a man with a few thousand dollars to go into stock. I only raise oats for my horses and have some eighty head of cattle, so cannot say much about crops. I will have sixty to seventy bushels of oats to the acre this season."—JAMES FULLERTON, Cook's Creek.

"From what I have seen in other countries this is as good a place as any man can come to. For my part, I have done better here than I could ever do in any other country. I raised wheat here, and there have been men from California and other places looking at it, and they said they never saw anything like it before. One year I raised thirty-five bushels to the acre of Black Ses wheat, and I have raised wheat which stood six and a-half feet high, and not one straw of it lay down. I would be glad if half of the people of Ireland were here—and they would then be in the best part of the world. Every one who comes here can do well if it is not their own fault."—JAMES OWENS, Ste. Anne, Point du Chêne.

"Good advantages for settlers in this country; plenty of hay and pasturage. Can raise any quantity of stock without interfering with the grain crop. Good water and plenty of wood."—JOHN HALL, Ste. Anne, Point du Chêne.

"We think this country cannot be beat for farming, and farmers can raise all the stock they want and cost them nothing, as they can cut all the hay on the prairie they want for winter feed, and their cattle will grow fat on it if well watered and cared for."—JAMES LAWRIE & BRO., Morris.

"Any man with $500, willing to work, can soon be independent here."—ALEX. ADAMS, Clear Springs.

"I had twenty-eight acres in crop last year, and had one thousand one hundred bushels of grain, of which I sold $450 worth, besides having feed for my team and bread for my family."—JAMES DAVIDSON, High Bluff.

These letters are all from localities in the Province of Manitoba, where settlers have had from five to ten years' experience, and where the discontent to which I have referred existed. Farther to the west, in the territories, the settlers have had for the most part

but two or three years' experience, but they bear testimony to the suitableness of the country for farming and stock raising, to even a greater extent than the settlers in that Province. Indeed, one cannot find among all the people who have settled in the North-West, a single farmer or stock raiser who has a word to say against the country. They are all more than satisfied with it, and would not change for any other country under the sun. Of late the people have experienced a great deficiency in railway communication, and have suffered in consequence; and from this, more than from any other cause, the progress of the country has been kept back; but with the construction of branch railways, for which the Government have made provision, a great drawback will be removed, and immigration will again set in. Not, however, until full arrangements have been made for the construction of the Hudson's Bay Railway, and the establishment of the Hudson's Bay Route to Europe, will the old-time prosperity of the Canadian North-West be restored.

CHAPTER XLIV.

The North-West and the Canadian Pacific Railway.

THE ELEMENTARY STEPS IN CANADIAN NATIONAL PROGRESS—THE ADVANTAGES OF THE CANADIAN PACIFIC RAILWAY TO CANADA—THE MONOPOLY CLAUSE AND THE PEOPLE OF MANITOBA—BLUNDERS OF THE MANITOBA PREMIER—THE HUDSON'S BAY ROUTE.

THE second great step in the work of consolidating the British North American Provinces into one nationalty, was that of the construction of the Canadian Pacific Railway. The Intercolonial Line, connecting the old Province of Canada with Nova Scotia and New Brunswick, became a necessity to give reality to the first act of Confederation. The union of 1867 would not have been a union without it. But this, after all, was but the first step of Confederation—a sort of advance union preparatory to the greater consolidation of half a continent. When British Columbia agreed to enter Confederation, and the Dominion Government acquired the North-West Territory, the Canadian Pacific Railway became a necessity in the cause of both National and Provincial interests, just as the Intercolonial Line did at the outset.

The admission of British Columbia, the acquirement of the prairie regions, and the settlement and development of that vast territory, together with the construction of a trans-continental line of railway from the Pacific Ocean to Montreal, that should become the channel of inter-Provincial commerce, as well as trans-continental trade, was an undertaking of gigantic proportions. But fifteen years of energetic effort finds the road almost completed, and what was at first the possibility that, besides adding British Columbia to the union, another Province might be carved out of Rupert's Land, becomes the full measure of a revelation. One

might almost say that the scheme of building the Canadian Pacific has resulted in the discovery of nearly half a continent. The territory so lightly thought of at first, stands to-day unrivalled in the world for extent, fertility, and natural resources. Canada at once more than doubles her possibilities, and the Canadian people now stand upon the threshold of a great nationality. Five new Provinces are budding into existence in the prairie region, that must soon become, in commercial, agricultural, and industrial importance, greater than the other six. It reminds one, acquainted with the history of the growth and development of the neighbouring Republic, of that era of progress inaugurated in that country by the famous "Ordinance of 1787," by which Connecticut and Virginia ceded to the Congress, on wise and liberal terms, all the territory north-west of the Ohio River, a document which must forever keep the name of its principal author, Thomas Jefferson, fresh in the highest esteem of mankind. This ordinance created the North-West Territory of the United States, and General Arthur St. Clair became its first Governor. In a short time the State of Ohio was carved out of it, and admitted to the Union; but still the North-West Territory maintained an existence, pushing its seat of Government a little farther north-west. The work of development went forward, until, from the territory embraced in the original grant, were formed the prosperous States of Ohio, Indiana, Michigan, Illinois, and Wisconsin, five States unsurpassed to-day by any of the others in that great nation.

Our Canadian North-West is rapidly repeating that history; and I am free to state that within the space of time occupied by the growth and admission of those five States to the United States Confederation, the Provinces of Manitoba, Assiniboia, Alberta, Saskatchewan, and Athabaska, will have grown equally great, and have been admitted with full Provincial autonomy into the Canadian Confederation. It is pretty hard now to measure the growth of Canada since the Union of 1867; and yet, in looking forward, we see plainly that our development so far has been purely elementary. We have been laying foundations, and placing into position a few of the great timbers of state—that is all. These are so few that one can count them on the fingers of one hand. They are

1. The Union of 1867.
2. The Intercolonial Railway.
3. The acquirement of the great North-West.
4. The extension of Confederation from the Atlantic to the Pacific.
5. The Canadian Pacific Railway.

I suppose the next step in our national progress will be Imperial Federation. It will only be a sequence to the other five, and it will surely come before long. But this elementary progress has been in the direction of national development, and national independence of the best sort; and it has been of a kind, too, which places the future possibilities of Canada beyond the reach of estimation.

The four Charter Provinces were commercially united by the Grand Trunk Railway proper, over one thousand miles long, and the Intercolonial over eight hundred. When the latter was undertaken, so weak were our national abilities that England had to aid us to the funds necessary for its construction; but a few years later, when the Canadian Confederation extended from ocean to ocean, and the vast undertaking of the Canadian Pacific was launched, by which the greater Canada to the north and west was to be commercially united to the original union, the discovery of our immense resources in the North-West, enabled the Federal Government to finance the scheme unaided, and in the face of a deadly opposition. One of the results of this enterprise is, that to-day we are arranging for trans-Pacific, trans-Continental and trans-Atlantic traffic, between Japan and Europe, through the Dominion of Canada, by a route shorter than any other now available across the continent of America.

It was first supposed that the Canadian Pacific, extending from Montreal to the Pacific coast, would be considerably over three thousand miles long, but the exact distances are as follow:

	Miles.	Aggregate Mileage.
1 Montreal to Callander	347	
2 Callender to Port Arthur	657	1,004
3 Port Arthur to Red River	428	1,432
4 Red River to summit of Rockies	962	2,394
5 Summit of Rockies to west crossing Columbia River	138	2,532
6 West crossing Columbia River to Savonas Territory	150	2,682
7 Savonas Territory to Port Moody	213	2,895

It would be difficult to estimate the cost of this great highway; but when completed it is safe to say that it will have absorbed, for surveys, construction, and equipment, over one hundred millions of dollars, but it will be one of the most important railways on the earth, and will exercise over the world's commerce greater influence than, perhaps, any other line of railway communication on the globe. Besides, it changes the whole status of Canada, and renders us absolutely independent, politically and commercially, of the United States.

The question of distances, *via* the Canadian Pacific, as compared with United States transcontinental lines, places Canada in a very proud position. Take, for instance, the following:—

From Yokohama (Japan) to San Francisco	4,470 miles.
" San Francisco to New York	3,331 "
" New York to Liverpool	3,040 "
Total.....	10,841 "
From Yokohama to Port Moody	4,374 miles.
" Port Moody to Montreal	2,895 "
" Montreal to Liverpool	3,000 "
Total.....	10,269 "

Difference in favour of Canada Pacific Railway route, 572 miles.

This is a considerable saving between the two points, and represents an advantage for the Canadian route of four hundred and thirty-six miles in railway traffic. But this is by no means the shortest Canadian route across the continent. When the Hudson's Bay route is open the distance from Japan to Liverpool, *via* that natural channel of communication, will be but eight thousand two hundred and seventy-five miles, or two thousand five hundred and sixty-six miles shorter than the United States route, and about two thousand miles shorter than the Canadian Pacific route.

But to come more directly to the question of the Canadian Pacific Railway in its connections with the North-West: The Government sought, and wisely I think, to protect the line from undue competition for a stated period of time, and this protection

was apparently inimical to the immediate interests of Manitoba. It was provided that lines of railway should not be constructed connecting the prairie country with the United States system of roads, and this limitation was, at the outset, the cause of some alarm. There was not, in the North-West, that faith in the practicability of the route north of Lake Superior, for commercial purposes, that there is to-day, and the people regarded the policy of protection to the Canadian Pacific as contrary to the interests of the Prairie Country.

For some time the work of construction of the Canadian Pacific was carried on by the Government, but in 1880 arrangements were made for the transfer of the road to a private company. Then it was that the principle of protection to the line was introduced. About the same time the Legislature of Manitoba, with the concurrence of the Federal Parliament, passed an Act providing for the extension of the boundaries of the Province. This Act confirmed the principle of Canadian Pacific protection, and committed the Province thereto by a provision making the territory thereby added to the Province subject to the Canadian Pacific bargain, and to any Act or Acts of the Dominion Parliament that might thereafter become law. In this way the Provincial Government committed the Province legally and constitutionally to the prohibitions of the Canadian Pacific contract, notwithstanding the same local ministry found it convenient afterwards to become instrumental in the passage, through the Legislature, of certain acts authorizing the construction of railways thoroughly contrary to the letter of the Canadian Pacific Charter to which they had given unqualified approval by the extension of the Boundaries' Act. This created a good deal of ill-will between the Provincial and Federal Administrations, and the unconstitutional acts were promptly disallowed by the latter. There can be no doubt whatever that in this matter the Premier of Manitoba —Hon. John Norquay—and his colleagues broke faith, personally and politically, with the Dominion Ministers. As long ago as 1879 they, the Manitoba Ministers, agreed with the Federal Premier, that, until the Canadian Pacific Railway was fully established, the Provincial Authorities would not interfere in the matter of railway legisla-

tion. But in the following year they broke their engagements and carried an Act in the Legislature authorizing the construction of a railway from Winnipeg south-easterly to the International Boundary, contrary to the Canadian Pacific Charter and bargain.

It is not the business of this work to discuss the wisdom or folly of the original engagement of Mr. Norquay with the Ottawa powers in reference to this matter, but I cannot too strongly condemn the departure from that engagement by the former, for it has created a want of confidence in his promises in the minds of Dominion Ministers which has resulted in great damage to the Province of Manitoba. Mr. Norquay saw that his acquiescence in the Federal policy of C. P. R. protection was, wise or unwise, contrary to the wishes of a large majority of the electors of Manitoba, and he did not hesitate to disregard his official obligations, in order to float with the tide of public opinion. I am sufficiently informed to be able to state that most of the ill-will recently manifested in the North-West against the Dominion Government, arouse out of the wretchedly bad management of Manitoba's affairs at Ottawa by the Provincial Premier. If he was right in his last actions, he was wrong in his first engagements, and if the Central authorities persisted beyond prudence in enforcing their railway policy in the North-West, Mr. Norquay was principally blamable for it, and he was of all men most inconsistent in his opposition to it. Thus the beginning of discontent in Manitoba is directly traceable to the action of Manitoba's Premier. Had he told Sir John in 1879 that his Province would not blind-fold itself to the railway policy of Canada so far as it affected the North-West, that policy afterwards enforced might have been different, but in his eagerness to obtain a petty increase of subsidy he agreed to abstain from that which he within one year after carried out.

By this means the Canadian Pacific, which has already become a great blessing to the North-West, and which is destined to serve still more important interests there, grew to be the source of agitated discontent. The people of Manitoba gave unanimous expression in favour of Free Trade in railways for that Province, and affirmed and re-affirmed the right of the Province to charter lines of railway any-

where within its boundaries. In this way the people condemned the policy entered into by Mr. Norquay in 1879 in respect of railways, and, behold, Mr. Norquay condemned it also!

The agitation soon convinced the Dominion Government that the people of the North-West could not long be confined to one railway, or one outlet; and in 1884 the Minister of Railways announced in his place in the House of Commons that a decision had been reached with the concurrence of the Pacific Railway Company to the effect that the protection clause of the Pacific bargain would be removed at a much earlier date than was at first provided, and that as soon as the Pacific Railway was completed all such restrictions would be obliterated, and lines competing with the national highway allowed. In the meantime, as I have already pointed out, the people, thwarted in their efforts to cross the International Boundary, turned their attention towards the natural outlet *via* Hudson's Bay, and the Manitoba agitation, not without beneficial results to that Province, was the chief instrument of this change. The people clamoured for a road from the prairie country to Hudson's Bay, and with such eagerness that they manifested a wish to pledge their farms in order to secure it.

They looked upon the Canadian Pacific as a great national highway required as much for political purposes as for commercial necessities; and, being fully persuaded that the North-West could not successfully compete with other bread and meat producing districts while its only method of reaching tide water was over nearly two thousand miles of railroad, they turned their eyes towards Hudson's Bay, easily reached from the prairie country by an average distance of five hundred miles. By this route there would be a saving of from one thousand to fifteen hundred miles of the distance to European markets, and they determined to avail themselves of its advantages. Thus we see great good coming out of the agitation over the Canadian Pacific monopoly; and, if only the people of the North-West will follow up the matter vigorously, they will secure the much desired boon. Nor will this achievement work any injury to the Canadian Pacific or to the nation. It is very plain that the greater the growth and development in popula-

tion and commerce of the North-West the greater will be the volume of trade between that section and the eastern Provinces. The principle of strangulation embodied in the idea of holding the country exclusively for the benefit of the Canadian Pacific Railway is a foolish one both for that road and for Canada, and is one that will soon drive Manitoba out of Confederation or else into utter destitution.

CHAPTER XLV.

Federal Relations of the North-West.

ACQUISITION OF THE NORTH-WEST TERRITORIES—SERVICES OF SIR GEORGE CARTIER AND HONOURABLE WILLIAM McDOUGALL—THE RED RIVER REBELLION—RESTORATION OF PEACE—FORMATION OF THE PROVINCE OF MANITOBA.

THERE has been considerable friction between Provincial and Federal authority in Manitoba, so much, indeed, as to make it an object to glance at the history of the Federal relations of Manitoba. Not long after the union of 1876, the Dominion Government sought to acquire the North-West territories. In the Parliament of 1868 the question was overshadowed only by the Nova Scotia "Better Terms" agitation, and before the close of that year Sir George E. Cartier and Honourable William McDougall were appointed a deputation to proceed to England to make definite terms for the transfer of the territory by the Hudson's Bay Company. They departed and were absent several months, and succeeded well in their mission. At the ensuing session of the Dominion Parliament the terms of transfer agreed upon came up for ratification. The conditions upon which the territory was surrendered were that the Hudson's Bay Company should receive from the Dominion Government the sum of £300,000 sterling, and that all rights of the Company to the territory with certain reservations should enure to the Imperial Government by whom the same were to be transferred to the Dominion within one month thereafter. "The reservations included certain lands, amounting in all to about 50,000 acres, contiguous to the trading posts of the Company, in addition to one-twentieth of all the land in the great fertile belt south of the north branch of the Saskatche-

wan. It was expressly agreed that the rights of the Indians and Half-breeds of the territory were to be respected, and the 1st of October following was fixed as the date of transfer. Such being the terms agreed upon, they now received the sanction of the Dominion Parliament, which passed an Act providing a Territorial Government for the country soon to be acquired. The immense tract was designated by the general name of "The North-West Territories," and it was enacted that the affairs thereof should be administered by a Lieutenant-Governor to be appointed by the Governor-General in Council. Provision was made for the appointment of a Council to assist in carrying on the administration. All laws then in force in the territories, and not inconsistent with the British North America Act or the terms of admission, were to remain in force until amended or repealed. The Supply Bill provided for the borrowing by the Dominion Government, under Imperial guarantee, of the sum necessary to complete the purchase; and provision was also made for an unguaranteed loan of such sums as might be needed for surveys and other public improvements. The Territorial Government, it will be understood, was a mere temporary expedient, and the intention was that a regular Provincial Government, similar to that of the other Provinces, should be established at as early a date as possible."*

Soon after prorogation Lieutenant-Colonel Dennis, afterwards Deputy Minister of the Interior, was dispatched to the North-West to make certain surveys, and to feel the pulse of the inhabitants regarding annexation to the Dominion, and not long after Hon. Mr. McDougall, a member of the administration, was appointed Lieutenant-Governor of the North-West Territories. This appointment was apparently a fitting reward for Mr. McDougall's public services in bringing about the acquisition of that vast territory, but it resulted more to his political downfall than to his advantage. The appointment was made to take effect after the formal transfer of the country to Canada. The transfer, owing to a temporary difficulty with reference to the payment of the purchase money, was postponed for two months. "It would seem," says Mr. Dent, "that the

* Dent's "Last Forty Years."

arrangements were conducted with extraordinary want of judgment, and that the troubles which subsequently arose were materially increased, if indeed they were not altogether brought about thereby. Mr. McDougall set out for Fort Garry, the seat of his proposed Government, in October. It was his intention to proceed directly to his destination, and to place himself, upon his arrival, in communication with Mr. William McTavish, Governor of the Hudson's Bay Company. Before starting on his journey he received certain ominous warnings from Colonel Dennis, who, as just intimated, had been sent on in advance to make surveys. The inhabitants of the country were chiefly made up of French Canadian half-breeds, descendants of the *voyageurs* and *coureurs de bois* who had formerly been the only white explorers of that wild region. They had made some progress in husbandry, and had brought under cultivation considerable tracts of the more fertile portions of the territory. They were of the Roman Catholic faith, and had a resident bishop in the person of the Right Reverend Alexandre Antonin Taché. The seat of the bishopric was at St. Boniface, on the opposite side of Red River from Fort Garry, and barely half a mile distant therefrom. Bishop Taché's influence over his flock was naturally very great, but unfortunately he was at this time absent from his diocese, attending the sitting of the Œcumenical Council at Rome. Colonel Dennis had not been long in this country before he observed manifestations of an uneasy, suspicious feeling on the part of the inhabitants. The French half-breeds were solicitous lest their title to their lands should be disputed by the Dominion Government, and were unwilling that any present surveys should be proceeded with. They considered that they ought to have been consulted as to the proposed changes, instead of being transferred from one owner to another, as it appeared to them, like so much merchandise. Their displeasure was in no small degree intensified by the injudicious and intemperate language of some of the Canadian settlers, who irritated them in various ways, and filled their minds with forebodings of evil. These circumstances were carefully noted by Colonel Dennis, and communicated by letter to Mr. McDougall. He also drew attention to necessity of effecting the extinction of the Indian title. Mr.

McDougall does not seem to have attached much importance to these representations. Having proceeded by way of St. Paul, Minnesota, he reached Pembina on the 30th of October, accompanied by his family, and by several gentlemen who were intended to be members of his Council. The party were provided with three hundred rifles and a stock of ammunition. While on the way from St. Paul they had heard rumours of increasing disaffection at Red River, but they had pushed on, not dreaming that they would have to encounter armed insurrection. At Pembina, however, they began to realize the situation when Mr. McDougall was served by a half-breed with a written notice, professing to emanate from a "National Committee," and forbidding him to enter the territory. The Lieutenant-Governor was not to be deterred by such means, and proceeded to enter upon his domain. He had no sooner reached the Hudson's Bay Company's post, about two miles from the frontier, than he received grave intelligence from Colonel Dennis, from which it appeared that the operations of the surveyors had been interfered with, and that the French half-breeds had held a meeting at which it had been formally resolved that Mr. McDougall should not be permitted to enter the territory. The insurgents had placed themselves under the guidance of one of their number whose name was Louis Riel, an impetuous young man of weak and immature judgment, who doubtless believed that he was acting in the best interests of his compatriots. By his directions, armed parties had been despatched to various points along the route between Fort Garry and Pembina, and were now posted there with the avowed purpose of resisting Mr. McDougall's progress. Several of the Hudson's Bay Company's authorities had remonstrated in vain, and the Roman Catholic priest in charge of the diocese during Bishop Taché's absence declined to interfere. As for the Scotch and English half-breeds, they were negatively loyal and well-disposed, but the prevalent sentiment among them was that they had been treated with insufficient consideration, and very few of them were inclined to go so far as to take up arms against the French party. 'We think,' said they, 'that the Dominion should assume the responsibility of establishing among us what it, and it alone, has decided on.' The

only residents who could be depended upon to support Mr. McDougall with energy and zeal were the little handful of Canadian settlers, who were too few in number to effectively oppose the force at Riel's command."

These circumstances placed Mr. McDougall in an awkward position. He could not resist his opponents as he was without any force and he decided to remain at Pembina, from which place he sent dispatches to Ottawa revealing the condition of affairs, and also a messenger to the authorities at Old Fort Garry. The latter did not proceed far, however, when he met with armed resistence, and was sent back under an escort. A few days later fourteen armed horsemen rode into Mr. McDougall's camp, and ordered him to leave the territory before nine o'clock on the following morning. He did not immediately obey, but demonstrations on the following morning compelled him to do so, and he took refuge in the United States.

Meanwhile, within the North-West affairs had taken the shape of active rebellion. A Provincial Government was formed with Mr. John Bruce as its nominal head, but with Louis Riel, its secretary, as its actual director. On the 24th of November, 1869, the rebels took possession of Fort Garry, displacing the Hudson's Bay Company's Governor, Hon. William McTavish, and assuming the full authority of government. The few English Canadians in the Province, who were holding out in favour of Canadian control were greatly pressed by the insurgents. About fifty of them, gathered at Dr. Schultz house, in an attitude of hostility towards the French, were beseiged by the latter and compelled to surrender, and were confined prisoners in Fort Garry. Governor McTavish, who was fatally sick at the time, was exposed to great hardships, and the stores of the Hudson's Bay Company, as also several of the citizens, were entered, and their contents appropriated for the uses of the Provincial Government.

Now, all became confusion. The territory was to have been transferred on the first of December, 1869, but the Dominion Government refused to receive it in a state of insurrection, so that there was another delay of transfer. Mr. McDougall, however, acting

under the erroneous impression that the cession was duly accomplished on that date, issued a proclamation on the same day, commanding the insurgents to peaceably disperse, and threatening the penalties of the law in case of disobedience. He also issued a commission authorizing Colonel Dennis to raise a force and put down the insurrection. This proclamation was treated with contempt, and Riel's Government committed more flagrant excesses than before. Colonel Dennis could do nothing, and was forced to leave the territory.

But I can only touch upon a few of the leading features of this rebellion. Mr. McDougall became disgusted and returned to Ontario. Feeling that he had been badly used by the Government, he was not slow to give vent to his convictions.

"He believed the rebellion to have been connived at, and to some extent fomented, by the Hudson's Bay Company and the Roman Catholic priesthood of Red River, as well as by his late colleague, Mr. Howe, who had visited the territory a short time before. He published a series of letters giving currency to his views, and disclosing many facts which seemed to afford no inconsiderable foundation for them. The truth appears to be that some of the Hudson's Bay Company's officials at Fort Garry had from the first looked with disfavour upon the project of transferring to the Dominion a territory whereof they had become to regard themselves as lords paramount. They were powerless to prevent the transfer, but did not feel called upon to promote it, and were not sorry that it should be attended with more or less embarrassment to the new proprietors. This, so far as can now be judged, is the extent to which the resident officers of the Company were tainted with complicity in the Red River Rebellion. They paid the penalty of their unwise conduct by seeing a 'despotic ruler established for nine months in their own fort, feeding his men on the Company's provisions and paying them with the Company's money.' As regards the complicity of some of the Roman Catholic clergy of Red River there is unfortunately no room for doubt. It must also be admitted that a very strong sentiment of sympathy with the insurgents prevailed among the French population of the Province of Quebec, and

that this sympathy was powerfully reflected in the Dominion Cabinet, although there is no evidence that Mr. Howe was influenced by it, as suggested by Mr. McDougall. As for Mr. McDougall himself, he was profoundly disgusted with the aspect of affairs. All thoughts of his return to the North-West were abandoned, and he soon afterwards received from the Premier of Ontario the appointment of Government Trustee of Canada Southern Railway Municipal Bonds, in addition to that of a Commissioner to ascertain the western and northern boundaries of that Province."

Meanwhile acts of rebellion were constantly perpetrated in the North-West. Riel became an absolute dictator; he confiscated public and private property, and filled Fort Garry with loyal Canadians as prisoners of war. Dr. Schultz, one of the latter, effected his escape and succeeded in reaching Ontario; but not until after raising a considerable force in the territory did he effect the release of his companions. A Peace Commission, consisting of Vicar-General Thibault, Colonel De Salaberry and Donald A. Smith, then Chief Commissioner of the Hudson's Bay Company at Montreal, was sent up to enquire into the cause of the insurrection and to explain to the inhabitants of the country the intentions of the Canadian Government. They did little or nothing in the way of restoring order; but Mr. Smith's protestations is said to have been a considerable check upon the recklessness of Riel, but not sufficient, however, to prevent the shooting of Scott, which aroused public opinion in Ontario to the necessity of putting down the rebellion at any cost and without delay.

Bishop Taché, who had been on an ecclesiastical mission to Rome, was persuaded by the Dominion Government to hasten to his home in the North-West, and while on the way he received instructions at Ottawa to assure the insurgents of the good-will of the Government and to offer them an amnesty for all past offences. This was before the death of Scott. He proceeded at once to Fort Garry; but five days before his arrival that awful deed was committed. The good bishop was greatly shocked at what had happened; but he did not consider his instructions regarding the amnesty as affected thereby. As a consequence his negotiations with Riel's

government proved very unsatisfactory. Meanwhile the state of feeling in Ontario became greatly fermented and the people demanded prompt action on the part of the Government. Nor was the agitation quieted until the people were officially assured that measures for maintaining Her Majesty's Government and rule in the North-West would be promptly undertaken by the Dominion and Imperial authorities conjointly, and that troops were to be sent to Fort Garry without delay to restore order.

In the session of 1870 Sir John Macdonald introduced into the Canadian Parliament an Act to establish and provide for the Government of the Province of Manitoba. Mr. Mackenzie who was leader of the Opposition at the time opposed the Act on the ground that the North-West was not then ripe for Provincial autonomy. He urged the importance of a territorial form of government until such time as there would be sufficient population to create a Province properly; but the French were in favour of a Provincial Government for the Red River country, and their influence carried the day. It is probable that if Mr. Mackenzie's advice had been taken the difficulties between the North-West or Manitoba and the Federal authorities, which still remain unsettled, would not have been experienced. The Province was created in a hurry, and not being placed on an equal footing with the older Provinces of the Dominion, the people have felt themselves unjustly treated ever since.

Sir John's Act was considerably modified in its passage through Parliament and has since been changed, but it still lacks in many important details, and the Provincial Government is annually importuning the Federal authorities for improvements. The original Act placed the affairs of the Province under the control of a Lieutenant-Governor, an Executive Council, and a Provincial Legislature, consisting of a Legislative Council and Assembly. The duration of the Assembly was placed at four years. The Legislative Council has since been abolished. The Province having no public debt, interest at five per cent. per annum on $472,090 was allowed to it, in addition to a yearly subsidy of $30,000, and eighty cents per head on a population estimated at 17,000. This capital sum of $479,090

has since been drawn and disbursed for Provincial purposes and the subsidy has been increased, as also the rated population upon which eighty cents a head are paid.

All ungranted lands within the Province, the boundaries of which have since been greatly extended, were vested in the Crown for Dominion purposes; 1,400,000 acres were appropriated for the benefit of resident half-breeds. The general provisions of the British North America Act were made applicable to Manitoba, which was to come into existence as a Province of Canada on the date when the Queen in Council should admit Rupert's Land and the North-West Territories into the Union. It was also provided at that time that the Lieutenant-Governor of Manitoba aided by a Council of eleven members, should be Lieutenant-Governor of the then unorganized territories. This provision has since been abolished. The North-West Territories have now a separate Lieutenant-Governor and Council.

The Province once formed, it became necessary to restore order within its limits. As yet Riel was exercising despotic sway, but this was destined to be of short duration. Arrangements were soon completed for sending a combined Imperial and Dominion force to Fort Garry, by way of Thunder Bay. The expedition was placed under the command of Colonel (now Lord) Wolseley. The force was made up of a little over twelve hundred fighting men. About one-third of these were regulars of the 60th Royal Rifles, with small detachments of Royal Artillery and Engineers; while the remainder or over seven hundred were picked Canadian volunteers.

After a good many delays, and the endurance of great fatigue and hardship, the main body of the expedition reached Fort Garry on the 24th of August. "The secret of the approach of the troops had been well kept, and was not known at the fort until they were almost within rifle range. There was, however, no need for any hostile display, as Riel and his chief officers had taken timely flight a few minutes before, when the first intimation had reached their ears. The troops entered and took possession of the fort, hoisted the Union Jack, fired a royal salute, and gave three lusty

cheers for the Queen, 'which,' says an eye-witness, 'were caught up and heartily reëchoed by a few of the inhabitants who had followed the troops from the village.' Authority and order were reëstablished, and anarchy was at an end."

Meanwhile the Honourable Adams G. Archibald, of Nova Scotia, had been appointed Lieutenant-Governor of the new Province. On the 23rd of June the country had been formerly transferred to Canada, and until the new Governor arrived, on the 2nd of September, Colonel Wolseley having no civil authority, the civil affairs of the Province devolved upon Honourable Donald A. Smith, as principal officer of the Hudson's Bay Company. Lieutenant-Governor Archibald assumed his official duties on the 6th of September, and Colonel Wolseley and the regulars returned to Ontario. The militia remained in Manitoba to preserve order, but their services were not needed as the rebellion departed with Riel. Thus was the young Province established and peace and order restored within its limits.

CHAPTER XLVI.

FEDERAL RELATIONS OF THE NORTH-WEST.—*Continued.*

MANITOBA RIGHTS UNDER THE BRITISH NORTH AMERICAN ACT—THE CANADIAN PACIFIC RAILWAY AND DISALLOWANCE—THE MANITOBA AGITATION—THE FARMERS' CONVENTION—PROPOSITIONS FROM THE FEDERAL GOVERNMENT—THEIR REFUSAL BY THE LEGISLATURE—THE HUDSON'S BAY QUESTION.

ALREADY we have seen through the foregoing chapter how through circumstances of a somewhat advanced character the young Province of Manitoba was farmed; and, notwithstanding the exigencies of the times, provision for the future, in nearly every respect, was fully made. The educational wants were amply provided for by setting apart two sections of land in every township for that purpose; and the application of the British North America Act to the North-West was a guarantee that the Provinces of that part of Canada would enjoy full Provincial autonomy with the other and older members of Confederation.

When the Province of Manitoba was first established there were no great hopes of its future in the minds of its founders. The Canadian North-West was at that time unknown, and those who did possess a knowledge of its agricultural advantages were careful to keep it to themselves. However, with the restoration of peace the Canadian element in the country rapidly increased, and as fast as information of the resources of the country was obtained it was disseminated. This was the beginning of immigration; and, one circumstance leading on to another, the full extent and fertility of the Prairie Region began to dawn upon the world. It soon became evident that Manitoba was destined to become one of the greatest Provinces of the Confederation; and that other Provinces to the

west and north-west of it would grow into vast proportions at an early date. Indeed, Canada more than doubled in territorial importance by the acquirement of these territories.

At first the Manitoba Provincial Government were partly content with the limited means at their disposal; but, as soon as light began to dawn upon them with reference to the necessities of their position, they began to clamour for concessions. The population was mixed, the elements of which were inclined towards each other in feelings of surviving hostility, and, for these and other reasons, but a low degree of Responsible Government was exercised. But there was a gradual improvement. This was not as rapid as it ought to have been, but certain classes of the population rendered greater advancement impossible. The degree of progress has been measured by the annual increase of the English Canadian portion of the population, and now that the latter greately predominates we may expect still further improvements in the Executive Administration of the Province.

Fourteen years have elapsed since Manitoba became a Province of Canada, and in that time many efforts have been put forth to improve its Federal relations. From time to time the subsidy has been increased and other small concessions have been made; but the great principles for which the people have all along contended, such as the control of the ungranted public lands, the control of the school lands, etc., have been withheld. Owing to the many importunities of the local authorities in this behalf, all of which were quite fruitless, the people of the Province began to feel that Manitoba's rights were not properly respected at Ottawa. This feeling was greatly augmented by the Canadian Pacific Railway policy of the Central Government. The clause in the Canadian Pacific Charter, in which Parliament undertook that for twenty years the road should enjoy protection from the construction of south-east lines connecting the Prairie Country with the United States, was regarded as a sacrifice of the North-West to the interests of the eastern Provinces; and when the Provincial Legislature went beyond the Canadian Pacific terms and granted charters authorizing the construction of roads contrary to the Acts of the Dominion Parliament they were promptly

disallowed by the Governor-in-Council, and the people of Manitoba began to take alarm. Thus matters went on until 1883, when owing to bad harvests, the exhorbitant rates charged on the Canadian Pacific, and the arbitrary rules of that road, together with the persistency of the Federal Government in refusing the demands of Manitoba, the people became greatly agitated, and a general movement was commenced which at one time gave signs of serious results. Matters which had hitherto been left entirely in the hands of the Provincial Legislature were now taken into consideration by the people themselves. The Local Government prepared and presented to the Federal Cabinet a full exposition of Manitoba's case, and submitted certain demands on behalf of the Province. Meanwhile the farmers were summoned into convention at Winnipeg. They responded from all parts of the Province and the gathering was a large and very influential one. They organized the "Manitoba and North-West Farmers' Union," passed a series of resolutions, and sent a delegation to Ottawa to present their demands to the Central Government.

The farmers complained that they had been induced by the representations of the Dominion Government to settle in the country, which they had done under great difficulties and considerable expense. "They had," they said, "hopefully faced the hardships of isolation and of a rigorous climate, and had been and were still willing to contend manfully with the natural disadvantages of their new location." These sentiments were somewhat flavoured with party feeling, but there was much force in them, for they added: "Now, however, that we have for the first time a surplus of grain, we have discovered that the prices we obtain are not sufficient to cover the cost of production, and that we are face to face with the fact that, notwithstanding all our labour and outlay, we can barely subsist." This truth was owing to a damaged harvest and to incomplete arrangements of the Canadian Pacific Railway Company to move the crop. The present year has shown us that the farmers were wrong in these statements.

"In addition to these things," they said, "we find ourselves weighted down by the excessive charges of a railway monopoly,

forced on us in despite of an Act of the Imperial Parliament in utter disregard of the urgent needs of a young and growing community. We find the lands of Manitoba, guaranteed to her by every principle of Provincial equality, withheld from us by a Government, whose vacillating land policy has diverted the stream of immigration from our boundaries.

"We find, too, an oppressive tariff which, however beneficial it may be to the manufacturing eastern Provinces, cannot fail to be inimical to the interests of a purely agricultural country such as this.

"It is plain that there are grievances which ought not to be borne without remonstrance—resistance if necessary. But we believe that a fair representation of our condition, backed by a stern determination to have it remedied, will secure for us such universal sympathy and respect as will break down every obstacle to our ultimate success.

"Let us then continue to work, as we have begun, keeping in view those rights we have inherited as subjects of a constitutional monarchy, which can alone secure to this country that liberty upon which depends its prosperity. Nay, more, its peace, disregarding, as we are bound to do at such a crisis, party divisions and tactics, and directing our intelligence and energy so as to secure the common good."

But I fear that party "divisions and tactics" were not disregarded by him who uttered these sentiments. Indeed, there was more or less of a party spirit running through the whole of the farmers' movement. However, it was not without good as well as evil results. At a meeting of farmers held in the City of Brandon on the 26th of November, 1883, it was resolved to hold a Farmers' Convention in the City of Winnipeg on the 19th of December, and circulars to that effect were sent out from the Brandon agitators to every post-office in Manitoba and the North-West. This was the beginning of the movement. Meetings were held and delegates elected in nearly every portion of the Province, and over one hundred representatives took part in the Convention which assembled at Winnipeg, and which adopted the following Declaration of Rights:—

"Whereas, in view of the present depression in agricultural and commercial industries in the Province of Manitoba, the farmers of the Province have assembled for the purpose of expressing their views upon the causes of the said depression and the means of removing the same;

"And, whereas, the present and future prosperity of this Province depends both commercially and otherwise upon the successful prosecution of agriculture;

"And, whereas, numerous and embarrassing restrictions are placed upon the efforts made by the settlers to extend their operations and improve their condition;

"And, whereas, such restrictions are unjust and unnecessary, and have been continued in defiance of the just rights of Manitoba;

"And, whereas, some of the said restrictions consist of the oppressive duty upon agricultural implements, the monopoly of the carrying trade now enjoyed by the Canadian Pacific Railway Company, and the improper and vexatious methods employed in the administration of the public lands of Manitoba;

"And, whereas, the inhabitants of Manitoba are British subjects, and have made their homes here upon the representation that they would be allowed all the privileges which, as such subjects, they would elsewhere in Canada be entitled to, and it appears that by the terms of the admission of Manitoba into Confederation they should be allowed such rights and privileges;

"And, whereas, they are denied such rights, and they find that the representative system of the Province is such that they are practically denied the privilege of securing the redress of their grievances through their representatives in the Provincial or Dominion Parliaments;

"And, whereas, a large proportion of the business of the Dominion Government is wholly connected with Manitoba and the North-West, especially the important Departments of the Minister of Railways, Public Works, Immigration and Agriculture, which should be controlled by our Provincial Legislature;

"And, whereas, it is the right of every British subject to call the attention of the constituted authorities to the existence of abuses and wrongs:

"Therefore be it resolved that this Convention demands:

"1. The right of the Local Government to charter railways anywhere in Manitoba free from interference, and

"2. The absolute control of her public lands (including school lands) by the Legislature of the Province, and compensation for lands sold and used for Federal purposes.

"3. That the duty on agricultural implements and building materials be removed, and the customs tariff on articles entering into daily consumption be greatly modified in the interests of the people of this Province and North-West.

"4. The right of representation in the Dominion Cabinet.

"And that this Convention is unanimously of opinion that the Hudson's Bay Railway should be constructed without the least possible delay."

After the passing of the "Declaration" a debate took place as to the best course to be pursued in order to obtain a recognition of the above-mentioned Rights, and the following resolutions were finally unanimously adopted:—

"1. *Resolved*, That three Commissioners be elected by ballot, to proceed to Ottawa at the next session of the Dominion Parliament, fully authorized to demand for this Province our rights as contained in the foregoing declaration.

"2. That it is of the utmost importance that our representatives in Ottawa should endeavour to combine their efforts, regardless of party lines, for the purpose of securing redress of the grievances set forth in the declaration of rights adopted by the Convention.

"3. That the Convention empowers the Council to correspond with the Ottawa Government and draw their attention to the excessive rates charged by the C. P. R., and ask the Government to deal with the matter.

"4. That this Convention believes that immediate steps should be taken to construct the Hudson's Bay Railway, and hereby appoints a deputation to wait on the Local Government to-day to urge the necessity of submitting a scheme at the next meeting of the Legislature pledging the credit of the Province to secure the completion of such construction at the earliest possible date, and that such Committee be also instructed to urge upon the said Government the necessity of encouraging the construction of railways to connect with the American system at the southern boundary."

The delegation appointed proceeded to Ottawa and presented the farmers' Bill of Rights to a committee of the Cabinet—Sir John and others gave them a courteous reply, promising to enquire into the causes of the discontent, and to take all possible measures to grant redress. There is no doubt that although there was much of the spirit of party politics in the movement it had a good effect

upon the Dominion Government, and was the chief cause that moved them to offer certain concessions to the Manitoba Premier.

Meanwhile Hon. Mr. Norquay, leader of the Provincial Government visited the capital, and, on behalf of the Province, urged the claims previously approved by the Legislature. He prepared Manitoba's case at length, which was printed in pamphlet form and generally circulated. He set up a claim to the unappropriated public lands, the school lands, urged the extension of the boundaries of the Province to Hudson's Bay, and asked for a readjustment of the financial relations of the Province with the Dominion. He was accorded several interviews with Sir John, and with a committee of the Council, and finally the following terms were agreed to :—

"1st. The Dominion Government agree to transfer to the Local Government all swamp lands in the Province free, to inure wholly to the benefit of the Province.

"2nd. They agree to set aside 150,000 acres of fair average land to be granted as an endowment to a university of Manitoba.

"3rd. They agree, in regard to the capital account, to compute that the *per capita* allowance be made on a population of 150,000 instead of on a population of 17,000 as was originally adopted. That this capital sum shall be charged with such advances as have already been made from the former capital account and with such expenditures as the Dominion Government has made within the Province of a purely local character, and that an advance of $150,000 be made to them to meet the cost of construction of a lunatic asylum and other exceptional works.

"4th. They agree that, reckoning from the 1st September, 1881, the Manitoba census shall be taken quinquennially, and that midway between these takings approximate estimates shall be made, so that the estimate of population upon which the allowance of eighty cents per head is based may be revised four times in each decade and in each instance adjusted until the population reach 400,000, the first of such estimates to be made on 1st September next, when, if the population be found to exceed 150,000, due credit will be given.

"5th. The demand for extension of boundaries is not entertained.

"6th. The Dominion Government agree to change the grant of 12,800 acres of land in aid of the Hudson's Bay Company into a free gift.

"7th. These concessions are subject to the approval of Parliament and upon the condition that they will be accepted by the Legislature of Manitoba in full of all claims.

Of course these concessions, liberal in some particulars, come far short of meeting Mr. Norquay's demands. However, it is thought that they would have been adopted by the Legislature had it not been for clause No. 7, which made them final and in full of all claims. In the following June, 1884, the Legislature dealt with these proposals, and adopted the following reply:—

"Whereas this House, having fully considered the propositions of the Federal Government regrets that the Federal Government have not seen fit to accede to the requests of this House as presented by its delegates.

"It is evident that the spirit of The British North America Act is that each Province admitted into Confederation, as well as those originally confederated, should be placed on the same status, more especially with reference to the control of the public lands within each Province being vested in such Province. This was carried out in the instance of Prince Edward Island, which had no public lands, but was allowed the sum of $800,000 to enable her to acquire the lands held by private parties within the Province; but in Manitoba on its admission into Confederation there were public lands, and they should have become vested in the Province, as was the case in the other Provinces of the Dominion.

"The repetition of the statement, that the Dominion Governmen having purchased at a large price in cash all the rights, titles, and interests of the Hudson's Bay Company in and to the territory out of which the Province of Manitoba has been formed entitles them to consider Manitoba as having a different status in Confederation from the other Provinces, is invidious, and this House feels that the time has arrived when the repetition of such a statement should cease—so far as the Hudson's Bay Company is concerned. They never established any claim to a title to the lands, except those to which Lord Selkirk had extinguished the Indian title, and which were subsequently re-purchased from his successors by the Hudson's Bay Company. On the contrary, the settlers at Pointe du Chien settled there under the Homestead law adopted by the Council of the Assiniboia, irrespective of the Hudson's Bay Company.

"The extinction of the Hudson's Bay title cannot be viewed by this House in any other light than that of the purchase from the Hudson's Bay Company of certain rights which were held by that Company to the detriment of the people of Canada, and which were extinguished by the Government thereof in the same way that in the other Provinces they have extinguished other rights created in former ages, and which obstructed the progress and development of the people.

"The construction of the Canadian Pacific railway, a line running from

one end of the Dominion to the other, is an enterprise of a wholly national character, and the expenses connected therewith should be borne by the Dominion. Although its construction was one of the conditions upon which the Province of British Columbia entered Confederation, that Province was not called upon to contribute in any way towards its construction, but on the contrary was indemnified in the sum of $100,000 annually for the right of way and for the land covering an area of twenty miles on each side of the line. Thus, in the case of British Columbia, the Province does not only receive a similar benefit to what Manitoba is receiving, but in addition receives compensation for the right of way as previously stated.

"As to local railways, had Manitoba been possessed of the territory, she would have been able to subsidize their construction, which is so essential to the prosperity of her people.

"This Province has already offered to redeem every pledge given by the Federal authorities in respect to setting apart of free homesteads to all coming settlers, and for the education of their children.

"The proposal that this Province shall become possessed of only the swamp lands, together with the grant of $45,000 a year, is not acceptable to this Legislature as a compensation for the equitable claim that this Province has always preferred to all the lands thereof.

"As to the school lands, the House can only reiterate the arguments already advanced in favour of their control being vested in the Province. The grant of 150,000 acres to the University of Manitoba is considered by this House advisable, and should the Province become possessed of her public lands, pledges itself to carry out that proposition.

"In reference to the allowance of capital on a population of 150,000 souls, instead of 17,000, as previously fixed, this House is of opinion that the same is a step in the right direction, and only regrets that there is no assurance that the same will be allowed on increased population as may be ascertained decennially. This being the only source to which the Province could look for a revenue to meet its increasing requirements, this Legislature is of opinion that the same should not be limited to 150,000 souls, but should be adjusted decennially as urged by the delegates.

"Although admitting that this Province has committed itself not to exercise any legislative powers in reference to chartering railways which would conflict with the Canadian Pacific Railway Act within the added territory, this House is nevertheless of opinion that this concession does not affect the exercise of that right within the limits of Manitoba, as it existed previous to the extension, and insist that they should be left to the full exercise of all her powers to charter local railways from one point to

another within the old Province, and in the added territory north of the fifteen mile limit.

"The proposal to adjust the eighty cents a head grant on a quinquennial census is received with satisfaction, and should the Dominion deem it advisable to increase the maximum number allowed the respective Provinces on which the eighty cents a head is to be paid, the Province of Manitoba insists that her claims shall not be overlooked in the general adjustment.

"The assurance of the earnest desire of the Dominion Government to extend railway facilities in Manitoba and the North-West is received with satisfaction, and the opinion of this House is, should the Province obtain control of its public lands, the same could be advantageously supplemented by a modification of the terms upon which lands have been granted in aid of the railways referred to, by merely charging those railway companies with the cost of surveys and management of those lands. The difficulties encountered in raising money for the prosecution of these enterprises induce this Legislature to strongly urge upon the Government the modification suggested.

"With reference to this discussion this House begs to call the attention of the Privy Council to a report of a Select Committee appointed by this Legislature to enquire into the operation of the tariff on agricultural implements, lumber, canned fruits, etc., which is annexed thereto.

"In reference to the extension of boundaries, this House is of opinion that were the same conceded and a grant of the lands included in the territory so added, handed over to the Province a material benefit would be secured by having a seaport on Hudson's Bay. There being no probability of any Province being formed between Manitoba and Hudson's Bay, this extension would not interfere with the rights or ambition of any other Province, and it having been the channel through which for over two centuries access was obtained to this country, that territory naturally belongs to Manitoba.

"It is obvious that the propositions made by the Federal Government cannot be accepted as a settlement of the claims urged by the delegation charged with their submission at Ottawa; and while appreciating some of the concessions proposed, this House, with a sense of its responsibility to the people of this country, and having in view the best interests of this Province, deems it its duty to decline the acceptance of the proposition for the reasons already adduced.

"Therefore be it resolved, That an humble address be passed by this House to His Excellency the Governor-General, respectfully declining to accept the same, and again urging the views of this House, as expressed in the instructions given to the delegates on the occasion of their late mission

to Ottawa, and that a committee composed of Mr. Speaker and of such members of this House as are members of the Executive Council be appointed to draft an address in conformity with the foregoing resolutions."

It was further resolved that the delegates appointed by the above resolution "be empowered and instructed to receive and answer any further communications on the subject, and should no modification to the terms be offered by the Federal Government in supplement of the claims as proposed, then the committee be instructed to prepare for submission to the House at its next session a full statement of the Province's case before its submission to England as adopted by the House on March 17th."

Thus matters stand. The federal relations of Manitoba are still unsettled, but there is a prospect, that during the coming session of the Dominion House, a re-adjustment will be arrived at, acceptable to the Province and creditable to Canada. The question of the Hudson's Bay route has, of late, entered quite extensively into the negotiations between the two Governments, and, now that there is sufficient evidence of the practicability of that proposed line of communication to warrant the construction of a railway from Manitoba to Hudson's Bay, it will unquestionably occupy more attention in the future. With a view to impressing the importance of the subject upon the Manitoba Premier, the writer addressed the following open letter to the Hon. Mr. Norquay, recently:—

Hon. John Norquay, Premier of Manitoba, Ottawa:

SIR,—I am informed that you are now visiting the capital for the purpose of re-opening negotiations with the Federal Government in regard to a readjustment of the terms between Manitoba and the Dominion; and I take the opportunity to address to you a few words, by way of an open letter, urging that any such settlement ought to include, as one of it principal terms, the undertaking on the part of the National Government that a railway and steamboat line between Manitoba and England, via Hudson Bay, shall be established and open for traffic within a certain reasonable date. I venture upon this liberty without hesitation because I know you to be a warm advocate of the proposed Hudson's Bay route; and I, moreover, justify my action by the fact that I have recently returned from a trip to Churchill with the Hudson's Bay Expedition, upon which I obtained much valuable information calculated to establish beyond question the complete practicability of the navigation of Hudson's Bay and Strait.

I submit that the Dominion Government should assume the responsi-

bility of opening the Hudson's Bay route, and the Parliament of Canada should commit the nation to the establishment of the route within a certain date. This alone will revive immigration and restore prosperity in the Canadian North-West.

There is no obstacle to this undertaking. We may be told that already Parliament has chartered a company and subsidized it with an immense land grant, and cannot now interfere with that franchise. I do not propose that the existing franchises shall be interfered with, I do not even say that the road cannot be successfully built and the route properly opened by a private company. It is not the question of how the route is to be established or by whom, but a consideration of quite another kind. We want the Dominion Parliament to say to the world, by solemn enactment, that Canada undertakes that a railway from Manitoba to Hudson's Bay shall be commenced (by somebody) within eighteen months, and completed (by somebody) within four years, or other reasonable time, and that a steamboat line shall be established in connection therewith.

It is no longer a secret that the eastern Provinces generally and the Canadian Pacific Railway Company in particular are opposed to the Hudson's Bay Railway. Longer disguise is worthless. In the face of such opposition we can hope for nothing from a private company that is not backed directly by Government.

The people of the North-West must not expect to rest easy while their destinies in connection with the Hudson's Bay outlet are depending upon the fortunes of a private company, especially when it is known that such company is rendered helpless by the opposition of the Pacific Railway Company and many of the most influential newspapers of the eastern Provinces. The time has come, and I believe the people of Manitoba are already preparing to give decided expression in this regard, when the Central Government must assume the responsibility of the construction of a Hudson's Bay Railway, and guarantee that the route shall be opened for traffic within a reasonable time; and should you return to Manitoba with any terms of settlement between that Province and the Dominion, no matter how liberal in other respects, if they come short of a full and complete guarantee on the part of the Federal authority of the establishment at a reasonably early date of the Hudson's Bay road, they will be unsatisfactory and will be ultimately rejected by the people.

It will not do to agree on other important questions and have the Hudson's Bay issue an open one. Nothing that the Dominion Government can do for the North-West will be fruitful of any great good, except in conjunction with the Hudson's Bay Railway. And, I venture to say that should you return home with the Federal guarantee that a railway between

the fertile prairies of the North-West and Hudson's Bay shall be commenced within one year, or even eighteen months, and completed within four years, renewed prosperity will follow, and a tide of immigration will set in such as has not yet been witnessed. Everything in the North-West depends upon it, and nothing else, no matter what, can take its place.

You are making a great mistake, in my humble opinion, to spend your time and energies urging upon the Dominion authorities the cession of the unclaimed public lands of the Province. Let the Ottawa Government keep the lands, and give us instead material assistance to local railways, and above all, the Hudson's Bay road.

I cannot urge too strongly upon you the importance of this question. The establishment of the route will mark the beginning of a glorious era of prosperity, and the Federal guarantee, if given now, will inaugurate that prosperity at once. I hear most people talk of the Hudson's Bay road only as the hope of the people for the exportation of grain. This is very well; but, sir, I tell you we want that highway opened most of all to facilitate immigration. There are five millions of people in the old world who would find happy, prosperous homes in the Peace River Country, on the elevated plains of the Athabaska, in the great Saskatchewan valleys, and in the country of the Assiniboine and Red Rivers, if the natural channel of communication between those vast fertile areas and Europe, *via* Hudson's Bay were opened. With such a rush of immigration the Canadian nation would soon rival the United States in population, commerce and national importance. There is nothing to prevent it, save opposition to and consequent delay of the Hudson's Bay railway.

By the Hudson's Bay route, if it were opened, immigrants could be landed in the North-West from Europe at an expense of less that $20 a head, and hundreds of thousands would reach those prairies where one thousand reaches them now. The route would not only ensure us a vast immigration, but would be the best guarantee of prosperity to the immigrant, for by it he would receive all necessary supplies from the best European markets at a much less cost of transportation then at present; and by it he would send his surplus products to Liverpool, direct, at less than one-hall the present rate. With the Hudson's Bay route opened, tea, sugar, and such like necessaries would be much cheaper in Manitoba than at present, and wheat and beef, the great staple exports, would be worth at least thirty per cent. more than they are to-day. In short, the North, West would be one of the cheapest countries on the continent to live in- and its products would be worth the most.

Look for a moment at some of the advantages to the North-West of the Hudson's Bay route, as set forth by distances. Taking Montreal and

Churchill as the respective points of departure for ocean transportation, we get the following result :—

	Miles.
Winnipeg to Montreal (C. P. R.)	1,480
Montreal to Liverpool	3,000
Total	4,480
Winnipeg to Churchill	650
Churchill to Liverpool	2,940
Total	3,590
Difference in favour Hudson's Bay route	870
Calgary to Montreal (C. P. R.)	2,360
Montreal to Liverpool	3,000
Total	5,360
Calgary to Churchill	950
Churchill to Liverpool	2,940
Total	3,890
Difference in favour Hudson's Bay route	1,470
Prince Albert to Montreal	2,000
Montreal to Liverpool	3,000
Total	5,000
Prince Albert to Churchill	650
Churchill to Liverpool	2,940
Total	3,590
Difference in favour Hudson's Bay route	1,410

Is it any wonder in view of this comparison that the people of the North-West are determined to avail themselves of the Hudson's Bay route? Surely not. Now, as to the navigation of Hudson's Bay and Strait, there seems to be still some difference of opinion. However, all agree that the navigation season is long enough for the purposes of commerce to warrant the construction of a railway. I have been on the route, and have had all the opportunities of judging of its character that others have had, and I say that the only months in the year in which navigation will be obstructed

in Hudson Strait are July and August. The route is open and free every other month. Of course the ice met with in July and August can be easily penetrated by steamers. There are certain months of winter when the temperature in that region is probably too low for nautical operations, but there will be found to be not less than eight months' navigation of the Hudson's Bay route—navigation free from all kinds of danger, and far superior in every way to that of the St. Lawrence.

There is another matter to which I am perhaps entitled to call your attention. It is that Manitoba should have a representative with the Canadian Government expedition each year. I accompanied the expedition the present year at the request of the five Manitoba members, and am doing everything in my power to bring to the knowledge of the people the advantages of the Hudson's Bay route and the extent of the resources of our northern country. But this is not enough. The work should be continued each year. I know these Hudson's Bay expeditions have fallen into able and efficient hands, but when I consider that the inclination of the eastern Provinces is against the Hudson's Bay route, and place this fact by the side of the other, that Manitoba is the Province most interested in the welfare of the enterprise, I do not hesitate to say that the latter should be represented in some direct way on each expedition, and I venture to request that, while at Ottawa, you will make such arrangements (which I am satisfied the Dominion Government will be pleased to favour) as will enable your own Government, or the Manitoba representatives, or both jointly, to name some person in whom the people of the North-West have confidence to accompany the expedition next year. Further, I wish you would urge upon the Government the necessity of sending out the expedition not later than May next year. I have the honour to be, sir,

Your obedient servant,

Toronto, Dec. 22nd, 1884. CHAS. R. TUTTLE.

There is no doubt that Manitoba would receive more benefit at present from the immediate commencement of the Hudson's Bay railway than from the cession of the ungranted public lands. The latter would, unquestionably, prove of great advantage to the Province, but the results would be largely dependent upon the policy of the Local Government regarding them. Certain it is that the proceeds of these lands should go towards the payment of the cost of the Hudson's Bay line, and, if this can be accomplished, it will not matter to the Province much whether they are administered by the Federal or the Provincial authorities.

CHAPTER XLVII.

Needed Railway Competition in the North-West.

THE RAILWAY SYSTEM THAT OUGHT TO BE ENCOURAGED — LINES COMPETING WITH THE CANADIAN PACIFIC RAILWAY REQUIRED— THE END OF MONOPOLY.

IT has been generally admitted that the Dominion Government were fully justified in protecting the Canadian Pacific line from undue competition until placed beyond the possibility of failure, but it is as universally felt now that the time has come when all restrictions should be thrown off, and the greatest latitude given for the construction of lines to every market. The Canadian Pacific will be open in a few months from ocean to ocean, and will be a great boon to Canada, and to the North-West in particular, but it cannot meet all the wants of that section. Other lines are necessary. Other outlets are indispensable. In the first place they are necessary as the Cananian Pacific line will not be able to move all the products of that region; and secondly, to secure needed competition, the only safeguard to the people.

The roads from Winnipeg westward are the Canadian Pacific, now almost completed to Port Moody. The Manitoba South-Western, a portion of which is built should be extended south-westerly, through the Souris country, and away across the International Boundary to the Northern Pacific. The Manitoba and North-Western, a portion of which is also in operation, should be extended on to the Prince Albert, and to the Athabaska, and to the Peace River, and through the Pine River Pass to Port Simpson, on the Pacific Slope. The Manitoba Central, which has, as yet made but little progress, should be pushed on to Battleford, and to Edmonton, and to the headwaters of the Athabaska, and through the Rockies

to the Pacific, probably at Bute Inlet. Where the Manitoba and North-Western would cross the Smokey River, a line might with great profit, be projected north-westerly across the Peace River, and far away to the Upper Mackenzie. These trunk lines of the interior cannot all be constructed at once, but they should be pressed forward as rapidly as capital can be found to construct them.

These four great trunk lines will converge at Winnipeg, from which point easterly we have as yet only the Canadian Pacific and access over the St. Paul, Minniapolis and Manitoba line. These facilities are too limited for the necessities of the country, and savour too much of monopoly to ensure low transportation rates. Other American lines, such as the Chicago, Milwaukee and St. Paul road, should find free and unobstructed access across the boundary, and connection with the Canadian lines. Besides the Grand Trunk, the great competitor of the Canadian Pacific, should be allowed to enter the North-West *vid* Sault Ste. Marie, and Winnipeg, and by means of the Manitoba and North-Western, or the Manitoba Central, find its way across the prairie country to the Pacific. In this way Canada would have two great transcontinental lines of railway, competing with each other, and with United States lines, to a great extent, for the carrying trade.

Besides these principal lines, the North-West requires a vast system of local or subsidiary roads, connecting every portion of the great fertile areas with the main channels of transportation.

But above all, the Prairie Country must have access to Hudson's Bay. There must be constructed at an early date a line from Manitoba to Churchill; and, in the near future, necessity will require a road from Calgary *via* Prince Albert, to Churchill, through the great Saskatchewan valleys. And not only these, but the development of transcontinental trade will, in due time, make it necessary to construct a line from where the Manitoba and North-Western will cross the Smokey River to Churchill direct, which with the Hudson's Bay route will be the shortest possible line between Japan and Europe across the American Continent.

With such a railway system as I have indicated, the immense future productions of the North-West will find access to all markets,

under a reign of competition that will secure the lowest possible rates of transportation to the producer. This is what that great country requires. The bread or beef, or pork producer, may send his products to any and to all markets. He may patronize St. Paul and Chicago, and in doing so he will have the benefit of competition between the Chicago, Milwaukee and St. Paul, and St. Paul, Minneapolis and Manitoba roads. He may deal with Montreal and Toronto, and this he will have the advantage of competition between the Grand Trunk and the Canadian Pacific. He may export to and import from Europe direct, and in this he will have the natural channel by way of Hudson's Bay.

Such, I take it, is the future of the great North-West in respect of transportation. All the lines I have mentioned, and even others, will be required to accommodate the country. I do not predict that the system will be complete in a single decade, but I hope to live long enough to witness every one of the lines I have indicated in full operation. It will come to pass at any rate within a quarter of a century, unless unwise Governmental policy prevents it. We may safely hope, however, that in these days, no matter what political party rules, the councils of the nation will be sufficiently wise and liberal to secure the greatest possible degree of progress not only in the North-West, but in all parts of Canada. The people of Manitoba are fully justified now in their determination to secure free and untrammelled railway and water communication with all parts of the world possible to be reached; and, I do not think that the interests of other portions of the Dominion require that the Central Government should longer exercise a policy of prohibition towards them. Let the walls of monopoly be broken down, and let us have competition in railway traffic as well as in other departments of commerce.

CHAPTER XLVIII.

Proving the Hudson's Bay Route.

INEFFICIENCY OF THE STATIONARY PARTIES TO DETERMINE THE PERIOD OF NAVIGATION—THE PERIOD OF NAVIGATION TO BE PROVED ONLY BY NAVIGATING THE STRAITS—TRUE VALUE OF OBSERVING STATIONS.

MANITOBA and the North-West are deeply interested in the scheme now being carried out by the Dominion Government of proving the Hudson's Bay route. A great deal depends upon the series of expeditions which the authorities are sending out, because if the result of these investigations is unfavourable to the practicability of the route it will unquestionably be condemned. It, therefore, becomes necessary to ascertain to what extent these expeditions may fail to reveal the true state of navigation, so that too much weight may not be attached to possible results. To do this let us glance at the plan that has been adopted to prove the Hudson's Bay route. The Select Committee of the House of Commons, having the question under consideration, recommended as follows:—

"There also results, from the evidence gathered by your Committee, a necessity for the Government to examine a great number of questions intimately connected with the navigation of Hudson's Bay and Strait. Without the intervention of the State, this navigation will remain what it is at the present moment: uncertain, of short duration, without any attraction for capitalists. In this direction, several have set forth their opinions as to the nature of the examinations which the Government might have made, and as to the organization and character of a proposed surveying and exploring expedition. They almost all agree in stating that these

observations should cover a period of at least three years, and should be conducted by means of observatories, erected on the shores of the Strait, as well as on certain places on the coasts of Hudson's Bay. Cape Wolestanholme, Nottingham Island the neighbourhood of North Bay, Cape Hope, Resolution Island, and one of the Button Islands, have been pointed out as localities which might be selected. The meteorological and astronomical phenomena, the currents, the temperature of the waters, the tides, the movement and nature of the ice masses, some hydrographical bearings, etc., such would be, or nearly so, the work entrusted to the head men at the stations. The Government would succeed, in this way, in establishing a knowledge upon a number of essential points, relating to the navigation of these unknown waters, and would prepare the way for capitalists desirous of essaying the opening of this grand road to the North-West."

These suggestions, and the plan afterwards adopted by the Government were in accordance with the recommendations of Staff-Commander Boulton, R.N., given before the Committee, and contained in the first part of this volume. In concluding these recommendations, Captain Boulton said :—

"The principal object of these stationary parties is that, from their commanding elevation, assisted by a good telescope, the daily condition of the ice, as far as they could see, particularly at the close and opening of navigation, the character of the ice, and the drift and set of the ice, and so on, could be ascertained."

In connection with this the Chairman of the Committee, Mr. Joseph Royal, asked the following question and received the following reply :—

"You have said that you would suggest that the ship should arrive in the Strait about the 12th of July. Why not sooner?—My reason for suggesting that is that by going at that time she would be sure to get in, and it is very necessary if the scheme is carried out, that she should not have to stay off the Strait and run short of her coal, and perhaps have to go back again, because, as far as the opening of navigation is concerned, that would be better ascertained by the landing parties in the following spring from their stations."

This is just the point where Captain Boulton's plan fails. The only successful method of proving the length of time Hudson Straits are navigable is by navigating those waters. There is no other way. The observing stations are valuable, and the information obtained by their maintenance will be a material contribution to the knowledge of the world concerning that region, but the reports from them are sure to be unfairly damaging to the Hudson's Bay route, for reasons which I shall endeavour to explain.

In the first place Captain Boulton's scheme was not practicable because, in finding anchorages, so as to make landings to erect buildings for these stationary parties, it was necessary to ascend bays or inlets a considerable distance from the general outline of the coast, and as a consequence, the vision of the observer is limited to a bay or inlet in which the movements of the ice, etc., have but a faint connection with the question of the navigation of the Strait. Take, for instance, the station at Cape Chidley called Port Burwell. That station is located on the east side of the Cape, at least five miles from the waters of the Strait, on the shore of the north-east extremity of Ungava Bay. It is on the shore of an excellent harbour, near the entrance to McLelan Strait, which runs through from Ungava Bay to the Labrador Coast. Now, what will this station accomplish? The answer is not difficult. It will record all meteorological phenomena, register the rise and fall of the tides, and keep a record of the movements of the ice, such as when the ice forms in the harbour, when it breaks up, and also, notes may be made of the movements of ice-floes in Ungava Bay for some five or six miles out. But of Hudson Strait the observer will know nothing. It may be open all winter, for ought he can tell. His position will not even enable him to say when the shore-ice of the Strait in that neighbourhood breaks up, but he may guess pretty correctly of this by the records of his location. As to great ice-floes passing out of the Strait from the North-west he will not be able to see them, to tell when they are heaviest, when they commenced, the channels they follow, or anything about it. In short, as there is no station on Resolution Island, and as the post in question is located five miles southward on the shore of Ungava Bay, from the shore of the Strait,

nothing whatever of value as to the formation and movements of ice can be ascertained by this station. And yet this is one of the most important points. It is the entrance to Hudson Strait from the north Atlantic where the polar currents meet and mingle with the tidal streams from and to Hudson's Bay. It has been thought by some that vast ice jams occur here early in July, when the ice, moving forward from Davis Strait, is carried into the mouth or entrance of Hudson Strait by easterly winds, and there piled and heaped into mountains or impassable barriers, but that all the while there is a wide channel in the centre of the Strait open. These are conjectures hypothicated on the strength and trend of the currents and winds, but concerning which we have as yet no proof whatever, nor will the lone station at Cape Chidley afford us a single ray of light on the subject.

Take for another instance the station on the north shore of Prince of Wales Sound, called by Lieutenant Gordon, Stupart's Bay. Prince of Wales Sound is a vast bay or inlet, putting in from the Strait to the southward, about two hundred and fifty miles from Cape Chidley. From Cape Prince of Wales, on the north-west, to Cape Hope on the south-east, of the entrance to the sound, the distance is about twenty-five miles. Stupart's Bay is a small inlet on the north-west side of this sound, about seven miles from Cape Prince of Wales, or seven miles up the Sound to the south-west from the Strait proper. What then will this station be able to tell us of the navigation, formation and movements of ice, etc., in the Hudson Strait? Simply nothing whatever. It will accomplish one very important task, that of ascertaining the variation of the compass, and the dip of the magnetic needle. It will also record valuable meteorological data, but it will remain in dense and utter ignorance of the character of the navigation of the Strait. The observer will know something of the movements of the ice in the outer portion of Prince of Wales Sound, but nothing concerning the waters of the Strait.

In the case of Ashe's Inlet, at North Bluff, that station has a decided advantage. It is located on the shore of the Strait proper, and commands a view of the waters of the Strait proper, for say

seven miles seaward, but not further. The observer there will not be able to say whether or not the centre of the strait is closed or open, at any date, although his observations will be of much more value than those of the observers at Cape Chidley and Prince of Wales Sound.

The station on Nottingham Island is most unfortunately located. That island is about thirty-five miles long and twelve broad. Its position is north-west and south-east. The station is located not far from the extreme easterly point, and about eight miles north and east of its extreme southerly point. As strong currents come and go in the channels both north and south of the island, the position of the station is opposite to a broad eddy, or back-water, where ice is always sure to collect when there is any in that neighbourhood. It may be that the whole space between the channels north and south of Nottingham, will be filled with pack-ice, while the channels are both open and free. This may continue for months together; and all the while the observer can see the ice, but cannot extend his vision to the channels. His observations will therefore not only be unreliable so far as the navigation of the Strait is concerned, but calculated to unfairly condemn the route.

The station on the outer Digges Island, is located on one of a series of small islands west of Cape Walstenholme. These islands will serve as a net to catch all the drift ice in the neighbourhood, so that the observer there will be quite sure to have a plenty most of of the season. He will record its presence, but can tell us nothing of the open water that may exist all the while farther out into the broad channels between him and Mansfield Island, and between his post and Nottingham. The former is over fifty miles wide, the latter over thirty-five.

Of course the station called Skinner's Cove will record nothing pertaining to the Hudson's Bay route, as it is located about one hundred miles south of Cape Chidley on the Labrador Coast, and five miles inland from that.

From these brief observations, the reader will see how little reliance can be placed upon the records of the stationary parties. Unless those records are read in the light of these remarks they will

mislead those who read them and unjustly condemn the route in the minds of the people. I do not condemn the stations. My anxiety is from a fear that their functions are misunderstood. Magnetic and meteorological data are valuable. A knowledge of the direction of the prevailing winds over those waters is very essential to navigation. So also is a knowledge of the fogs, the rise and fall of the tides, the variation of the compass, and other magnetic phenomena.

In these lines the stations will render important service, but the records kept by them cannot solve, or even throw much light upon the question of the navigation of the Hudson's Bay route. Again I assert that this problem can be solved only by keeping a suitable steamer in those waters pretty much all the time. Instead of a three months' expedition, a strong steamship commanded by a person experienced in northern waters should cruise in the Bay and Strait twelve months in the year. When it is too cold to exist in the Strait she could cruise in the Bay, which is known to be open and free from ice in the heart of winter. In this way a thorough knowledge of the possibilities of the navigation of those waters could be obtained. A large quantity of coals for steaming purposes should be shipped to some convenient point during the known season of navigation, and the vessel kept there constantly three years, instead of three months. The report of such an expedition would settle the question and settle it too, in my opinion, most favourably.

CHAPTER XLIX.

A Proposed Two Years' Expedition.

THE BEST METHOD OF SETTLING THE QUESTION OF THE NAVIGATION OF THE HUDSON'S BAY ROUTE—NECESSITY OF ERECTING BEACONS AND MAKING A SURVEY OF THE COASTS—A WINTER EXPEDITION NECESSARY.

ENOUGH favourable to the practicability of the navigation of the Hudson's Bay route is now known to warrant the Dominion Government in taking decided and comprehensive steps to prove it still further. It is not enough that a steamer shall be sent out now to pick up the observers that have been stationed to make observations for three or four months and then to return and report what has been seen and experienced; and to tell the world how low the mercury sank in January at Cape Chidley and at North Bluff and at Nottingham; or to publish a record of the greatest gale at Nachvak on the Labrador, or even to chronicle the probable fact that Digges Island was in the midst of mountains of ice six months out of twelve. Something more than this should be done, and it is the business of this brief chapter to sketch out roughly a humble opinion of what that something ought to be.

In the first place, the expedition of 1885 should continue uninterruptedly for two years. For the purpose a strong steam vessel, such as the Neptune or the Bear of the Newfoundland sealing fleet, should be chartered for two years, and provisioned for eighteen months and sent up to Hudson's Bay with instructions to cruise in the Bay and Strait all the summer of 1885, all the winter of 1885-6, all the summer of 1886, and all the winter of 1886-7. Then she might return to Halifax in the fall of 1887 with a complete solution

of the whole question. During this period, with the proper staff and outfit, she would accomplish a very good survey of the coasts of the Strait and Bay, and of the principal islands therein; and the expedition could erect beacons at suitable points on islands in and on the shores of the Bay and Strait, which would be of great value to navigation.

Port Burwell or some other suitable place should be selected as a supply depot, and the recently constructed Government steamship called the Landsdowne, could be sent up this year to relieve the station men that have been left there, with a full cargo of coals and supplies. This could be left at the point named and the steamer return, the whole voyage not occupying over six weeks. The same vessel could be sent up in the early summer of 1876 with another load of coals and supplies, and would be able to bring back word from the permanent expedition, and, in that way, the work of proving the route would be carried on most effectually and at comparatively small cost. I presume either of the sealing ships I have mentioned could be purchased outright by the Government to greater advantage than by securing one of them under an ordinary charter.

This method of enquiry would be a great improvement over the Boulton scheme which is now in operation, and which I am sure will not terminate satisfactorily. If it were adopted it would be unnecessary to maintain more than one or two stationary parties on the shores of the Strait. The others might be abandoned the coming spring and the buildings sold to traders, or the lumber used in the beacons to be erected.

There would be ample work for two years for such an expedition. Substantial beacons should be erected, one on the outer Button Island, one on Resolution Island, one on Big Island at North Bluff, one on the north-east extremity of Charles Island, and one on the north-west extremity of the same, one on the eastern extremity of Salisbury Island, one on the southern extremity of Nottingham, one on Mansfield Island, one on Cape Churchill, etc. These beacons pending the construction of lighthouses, would be of great value to mariners.

But the survey would be the principal and most important occupation. To facilitate this, a small but strong steam launch should be taken with the expedition. The party could accomplish a very complete outline survey of the coasts of the Strait and the islands in it, and define their proper positions on the map, so that a reliable chart of the route could be produced for the use of navigators who might wish to enter those waters. This part of the proposed work becomes more important when we remember that, if the construction of a railway from Manitoba to Hudson's Bay is undertaken, one of the most important points of operation will necessarily be Churchill, to which port a great quantity of the iron and other material and supplies necessary for that undertaking will be shipped from England direct through Hudson Strait.

Moreover such a permanent expedition would be able to make a thorough examination into the value of the fisheries of those waters. We are already aware that whale, porpoise, walrus, seal, salmon, and trout fishing are carried on in that region by the employés of the Hudson's Bay Company, and by Americans, with considerable profit, and with reliable information as to the extent to which these industries could be developed, if favourable, their increase would follow greatly to the advantage of Canada.

But, above all, the experiences and records of such an expedition would forever settle the question of the navigation of Hudson's Bay and Strait. It would then be known just how early in the year a steam vessel could enter from the north Atlantic, or from Hudson's Bay, into the Strait, and how late in the season it is possible and safe to navigate those waters.

The first winter might be spent in the open waters of Hudson's Bay, near the entrance to the Strait, so that by constant observation the question as to whether or not the entrance is ever blocked with ice for any considerable period. The second winter could be spent at the entrance from the North Atlantic, so as to settle the other question as to what extent the ice-floes from Davis Strait interfere with navigation in that quarter. I am mentioning safe winter quarters in case it is found that the Strait cannot be entered during the winter; but, if the middle of January should overtake the expe-

dition, with open channels leading into the Strait, there would then be no longer any risk in steaming into them; and if the expressed belief of those best informed be correct, there would be no obstruction, other than the intense cold, to a passage through Hudson's Strait in mid-winter.

The expenses of such an Expedition could be considerably within the present appropriation of Parliament, viz.: $200,000 for the two years. This amount would not be exceeded, and at the close of the enterprise the Government would not only have the question of the route fully solved, but a good substantial steam vessel in the bargain.

We may be told by those who profess to disbelieve in the practicability of the route, that a vessel could not survive a winter in those waters. My answer to this is, first, if she cannot, let her sink. The cost of one vessel is not much compared with the importance of the cause, and, if the question can be settled adversely by the sinking of one ship, it will be about as inexpensive a method as can be adopted to reach that or any other sound conclusion regarding it. The destruction of the ship will by no means imply the loss of life. A refuge station may be erected at a suitable place during the summer, and stocked with supplies, and left in charge of two men, to which the ship's crew may easily escape, either by water or on the ice, as necessity may require, But of this calamity there is comparatively no danger. In fact, I am aware that Captain Sopp, with the Neptune, would not hesitate to undertake the task, and in doing so, would apprehend no great risk.

With the experience now at hand, it seems to be almost ridiculous to expend further sums of money repeating the experiences of the Neptune in 1884. Each expedition will throw additional and valuable light upon the question, but after all is done there will still be but a partial solution of the problem. Short summer expeditions cannot answer the question, "How long is the Strait navigable each year?" Observing stations can shed no light upon it, and, I repeat, the only way it can be settled is by navigating that great channel. It is navigable as long as it can be navigated, and how long that is can be known only by navigating it.

CHAPTER L.

Opening the Hudson's Bay Route.

COST OF THE PROPOSED ENTERPRISE—THE LINES FROM WINNIPEG AND PRINCE ALBERT TO CHURCHILL—ONE THOUSAND MILES—TWENTY WOODEN STEAMSHIPS—THIRTY MILLIONS OF DOLLARS—PROPOSED LAND AND CASH SUBSIDY—A HUDSON'S BAY SYNDICATE WANTED.

LET us now consider the cost of opening the Hudson's Bay route, and the best methods that may be employed to accomplish so great an undertaking. Even in looking at the railway necessary to be constructed as an initial outlet, we must not confine ourselves to a simple line. It is probable that the idea of running a road to Hudson's Bay, east of Lake Winnipeg, will be abandoned, as that route would be located too far east to properly accommodate the prairie country. But a road from Manitoba, passing northward between Lakes Winnipegosis and Winnipeg, would properly join a line from Prince Albert, where the former would cross the 55th parallel of north latitude, so that from that point to Churchill, a distance of about three hundred miles, both points would be served by one railway.

Take a point where the 55th parallel intersects the 100th meridian of west longitude, and the distance from it to Winnipeg is about three hundred and fifty miles, to Prince Albert it is about three hundred miles, and to Churchill about the same distance. A railway from Winnipeg to Churchill, with a line from Prince Albert to join it at the convenient point indicated would involve nine hundred and fifty miles, or say one thousand, as follows:—

From Winnipeg to lat. 55° N., long. 100° west,	350 miles.
From Prince Albert to same point.....	300 "
From same point to Churchill.....	300 "
Total.....	950 miles.
Distances allowed for curves, etc...	50 "
Grand total.....	1,000 miles.

A great portion of this distance would be exceedingly light or easy of construction, no part of it would be heavy, and only a small portion moderately heavy. The road from Winnipeg to the Grand Rapids of the Saskatchewan would be located through a magnificent agricultural country for more than two hundred miles, while that from Prince Albert, starting on the borders of the great central portions of the fertile areas, would penetrate for over one hundred miles a fairly good district, much of which is well timbered. The junction of the roads would be in the midst of a country covered with valuable timber. The only great stream to be crossed would be the Saskatchewan at the Grand Rapids for the Winnipeg line.

The cost of construction and equipment of this one thousand miles of railway would be about $25,000 per mile, or $25,000,000 in all. But this would not cover the whole cost of opening the Hudson's Bay route. There are steamers to be constructed, peculiarly fitted for navigating our northern waters; but the only peculiarity necessary is that they shall be strongly built of wood. Twenty of these, say of two thousand five hundred tons each, would cost about $150,000 apiece, or $5,000,000 in all. Thus we have the whole cost of opening the Hudson's Bay route placed at $30,000,000, as follows :—

Winnipeg to Churchill, 650 miles, at $25,000 per mile.....	$16,250,000
Prince Albert to proposed junction, 300 miles, at $25,000 per mile.....	7,500,000
Fifty miles for miscalculation, at $25,000 per mile.....	1,250,000
Twenty wooden steamships of 2,500 tons each at $150,000 each	5,000,000
Total.....	$30,000,000

The method of constructing this line would probably be to commence at Winnipeg and work toward the 55th parallel northward, and also at Churchill, and push towards the same point southward. As soon as these construction parties would reach each other the line would be opened, and that from the point mentioned to Prince Albert could be commenced and pushed on to the end, and ultimately to Battleford and to Calgary. At Prince Albert the future settlements of the Athabaska and Peace River countries would find access to the Hudson's Bay road over the Manitoba and North-Western, which will no doubt be pushed forward through the Pine River Pass at no very distant day, and at Battleford the same advantages would be afforded the settlements round Edmonton and the Upper North Saskatchewan by means of the proposed Manitoba Central.

Taking Winnipeg and Prince Albert as representative centres of the Canadian North-West, and supposing the lines in question open for traffic, in connection with the initial number of steamships, viz., twenty, it is quite easy to calculate the time that would be occupied in a trip from either place to Liverpool, and the capacity of the route. One ship would be able to carry two hundred and fifty car loads of freight, and twenty would carry five thousand car loads. Each vessel, counting fifteen days for the voyage, or a round-trip voyage a month, would be able to make, at the very least, six trips a year, or transport one thousand five hundred car loads of freight each from Churchill to Liverpool, or thirty thousand car loads, equal to three hundred thousand tons of freight, annually. The cost of the transportation of wheat from the fertile prairies to Churchill would be, say eight cents a bushel, and from Churchill to Liverpool about seven cents a bushel, or fifteen cents a bushel from Manitoba to Europe. Beef, pork and other products would be carried correspondingly cheap, and these vessels returning would bring back to the North-West, besides tea, sugar, coffee, fabrics and merchandise of all kinds, immigrants at, say, twenty dollars a head or less. Each vessel would be able to accommodate from five hundred to one thousand every trip, or, say five thousand in six trips, or one hundred thousand annually.

But when the interior of the great North-West becomes settled up these proposed twenty steamships will be increased to fifty, with a carrying capacity of seventy-five thousand car-loads, or equal to seven hundred and fifty thousand tons annually. In that event there could be taken into the North-West nearly half a million immigrants annually by the Hudson's Bay route.

But how is this route to be opened? By a private company with a land subsidy, and the opposition of the Canadian Pacific Railway Company? No, never! It may be among the possibilities, but no one of the present generation will ever live to see such a feat carried out. If the route is ever to be opened that sort of thing must cease, and the Government—the National Government—must take the enterprise in hand the same way as they took the Canadian Pacific Railway in hand in 1879. There is no other way. Let the Government form another Syndicate—a Hudson's Bay Syndicate—that will contract to commence the proposed roads at two points—Winnipeg and Churchill—simultaneously, within one year, and complete the line in four years, and the Prince Albert branch within five years. This will be easy of accomplishment. Thirty millions of acres of good lands can be set aside by resolution of Parliament, in the same way, for this object, that one hundred millions were set aside for the Canadian Pacific in 1879. Then let the Government subsidize the Syndicate that will put up one million dollars as a pledge of good faith, and ability to carry out the contract and maintain the route in good order for twenty years, by twelve thousand eight hundred acres of land per mile in land, and $12,800 per mile in money, and we will have the Hudson's Bay route opened in short order. It will be the best paying investment Canada has ever made, and will return an hundredfold. It will bring millions of settlers into the North-West, and convert the dreary prairie wastes into waving wheat fields, swarm the alluvial plains of the far west with herds of hundreds of thousands of fat cattle, and hogs, and inaugurate a new era in the commercial history of Canada. It will open the gates of the great Canadian North-West to the starving millions of Europe, and present to them a means of transportation to free, or almost free homes, in Canada, at

the expense of little beyond the cost of a new hat. It will be opening a new artery through which the richest national life-blood will flow to the heart of the Canadian nation, and will be the master-stroke of the world in the nineteenth century. Who is there that will not hope that Sir John, who has earned for himself the title of architect of the Canadian nation, will crown a brilliant political career by opening the Hudson's Bay route. It would be of all the public acts of his life that which would do most to promote British progress in the Dominion. It would be to the world a revelation, discovering to man the possibilities of future great Canadian importance.

CHAPTER LI.

Commercial Importance of Hudson's Bay.

THE HUDSON'S BAY BASIN — THE PRINCIPAL RIVERS — LUMBER, MINERALS, OIL-BEARING ANIMALS, AND OTHER PRODUCTIONS — PRACTICABILITY OF THE HUDSON'S BAY ROUTE — COMMERCIAL ADVANTAGES OF THE ROUTE.

ROBERT BELL, M.D., LL.D., F.R.S., Assistant Director of the Geological Survey of Canada, who has attained a more extensive knowledge of the character and resources of the country around Hudson's Bay than any other resident of Canada, and who has taken a deep interest in promoting the Hudson's Bay route scheme, is justly entitled to the thanks of the people of the Canadian North-West for disseminating throughout England and America a knowledge of the practicability of that route, and its commercial advantages. I have quoted at length from his writings already, and give in this chapter an address delivered by him a few years ago before the Royal Geographical Society of London, England, on the commercial importance of Hudson's Bay. It is as follows:—

"In the course of my geological investigations I have made surveys of most of the principal rivers, together with their large branches, which flow from the west and south into Hudson's Bay, including the Great and Little Churchill, the Nelson, Hayes, Hill, Severn, Albany, Kenogami, Moose, Missinabe, Mattagami, and Abittibi. On account of its great geological interest, I made a topographical survey in 1877 of about three hundred miles of the Eastmain coast, from Cape Jones northward.

"During the past autumn, in coming to England in one of the ships from the Bay, I happened to enjoy unusually good opportuni-

ties of seeing both sides of Hudson Strait, and of acquiring much valuable information in reference to its navigation.

"In the popular mind, Hudson's Bay is apt to be associated with the polar regions, yet no part of it comes within the Arctic circle, and the southern extremity is south of the latitude of London. Few people have any adequate conception of the extent of this great American sea. Including its southern prolongation, James' Bay, it measures about one thousand miles in length, and it is more than six hundred miles in width at its northern part. Its total area is approximately five hundred thousand square miles, or upwards of half that of the Mediterranean Sea of the old world. It is enclosed by the land on all sides except the north-east, where it communicates by several channels with the outer ocean. The principal or best known of these is Hudson Strait, which is about five hundred miles in length, and has an average width of about one hundred miles.

"Hudson's Bay, which might have been more appropriately called Hudson's Sea, is the central basin of the drainage of North America. The limits of this basin extend to the centre of the Labrador peninsula, or some five hundred miles inland on the east side, and to the Rocky Mountains, or a distance of one thousand three hundred miles on the west. The Winnipeg basin constitutes a sort of outlier of the region more immediately under notice, since the waters drain into it from north, south, east, and west, and discharge themselves by one great trunk, the Nelson River, into Hudson's Bay. The southernmost part of this basin, namely, the source of the Red River, extends down nearly to latitude 45°. The head waters of the southern rivers of James' Bay are not far to the north of Lake Huron; while one of the branches of the Albany rises within twenty-five miles of the north shore of Lake Superior. Including the Winnipeg system, the basin of Hudson's Bay has a width of about two thousand one hundred miles from east to west, and a length of about one thousand five hundred miles from north to south, and its dimensions approach the enormous area of three million square miles. Over a great part of this region there is a temperate climate, and although much of the surface is compara-

tively barren, yet large tracts possess a very fertile soil. The numerous large rivers and lakes embraced within these limits will prove of great value in the settlement of the country.

"Both the Bay and Strait are remarkably free from rocks and shoals, which might interfere with their free navigation. The groups of islands near the east side of the Bay are surrounded by deep water, and a wide channel leads up the centre of James' Bay. Fortunately the main body of the Bay, which is the portion likely to be hereafter frequented by shipping, is entirely without shoals, reefs, or islands. The depth is very uniform over most of the Bay, and nowhere does it present any great irregularities. It averages about seventy fathoms throughout, deepening to one hundred and upwards in approaching the outlet of Hudson Strait; while in the Strait itself the soundings along the centre vary from about one hundred and fifty to upwards of three hundred fathoms. The bottom appears to consist almost everywhere of boulder clay and mud. Near the shores a stiff clay, affording good holding ground for anchors, is almost invariably met with on both sides.

"James' Bay begins at Cape Jones on the east side and Cape Henrietta Maria on the west, and runs south about three hundred and fifty miles, with an average breadth of about one hundred and fifty miles. The east side of Hudson's Bay, including its southern prolongation, is known as the Eastmain Coast. Between Cape Jones and Cape Dufferin on the Portland Promontory, and again in approaching Cape Wolstenholme, at the northern termination of this coast, the land is high and bold, some parts attaining an elevation of nearly two thousand feet above the sea. The country on the south-west side of the main Bay, as well as that lying to the west of James' Bay, is low and generally level, with shallow water extending a long distance out from the shore. Both sides of Hudson's Strait are high and rocky, but the northern is less precipitous than the southern.

"Of the numerous rivers which run into Hudson's Bay from all sides, about thirty are of considerable magnitude. All those which enter on the Eastmain coast appear to flow with a uniform course directly west or parallel to one another, and as the height of land

in the centre of the Labrador peninsula is furthest inland towards the south, the rivers which fall into the southern part of this coast are the largest, and the remainder become progressively smaller as we go north. Numerous streams converge to the head of James' Bay from all points southward of an east and west line passing through its southern extremity. The Moose, about a mile wide, is the principal of these. On the western side the Albany and the Churchill are the longest, but the Nelson, with a course of only about four hundred miles, discharges the greatest body of water into the sea. Indeed, this great artery of the Winnipeg system may be considered as one of the first-class rivers of the world. Few of the rivers of Hudson's Bay afford uninterrupted navigation for large vessels to any great distance from the coast. During the season of high water, shallow-draft steamers might ascend the Moose River and two of its branches for upwards of one hundred miles. Hayes River and two of its branches might apparently be navigated by such craft in the spring to points about one hundred and forty miles inland, and the Albany for nearly two hundred and fifty miles; while larger steamers might ascend the Nelson for seventy or eighty miles from the open sea. The Nelson is the only muddy-water river entering Hudson's Bay. Most of the others have a slightly brownish tinge, but their waters are perfectly wholesome and contain only very small quantities of foreign matter. The Churchill, which is the second largest river of Hudson's Bay, is a beautiful clear-water stream, somewhat larger than the Rhine. It is remarkable for having at its mouth a splendid harbour with deep water and very natural convenience for the purposes of modern commerce.

"The only harbours on the west side of Hudson's Bay are those formed by the mouths of rivers, but none of them, with the exception of Churchill Harbour, can be entered by vessels drawing more than ten or eleven feet, and only at high water even at these. The Churchill is unlike all the other rivers in having a deep, rocky, and comparatively narrow mouth, which can be entered with ease and safety by the largest ships at all stages of the tide. On the point at the west side of the entrance of the harbour stands the old

Fort Prince of Wales, which is probably the largest ruin in North America. Although occupying a commanding position and mounting about forty large guns, it was surrendered, without firing a shot, to the French Admiral La Pérouse, who destroyed it in 1782.

"Along the west coast the rise and fall at spring tides amounts to about eleven or twelve feet, on an average, and is pretty uniform, diminishing somewhat towards the south. It is greatest at the mouth of the Nelson River, where it amounts to about fifteen feet. The tides are lower all along the east side of the bay. In Hudson's Strait there is a very good tide, amounting to thirty-eight and one-half feet at Fort Chimo, according to the reports we have received of Acting Staff-Commander J. G. Boulton's reconnaissance during the past summer.

"Geologically the basin of Hudson's Bay, excluding the western or Winnipeg division, lies within the great Laurentian area of the Dominion. Silurian rocks resting almost horizontally upon these, form an irregular border along the south-western side of the Bay, and in the valleys of some of the rivers they extend inland from one hundred to two hundred miles. To the south and west of James' Bay, the Silurian are overlaid by Devonian rocks, which here occupy a considerable area. The long chains of islands which fringe the east coast for nearly three hundred miles to the northward of Cape Jones, and also the mainland in the vicinity of Richmond Gulf, are composed of igneous and almost unaltered sedimentary rocks, resembling the Nipigon series of the Lake Superior region, which may be of Cambrian age. On the western side of the Bay, from Churchill northwards, quartzites and other rocks, which may also belong to the Cambrian system, appear to be largely developed. Valuable minerals may be looked for on this part of the coast. The extensive level region around the south-western side of the Bay is overspread with a great sheet of boulder clay, which is generally covered by the modified drift. The rocks of the outlying, or Winnipeg division of the basin, comprise an extensive series, ranging from the Laurentian to the Tertiary.

"The resources of Hudson's Bay and the country immediately around it are varied and numerous, although as yet few of them are

at all developed. The fur trade is the principle and best-known business which has hitherto been carried on in these regions, but a large amount of oil, derived from the larger whales, the porpoises, walruses, white bears, and the various species of seals which frequent the northern parts of the Bay, has been carried to New England, and small quantities, principally of porpoise and seal oil, have from time to time been brought to London by the Hudson's Bay Company. The other exports from the Bay have been as yet but trifling. They embrace whalebone, feathers, quills, castoreum, lead ore, sawn lumber, ivory, tallow, isinglass, and skins of seals and porpoises. The fisheries, properly speaking, of Hudson's Bay have not yet been investigated. Both the Indians and Eskimo find a variety of fish for their own use, and fine salmon abound in the rivers of Hudson's Strait; and from one or two of them a considerable number of barrels, in a salted condition, are exported every year. Waterfowl are very numerous on both sides of the Bay, and larger game on the 'barren grounds' in the northern parts, so that the natives, with prudence, may always have a plentiful supply of food.

"But perhaps the most important of the undeveloped resources of the country around the Bay are its soil, timber and minerals. To the south and west of James' Bay, in the latitude of Devonshire and Cornwall, there is a large tract, in which much of the land is good and the climate sufficiently favourable for the successful prosecution of stock and dairy farming. A strip of country along the east side of James' Bay may also prove available for these purposes. To the south-west of the wide part of the Bay the country is well wooded, and although little or no rock comes to the surface over an immense area, still neither the soil nor the climate are suitable for carrying on agricultural as a principal occupation until we have passed over more than half the distance to Lake Winnipeg. This region, however, offers no engineering difficulties to the construction of a railway from the sea-coast to the better country beyond, and this, at present, is the most important point in reference to it. Some of the timber found in the country which sends its waters into James' Bay may prove to be of value for export. Among the kinds which it

produces may be mentioned white, red, and pitch pine, black and white spruce, balsam, larch, white cedar, and white birch. The numerous rivers converging towards the head of James' Bay offer facilities for 'driving' timber to points at which it may be shipped by sea-going vessels.

"Minerals may, however, become in the future the greatest of the resources of Hudson's Bay. Little direct search has as yet been made for the valuable minerals of these regions. I have, however, found a large deposit of rich ironstone on the Mattagami River, inexhaustible supplies of good manganiferous iron ore on the islands near the eastmain coast, and promising quantities of galena around Richmond Gulf and also near Little Whale River, where a small amount had previously been known to exist. I have likewise noted traces of gold, silver, molybdenum, and copper. Lignite is met with on the Missinabe, gypsum on the Moose, and petroleum-bearing limestone on the Abittibi River. Small quantities of anthracite and various ornamental stones and rare minerals, have been met with in the course of my explorations. Soapstone is abundant not far from Mosquito Bay, on the east side, and iron pyrites between Churchill and Marble Island, on the west. Good building stones, clays, and limestones exist on both sides of the Bay. A cargo of mica is said to have been taken from Chesterfield Inlet to New York, and valuable deposits of plumbago are reported to occur on the north side of Hudson's Strait. Some capitalists have applied to the Canadian Government for mining rights in the latter region.

"Situated in the heart of North America, and possessing a seaport in the very centre of the continent, one thousand five hundred miles nearer than Quebec to the fertile lands of the North-West Territories, Hudson's Bay now begins to possess a new interest, not only to the Canadians, but also to the people of Great Britain, from the fact that the future highway between the great North-West of the Dominion and Europe may pass through it. The possibility o this route being adopted for trade is not a new idea, as it has frequently been suggested by far-seeing men in the past years, and occasionally referred to in the newspapers. In 1848 the then Lieutenant M. H. Synge, in his work on Canada, wrote: 'A ship

annually arrives at Fort York, for the service of the Hudson's Bay Company; who can tell how many may eventually do so?' In 1869, and subsequently, I frequently discussed the matter with the late Hon. John Young, Mr. Keefer, Professor Armstrong, and others; and in 1876 Mr. Selwin brought the subject unofficially before members of the Canadian Government, and recommended that surveys be make of Hudson's Bay and Strait. The Right Hon. Sir John A. Macdonald, Minister of the Interior, and his deputy, Colonel J. S. Dennis, have all along taken a deep interest in this question, and in 1878 the latter gentleman published a work, accompanied by a valuable map, in relation to it. The Report of the Minister of the Interior for 1878 contains an appendix by myself on the practicability of building a railway from Lake Winnipeg to Hudson's Bay. In the session of 1878-79, and again the following year, the Hon. Thomas Ryan, a gentleman of great enterprise, has brought the matter under the notice of the Dominion Senate.

"In 1880 the Parliament of Canada granted charters to two companies for constructing railways, and otherwise opening a route for commerce, from the North-West Territories to Europe *viâ* Hudson's Bay; and during the past summer one of them, the Nelson Valley Company, caused a survey to be made of part of the distance between Lake Winnipeg and the harbour of Churchill. Their chief engineer has reported the route to be an easy and inexpensive one for a railway. This company has also the power of connecting with the Canadian Pacific Railway, but the main line will form a connecting link between the great system of inland navigation, which centres in Lake Winnipeg, and the sea. When constructed, the Nelson Valley Railway may carry to the seaboard not only the surplus grain and cattle of our own North-West, but also those of Minnesota and Dakota. Sir J. H. Lefroy, President of the Geographical Section of the British Association, in the able address which he delivered at the Swansea meeting (1880), said:—"Hudson's Bay itself cannot fail, at no distant day, to challenge more attention. Dr. Bell reports that the land is rising at the rate of five to ten feet in a century, that is, possibly, an inch a year. Not, however, on this account will the hydrographer notice it; but because the

natural seaports of that vast interior, now thrown open to settlement, Keewatin, Manitoba, and other provinces unborn, must be sought there. York Factory, which is nearer Liverpool than New York, has been happily called by Professor H. Y. Hind the Archangel of the West. The mouth of the Churchill, however, although somewhat further north, offers far superior natural advantages, and may more fitly challenge the title. It will undoubtedly be the future shipping port for the agricultural products of the vast North-West Territory, and the route by which emigrants will enter the country." Sir Henry Lefroy knows whereof he writes, being personally well acquainted with Hudson's Bay and the North-West Territories.

"It has been shown that the Canadian North-West Territories, embracing hundreds of millions of acres of fine land, are capable of becoming the greatest wheatfield in the world. The centre of this immense agricultural region probably lies to the north of the Saskatchewan. If we look at the map of the Northern Hemisphere, we shall see at a glance that the shortest route between these territories and England is through Hudson's Bay. Mr. Lindsay Russell, the Surveyor-General of Canada, has recently made a close calculation of relative distances, and found that even the City of Winnipeg, which is near the south-eastern extremity of these territories, is at least eight hundred miles nearer to Liverpool by the Hudson's Bay route than by the St. Lawrence, while the distance in favour of the former will be increased continually as we advance northward into the interior. Now let us consider the relative progress of two persons travelling to Liverpool from the centre of this vast region, the one going by Winnipeg and the valley of the St. Lawrence, and the other by the Nelson valley and the Churchill Harbour. In about the same time which the former requires to reach the City of Winnipeg, the latter arrives at the sea-coast at Churchill. From Winnipeg our first traveller has still to go one thousand two hundred and ninety-one miles by the Lake Superior route, or one thousand six hundred and ninety-eight miles if he prefer the all-rail journey through American territory, *via* Chicago, before he reaches Montreal, where he will be still about as far from Liverpool as our other traveller when he has reached Churchill. In other words, the route

from the North-West Territories to England, *via* Hudson's Bay, saves the whole distance between Winnipeg and Montreal. The distance by way of New York is still greater. The advantages of this short route over all others are so numerous that only a few of them can be referred to in this short paper. The great saving in distance represents an important economy in time and money, or in freight and passenger rates. If the grain, cattle, and other productions of the North-West Territories could reach a European market only through Ontario and Quebec, or by way of New York, a large proportion of their value would necessarily be consumed by the long land carriage; whereas if they can find an outlet at Churchill, there will be an average saving of one thousand two hundred and ninety-one miles as compared with Montreal, and of upwards of one thousand seven hundred miles as compared with New York, and this without any increase in the length of the sea voyage. In effect, this will place a great part of the farming lands of our North-West Territories in as good a position in regard to a seaport as are those of Ontario west of Toronto; and consequently will greatly increase the value of every description of farm produce and, therefore, of the farms themselves. Some kinds, which could not be sent out of the country at all by the longer land route, may be profitably exported by the shorter one. For the transportation of both grain and fresh meat, as Colonel Dennis has pointed out, the northern route, besides the shortening of the distance, would have great advantages over all those to the south, owing to its cooler and more uniform temperature. Heavy or bulky goods of all kinds would, of course, be imported into the North-West by the shortest land route. In regard to the export and import of live stock, this independent route will possess a great importance to these territories. Hitherto cattle, horses, hogs and sheep have there enjoyed an immunity from almost all forms of contagious diseases, and, owing to the healthy nature of the climate for these animals, it is hoped this state of things will continue. The domestic animals in the United States and the older Canadian Provinces being occasionally afflicted with contagious diseases, it becomes necessary for European countries to impose restrictions on their importation. In the event of an epidemic of

this nature existing in some part of these regions, but not in the North-West Territories, there need be no objection to exporting live stock from the latter by way of Hudson's Bay.

"As a route for emigrants from Europe, that by Hudson's Bay possesses not only the advantage of the short land journey, but the still more important one to us of entirely avoiding the United States and the populous parts of Canada, in both of which, it is well known, a very serious percentage of the immigrants destined for our North-West lands are every year enticed away to settle in the great Republic. An inlet by Hudson's Bay is the only thoroughly independent channel which can ever be established between the British Islands and our great and valuable territories in the interior of North America; and it is very desirable, on national grounds, that it should be opened up. Troops have hitherto been sent to the Red River settlement on more than one occasion, by way of Hudson's Bay, while the intervening country was, as it is yet, in a state of nature. Were a short railway built through this tract, it would at once become, for military purposes, an easy connecting link with the Mother Country.

"An impression has long prevailed that Hudson's Bay and Strait could not be navigated for the ordinary purposes of commerce on account of ice, but this idea is probably destined to prove chimerical. The occasion for testing the point had not hitherto arisen, and the fact that these waters have been successfully navigated by ordinary vessels for two hundred years, in order to secure what little trade the country afforded, indicates what may be expected from properly equipped steamships, so soon as the larger business of the future may require their services in that direction. The conditions of the sea-borne commerce of the North-West, in relation to Hudson's Bay, will probably turn out to be similar to those of the rest of Canada with reference to the Gulf of St. Lawrence. In both cases. everything must be done during the summer. Yet Hudson's Bay is, of course, open all the year round. No one would be likely to suppose that a sea of such extent, in the latitude of the British Islands, would ever freeze across. The Lower St. Lawrence is also partly open even in the middle of winter. But the difficulty in

both cases is the impossibility of getting into harbours. A harbour such as that of Churchill on Hudson's Bay would have the advantage over that of Quebec or Montreal of communicating directly with the open sea, and hence, in the autumn, vessels would not be liable to be frozen in, as occasionally happens in the St. Lawrence, as for example in the autumn just passed; and also in the autumn of 1870, when the outward-bound shipping got frozen in below Quebec, occasioning a loss, it was said of over a million of dollars. Again, in the spring there would probably be less uncertainty about entering from sea than in the Gulf of St. Lawrence, where vexatious delays are not uncommon after the open season is supposed to have arrived.

"There has been some discussion as to the length of time during which Hudson's Strait and Bay might be navigated each year, but there does not seem to be much evidence that the Strait, any more than the Bay, is closed at any season. Its great width, depth, and the strength of the tides probably keep it open all winter. My own experience and that of many others lead me to believe that the climate generally of Hudson's Bay is much better than some writers have represented it to be. From all that I could learn or observe, it appears that the Strait and Bay may be navigated and the land approached by steamers during an average of four and a-half months each year, or from the middle of June to the end of October. The Strait and Bay could probably be navigated by steam-vessels earlier than the middle of June. Much has been recorded in favour of the above opinion from the days of the Danish Captain John Monck, who wintered at Churchill in 1619-20, to the present time; and other evidence, which is not to be found in the books, leads me to the same conclusion. Churchill Harbour does not freeze up until the end of November, and the sea is open close to it during the whole winter.

"I have a record of the principal phenomena of the seasons at Martin Falls, on the Albany, extending through a period of fifty years, and from it I find that the river is open there on an average of six months of the year. I have also a record of the dates of the opening and closing of Hayes River at York Factory, extending

over more than fifty years, from which it appears to enjoy an average of fully six months of open water. The Nelson River is open for a longer period. I think, with these facts before us, we need not despair of successfully navigating Hudson's Bay, as far as the length of the season is concerned. Even were the time of open navigation shorter than it is known to be, the very great benefits which the North-West and Canada generally would derive from possessing an outlet in that direction, are sufficient to make it well worth an effort to open it up. The freedom of Hudson's Strait and Bay from rocks, shoals, and other impediments to navigation will exempt vessels in that quarter of the globe from the heavy expenses for pilots, lighthouses, etc., which burden shipping by the St. Lawrence, and are even more onerous in some other parts of the world. The delays from drifting ice in the Strait, which have occasionally occurred to sailing vessels would not be experienced by steamships.

"We have seen that in proportion as we decrease the cost of transportation to a foreign market, we increase the home value of all kinds of farm produce, and consequently of the farm itself. Now, considering the vast extent of fine land to be affected by the opening of the route above referred to, if the value of each acre of it were enhanced in this way by only a few shillings, the aggregate increase would amount to more than a hundred millions of dollars. Such a gain as this, together with the various other great advantages which, as we have seen, may be derived from the opening of this new ocean route, will I think, sufficiently illustrate the commercial importance of Hudson's Bay."

CHAPTER LII.

The Hudson's Bay Route Supported.

THE DEBATE IN THE HOUSE OF COMMONS—SPEECHES OF MR. ROYAL, MR. WATSON, MR. CASEY, DR. ORTON, MR. DAWSON, SIR JOHN A. MACDONALD AND HON. MR. BLAKE—FAITH EXPRESSED IN THE ROUTE—ITS ADVANTAGES TO THE NORTH-WEST—ITS IMPORTANCE TO CANADA—PROPOSED EXPEDITION.

AN account has already been given of the circumstances which led to a consideration of the Hudson's Bay route by the people of the North-West, and to the adoption of measures by Parliament to enquire into the navigation of the Bay and Strait. The question was formally brought to the attention of the House of Commons by a motion for a select committee of enquiry brought forward by Mr. Joseph Royal, M.P., of Manitoba. Speeches were made by Mr. Royal, Mr. Dawson, Mr. Watson, Mr. Casey, Dr. Orton, Sir John A. Macdonald and Hon. Edward Blake. These addresses faithfully set forth the views of the House at that time concerning the practicability of the route, and are therefore interesting.

Mr. Royal said: "Every hon. member of this House is aware of the agitation that has been going on for some time in the Province of Manitoba with respect to the navigation of the Hudson's Bay. This agitation arose in October last when the farmers of Manitoba, after the frost of September, saw their grain run down in price by a combination of millers. After discussing many questions in connection with their grievances, or so-called grievances, it seemed to be the general opinion that the best way to escape what was called the monopoly of freights of the Canadian Pacific Railway would be to build a railway from Winnipeg to the Hudson's Bay. This agitation

led to a large meeting called lately in Winnipeg, at which speeches were made and resolutions carried embodying the strong opinion of all present in favour of the construction of this road.

"The agitation also extended south of our own borders. The farmers of Dakota and Minnesota, as well as the farmers west of those States, had stronger grievances than ours, and at the Farmers' Convention held at Grand Fort a few weeks ago, which was attended by delegates from Manitoba, the project of constructing the Hudson's Bay Railway was discussed. There was but one feeling on the subject, and that was a feeling of enthusiasm in favour of the project. I believe it was there said that if its feasibility was established not only would the Manitoba and South-Western draw every bushel of wheat grown as far as three hundred miles south of Winnipeg, but would also bring into our border the wheat grown in some of the Western States of the Union. This question should be ventilated by this House and an authoritative decision respecting it obtained through the formation of a committee such as the one I propose.

"My object in having this committee formed is to get from the most authentic sources all possible information respecting the navigation of Hudson's Bay. It is my object to bring before this committee any persons who may have records of importance respecting the navigation of Hudson's Bay. Of its navigability there is no question. The only question is during what period of the year it is navigable. Upon that question there is a great diversity of opinion: some say that the immense icebergs and the peculiarity of the tides will be a permanent obstacle to the establishment of any permanent communication by sea between ports in the Hudson's Bay and the seaports in Europe. On the other hand, it is asserted that from 1610, or during two hundred and seventy-four years since the Bay was discovered, ships have navigated it every year according to reports furnished by the Hudson's Bay Company's employés. This would tend to establish that there is at least a period in the year during which the waters of the Bay are just as safe for navigation as the waters of the Gulf of St. Lawrence.

"Now, Mr. Speaker, it is within the knowledge of every hon.

member of this House that before the system of navigation of the St. Lawrence was fully established, before the construction of our lighthouses, of the storm-signals, of the marine charts, and lately the establishment of the admirable system of telegraphy, due in great part to the patriotic energy of the hon. member for Gaspé (Mr. Fortin), the navigation of the Gulf of St. Lawrence was considered just as difficult as that of the waters of the Hudson's Bay is at this time. I am sure that it has come before the eyes of every one who reads history that, in the seventeenth century and during the last century, writers in many instances showed that the Gulf of St. Lawrence was impossible to navigate. In fact, it was only due to the persevering energies of the fur traders and of the adventurers seeking a north-west passage that the Gulf of St. Lawrence was opened. In fact we find in some authors the statement that, during the winter months, the River St. Lawrence, and part of the Gulf of St. Lawrence, was but one solid mass of ice. No doubt to-day these assertions seem to be rather exaggerated, but what can prevent us from thinking that many of the statements made in connection with the navigation of the Hudson's Bay are also either beyond or inside of the truth?

"The Hudson's Bay occupies in our history a very prominent place. It was discovered, as I stated, in 1610. Champlain had founded Quebec two years previous, and in that year he left Quebec and ascended the St. Maurice in order to discover that great sea of the north, as it was thought the Hudson's Bay was, and to find a north-west passage. In the same year, an English sailor of long experience and daring energy, Hudson, who discovered also the Hudson's River which flows past New York, discovered the bay, and made the entrance by the Straits which to this day have borne his name. Well from that year the Bay was frequented every year, and you know very well that it has been the theatre of naval engagements which have left in the history of our country more than one brilliant trace. Years after the discovery, it was of course between the two nations—England and France—that the contest took place for the dominion of those seas; and at the end of the seventeenth century we all know that D'Iberville, that giant of our

history, wrote to the King of France: 'Sire, I have grown tired of being obliged to conquer the Hudson's Bay every year'—*Je suis las de conquérir la Baie de Hudson tous les ans.* A bloody strife was then raging for the possession of this *mare clausum* or *mare ignotum*, as it is even at this time pretended in some quarters that it is. That Hudson's Bay, that inland sea, that sea of the north, attracted more attention in those days, or one hundred and forty years ago, than it has attracted until some five, ten, or twenty years ago.

"I remember that, being a member of the Provincial Government of Manitoba, and deputed here to see the paternal Government of Canada in order to get some assistance in one way or the other, I was once laying before the Right Hon. Sir John Macdonald our views of what our frontier should be in the north, and I made mention that Manitoba might be some day a maritime Province. I see still the smile of incredulity which appeared on the face of the right hon. gentleman at that time. Of course it might have passed like a dream to have thought of such a thing, but the agitation which has been going on for three or four months has led people to study the question, and to look up documents, has led many to make searches which have not so far proved conclusive; but, with the striking of this committee and the authority that will be given to its decision, will, I hope, Mr. Speaker, set this matter at rest.

"Sir, apart from the historical interest that may be attached to that portion of Canada, the cause of the agitation that has been going on in the North-West with reference to this question is the fact that we are wheat producers; that we occupy the centre of North America; are therefore very far removed from the sea-board; and that we are obliged to seek the best outlet that will enable us to reach the market the most quickly and the most cheaply; and, if the navigation of the Hudson's Bay, that is to say, if the period during which the waters of the Hudson's Bay are open, is established to be three or four or perhaps five months, then the farmers of the North-West will benefit on the rates of freight on the whole distance so economized, as between the port of Churchill and Liverpool and between Liverpool and Montreal. Let me give you some figures,

and I will conclude these few remarks. The distance between Winnipeg and Churchill is about 630 miles. By railway route it will very likely be some 710 miles. From Churchill to Hudson Straits is 650 miles; the Straits 450 miles; and from the Hudson Straits to Liverpool 1,830 miles. The whole distance is then 2,930. From Montreal to Liverpool the distance is 2,765 miles. That is the the shortest summer route; the old route was 2,990 miles.

"The exports of grain by Montreal last year were something like 10,498,265 bushels, that is to say, 5,798,496 bushels of wheat, 596,104 bushels of corn, a million bushels of peas, and so on. In 1881, the exports of grain reached the figure of nearly 15,000,000; in 1880, it was over 23,000,000; in 1879, 19,000,000; in 1878, 16,000,000. Now, to show how much, if the possibility of the project is once established, the farmer of the North-West will gain by the saving of such a distance, I will give you the rate of transport. A bushel of wheat from Winnipeg to Montreal, according to summer rates, costs 28 cents; according to winter rates 49 cents; from Winnipeg to Liverpool *via* Montreal, a bushel of wheat by the summer rate 38 cents, and by the winter 59 cents. Now, Sir, according to the distances I have given, if the carriage of a bushel of wheat from Churchill to Liverpool will cost, say—from Winnipeg to Churchill, about 15 cents, and from Churchill to Liverpool, 10 cents—in all 25 cents—you will see what a saving of money farmers in the North-West will be able to make by having such a route—if, of course, the feasibility of the project turns out to be assured. Now, Sir, the average price of wheat in Montreal, in 1882, was $1.33 per bushel. This price, of course, was governed by the price in Liverpool, and if we can save fifteen or twenty cents a bushel in the transportation to Liverpool through Hudson's Bay, the farmer will, of course, obtain just that much more for his wheat.

"Churchill is about six degrees further south than Archangel on the White Sea, in Europe, and we know that Archangel is a place of large trade and is frequented by a large number of English vessels. You must remember, Mr. Speaker, that Archangel is situated in the 64th degree of latitude north; and Churchill would be situated south of Edinburgh, Christiana and Archangel. We all know, of

course, that places situated in the same latitude in both hemispheres have not always the same temperature, owing to certain geographical and other causes; but in this case I believe that the ports of Hudson's Bay would be just as accessible, at least for the same period, as are those European ports which I have just mentioned. If we can only establish that there is safe navigation for a period of, say, three or four months in the year, then our point will be gained, and we will have another Gulf of St. Lawrence to the west of us, and other Maritime Provinces.

"Sir, I believe that the untold wealth and the illimitable possibilities of that land are something beyond any human conception. I hope, therefore, that the House will agree to the motion, and that the Government will assist the committee to their utmost in elucidating the feasability of this scheme, and finally in setting at rest this momentous question of the navigation of the Hudson's Bay."

Mr. Dawson, in seconding the motion of the hon. gentleman from Provencher, said: "I may say that it is very desirable that something more should be known about the Hudson's Bay. Last year I called for some papers, which were brought down, and the information which was obtained went so show that the Bay itself is open for at least six months in the year—in fact it is open through the whole year, except for a certain distance along the shore where it is always frozen in winter. But the information we obtained last year certainly was not very favourable as regards the navigation of the Straits. We had reports of sailors and fishermen who had spent the year in the Bay, and they all went to show that in some years the Straits were so blocked with ice that it was barely possible to navigate them. However, so little is known on that subject that it is highly desirable that further information should be obtained. I believe there is a channel, not hitherto followed, leading from Hudson's Bay to Ungava Bay—the latter bay being not very far from the entrance to the Straits. This channel is said to be free from icebergs, but the currents are said to be so strong as to make navigation impossible. Now, I think it is worth while exploring those Straits and ascertaining whether, now that steam can be used, this channel could not be navigated.

"It is certainly highly desirable, in the interests of the North-West, that an outlet for its commerce should be found through Hudson's Bay. So far as settlement has yet gone I believe that the traffic will go by Lake Superior, but another tract of country will be opened up which will need another outlet. Another reason for opening up a route to Hudson's Bay is the very great resources existing in that region, from all that we can learn about it. Along the Eastmain coast, from the entrance of James' Bay to the Straits, a distance of over six hundred miles, there are numerous large rivers emptying into the Bay from the eastward. It has now been ascertained beyond doubt that those rivers abound in salmon, and that fish of many kinds abound in the Bay. Now, what a field for enterprise would be opened up if there were a line through by way of Michipicoten, or Lake Nipissing, to Hudson's Bay, what a field for various industries would be opened up to Canada, if this Bay were made accessible. Not only does the Bay abound in salmon and white fish, but cod fish has been found in great abundance in the Straits, and we do not yet know what other elements of wealth may exist. Therefore, the opening up of this region would afford a vast field for industrial occupations, besides affording a channel for the North-West trade; therefore, I think it is highly desirable that we should have a committee to obtain information, and to get all the knowledge we can concerning that great inland sea—that Mediterranean of the north."

Mr. Watson, of Manitoba said: "I agree with my hon. friends who have just spoken that it is very important that the problem of the navigation of the Hudson's Bay should be solved. The farmers of the North-West have especially a vital interest in the question for they need most of all to have cheap freight rates, which, I am sorry to say, they do not possess at present. Ever since the last crop was taken off, and for the last four or five months, the people of the North-West have been discussing the problem of the navigation of the Hudson's Bay. As has been stated by the hon. member for Provencher, this matter has not received proper attention from the people of the Eastern Provinces; though they have also a great interest in the opening up of the Hudson's Bay for navigation, we

are now beginning to look to that Bay for our future seaport. I believe some people regard the scheme as impracticable; but the people of the North-West who have conversed upon the subject with men who have practical knowledge of Hudson's Bay believe that it is navigable for a considerable season of the year.

"Last year I conversed with an engineer who had spent the preceding winter on Nelson River. He had been sent out there on a surveying party for one of the railways for which a charter was granted by this House, and he states that the Nelson River was not frozen over last year until the 1st of January. It broke up last summer on the 4th of June, and on the 8th of that month the river was clear of ice. That would give about six months to navigation on Nelson River. Of course there remains the question of the navigation of Hudson's Bay, but when we know that old-fashioned tubs, old-fashioned sailing vessels, have been able to navigate the Straits for the last two hundred and fifty years, we need have no doubt as to the possibility of navigation by ocean steamships of the present style which should be able to navigate that channel easily, because they have not to overcome the difficulties encountered by sailing vessels which have to wait for time and tide, and which could not attempt to run the channel if ice floes were coming in the opposite direction.

"I believe it is of the utmost importance that a committee should be struck, charged with the duty of obtaining all possible information on the subject, and that the Dominion Government should send a vessel to examine the route as soon as possible. We in the North-West depend altogether on growing grain, and our success depends in a large measure on the facilities we have for shipping that grain to the outer world. At the present prices of grain in the North-West farming will not pay. The freight rates are excessive, and I think they are higher even than the figures given by the hon. member for Provencher (Mr. Royal). During last fall the freight rate from Winnipeg to Toronto was forty-two cents per bushel of wheat, and, of course, that reduced wheat to a low value in the North-West. As has been explained by the hon. member for Algoma (Mr. Dawson), the opening of Hudson's Bay will be beneficial in

more ways than that of creating an outlet for the North-West. Its mineral wealth and fisheries are valuable. If we have a seaport at Nelson River, I believe it will stimulate the people of the North-West; and the opening up of a Hudson's Bay route, and the construction of a railway from Winnipeg or some other point to Hudson's Bay, would cause farming land in that country to advance fifty per cent. There is no country, I believe, in the world which produces grain of a higher quality or a larger number of bushels to the acre than the North-West, and if we are afforded sufficient outlets and cheap freight rates it will come to the front and become one of the most prosperous Provinces of the Dominion.

"We trust the Dominion Government will give this matter their serious consideration, so that in the near future the problem as to whether Hudson's Bay is navigable or not will be settled, and that by practical tests made by the Dominion Government. We hope the Government will not occupy three or four years in exploring the Bay, because we in the North-West want immediate relief, so much so that the people would be willing to have a direct tax laid on them for the construction of a Hudson's Bay Railway. We have the assurance of gentlemen who have made it their business to make enquiries that there is a company in Liverpool prepared to place on the route a fleet of ten steamers each of three thousand tons burthen. They have no doubt as to the possibility of navigating Hudson's Bay, and what they want is that a railway should be constructed to the shores of the Bay to carry the grain to the port of shipment. It is well known to hon. members that two charters have been granted by Parliament to companies for the building of that road, and this House has agreed to allow the companies to amalgamate. It is of the utmost importance to the country as a whole that the Government should endeavour to give the company building that road not only lands—because it has been stated within the last few days that lands will not build railways, and that you cannot always sell the bonds—but also a portion of the money proposed to be voted to the Canadian Pacific Railway Company which would be quite sufficient to build six hundred miles of railway, for it is estimated that the whole road from Winnipeg to Churchill will only cost twenty two million when completed.

"The construction of a railway over that route would not be more difficult as regards the greater portion of it than in the building of a prairie section. We trust the Government will be able to afford the House such information as will show that Hudson's Bay is navigable, that the recommendations of the committee, when made, will be acted on by the House, and that at a day in the near future we will have a seaport in close proximity to our wheat fields in the North-West."

Mr. Casey said: "We have heard from two hon. members who have just spoken for the Province of Manitoba; we have also heard from an hon. member who does not seem to be quite certain as to the Province to which his constituency belongs, and I think it will not be out of place that something should be heard from a representative of Ontario. I happen, Mr. Speaker, to agree with all the hon. members who have spoken. In the first place, I admit the vast importance of the question as to whether Hudson's Bay is navigable or not. The importance of the question to the Province of Manitoba is beyond all doubt. It goes without saying that a measure which will bring Winnipeg within six hundred miles of Montreal must be of the utmost advantage to that Province. The practical effect of this scheme, if carried out, will be that the port of Hudson's Bay will be as near Liverpool as Montreal now is, and Winnipeg will be only from six hundred to six hundred and fifty miles distant from that port; that is to say, that the people of Winnipeg will occupy as favourable a position for shipping grain as do those who live only five hundred miles west of Montreal.

"The vast importance of securing such a result would justify even stronger language than has been used by the hon. members representing Manitoba in urging the scheme. The importance of the matter to other western portions of the Dominion does not however, stand out so clearly, perhaps, at first sight; but I quite agree with the hon. member for Provencher (Mr. Royal), and the hon. member for Algoma (Mr. Dawson), in declaring that it is of importance to the rest of the Dominion. The hon. member for Provencher has very aptly said than it would create a new Maritime Province, or at all events a new seaboard, and it would give an

outlet by a new direction to the grain markets of the world. The mineral wealth, the valuable fisheries, and the agricultural capabilities of the country along the shores of the Hudson's Bay have been lately brought before public attention by Dr. Bell and others who have explored that region, and whose declaration as to the natural resources of that section have startled the people of the older Provinces.

"We know there are prosperous and thickly-settled communities in Europe living at a much higher latitude than this, and there are no special conditions in the Hudson's Bay district to render it more unfavourable for settlement than those places to which I have referred, and to which the hon. member for Provencher adverted by name. The only possible ground of objection on the part of hon. members from the older Provinces to the adoption of the proposed motion can be an unworthy fear or jealousy that some trade which otherwise might pass through the older Provinces might seek the Hudson's Bay route. I call this an unworthy fear, for, although we must look after our own local interests, I consider that Parliamentary legislators must view these questions from a Dominion standpoint, and consider whether the proposal is advisable in the interests of the Dominion as a whole. Even on the ground of local interest, there is no greater room for jealousy in regard to this scheme than to other schemes to which the Dominion is committed. We are aware that the great trunk line of the Dominion, the Canadian Pacific Railway, is seeking outlets at points outside Canadian territory. We are aware that it has been securing connection with Portland and Boston. We are aware that this has been done by money advanced, in part, if not entirely, by the Dominion, and that in spite of that fact the Dominion is proposing to advance further sums to that railway company.

"It seems to me a fact which will be generally admitted, that the Dominion, as a whole, should have no ground for being jealous of any railway company, because it seeks outlets to the east other than those which have hitherto been looked upon as the natural outlets for the trade of the Dominion. In this case, the wealth which would be added to the Dominion by the opening of this out-

let, would be wealth added to the Dominion as a whole, not only from the increase of commerce at the port itself, but by attracting trade and commerce and navigation to that great inland sea, and developing and increasing the tax-paying power of the country as a whole.

"I wish to say a word with regard to the means to be adopted to carry out these objects. The appointment of a committee is no doubt an advisable and necessary step, but it can hardly be a conclusive one, because all it can do is to obtain the best possible evidence now in existence with regard to the navigability of the Bay; and I think it will be admitted that that evidence is not conclusive. The experience of the steamers which have plied upon the Hudson's Bay was not conclusive, because they were not provided with modern appliances for such a service; and I do not think there has been any systematic attempt at the steam navigation of the Bay. In this direction is to be sought the only conclusive settlement of this question. During the debate on the Estimates, I ventured to urge on the Government that they should take early means to secure a vessel, built perhaps in the same way as those which ply from Newfoundland and Scotland, and manned by a crew accustomed to cruising in the ice. This vessel should be kept cruising in and out of Hudson's Bay through the Straits; it should be allowed to be frozen up until the navigation is impracticable in the spring, and the days and months during which navigation is practicable should be reported. By keeping this up for a whole year we would have a conclusive test of the navigability of the Bay; because it is not certain that the greatest obstacles exist in winter. In fact, many scientific men think that it is more easily navigable in other seasons than in summer—that is to say, before the ice and icebergs become loosened from the shore. This, at first sight, seems a reasonable idea, and it is certainly endorsed by scientific men of the greatest experience with regard to that region.

"I am sorry that the Government have not seen fit to carry out the suggestion which was made, not by myself alone, but by others, that they should adopt a practical means of finding out how long the Bay is navigable. I think the importance of the question would

justify a much larger expenditure than would be incurred in such a test. The amount expended would be only a small fraction of the amount which we have spent from time to time in deciding on the practicability of particular routes on the Canadian Pacific Railway and the Intercolonial Railway, and we would then have decided, positively and perhaps, forever, the question of the feasibility of such a scheme. The labours of the committee, no doubt, will be valuable in ascertaining on what points there is no doubt, and as to what other points further enquiry may be necessary; but the work of the committee will be valueless if the Government do not supplement their labours in some such way as I have suggested."

Mr. Orton said: "The subject before the House is so important that I may be excused for making a few remarks in the way of urging the Government to use every possible means of ascertaining fully the feasibility of the route in question. If the route should be feasible there is no doubt that it will perfectly revolutionize the future prospects of this country. Not only has the Dominion a deep interest in this question, but the British Empire is also interested in its solution. The distance between Yokohama and Liverpool, by way of Port Moody and the Hudson's Bay Railway route, is one thousand eight hundred and twenty four miles shorter than the route by New York and San Francisco. The route to Melbourne would be two thousand two hundred and fourteen miles shorter by Port Moody and Hudson's Bay than by San Francisco and New York; and the distance to Hong Kong would be shortened two thousand two hundred and four miles by this route.

"I hope that the effect of the labours of this committee will be to elicit sufficient information to justify the Government in taking such steps as will result in solving completely, and, if possible, forever, the feasibility of that route. I have no doubt the Government would be justified in seeking the assistance of the British Government in carrying ont the exploration, which may probably require two or three years to accomplish. While there is a diversity of opinion as to whether the Bay is open around the north shore or the south, there seems to be a wide feeling in favour of the view that the Straits themselves are open the whole year. If the navigation

of the Straits can be made with safety, no doubt a route may be established for a sufficient length of time to make it very valuable to the future of this country."

Sir John A. Macdonald said: "I congratulate my hon. friend for the manner in which he has laid this matter before the House, as well as the others who have taken part in this very interesting debate. The Government and Parliament have shown their desire to assist in the construction of a railway connecting Manitoba and the North-West with Hudson's Bay. Parliament has granted two charters, one for a road to Nelson River, and the other to Churchill. These two companies applied last Session for power to amalgamate —a very wise proceeding, as it is clear two railways could not be built, and that a union of energy and capital and resources would be required in order to have any chance of constructing such a road. As those two railways, having Hudson's Bay termini, varied very much in route, the Government treated them as separate lines, and granted them the same land subsidy in aid of construction as was granted to the other railways—six thousand four hundred acres a mile, but at a less rate. The other companies got their land at $1 an acre; the land was given to these two companies at 50 cents an acre; and when the companies amalgamated, the Government considered the matter of so much importance that they decided to give the amalgamated companies the separate land subsidy at 50 cents an acre. That is, of course, a substantial aid to the railway.

"It cannot be expected, however, that capital will be found for the construction of this railway unless it is ascertained that Hudson's Bay and Hudson Straits are accessable for a considerable portion of the year. As has been said by the hon. gentlemen who have spoken, there is a great diversity of opinion regarding the length of time during which the Straits can be successfully navigated. It may be true that a vessel can get through almost every month in the year; but that is not the question to be decided. The question to be decided is, whether for a reasonable number of months in the the year there is a probability, amounting to a certainty, that the navigation of the Bay and Straits can be regularly carried on, so as to be profitable in a commercial sense? I am old enough to

remember the truth of the statement made by my hon. friend, the mover of this resolution, that formerly the navigation of the River St. Lawrence itself was considered as doubtful, uncertain, hazardous, and unprofitable, commercially, almost as Hudson's Bay now is. The idea prevailed, especially in England, that the river was practically not open for more than four months in the year. That idea has been, by slow degrees, dissipated. The number of months for navigation has increased, and the introduction of steam has rendered the navigation more independent of casual obstructions from ice than formerly, when the whole trade was conducted by sailing vessels. I have no doubt it will be found, when the question is worked out by experience with steam vessels, that the period during which the Straits can be profitably navigated will be considerably extended beyond the present idea.

"My hon. friend, the Minister of Marine and Fisheries, has had this subject under his earnest consideration, and has obtained from the Hudson's Bay Company log-books of the voyages made by their vessels for a series of years, which he is now having collated and examined carefully. From these log-books, most valuable information will be obtained, which my hon. friend will place at the disposal of the Committee, showing what the variations in the seasons are, and whether in one year the navigation is open longer than another. Thus some approximation may be obtained to the fact as to how long, in an average number of years, the navigation can be considered to be fairly open in a commercial sense.

"The Government, I may say, has been pressed by several gentlemen in this House, and by deputations, to consider the propriety of sending at once a vessel to examine the Straits. One deputation proposed that we should send a sailing vessel very early this spring. That matter is now under the consideration of the Government. But it is quite true, as my hon. friend the Minister of Marine has stated, that the report of a casual vessel for one season will not give sufficient evidence to be conclusive as to the profitableness of the navigation of Hudson's Bay and Straits. It would be necessary, I think, to have a steam vessel fitted out, as for an Arctic voyage, and that would involve the necessity, I think, of

more than one season's exploration. As the hon. member for East Elgin (Mr. Casey) has said, it might be well to have the vessel remain and be frozen in, and have parties stationed at different parts of the coast, for two or perhaps three seasons, in order to ascertain what really is the nature of Hudson's Bay and Straits as navigable waters. The Government have now this matter under their special consideration. This will be a matter of very considerable expense, but it is one of so much importance that, I think, the result will be that the Government will feel themselves authorized in coming to the House and submitting a proposition for a vote for the purpose mentioned.

"The importance of opening up a trade there, I think, cannot be exaggerated with respect to the future of the North-West. Not only will it be the means of access to Europe for the general products of the North-West, but it will be exceedingly valuable on account of the known mineral wealth and the wealth of the fisheries that have been alluded to by my hon. friend from Algoma (Mr. Dawson). All accounts seem to go to show that the mineral wealth is very large, and I have little doubt that, with further explorations, our present knowledge of the mineral wealth of that region will be greatly enhanced and increased. The fisheries in these great northern waters must be valuable; therefore the importance of opening up these waters and the trade through them is obvious, and I do not think can be well exaggerated. I would say to my hon. friend who has made this motion that I see that Mr. Abbot is the only Lower Canadian whose name is on the list. I would suggest the addition of the names of Mr. Desjardins and Mr. Riopel. Mr. Riopel comes from the coast of Gaspé, and is acquainted with the winter navigation of the Lower St. Lawrence."

Hon. Mr. Blake said: "I am very glad to hear the announcement of the hon. gentleman as to the probable intentions of the Government with regard to this question. I think for some time it has been made very plain that, in view of the great interests involved, we should obtain that more exhaustive information which the hon. gentleman intimates he will ask us to provide the means of obtaining. My own opinion has been for some time past that this

is a matter for the joint action of the Imperial and Canadian Governments, and in view of the circumstances that the Imperial Government has not unfrequently utilized vessels of the Navy for such purposes, I think that an application of the Canadian Government for the use of a vessel, indicating their readiness to pay any extra expenses which would be involved in the prosecution of a survey by a vessel of the Imperial Navy beyond those required in ordinary stations, and making arrangements for a lengthened investigation, would be probably satisfactorily received. There is another point of view in which it is not unimportant that an effort should be made in that direction. No doubt the capital which may be required to secure the execution of this great scheme, involving, as it does, the creation of a new line of communication across the Atlantic, as well as the railway line, must principally be obtained in England, and great credence will be placed on the reports of the officers and scientific persons appointed or accredited by the Imperial authorities. In that respect it would tend to the advantage of the scheme that, if possible, such an arrangement as I have suggested should be made.

"I would suggest also, that no delay take place, as the emergency in the North-West is pressing. The suggestion of the hon. member for West Elgin, that the vessel should remain a very considerable time will, I hope, be adopted. Much has to be done in the way of indirect exploration, irrespective of the simple question of the ice, which is, in one sense, the more important one. More information should be obtained as to the various harbours and other subjects of enquiry in an exploration of this kind, and the time spent in the Bay, although not devoted to the single question of the ice, will be well spent if arrangements are made to have scientific persons form part of the staff especially chosen to undertake the work. With reference to the statement of the hon. gentleman as to the liberal provision which has to be made for the railway, certainly 50 cents an acre is a price only half that which has been set down for the land of other railways in the North-West. But if I rightly understand the arrangements made—although I am sorry to say the details have not been laid on the table—I believe the grant for

the railway in this direction is of lands in the neighbourhood of the railway itself, and that they are not supposed to be quite so valuable as those through which the other railways run."

The reader will certainly regard these representative sentiments of the House, as indicating a most favourable disposition on the part of that body towards the Hudson's Bay route. There was no one to raise a voice against the scheme—not one to depreciate the practicability of the proposed navigation, or to express the slightest fear that, if found to be successful, it would prove to be anything but a blessing to Canada. Sir John seemed to express less confidence than the others, but agreed with them on the one point of its importance and the necessity of prompt and effective action. Mr. Casey, however, in making his recommendations as to what should be done to prove the route, was even more practical than his colleagues. His plan of having an expedition sent up to remain over winter was the correct one, and should have been carried out. However, the experiences of the Expedition of 1884 will probably lead to the adoption of Mr. Casey's views.

In view of these speeches, and the prompt action taken by the Dominion Government immediately afterwards in sending out the expedition, one might safely conclude that both great political parties of Canada stood fully committed to the scheme. At any rate no one would be likely to expect opposition to it from any responsible quarter. But, alas, if I have been able to furnish materials for a chapter entitled, "The Hudson's Bay Route Supported," I find, already, before a single year has passed, more than sufficient for another, which I must call "The Hudson's Bay Route Opposed."

CHAPTER LIII.

THE HUDSON'S BAY ROUTE OPPOSED.

THE ENTERPRISE AND OPPOSITION OF THE TORONTO "MAIL" NEWSPAPER —MISSTATEMENT OF FACTS CONTRADICTED AND EXPLAINED— WHY THE OCEAN NYMPH WAS DETAINED—STRANGE DETENTION OF THE PRINCE OF WALES—THE CAM OWEN FINDS THE STRAIT OPEN LATE IN OCTOBER.

NOTHING is to be more regretted than the fact that recently there has been manifested a disposition in the Eastern Provinces to oppose the Hudson's Bay route. The Toronto *Mail* newspaper has signalized its record by assuming the leadership of this opposition. It was generally understood that no newspaper correspondents would be allowed on the first Hudson's Bay Expedition, but somehow the newspaper to which I have referred, by a stroke of enterprise, succeeded in sending with the Neptune a special correspondent of its own, a man from its own staff.

From a journalistic standpoint this was very commendable on the part of the *Mail*, but owing to the tone of the articles written by its correspondent, and the worse tone of its own editorials, the enterprise is likely to result in considerable damage to the cause of the Hudson's Bay outlet. All this leads me to hope that the Government will not give the *Mail* a monopoly of the next Hudson's Bay Expedition, as they did the first one, but that another press representative may be allowed to go along representing a paper known to be friendly to the route.

The articles by the *Mail's* Hudson's Bay Expedition correspondent were for the most part very interesting and instructive, but wherever they touched upon the question of navigation they were

nearly always misleading and frequently incorrect. In writing of Churchill Harbour, he misquotes Mr. Spencer, chief trader, there, as follows:—

I had a long conversation with Mr. Spencer regarding the opening and closing of the harbour here. From him I learned that the harbour is never open before some date between the 6th and 16th of June, and is usually frozen over down to within two hundred yards of the harbour by the 1st of November. The shores all along this coast, as I said before, are very low and are certainly not what a ship's master would hanker after if between them and a gale of wind. This is Captain Sopp's opinion expressed in few words. He is a man whose experience in northern waters gives great weight to whatever he may say regarding it. The Ocean Nymph wintered here in 1883 and 1884, having been frozen in October 15th.

This is wholly incorrect. The harbour is never frozen over at all. It freezes over for about two hundred yards at the upper end, but the lower portion, comprising at least two-thirds of the harbour is never covered with ice. This is the testimony given to me by Mr. Spencer, and he made the statement in presence and hearing of Dr. Bell, of Ottawa. As to the remark said to have been made by Captain Sopp I am able to contradict it on the written authority of that gentleman. I have in my possession the following question and answer—the answer is in Captain Sopp's own handwriting:

AUTHOR—"What is your opinion of Churchill Harbour and its approaches?"

CAPTAIN SOPP—"Good!"

But the last statement of the *Mail's* correspondent in the above paragraph is a misstatement, so deliberate that one acquainted with the circumstances is apt to feel a suspicion that it was an intentional misrepresentation. He says:

The Ocean Nymph wintered here (Churchill) in 1883 and 1884, having been frozen in on October 15th.

It is true enough that the Ocean Nymph wintered at Churchill in 1883-4, but she was not frozen in on the 15th of October. That statement is without the shadow of fact. She was late in arriving

at Churchill that year, and did not venture on the return voyage until the following summer. She laid up in Sloop's Cove at the upper end of the harbour, and even then the ice did not cake around here until the end of December. At the same season and even later the Prince of Wales, the Moose Factory ship, struck out for England and got through all right, showing that if the Ocean Nymph had made the attempt she would have succeeded also. There was really no necessity for her remaining at Churchill all winter.

I will not further criticize the writings of the *Mail's* Expedition correspondent, but will turn the reader's attention to a more responsible quarter, to the *Mail's* editorial utterances. No sooner had the Expedition returned than that journal delivered itself of the following:—

THE HUDSON'S BAY EXPEDITION.

The Mail's special correspondent, who returned the other day with the Dominion Steamer Neptune, from Hudson's Bay, telegraphs from Halifax this morning an interesting sketch of the summer's operations. Of the practicability of the navigation of the Bay itself for five or six months of the year there never has been any question; but grave doubts exist as to the general practicability of the Strait. The Hudson's Bay Company have been trading between North of Scotland ports and the ports in the Bay for upwards of two centuries, two sailing ships making the round trip every season. The logs show that while the Bay is navigable for nearly half the year, the navigation of the Strait is always attended by a considerable element of delay and danger from floes and packs, and that in some seasons the channel is next to impassable. The experience of the Neptune adds but little to our knowledge of this branch of the subject, and that little is by no means favourable to the theory that the Strait is practicable for a fleet of steamships carrying a year's crop from the North-West to Liverpool.

The Neptune entered the Strait on August 5th, and after stopping three days at Cape Chudleigh, or as some maps have it, Chidley, pushed across to Resolution Island; but, owing to snowstorms, fogs, and the vast fields of floating ice, failed to make it, and on the 12th reached Big Island. Here the shore ice ran a mile out from land, while floes swept past in the open water. On the 16th the vessel left Big Island for Prince of Wales' Sound on the south shore, remaining there from the 17th until the 22nd, a heavy gale with snow prevailing uninterruptedly and the sea being filled with floes. Leaving the sound, the Neptune headed for Notingham

Island, on the north shore, at the mouth of Fox Channel, passing through a huge ice-field that barred the mouth of the harbour. The ice here, which appears to have rushed down from Fox Channel and jammed, extended right across the Strait to Cape Wolstenholme on the south shore, a distance of forty-five miles. Four ships were locked in this huge barrier about half way across. Here the Neptune injured her screw while trying to force her way through the ice. After making repairs she entered the Bay where the weather was clear and the water open and free. She reached Churchill on September 6th, and on the 10th proceeded to York Factory, which she left on the 12th, entering the Strait on the return trip on the 16th. The experiences on the home journey did not apparently increase Lieut. Gordon's knowledge of the Straits, though he learned to his cost that there are hundreds of sunken rocks and small islands unnoted in the charts. All the observation parties left on the journey out were found to be in good health and spirits, but the intention of establishing a party on Resolution Island had to be abandoned owing to the difficulties encountered in landing there.

The reports of the observers during the next twelve months will be awaited with keen interest, but whatever may be their nature they can hardly be expected to determine the point at issue. It is evident that it would have been next to impossible to have shipped any large quantity of wheat by this route this season, for no vessel could have made more than one round trip. Next season, on the other hand, may be an open one and the reports may show four months' navigation of the Strait, but that will avail nothing. It is manifest that the feasibility of a route depends upon the measure of practicability it possesses in the worst or most exceptional season, just as the strength of a chain is measured by the resisting power of its weakest link. If this be the true theory—and upon none other would a prudent navigator venture to act—there does not appear, according to the information now at hand, to be a future for the Hudson's Bay scheme.

The above article plainly manifests a disposition to discourage the scheme; but this fact, taken into consideration with the glaring inaccuracies contained in it, leads one to think that the disposition is not founded upon conviction. We are told for instance that :—

On the 16th (Aug.) the vessel left Big Island for Prince of Wales' Sound on the south shore, remaining there from the 17th until the 22nd, a heavy gale with snow prevailing uninterruptedly and the sea being filled with ice.

Almost every word, so to speak, of the above is false. Turn to page 247 and read from the table entitled "Meteorological Observations, Hudson Strait, Outgoing Voyage." This table is accurately compiled from the official observation book. The record for the days mentioned is as follows:—

Date.	Mean Velocity Wind.	Mean Tenths Clouds.	General Weather Notes.
August 16....	7·3	9·5	Fine forenoon; snow at noon, rain towards evening.
" 17....	8·6	8·5	A fine day.
" 18....	6·6	9·3	Fine in the forenoon; rain in the afternoon.
" 19....	5·7	10·0	Overcast and light; rain all day.
" 20....	4·3	6·6	Fine, with showers morning and evening.
" 21....	21·1	6·3	Rain, with snow, morning and evening; fine middle of day.
" 22....	3·3	6·8	Fine day, with snow-storm in evening.

In the first place, it will be seen that there was not a gale during the whole of the five days mentioned. There were three brief snow-storms, and several showers of rain. As to the "sea being filled with ice," that is incorrect also. There was ice on the north side and also on the south shore, but in either case it did not extend more than fifteen miles seaward, while in the centre of the Strait a channel more than forty miles wide was entirely free and open.

But I can only stop to refer to a few of the bold misrepresentations of this editorial. It is stated that:—

> The experiences of the home journey did not apparently increase Lieutenant Gordon's knowledge of the Strait, though he learned to his cost that there are hundreds of sunken rocks and small islands unnoted in the charts.

This is a downright untruth. There is not a stretch of inter-continental navigation in the world of one thousand miles in length

—the distance from Cape Chidley to Churchill—that is so completely free from shoals, reefs, sunken rocks, sand islands and such like dangers to the navigator. Lieutenant Gordon did not learn to his cost, nor to his profit, neither did he learn at all that there are "hundreds of sunken rocks" and "small islands" unnoted on the charts. In attempting to make a harbour on Resolution Island, while in one of the bays on the south-west coast of that island, and while within less than two hundred yards of the visible rocks of the shore, and at nearly flood tide the Neptune struck upon the hidden rocks. Nothing could be more natural. It was in no way an evidence of sunken rocks or shoals in the Strait. Indeed the Neptune did what Captain Sopp says could not have been done anywhere else in the world—coasted along both sides of the Strait, discovered and safely anchored in five harbours without striking the ship's bottom against anything. Hudson Strait is peculiarly free from all such dangers to navigation, and it is a piece of gross injustice for any journal to malign its character as the *Mail* has done. There are many other false statements in the article referred to, but I have not the space to speak at length of them here.

That journal did not stop by any means with the one effort. On the contrary a systematic opposition has been kept up by the publication of occasional articles depreciating the chances of the route. One of the most recent of these was occasioned by a contribution to a Brockville journal from the pen of Hon. W. J. Christie of that city, and is as follows:

THE HUDSON'S BAY ROUTE.

The voyage of the Neptune to Churchill and back this summer threw some degree of light upon the Hudson's Bay problem. Mr. Christie, an old Hudson's Bay officer, by way of supplementing the records of the Neptune Expedition, sends to the Brockville *Monitor* an account of the trip of the Prince of Wales, one of the company's vessels which started out of the Bay about a month after the departure of the Neptune. This vessel did not arrive at Moose Factory, James' Bay, on her annual voyage from London until September 26, being detained by pack-ice in the Straits. On the return voyage she left Moose Factory early in October, reaching the entrance to Hudson Strait on October 21. Here she encountered a solid barrier of ice extending as far the eye could see. It was heavy

polar ice standing high above water. "She sailed," says the narrative of the second mate, an old whaler ice-master, "along the edge of the ice all that day, but found no passage, and as the thermometer was below zero it would have been madness to attempt entering the ice, as the ship would have been frozen up for the winter in less than an hour. Hence the captain very reluctantly gave the order to put the ship about, and returned to the anchorage in the outer roads, twenty-five miles from Moose Factory, which was reached on the 27th October, intending to winter at Charlton Island." The second mate, with a boat's crew, accordingly put off from the ship for the shore and made it after experiencing considerable difficulty with the ice.

The next day the company's men at Moose Factory started a large boat full of supplies for the ship, but this craft was frozen in three miles from shore. Thick weather prevailed for two or three days, and on its clearing up it was found that the Prince of Wales had left the anchorage roads for Charlton, which is sixty miles from Moose Factory. On November 8 another relief expedition set out from the Factory to Charlton, but after going eight miles out it had to return. "All hopes of getting there this fall by open water," writes a resident at the Factory, "are gone, and there is no alternative but to wait till the coast freezes up when relief can be sent by dog trains to Rupert's house and thence over the ice to the ship."

The point worthy of attention in this narrative is not the condition of the ice in James' Bay, but the fact that Hudson Strait was blockaded on October 21. The Prince of Wales is a sailing vessel, and it is quite possible that a steamer might have been able to force her way through the polar ice jammed there. But what would be the rate of insurance on vessels and cargoes compelled periodically to accept such risks; what would be the probable duration of the voyage under such circumstances; how many vessels specially equipped for this route would be required to carry a North-West harvest to Liverpool during so short a season; and what would be done with them when the route was closed? These are some of the considerations which it is impossible to avoid in view of the experience of this Hudson's Bay ship and of the Neptune in 1884. In 1883 the Ocean Nymph, another Hudson's Bay Company sailing ship, met with the fate of the Prince of Wales this winter, being unable to get through the Strait. In that year, however, the Prince of Wales, under Captain Bishop, her present master, managed to work through, reaching London in December; but, as Mr. Christie says, "this year, much to his disappointment, he has not been so fortunate," and "his cargo of valuable furs will not reach the market until the autumn of 1885." On the

completion of the Canadian Pacific, when wheat will be carried from Winnipeg to Liverpool for twenty-five cents per bushel all the year round, the advocates of the Hudson's Bay route will probably turn their attention to some more feasible project.

I have already replied to the above article, and my reply has been published in the *Mail* newspaper, through the kindness of the editor of that journal. It is in the following language :—

THE HUDSON'S BAY ROUTE.

(*To the Editor of the Mail.*)

SIR,—I notice in your issue of this date an editorial entitled "The Hudson's Bay Route," in which you quote from an article written to the Brockville *Monitor* by Hon. W. J. Christie, late of the Hudson's Bay Company's North-West Council. You represent Mr. Christie as stating that the Company's vessel Prince of Wales, bound out from the Old Country to Moose Factory, did not reach her destination until the 26th September of last year on account of the pack-ice in Hudson Straits. Further, that on the return voyage she left the Factory early in October, and arrived at the entrance to the Straits on the 21st of that month, when she found a solid ice-barrier extending as far as the eye could see, and was compelled to return.

In connection with this you state that the Ocean Nymph, in 1883, "another Hudson's Bay Company's sailing ship, met with the fate of the Prince of Wales this winter, being unable to get through the Strait," and then, commenting on these alleged facts, you condemn the Hudson's Bay route in the following language :—"What would be the rate of insurance on vessels and cargoes compelled periodically to accept such risks ; what would be the probable duration of the voyage under such circumstances ; how many vessels specially equipped for this route would be required to carry a North-West harvest to Liverpool during so short a season ; and what would be done with them when the route was closed ? These are some of the considerations which it is impossible to avoid in view of the experience of this Hudson's Bay ship." In conclusion, you dismiss the subject by stating that "on the completion of the Canadian Pacific, when wheat will be carried from Winnipeg to Liverpool at twenty-five cents per bushel all the year round, the advocates of the Hudson's Bay route will probably turn their attention to some more feasible project."

I wish, with your permission, to call your attention and that of your readers to the unfairness of your opposition to the Hudson's Bay route.

In the first place you misstate facts. In a previous issue of the *Mail* we were told that the Ocean Nymph was frozen in at Churchill on the 15th of October, 1883, and in the article to which I refer now, it is stated that she met with the same fate of the Prince of Wales this winter. Both of these statements are incorrect. The Ocean Nymph was late in reaching Churchill last winter, and fearing to attempt the homeward voyage she laid up in Sloop's cove on Churchill Harbour, and was not frozen in until the 30th of December. Now we learn from your own columns on the testimony of Mr. Christie that had she sailed for England instead of laying up she would have gotten through all right, for the Prince of Wales, you say, "worked through, reaching London in December."

Now this Prince of Wales is a barque rigged vessel of less than two hundred tons, and the fact that she was unable to get through the ice is no proof against the practicability of the navigation of the route whatever. When we steamed through the Straits in the Neptune last summer this Prince of Wales was fast in the ice between Nottingham Island and Cape Digges. We were at Nottingham four days, but all the while she, with another Hudson's Bay vessel bound for Churchill and York, and a whaling schooner, lay helpless in the ice about ten miles south of us. When we had completed our work on Nottingham Island the Neptune ploughed through this ice and passed these vessels with comparative ease. They had probably been fast for three long weeks, and yet after we got through Captain Sopp, Commander of the Neptune, testified in writing that had he been bound from Liverpool to Churchill, or from Churchill to Liverpool with a cargo, he would not have experienced from ice and all other causes combined a delay of over twenty-four hours.

It is unfair for you to condemn the route on the experiences of sailing ships, and I am sure you have no excuse to do so on the experiences of the Neptune. We were told that the Neptune met with ice heavier than the Hudson's Bay Company's vessels have encountered for two centuries, and yet we have it on the most undoubted authority that the greatest of obstructions would not have delayed us twenty-four hours.

With these explanations allow me to answer your questions. First, as to the rate of insurance on vessels navigating Hudson Strait. It is less to-day for sailing vessels in those waters than for ocean tramps coming up the St. Lawrence to Montreal, and will be still less when steam power comes to be used. Second, as to the probable duration of the voyage, Captain Sopp says from twelve to fourteen days, at the outside, from Liverpool to Churchill. Third, as to the number of vessels required to carry a North-West harvest, I answer a thousand, and more, if you will; because, when the route is opened, the North-West harvest of wheat and beef will

be immense. Fourth, "and what will be done with them when the route is closed?" Nothing, if you like. They will have plenty to do eight months of the year, and can lay up the other four; and I ask, where is the ocean tramp that gets more than eight months of the year profitable employment?

In conclusion let me call your attention to your conclusion, which I venture to characterize as ridiculous. You say that when the Canadian Pacific Railway is completed that line will carry wheat from Winnipeg to Liverpool for twenty-five cents a bushel, and then the advocates of this route will turn their attention to something more feasible. How can you make such absurd statements? Suppose the Canadian Pacific Railway will do as you say, which nobody believes, do you not know that in five years from to-day the surplus products of the North-West, with even the limited population now in that country, not taking into account future immigration at all, will be, with the present rate of increase, five times greater than the Canadian Pacific Railway could move in twelve months? If you do not know it, ask Mr. VanHorne, and he will tell you it is a fact.

The Canadian Pacific Railway is assured, and its success is assured. Let us have the Hudson's Bay route and it will help instead of injure the national highway. There is a mistaken idea abroad in regard to this question. Some think it will turn trade away from the Eastern Provinces to open the Hudson's Bay route; but I tell you the greater the development of that great section of Canada the greater will be its volume of trade with this part of Canada.

Yours, etc.,

TORONTO, Jan. 3rd.

C. R. TUTTLE.

P.S.—Since writing the above I am in receipt of a communication from England stating that the barque Cam Owen, sent out to Churchill and York last year instead of the detained Ocean Nymph, reached Churchill on the 9th of September, the day after the Neptune left. And taking on her cargo she sailed to York and in October started for home, she reached the Straits about the same date cited by Mr. Christie as that upon which the Prince of Wales endeavoured to enter and was forced to return by the ice, but met no ice whatever. She sailed through the Straits without sighting ice, and reached England early in November. Now if the Cam Owen passed through the Straits late in October without meeting with ice, and the proof is at hand that she did, how is it that the Captain of the Prince of Wales, about the same date, found the entrance to the Strait "blocked by an ice-barrier as far as the eye could reach." There is something wrong. It is now known that the mate of the Cam Owen ran

the vessel out of her course into the mouth of Fox Channel on the homeward voyage, and some of those on board state their belief that he was instructed to do so by interested parties. This fate of the Prince of Wales may have been superinduced in the same way. C. R. T.

While the *Mail* newspaper has been at work depreciating the possibilities of the Hudson's Bay route, there has been no journal in the Eastern Provinces sufficiently interested to defend it. The result is that but few people, especially in Ontario, have the slightest confidence in the practicability of the navigation of Hudson Strait. The *Mail's* opposition is no doubt justified in its own estimation, but that estimation is greatly prejudiced and is therefore unreliable. There are those who think they see the hand of the Ottawa Government between the lines of these newspaper editorials, but I am not inclined to that opinion. The Government have taken the question in hand, and are acting, no doubt, in good faith.

CHAPTER LIV.

The Question of Immigration.

THE EXODUS FROM THE COUNTRIES OF EUROPE—CANADA GETTING READY TO RECEIVE A POPULATION—POLITICAL AND COMMERCIAL UNION—MILLIONS IN THE OLD WORLD YET TO COME TO THE NEW—BRITISH COLUMBIA AS A FIELD FOR IMMIGRATION—THE NORTH-WEST.

THE vast volume of immigration from the old settled countries of Europe to the American Continent has, within the last half century, constituted an exodus which is one of the most remarkable features of modern history. However the flood tide of this exodus has not yet been reached. The rapid progress in the settlement and material development of the United States during the past forty years left no room for the consideration of any other portion of the continent. All eyes were turned towards that country, and, with some considerable exceptions, during the past three or four years nearly the whole of the immigration to this continent found its way to that country. Canada, until 1867, attracted but little or no attention. A large proportion of the population of Canada at that date had been forced into the country from the United States, owing to the wars between that nation and Great Britain; but, when Confederation was accomplished, and the Intercolonial Railway commenced, a new era was inaugurated. Canada began to attract some small attention abroad, and people in the old country began to consider it as a field for settlement. Again, in 1870, when the North-West Territories were attached to the Dominion, and after British Columbia became a member of the Canadian Union, the beginning of another and a greater era was marked. Until then the Dominion did not promise any great future,

but as the resources of the newly acquired territories began to be known, confidence was increased and immigration to Canada commenced. Three years later, when the Canada Pacific Railway scheme was attempted, a new star arose in the firmament of the Dominion, and again in 1879, when that gigantic enterprise assumed a practical shape, and promised early consummation, the Canadian country became an object of attraction throughout the whole of Europe. Thus one step after another has been taken, until the Canada of a quarter of a century ago, which was insignificant, has became the hope of a great nation.

The work of Confederation, the construction of the Intercolonial, the building of the national transcontinental highway, the acquirement of British Columbia—all these things have conspired to fill the Canadian people with hope concerning the future of their country, and command the attention of Europe; but no one of these potent circumstances, or all of them together, has been as instrumental in bringing this country to the attention of the world, and assuring for us a future great importance, as the dissemination of a knowledge of the extent and vast resources of the North-West. The construction of the Canadian Pacific, besides providing Canada with a national highway from the Atlantic to the Pacific, besides rendering this country independent in all respects of a foreign nation, has been the means of bringing to the notice of the world, that greatest of all known fertile areas, the Prairie Region of the North-West. I may well say that as yet that region has been brought but to the merest notice of the nations of the East. But little is known or understood concerning it, and that little is still surrounded by doubt and unbelief. However, the work of spreading information concerning it has been commenced, and, like some grand monument in nature, nothing can stop its onward sweep.

When the Canadian Pacific Railway shall have been completed; when the Canadian people shall have laid that great financial burden down; when the national breath has been fully recovered, and, when our statesmen, embued with the great successes already attained, and impressed with the vast commercial, industrial and agricultural possibilities of the Dominion, shall, carrying forward

the grand work of nation-building, turn their energies, as they are sure to do, instinctively and patriotically, to the still greater enterprise of connecting the great North-West with Europe by the Hudson's Bay route, then will be inaugurated an era of greater Canadian development than has yet been hoped for by the most sanguine nationalists of our time. We may say with propriety, and in a very wide sense, that so far Canada has been but preparing for the vast flood of immigration that is destined to reach this country. The Confederation of the British North American Provinces and Territories; and the construction of national railways to give a commercial reality to that union have been foundation strokes, which, when fully consummated, will place the country in a position to successfully compete with any nation for European immigration. And look what immigration has done for the world! It has built up the great and prosperous countries of Australia; it has made the United States a powerful and thrifty Republic of fifty millions, and it is building up Canada. But look at it from an emigration standpoint. I see it stated on the best of authority that about a million and a-half of people have emigrated from and through Great Britain alone during the last ten years; and the movement as already stated, does not begin to show any sign of exhaustion, but is increasing. During the year 1882 it was larger than ever before, as well from the United Kingdom as from Germany, and other parts of Europe. It appears, however, that even in the face of this outflow there is crowding in the labour market, and a very large amount of pauperism. Emigration relieves both of these while it builds up prosperous and happy communities in hitherto waste places of the earth. One feature of this emigration is that very large amounts of money are sent home by the immigrants within one year after their arrival, to prepay the passages of their friends, in order to enable them also to emigrate. The Irish and the Germans have been particularly conspicuous in sending back money for this purpose. No accurate statistics of the amounts can be obtained; but it is known that the sum sent to the United Kingdom alone in one year reached over $10,000,000, and it is also known that many thousand Germans come annually in the class

known as "prepaids," that is by money sent by friends who had come before to this continent. These striking facts are proof of the prosperity of the emigrants in their new homes.

Those who have any fears that the volume of immigration to this continent will be likely to decline should remember that millions of the inhabitants of the countries of Europe are in a state of comparative destitution, and that their only hope of the future is that they may be able to reach the shores of Canada or the United States and find homes among the millions of their friends and relations who have preceeded them. It is only necessary to compare the condition of the people of this country to that of millions of those who still live in the Old World. Why, it is a well known fact, and will bear repeating, that there are very many thousands of persons throughout the Dominion who came to this country as labourers, without any means, in fact almost in a state of pauperism, and tenant farmers with very little means, who have attained a state of comparative independence, being proprietors of their own farms, and having laid by sufficient for their declining years, while they have educated their children and settled them in conditions of ease and plenty. The same is true even to a greater extent in the United States, where a greater proportion of immigrants have settled; but the best portions of the United States are rapidly filling up, or already crowded, so that in a few years Canada will have but little opposition in this direction. In fact the inducements to the people of European countries, especially to those of Great Britain, to immigrate to Canada rather than to the United States, are already abundant. Here they may have not only good wages, and a comfortable living among kindred people, under the same flag, in a rich country, possessing a healthy climate, but a sure prospect of becoming, through industry and sobriety, proprietors of the soil and possessors of a competency.

In referring to Canada as a suitable country for emigrants to come to I would not confine myself exclusively to the prairie region. Of course that section offers the greatest inducements, and is destined to become the wealthiest and most influential portion of the Dominion, but British Columbia has its peculiar advantages, so has

Ontario, and in Quebec, extensive tracts of fine lands have recently been opened up to settlement. The Maritime Provinces, especially New Brunswick, have room for hundreds of thousands more prosperous homes. But British Columbia with its magnificent climate; its five hundred miles of Pacific coast line; its immense area of over three hundred and forty-one thousand square miles; its immense mineral wealth; its wonderful forest resources; its splendid harbours; its wonderful fisheries, and its agricultural and fruit producing valleys, is destined to stand second only to the prairie country as an attraction to the immigrant for the next quarter of a century. And of the attractions of that Province, none hold or are likely in the future to hold so important a place as the gold and coal deposits which are known to exist there. The explorations in connection with the Canadian Pacific Railway, which have extended from the southern boundary north to Port Simpson and beyond, have established the existence of gold over the whole extent of the Province. Large values have already been taken from the gold mines which have been worked. This precious metal is found all along the Frazer and Thompson Rivers; again in the north along the Peace and Ominica Rivers and on the Germansen Creek; and on the Vancouver Island. Want of roads to reach them and want of capital seem to have been the obstacles in the way of more generally working the gold mines in the past. These obstacles are, however, in the way of being overcome. Even with these insufficient means of working, the yield of gold in British Columbia from 1858 to 1876 was $39,953,618, the average earnings per man being $663 per year. Copper is found in abundance in British Columbia; and silver mines have been found in the Frazer Valley. Further explorations will undoubtedly develop more mineral wealth.

The coal mines of British Columbia are probably even more valuable than its gold mines. Bituminous coal is found in Vancouver Island in several places; and anthracite coal of very excellent quality on Queen Charlotte's Island. This is said to be superior to Pennsylvania anthracite, and although coal is found in California, that which is mined in British Columbia commands the high price of $16 (£3 4s. stg.) in San Francisco. His Excellency the Marquis

of Lorne said respecting it in a speech at Victoria, British Columbia: "The coal from the Nanaimo mines now leads the market at San Francisco. Nowhere else in these countries is such coal to be found, and it is now being worked with an energy that bids fair to make Nanaimo one of the chief mining stations on the continent. It is of incalculable importance, not only to this Province of the Dominion but also to the interests of the Empire, that our fleets and mercantile marine, as well as the continental markets, should be supplied from this source."

The importance of the coal supply of British Columbia is pointed out by Sir Charles Dilke, in his book entitled "Greater Britain," as follows:—

"The position of the various stores of coal in the Pacific is of extreme importance as an index to the future distribution of power in that portion of the world; but it is not enough to know where coal is to be found, without looking also to the quantity, quality, cheapness of labour and facility of transport. In China and in Borneo there are extensive coal fields, but they lie 'the wrong way' for trade; on the other hand, the California coal at Monte Diabolo, San Diego, and Monterey lies well, but is bad in quality. Tasmania has good coal, but in no great quantity, and the beds nearest to the coast are found of inferior anthracite. The three countries of the Pacific which must for a time at least rise to manufacturing greatness, are Japan, Vancouver Island and New South Wales; but which of these will become wealthiest and most powerful depends mainly on the amount of coal which they respectively possess, so situated as to be cheaply raised. The dearness of labour under which Vancouver suffers will be removed by the opening of the Pacific Railroad; but for the present New South Wales has the cheapest labour, and upon her shores at Newcastle are abundant stores of coal of good quality for manufacturing purposes, although for sea use it burns 'dirtily' and too fast. . . . . The future of the Pacific shores is inevitably brilliant, but it is not New Zesland, the centre of the water hemisphere, which will occupy the position that England has taken on the Atlantic, but some country such as Japan or Vancouver, jutting out into the ocean from Asia or from America, as England juts out from Europe."

I cannot now find space to speak of the forest wealth and future great lumber interests of British Columbia, but these, with the mineral wealth, the immense fisheries, and advantages for fruit growing are sure to attract a large population. The salmon fishery is the most important industry in the fish line, and already British Columbia contains large and prosperous salmon canneries doing an immense export trade. There are five species of salmon in all; those of the Frazer are the most famous. They make their way up the river for one thousand miles. The silver salmon begins to arrive in March, or early in April, and lasts till the end of June. The average weight is from four to twenty-five pounds, but they have been caught weighing over seventy. The second kind are caught from June to August, and are considered the finest. Their average size is only five or six pounds. The third, coming in August, average seven pounds, and are an excellent fish. The noan or humpback salmon, comes every second year, lasting from August till winter, weighing from six to fourteen pounds. The hookbill arrives in September, and remains till winter, weighing from twelve to fifteen pounds, and even forty-five pounds. Salmon is sold at Victoria at five cents per pound, and there appears to be no limit to the catch.

As British Columbia contains the Pacific terminus of the Canadian Pacific Railway, and must also contain the termini of all other lines of communication from the prairie region to the Pacific, it must necessarily become one of the most important sections of the Dominion. The whole extent of the Province is not suitable for settlement, yet it possesses very great agricultural resources. There are vast tracts of arable land, although some of these require artificial irrigation. This, however, is easily obtained, and not at all expensive, and lands so irrigated are of very great fertility. Land one thousand seven hundred feet above the level of the sea, thus irrigated, yielded last year as high as forty bushels of wheat per acre. The tracts of land suitable for grazing purposes are of almost endless extent, and the climate very favourable, shelter being only required for sheep, and even this not in ordinary seasons. On the Cariboo road there is a plain one hundred and fifty miles long, and

sixty or eighty wide, and between the Thompson and Frazer Rivers there is an immense tract of arable and grazing land. The hills and plains are covered with bunch grass, on which the cattle and horses live all winter, and its nutritive qualities are said to exceed the celebrated blue grass and clover of Virginia.

His Excellency the Marquis of Lorne, in a speech at Victoria, made the following remarks:—"Throughout the interior it will probably pay well in the future to have flocks of sheep. The demand for wool and woollen goods will always be very large among the people now crowding in such numbers to those regions which our official world as yet calls the North-West, but which is the North-East and East to you. There is no reason why British Columbia should not be for this portion of our territory what California is to the States in the supply afforded of fruits. The perfection attained by small fruits is unrivalled, and it is only with the Peninsula of Ontario that you would have to compete for the supplies of grapes, peaches, pears, apples, cherries, plums, apricots, and currants."

But the question of immigration to Canada can be appreciated to its fullest extent only in connection with what the world has learned to call the great North-West. Here, indeed, are illimitable possibilities; here, in short, is a future greatness providentially hid from mankind, but now gradually unfolding, that is destined to surpass anything yet achieved in the world.

CHAPTER LV.

A Nobleman's View of the North-West.

A GRAPHIC DESCRIPTION OF THE VAST PRAIRIE REGION — FUTURE HOMES OF MILLIONS OF PEOPLE — THE CANADIAN ZONE AND TRANSCONTINENTAL TRADE — OPINIONS OF THE MARQUIS OF LORNE—THE FUTURE OF CANADA.

PREVIOUS remarks have indicated the great certainty of a continuation for many years to come of immigration from the Old World to the New, and that in the future, far more than in the past, it will come to the territories of Canada, and particularly to the Canadian North-West. Hitherto, the great difficulty has been for the immigrant, after arriving on the shores of America, to reach the prairie region. The route has been circuitous and expensive, and beset with many temptations calculated to greatly impede the settlement of that region. The completion of the Canadian Pacific Railway will greatly remove these obstacles, and bring the countries of Europe into comparatively direct communication with the North-West. As a consequence we may expect a large increase in the volume of immigration to that part of Canada, but the flow of population to the North-West cannot be expected to reach its flood-tide until the route by way of Hudson Strait is opened.

As to the country itself, the evidence of its capacity to support a vast population is overwhelming. Much of this has already been given, but to that may properly be added the testimony of the Marquis of Lorne. Lord Dufferin made a journey through the prairie region of the North-West during his term as Governor-General of Canada, and upon his return in a lengthy and now celebrated speech, at Winnipeg, he said:—"From its geographical

position, and its peculiar characteristics, Manitoba may be regarded as the key-stone of that mighty arch of sister Provinces which spans the continent from the Atlantic to the Pacific. It was here that Canada, emerging from her woods and forests, first gazed upon her rolling prairies and unexplored North-West, and learnt, as by an unexpected revelation, that her historical territories of the Canadas, her eastern seaboards of New Brunswick, Labrador and Nova Scotia, her Laurentian lakes and valleys, corn lands and pastures, though themselves more extensive than half a dozen European kingdoms, were but the vestibules and ante-chambers to that, till then, undreamed of Dominion—whose illimitable dimensions alike confound the arithmetic of the surveyor and the verification of the explorer."

What Lord Dufferin said in 1877, the Marquis of Lorne was in a position to enlarge upon and verify in 1881. From personal inspection he pronounced the lands and climate of Manitoba and the North-West unexcelled. From personal experience he was able to speak to the world at large and vouch for the legitimacy of Canada's claim as offering the best homes in the world for industrious thrifty and willing immigrants. A favourite cry against the North-West with those who represent rival interests is, that the climate is highly objectionable. Lord Lorne thus disposed of this unjust and dishonest statement:—"The heavy night dews throughout the North-West keep the country green, when everything is burned to the south, and the steady winter cold, although it sounds formidable when registered by the thermometer, is universally said to be far less trying than the cold to be encountered at the old English Puritan City of Boston, in Massachusetts. It is the moisture in the atmosphere which makes cold tell, and the Englishman who, with the thermometer at zero in his moist atmosphere, would be shivering, would here find one flannel shirt sufficient clothing while working."

Speaking of the vast territories beyond the Province of Manitoba the Marquis said:—"The future fortunes of the country beyond this Province bear directly upon its prosperity. Although you may not be able to dig four feet through the same character of black loam that you have here when you get to the country beyond Fort Ellice,

yet in its main features it is the same right up to the forks of the Saskatchewan. I deeply regret that I was not able to visit Edmonton, which bids fair to rival any place in the North-West. Settlement is rapidly increasing there, and I met at Battleford one man who had a commission from ten farmers to buy for them at that place. Nothing can exceed the fertility or excellence of the land along almost the whole course of that great river, and, north of it, in the wide strip belting its banks and extending up to the Peace River, there will be room for a great population, whose opportunities for profitable cultivation of the soil will be most enviable."

An attentive perusal of the Marquis' speech will convince every unprejudiced mind that all indications point to Manitoba and the North-West Territories being, at no distant day, the favourite spot whence Old World agricultural and stock-raising immigrants will direct their steps on their arrival on the American Continent. Already the tide is beginning to flow in that direction, and there is every reason to anticipate that there will be such an influx into that country as was never anticipated by the most sanguine among those who looked forward to a great future for that portion of Canada's rapidly developing Dominion. This is the more certain because the people of the North-West will leave no stone unturned to secure the establishment at an early date of the Hudson's Bay route, and with the evidence of the practicability of the navigation of the waters of that line that is now before the world there can be no reasonable doubt of their success.

Following is the speech of the Marquis of Lorne on the Canadian North-West, at Winnipeg in 1881. He said:—

"To be ignorant of the North-West is to be ignorant of the greater portion of our country. Hitherto I have observed that those who have seen it justly look down upon those who have not with a kind of pitying contempt, which you may sometimes have observed that they who have got up earlier in the morning than others and seen some beautiful sunrise assume towards the friends who have slept until the sun is high in the heavens. Our track, though it led us far, only enabled us to see a very small portion of your heritage now being made accessible. Had time permitted, we should have

explored the immense country which lies along the whole course of the wonderful Saskatchewan, which, with its two gigantic branches, opens to steam navigation settlements of rapidly-growing importance. As it was, we but touched the waters of the north and south branches, and striking south-westwards availed ourselves of the American railway lines in Montana for our return. It was most interesting to compare the southern mountains and prairies with our own, and not even the terrible events which have recently cast so deep a gloom upon our neighbours, as well as on ourselves, could prevent our kinsmen from showing that hospitality and courtesy which make a visit to their country so great a pleasure. I am the more glad to bear witness to this courtesy in the presence of the distinguished Consul of the United States, who is your guest this evening, and who, in this city, so honourably represents his country in nothing more than in this, that he has never misrepresented our own. Like almost all his compatriots who occupy by the suffrage of their people official positions, he has recognized that fact which is happily acknowledged by all of standing amongst ourselves, that the interests of the British Empire and those of the United States may be advanced side by side without jealousy or friction, and that the good of the one is interwoven with the welfare of the other.

"Canada has recently shown that sympathy with her neighbour's grief which becomes her, and which has been so marked throughout all portions of our Empire. She has sorrowed with the sorrow of the great commonwealth whose chief has been struck down, in the fulness of his strength, in the height of his usefulness, in the day of the universal recognition of his noble character, by the dastard hand of the assassin. We have felt in this as though we ourselves had suffered, for General Garfield's position and personal worth made his own and his fellow citizens' misfortune a catastrophe for all English-speaking races. The bulletins telling of his calm and courageous struggle against cruel and unmerited affliction have been read and discussed by us with as strong an admiration for the man, and with as tender a sentiment for the anxiety and misery of his family as they have been awaited and perused in the South. It is fitting and good that this should be. We have with the Ameri-

cans not only a common descent, but a similar position on this continent and a like probable destiny. The community of feeling reaches beyond the fellowship arising from the personal interest attaching to the dignity of a high office sustained with honour, and to the reverence for the tender ties of hearth and home, sacred though these be; for Canadians and Americans have each a common aim and a common ideal. Though belonging to very different political schools, and preferring to advance by very different paths, we both desire to live only in a land of perfect liberty. When the order which ensures freedom is desecrated by the cowardly rancour of the murderer, or by the tyranny of faction, the blow touches more than one life, and strikes over a wider circle than that where its nearer and immediate consequences are apparent. The people of the United States have been directed into one political organization, and we are cherishing and developing another; but they will find no men with whom a closer and more living sympathy with their triumphs or with their trouble abides than their Canadian cousins of the Dominion. Let this be so in the days of unborn generations, and may we never have again to express our horror at such a deed of infamy as that which has lately called forth in so striking a manner the proofs of international respect and affection.

"To pass to other themes awaking no unhappy recollections you will expect me to mention a few of the impressions made upon us by what we have seen during the last few weeks. Beautiful as are the numberless lakes and illimitable forests of Keewatin—the land of the north wind to the east of you—yet it was pleasant to 'get behind the north wind' and to reach your open plains. The contrast is great between the utterly silent and shadowy solitudes of the pine and fir forests, and the sunlit and breezy ocean of meadow-land, voiceful with the music of birds, which stretches onward from the neighbourhood of your city. In Keewatin the lumber industry and mining enterprise can alone be looked for, and here it is impossible to imagine any kind of work which shall not produce results equal to those attained in any of the great cities in the world. Unknown a few years ago except for some differences which had arisen amongst its people, we see Winnipeg now with a population unani-

mously joining in happy concord, and rapidly lifting it to the front rank amongst the commercial centres of the continent. We may look in vain elsewhere for a situation so favourable and so commanding—many as are the fair regions of which we can boast. There may be some among you before whose eyes the whole wonderful panorama of our Provinces has passed—the ocean garden Island of Prince Edward, the magnificent valleys of the St. John and Sussex, the marvellous country, the home of 'Evangeline,' where Blomidon looks down on the tides of Fundy and over tracts of red soil richer than the weald of Kent. You may have seen the fortified Paradise of Quebec, and Montreal, whose prosperity and beauty are worthy of her great St. Lawrence, and you may have admired the well-wrought and splendid Province of Ontario, and rejoiced at the growth of her capital, Toronto, and yet nowhere can you find a situation whose natural advantages promise so great a future as that which seems ensured to Manitoba and to Winnipeg, the Heart City of our Dominion.

"The measureless meadows which commence here stretch without interruption of their good soil westward to your boundary. The Province is a green sea over which the summer winds pass in waves of rich grasses and flowers, and on this vast extent it is only as yet here and there that a yellow patch shows some gigantic wheat field. Like a great net cast over the whole are the bands and clumps of poplar wood which are everywhere to be met with and which, no doubt, when the prairie fires are more carefully guarded against, will, wherever they are wanted, still further adorn the landscape. The meshes of this wood-netting are never further than twenty or thirty miles apart. Little hay swamps and sparkling lakelets, teeming with wild fowl, are always close at hand, and if the surface water in some of these has alkali, excellent water can always be had in others, and by the simple process of digging for it a short distance beneath the sod with a spade, the soil being so devoid of stones that it is not even necessary to use a pick. No wonder that under these circumstances we hear no croaking. Croakers are very rare animals throughout Canada.

"It was remarked with surprise by an Englishman accustomed

to British grumbling, that even the frogs sing instead of croaking in Canada, and the few letters that have appeared speaking of disappointment will be amongst the rarest autographs which the next generation will cherish in their museums. But with even the best troops of the best army in the world you will find a few malingerers —a few skulkers. However well an action has been fought, you will hear officers who were engaged say that there were some men whose idea seemed to be that it was easier to conduct themselves as became them at the rear rather than in the front. So there have been a few lonely and lazy voices raised in the stranger press dwelling upon your difficulties and ignoring your triumphs. These have appeared from the pens of men who have failed in their own countries and have failed here, who are born failures, and will fail, till life fails them. They are like the soldiers who run away from the best armies seeking to spread discomfiture, which exists only in those things they call their minds, and who, returning to the cities, say their comrades are defeated, or if they are not beaten, they should, in their opinion, be so.

"We have found, as we expected, that their tales are not worthy the credence even of the timid. There was not one person who had manfully faced the first difficulties—always far less than those to be encountered in the older Provinces—but said that he was getting on well and he was glad he had come, and he generally added that he believed his bit of the country must be the best, and that he only wished his friends could have the same good fortune, for his expectations were more than realized. It is well to remember that the men who will succeed here, as in every young community, are usually the able-bodied, and that their entry on their new field of labour should be when the year is young. Men advanced in life and coming from the old country will find their comfort best consulted by the ready provided accommodation to be obtained by the purchase of a farm in the older Provinces. All that the settler in Manitoba would seem to require is, that he should look out for a locality where there is either good natural drainage, and ninety-nine-hundredths of the country has this, and that he should be able readily to procure in Winnipeg, or elsewhere, some light pumps like

those used in Abyssinia for the easy supply of water from a depth of a few feet below the surface. Alkali in the water will never hurt his cattle, and dykes of turf and the planting of trees would everywhere ensure him and them the shelter that may be required. $500 should be his own to spend on his arrival, unless as an artisan he comes here and finds that, like the happy masons now to be found in Winnipeg, he can get the wages of a British army colonel, by putting up houses as fast as brick, wood and mortar can be got together.

"Favourable testimony as to the climate was everywhere given. The heavy night dews throughout the North-West keep the country green when everything is burned to the south, and the steady winter cold, although it sounds formidable when registered by the thermometer, is universally said to be far less trying than the cold to be encountered at the old English Puritan city of Boston, in Massachusetts. It is the moisture in the atmosphere which makes cold tell, and the Englishman who, with his thermometer at zero, would, in his moist atmosphere, be shivering, would here find one flannel shirt sufficient clothing while working. I never like to make comparisons, and am always unwillingly driven to do so, although it seems to be the natural vice of the well-travelled Englishman. Over and over again in Canada have I been asked if such and such a bay was not wonderfully like the Bay of Naples, for the inhabitants had often been told so. I always professed to be unable to see the resemblance, of course entirely out of deference to the susceptibilities of the Italian nation. So one of our party, a Scotchman, whenever in the Rocky Mountains he saw some grand pyramid or gigantic rock, ten or eleven thousand feet in height, would exclaim that the one was the very image of Arthur's Seat and the other of Edinburgh Castle.

"With the fear of Ontario before my eyes I would therefore never venture to compare a winter here to those of our greatest Province, but I am bound to mention that when a friend of mine put the question to a party of sixteen Ontario men who had settled in the western portion of Manitoba, as to the comparative merits of the cold season of the two Provinces—fourteen of them voted for the Manitoba climate, and only two elderly men said that they pre-

ferred that of Toronto. You will, therefore, see how what is sometimes called the very unequal criterion of right and justice, a large majority, determines this question. Now, although we are at present in Manitoba and Manitoba interests may dominate our thoughts, yet you may not object to listen for a few moments to our experience of the country which lies further to the west.

"To the present company the assertion may be a bold one, but they will be sufficiently tolerant to allow me to make it, if it goes no further, and I, therefore, say that we may seek for the main chance elsewhere than in Main Street. The future fortunes of the country beyond this Province bear directly upon your prosperity. Although you may not be able to dig for four feet through the same character of black loam that you have here when you get to the country beyond Fort Ellice, yet in its main features it is the same, right up to the forks of the Saskatchewan. I deeply regret that I was not able to visit Edmonton, which bids fair to rival any place in the North-West. Settlement is rapidly increasing there, and I met at Battleford one man who alone had commissions from ten Ontario farmers to buy for them at that place. Nothing can exceed the fertility and excellence of the land along almost the whole source of that great river, and to the north of it, in the wide strip belting its banks and extending up to the Peace River, there will be room for a great population whose opportunities for profitable cultivation of the soil will be most enviable.

"The netting of wood of which I have spoken as covering all prairie between Winnipeg and Battleford is beyond that point drawn up upon the shores of the prairie sea, and lies in masses of fine forest in the gigantic half circle formed by the Saskatchewan and the Rockies. It is only in secluded valleys, on the banks of large lakes, and in the river bottoms that much wood is found in the Far West, probably owing to the prevalence of fires. These are easily preventible and there is no reason why plantations should not flourish there in good situations as well as elsewhere. Before I leave the Saskatchewan let me advert to the ease with which the steam navigation of that river can be vastly improved. At present there is only one boat at all worthy of the name of a river steamer

upon it, and this steamer lies up during the night. A new company is, I am informed, now being organized, and there is no reason why, if the new vessels are properly equipped and furnished with electric lights, which may now be cheaply provided, they should not keep up a night and day service, so that the settlers at Prince Albert, Edmonton, and elsewhere may not have, during another season, to suffer great privations incident to the wants of transportation which has loaded the banks of Grand Rapids during the present year with freight, awaiting steam transport.

"The great cretaceous coal seams at the headwaters of the rivers rising in the Rocky Mountains or in the neighbourhood of streams flowing towards your doors should not be forgotten. Although you have some coal in districts nearer to you, we should remember that on the headwaters of these streams there is plenty of the same, which can be floated down to you before you have a complete railway system. Want of time as well as a wish to see the less vaunted parts of the country took me south-westward from Battleford, over land which in many of the maps is variously marked as consisting of arid plains or as a continuation of the "American Desert." The newer maps, especially those containing the explorations of Prof. Macoun, have corrected this wholly erroneous idea. For the two days' march—that is to say, for about sixty or seventy miles south of Battleford—we passed over land whose excellence could not be excelled for agricultural purposes. Thence to the neighbourhood of the Red Deer Valley the soil is lighter, but still, in my opinion, in most places good for grain—in any case most admirable for summer pasturage, and it will certainly be good also for stock in winter as soon as it shall pay to have some hay stored in the valleys. The whole of it has been the favourite feeding ground of the Buffalo. Their tracks from watering place to watering place, never too far apart from each other, were everywhere to be seen, while in very many tracks their dung lay so thickly that the appearance of the ground was only comparable to that of an English farm yard. Let us hope that the *entreact* will not be long before the disappearance of the buffalo on these scenes is followed by the appearance of domestic herds.

"The Red Deer Valley is especially remarkable as traversing a country where, according to the testimony of Indian chiefs travelling with us, snow never lies for more than three months, and the heavy growth of poplar in the bottoms, the quantity of the 'bull' or high cranberry bushes, and the rich branches that hung from the choke cherries showed us that we had come into that part of the Dominion which among the plainsmen is designed as 'God's country.' From this onward to the Bow River, and thence to the frontier line, the trail led through what will be one of the most valued of our Provinces, subject as the country is to those warm winds called the 'chinooks.' The settler will hardly ever use anything but wheeled vehicles during the winter, and throughout a great portion of the land early sowing—or fall sowing—will be all that will be necessary to ensure him against early frosts.

"At Calgary, a place interesting at the present time as likely to be upon that Pacific Railway line which will connect you with the Pacific and give you access to 'that vast shore beyond the furthest sea,' the shore of Asia, a good many small herds of cattle have been introduced within the last few years. During this year a magnificent herd of between six and seven thousand has been brought in, and the men who attended them, and who came from Montana, Oregon and Texas, all averred that their opinion of their new ranche was higher than that of any with which they had been acquainted in the south. Excellent crops have been raised by men who have sown not only in the river bottoms, but also upon that so-called 'bench' lands or plateau above. This testimony was also given by others on the way to Fort Macleod and beyond it, thus closing most satisfactorily the song of praise we had heard from practical men throughout our whole journey of one thousand two hundred miles.

"Let me advert for one moment to some of the causes which have enabled settlers to enjoy in such peace the fruits of their industry. Chief amongst these must be reckoned the policy of kindness and justice which was inaugurated by the Hudson's Bay Company in their treatment of the Indians. Theirs is one of the cases in which a traders' association has upheld the maxim that 'honesty is the best policy' even when you are dealing with savages. The

wisdom and righteousness of their dealing on enlightened principles, which are fully followed out by their servants to-day, gave the cue to the Canadian Government. The Dominion to-day through her Indian officers and her mounted constabulary is showing herself the inheritress of these traditions. She has been fortunate in organizing the Mounted Police Force, a corps of whose services it would be impossible to speak too highly. A mere handful in that vast wilderness, they have at all times shown themselves ready to go anywhere and do anything. They have often had to act on occasions demanding the combined individual pluck and prudence rarely to be found amongst any soldiery, and there has not been a single occasion on which any member of the force has lost his temper under trying circumstances, or has not fulfilled his mission as a guardian of the peace. Severe journeys in winter and difficult arrests have had to be effected in the centre of savage tribes, and not once has the moral prestige, which was in reality their only weapon, been found insufficient to cope with difficulties which, in America, have often baffled the efforts of whole columns of armed men. I am glad of this opportunity to name these men as well worthy of Canada's regard—as sons who have well maintained her name and fame.

"And, now that you have had the patience to listen to me, and we have crossed the Continent together, let me advise you as soon as possible to get up a branch house, situated amongst our Rocky Mountains, where, during summer, your members may form themselves into an Alpine club, and thoroughly enjoy the beautiful peaks and passes of our Alps. In the railway you will have a beautiful approach to the Pacific. The line, after traversing for days the plains, will come upon the rivers, whose sheltering valleys have all much the same character. The river beds are like great moats in a modern fortress—you do not see them till close upon them. As in the glacis and rampart of a fortress the shot can search across the smooth surfaces above the ditch, so any winds that may arise may sweep across the twin levels above the river fosses. The streams run coursing along the sunken levels in these vast ditches, which are sometimes miles in width. Sheltered by the undulating banks,

knolls or cliffs which form the margin of their excavated bounds, are woods, generally of poplar, except in the northern and western fir fringe. On approaching the mountains their snow caps look like huge tents encamped along the rolling prairie. Up to this great camp, of which a length of one hundred and fifty miles is sometimes visible, the river valleys wind in trenches, looking like the covered ways by which siege works zig-zag up to a besieged city. On a nearer view the camp line changes to ruined marble palaces, and through their tremendous walls and giant woods you will soon be dashing on the train for a winter basking on the warm Pacific coast.

"You have a country whose value it would be insanity to question, and which, to judge from the emigration taking place from the older Provinces, will be indissolubly linked with them. It must support a vast population. If we may calculate from the progress we have already made in comparison with our neighbours we shall have no reason to fear comparison with them on the new areas now open to us. Exclusive of Newfoundland, we have now four million four hundred thousand people, and these, with the exception of the comparatively small numbers as yet in this Province, are restricted to the old area. Yet for the last ten years our increase has been over 18 per cent., whereas during the same period all the New England States taken together have shown an increase of only 15 per cent. In the last thirty years in Ohio the increase has been 61 per cent.—Ontario has been during that space of time 101 per cent. of increase, while Quebec has increased 52 per cent. Manitoba in ten years has increased 289 per cent., a greater rate than any hitherto attained, and, to judge from this year's experience, is likely to increase to an even more wonderful degree during the following decade.

"Statistics are at all times wearisome, but are not these full of hope? Are they not facts giving just ground for that pride in our progress which is conspicuous among our people, and ample reason for our belief that the future may be allowed to take care of itself? They who pour out prophecies of change, prescribing medicines for a sound body, are wasting their gifts and their time. It is among strangers that we hear such theories propounded by destiny men.

With you the word 'annexation' has in the last years only been heard in connection with the annexation of more territory to Manitoba. I must apologize to a Canadian audience for mentioning the word at all in any other connection. In America the annexation of this country is disavowed by all responsible writers. As it was well expressed to me lately, the best men in the States desire only to annex the friendship and good will of Canada. To be sure it may be otherwise with the camp followers; they often talk as if the swallowing and digestion of Canada by them were only a question of time, and of rising reason amongst us. How far the power of the camp followers extends it is not for us to determine. They have, however, shown that they are powerful enough to capture a few English writers, our modern minor prophets who, in little magazine articles, are fond of teaching the nations how to behave, and whose words preach the superiority of other countries to their own, and the proximate dismemberment of that British Empire which has the honour to acknowledge them as citizens. They have with our American friends of whom I speak at all events one virtue in common, they are great speculators. In the case of our southern friends this is not a matter to be deplored by us, for American speculation has been of direct material benefit to Canada, and we must regret that our American citizens are not coming over to us so fast as are the French, the Scotch, the Irish, the Germans, and the Scandinavians. Morally, also, it is not to be deplored that such speculations are made, for they show that it is thought that Canadians would form a useful though an unimportant wing for one of the great parties; and, moreover such prophecies clothe with amusement 'the dry bones' of discussion. But it is best always to take men as we find them, and not to believe that they will be different even if a kindly feeling, first for ourselves, and afterwards for them, should make us desire to change them.

"Let us rather judge from the past and from the present than take flights, unguided by experience, into the imaginary regions of the future. What do we find has been, and is, the tendency of the peoples of this continent. Does not history show, and do not modern and existing tendencies declare, that the lines of cleavage

among them lie along the lines of latitude? Men spread from east to west, and from east to west the political lines, which mean the lines of diversity, extend. The central spaces are, and will be yet more, the great centres of population. Can it be imagined that the vast central hives of men will allow the eastern or western seaboard people to come between them with separate empire, and shut them out in any degree from full and free intercourse with the markets of the world beyond them? Along the lines of longitude no such tendencies of division exist. The markets of the North Pole are not as yet productive, and with South America commerce is comparatively small. The safest conclusion, if conclusions are to be drawn at all, is that what has hitherto been, will, in the nature of things, continue—that whatever separations exist will be marked by zones of latitude. For other evidence we must search in vain.

Our county councils, the municipal corporations, the local provincial chambers, the central Dominion Parliament, and last, not least, a perfectly unfettered press, are all free channels for the expressions of the feelings of our citizens. Why is it that in each and all of these reflectors of the thoughts of men we see nothing but determination to keep and develop the precious heritage we have in our own constitution, so capable of any development which the people may desire; let us hear Canadians if we wish to speak for them. These public bodies and the public press are the mouthpieces of the people's mind. Let us not say for them what they never say for themselves. It is no intentional misrepresentation, I believe, which has produced these curious examples of the fact that individual prepossessions may distort public proofs. It reminds me of an interpretation once said to have been given by a bad interpreter of a speech delivered by a savage warrior, who in a very dignified and extremely lengthy discourse expressed the contentment of his tribe with the order and with the good which had been been introduced amongst them by the law of the white man. His speech was long enough fully to impress with its meaning and its truth all who took pains to listen to him, and who could understand his language, but the interpreter had unfortunately different ideas of his own, and was displeased with his own individual treatment, and

when at last he was asked what the chief and his council had said in their eloquent orations, he turned round and only exclaimed,—'he damn pleased!' 'And what did his councillors say?' 'They damn pleased!'

"No gentlemen, let each man in public or literary life in both nations do all that in him lies to cement their friendship, so essential for their mutual welfare. But this cannot be cemented by the publication of vain vaticinations. This great part of our great Empire has a natural and warm feeling for our republican brethren whose fathers parted from us a century ago in anger and bloodshed. May this natural affection never die. It is like the love which is borne by a younger brother to an elder, so long as the big brother behaves handsomely and kindly. I may possibly know something of the nature of such affection, for as the eldest of a round dozen I have had experience of the fraternal relation as exhibited by an unusual number of younger brothers. Never have I known that fraternal tie to fail, but even its strength has its natural limit: so Canada's affection may be measured. None of my younger brothers, however fond of me, would voluntarily ask that his prospects should be altogether overshadowed and swallowed up by mine. So Canada, in words which our neighbours may understand, wishes to be their friend but does not desire to become their food. She rejoices in the big brother's strength and status, but is not anxious to nourish it by offering up her own body in order that it may afford him, when over hungry, that happy festival he is in the habit of calling a 'square meal.'

"I must ask you now once more to allow me, gentlemen, to express my acknowledgments to you for this entertainment. It affords another indication of the feelings with which the citizens of Winnipeg regard any person who has the honour as the head of the Canadian Government to represent the Queen. You recognize in the Governor General the sign and symbol of the union which binds together in one the free and kindred peoples whom God has set over famous isles and over fertile spaces of mighty continents. I have touched in speeking on certain vaticinations and certain advice given by a few good strangers to Canadians on the subject of the

future of Canada. Gentlemen, I believe that Canadians are well able to take care of themselves, of their future, and the outside world had better listen to them instead of promulgating weak and wild theories of its own. But, however uncertain, and, I may add, foolish, may be such forecasts, of one thing we may be sure, which is this, that the country you call Canada, and which your sons and your children's children will be proud to know by that name, is a land which will be a land of power among the nations. Mistress of a zone of territory favourable for the maintenance of a numerous and homogenous white population, Canada must, to judge from the increase in her strength during the past, and from the many and vast opportunities for the growth of that strength in her new Provinces in the future, be great and worthy her position on the earth. Affording the best and safest highway between Asia and Europe, she will see traffic from both directed to her coasts. With a hand upon either ocean she will gather from each for the benefit of her hardy millions a large share of the commerce of the world. To the east and to the west she will pour forth of her abundance, her treasures of food and the riches of her mines and of her forests demanded of her by the less fortunate of mankind. I esteem those men favoured indeed who, in however slight a degree, have had the honour or may yet be called upon to take part in the councils of the statesmen who in the early era of her history are moulding this nation's laws in the forms approved by its representatives. For me, I feel that I can be ambitious of no higher a title than to be knows as one who administered its Government in thorough sympathy with the hopes and aspirations of its first founders, and in perfect consonance with the will of its free Parliament. I ask for no better lot than to be remembered by its people as rejoicing in the gladness born of their independence and of their loyalty. I desire no other reputation than that which may belong to him who sees his own dearest wishes in process of fulfilment in their certain progresses, in their undisturbed peace, and in their ripening grandeur."

This able speech of the Marquis is not more truthful in its graphic descriptions of the Canadian North-West, than correct in the hopeful character of its prophecies concerning the future of the

Dominion. If there is one thing to be lamented it is the want of confidence in the future of our country among the Canadian people. This is rapidly disappearing, but there is a considerable element of the population which clings to the policy of despair, with stiff-necked and unpatriotic devotion. Before a quarter of a century more passes it will be generally admitted that Canada possesses the greatest and most productive zone of territory on the North American Continent, and as our population increases by the settlement of the vast prairie region, and lines of transcontinental communication are opened up in connection with the St. Lawrence and Hudson's Bay, a future generation will witness the development of a greater San Francisco on the Pacific coast of British Columbia. Nay, more, if nothing occurs to thwart the present onward flow of Canadian progress, a majority of the present generation will live to see the transfer of by far the greater portion of trans-Pacific and trans-Atlantic commerce from United States to Canadian ports. The shortest land routes for this trade must necessarily be used, and as the Canadian zone possesses by far the shortest lines, Canada will surely reap the legitimate result.

CHAPTER LVI.

Immigration and the Hudson's Bay Route.

CONTRAST BETWEEN TRAVELLING FROM EUROPE TO THE NORTH-WEST BY THE ST. LAWRENCE AND THE HUDSON'S BAY ROUTE—THE ADVANTAGES OF THE LATTER—THE DISTANCE SAVED AND THE PLEASURES ENJOYED—PROPOSED SPECIAL IMMIGRATION STEAMSHIPS.

MANY are the advantages to immigration that will be enjoyed by the Hudson's Bay Route. As explained in a previous chapter, the opening of the Canadian Pacific Railway between the North-West and Atlantic seaports will remove many of the obstacles now and hitherto experienced by immigrants travelling from the Old Country to Manitoba and the Prairie Region beyond, but this improvement, great as it will be, cannot be compared to the advantages that will acrue with the establishment of a transportation line between the Canadian North-West and Europe *via* Hudson's Bay. Let us contrast the probable experiences of immigrants journeying from Europe to the North-West by means of Atlantic steamers to Quebec, thence to the Prairie Country *via* the Canadian Pacific, with those travelling between the same points through our northern waters.

In the first place look at the time that would be occupied and the hardships that would be endured by the St. Lawrence route. After the stir, and bustle, and annoyance attendant upon embarkation, there would be three thousand miles of an ocean voyage, without the sight of land to gladden the heart, to be worried out, unless at its close, the exceptional occurrence of a lifting fog, reveal a gloomy outline of the wretched coast of Newfoundland. Nine, ten, eleven, perhaps twelve days, on the ocean, rolling and pitching,

rising and falling; pent up in a wretched steerage, suffering from sea-sickness, and suffocating from poisoned air, without a single incident or object to relieve the dull, dreary, insufferable monotony. At length after the endurance of the privations and sufferings of an ordinary life-time in the space of a few days; after growing weak from sickness; after becoming emaciated from the impurities of the over-crowded vessel-home; after the courage and the energy and the hope have been driven out of the poor unfortunate immigrant, he is landed at Quebec, or Halifax, or Montreal, and along with a thousand others, equally hopeless, and perhaps still more discouraged, he or she is given over to the ordeal of a two thousand-mile journey in the immigrants' car. His head is still swimming, and the ground seems to rise and fall under his feet like the swell of the ocean, and the motion of the car seems not unlike the rolling of the ship.

The desponding home hunter counts over his remaining half sovereigns, or scans his insufficient bill of exchange, takes stock of his hand baggage, looks out of the car windows, and braces himself up in an attempt to revive his sinking energies. He has heard of Canada, and its waving golden harvest fields, but is not accurate in his geography. The sun is rising out of the eastern horison, and there are streaks of beauty along the eastern sky over-arching the land that he has left far, far behind, and painfully reminding him that, even to the immigrant whose scanty habitation was scarcely lovable, that, after all "there is no place like home." Turning from the thoughts that can but add to his despair he looks westward, hoping and doubting, and begins to "scan the landscape o'er." There are rugged hill-sides, and stunted trees, and stagnant pools, and wretched looking shanties, and now and then half-fed cattle grazing upon the sterile fields; there are grand views of the mighty river, on the one hand, but the inspiration from these is frozen in half an instant by the inhospitality of the prospect on the other; there are chiriping but lonely-looking birds, and in season, there are croaking frogs, but there are no heart-gladdening harvest fields; there are narrow strips of partly cultivated soil, badly fenced with logs or poles, zigzagged, and partly fallen down; there are log houses and frame houses, and sickly gardens, and dilapidated barn-yards,

and indolent habitants; but there are no evidences of agricultural prosperity.

Thus for a whole day our new comer journeys through a land of scarcity, and as the setting sun forces him to turn his eyes from the hopeless scene, he falls back, with a sigh, and asks himself, "Can this be Canada?" The morning of the second day finds him far beyond the Capital of the Dominion, approaching another stretch of sterile country, through which he must journey for a thousand miles. He looks out upon the scene because he can do nothing else. Hope is now sinking into despair. In the distance are great forest ridges, but the country is uninhabited, and gloomy and rough, and stony, and there is no inspiration to be derived from it. There are noble rivers crossed or traversed for moments, and now and then the broad blue waters of the lake breaks upon the view; but these scenes are rendered desolate by the half-barren rocks which everywhere constitute the surface of the country.

In the midst of his disappointment he may turn to a companion and vent the feelings which the cold barren scenery has inspired; and it may be he is told that the "land of plenty" lies six hundred miles further ahead. His reply would probably be, "By the time I reach it, I will require only enough of it for my bones." Thus the days and nights are worried out, and the immigrant is worn out, until without heart or hope or disposition except to die, he reaches Winnipeg, and is told that he is on the border of the most wonderful country under the sun. His courage may revive, but he will never forget the voyage nor forgive the journey, and when he writes back to his friends in Ireland, or Scotland, or England, or Germany, he may tell them of the great fertility of the soil of the North-West, and the boundlessness of the prairie country, but if he ventures to recommend them to follow his example he will warn them to prepare to endure the torments of an evil world during the journey.

But let us follow the immigrant from Liverpool, or Queenstown, to the great North-West *via* the Hudson's Bay route. He has all the worry and toil and discouragement of embarkation attending the other route. He is carried out upon the billows of the same Atlantic, and is tossed and driven, and rolled and pitched about upon

the same merciless waves. He seeks his berth, or lounges in his unhappy quarters from like sea-sickness, and suffers equally severe from it, but beyond this there is no similarity between the two voyages. His first sea-sickness is scarcely over, when on the morning of the third or fourth day his eyes are gladdened by the glory or grandeur of "Greenland's Icy Mountains." All day long the scene is one of beauty, and the hardships of the ocean voyage are forgotten in the study and admiration of the great rugged snow-bound cliffs of that wonderful north land.

Scarcely a night is passed after leaving picturesque Greenland, when the bold hills of Resolution, or the precipitous cliffs of Cape Chidley break into view, and the heart of the immigrant is gladdened, while his eyes refuse to believe that he is entering the waters of the Dominion of Canada. As the ship passes the sixtieth meridian of west longitude, and while yet considerably less than two thousand miles from Liverpool, the Atlantic is left behind. One shore or the other of Hudson Strait will pretty much always be in sight throughout the whole voyage of its length, four hundred and fifty miles; and when lost to view, the cliffs of Charles' Island, or the Savages, or Nottingham or Salisbury will be in sight, while the very waters themselves will hold converse with the voyagers. On one hand the sporting whale sending the water high into the air will afford a scene of much attraction and amusement. Women and children will come on deck now to enjoy the sights, for the water is nearly always comparatively level and the ship will press forward without apparent motion. Yonder on a stretch of field-ice may be seen dozens of great fat walrus sleeping or lounging in the sun, and as some bold coast is neared, where the great cliffs rise like a mighty wall before the eye, vast schools of porpoises with their backs partly out of the water, in a sort of Indian file, will be seen stretching over the surface as far as the vision can be extended. Now and then the long ivory horn of the sea unicorn will be lifted out of the water as if some strange submarine boat-man were hailing the ship from beneath the surface, while away on the rocks of the shore the polar bear, lonely and strange, will appear like a huge white monster, cantering away from fear of the ship.

These amusing and instructive objects will not have been fully appreciated, and will not have ceased to delight and please the tired immigrant when, let it be in the breaking forth of the morning, or at high noon, or in the quiet splendour of the early evening, or even beneath the resplendent aurora of that region, the eternal cliffs of Wolstenholme, towering above the clouds, with their dizzy summits crowned with blazing snow, and their ledges festooned about with illuminated vapour-clouds will break into view, telling the gladdened though weary pilgrim that he is entering Hudson's Bay. In vain would he stay here and admire this giant wonder of nature, this geological phenomenon, the like of which not even Gibralter can boast, and before which the greatest mountain scenery of the Rockies fades into dullness; but the good ship speeds on, and before his wondering admiration has had time to find suitable expression, he is again astonished by the grand appearance of old Fort Prince of Wales, and awakened out of pleasant reveries by the clanking of the anchor chains in Churchill Harbour. The voyage which is now over has been one of delight, and the short journey that is to come will be one of pleasure. The train is at the wharf, the spacious cars are soon filled, and all is ready for the start. Less than twelve days before the shores of Europe were left behind. But three thousand miles now intervene, the ninety-fifth meridian is almost reached, and but a few miles are necessary to bring the immigrant to the longitude of Winnipeg. When the latter is attained, say forty miles southwest of Churchill, the distance between it and Liverpool is the same as that between Montreal and Liverpool, and for that reason about fifteen hundred miles of tedious and expensive railway travel have been avoided.

The journey from Churchill to the borders of the fertile belt will occupy no more than a night's rest, and with the rising of the morning's sun the prospect of illimitable agricultural areas will be everywhere present to gladden the intending settler. Three thousand five hundred miles from Liverpool will bring the immigrant into the heart of the finest country under the sun; whereas, if he travel by the St. Lawrence route, it will require a journey of at least five thousand miles to reach the same point.

The immigrant coming to the North-West *via* Hudson's Bay, and enjoying the pleasures of the trip that I have only partly described, will upon his arrival not only write back to his friends, describing the advantages of the new country for settlement; but he will be able to tell them that the voyage out is one full of pleasure and interest.

As the question of distances is deeply involved in the foregoing contrast of voyages, and as it is quite possible the reader may not be fully persuaded that there is the difference claimed, I think it proper to submit the following table of lengths, in common land or statute miles of five thousand two hundred and eighty feet each, of a degree of longitude in the different latitudes north of the equator:—

LENGTHS OF DEGREES OF LONGITUDE IN DIFFERENT LATITUDES.

DEG. OF LAT.	STATUTE MILES.	DEG. OF LAT.	STATUTE MILES.
0	69.16	42	51.47
2	69.12	44	49.83
4	68.99	46	48.12
6	68.78	48	46.36
8	68.49	50	44.54
10	68.12	52	42.67
12	67.66	54	40.74
14	67.12	56	88.76
16	66.50	58	36.74
18	65.80	60	34.67
20	65.02	62	32.55
22	64.15	64	30.40
24	63.21	66	28.21
26	62.20	68	25.98
28	61.11	70	23.72
30	59.94	72	21.43
32	58.70	74	19.12
34	57.35	76	16.78
36	56.01	78	14.42
38	54.56	80	12.05
40	53.05	82	9.66

The importance of the above table may be illustrated in this way: Take the latitude of New York City, in the neighbourhood of

40° N., and the distance from the meridian of Greenwich (London) on that parallel to the 95th meridian, which passes some twenty-three miles east of Winnipeg, and about the same distance west of St. Paul, Minn., and the whole distance between the two points by great circle measurement is over five thousand miles; while from the same meridian, viz., that of Greenwich to the 95th on the 54th parallel, which passes just north of Prince Albert, and intersects the North Saskatchewan, the whole distance by the same measurement is only three thousand eight hundred and seventy miles, or one thousand one hundred and thirty miles less. But these direct line distances do not represent all the gain of the Hudson's Bay route For instance, the distance between Prince Albert and Liverpool, *via* Hudson's Bay, provided there was a railway between the former point and Churchill, by a line of rail and water communication, would be but three thousand six hundred miles, while that between Prince Albert and Liverpool, *via* Canadian Pacific Railway, provided a direct rail were laid between the former point and Winnipeg, would be over five thousand one hundred miles. This represents a gain of over fifteen hundred miles in favour of the Hudson's Bay route. This apparent disagreement is explained in this way: 1. Travelling latitudinally across the continent north of the equator, especially in high latitudes, distance is saved by going north of a direct east or west course. For instance, suppose a navigator took his departure in latitude 45° N., on the east coast of North America, and wished to reach a point on the west coast of Europe in precisely the same latitude, his course would by no means be due east. For the first half of his voyage his course would be considerably north of east, and for the last half considerably south of east. This is rendered necessary owing to the shape of the earth, and is the key to the explanation as to why there is so much gain in the distance between the North-West and Liverpool, *via* Hudson's Strait. Leaving Churchill and passing out through the Bay and Strait the course is considerably north of east, and will continue so until Greenland is breasted, when it will trend south of east, and thus the greatest possible advantage of the shape of the earth is utilized

The extraordinary length of the days or of the period of day-

light in high latitudes during the season of navigation is one of the greatest advantages of the Hudson's Bay route. The longest day on the equator is but twelve hours, whereas that on the arctic circle, about 67° N., is twenty-four hours, or equal to both the length of the day and the night together on the equator at the time when the longest day occurs there. The longest day in the latitude of Ottawa is considerably over fifteen and a-half hours, while that of Winnipeg is over sixteen and a-quarter hours; that of Churchill is about eighteen hours, and that of Hudson Strait is over twenty hours. It will be seen therefore that the great length of the days in the latitudes of the Hudson's Bay route constitute one of its greatest advantages, and it is a fortunate circumstance that the period of these lengthened days corresponds very nearly with the period of navigation in those waters. These facts will render the Hudson's Bay route exceptionally attractive to immigrants, tourists, and travellers generally.

There is another important consideration. As steamships peculiarly fitted to our northern waters will have to be constructed in connection with the Hudson's Bay route, and as the carrying of immigrants will be one of the most important duties of such vessels, particular care will no doubt be exercised to construct them with a view to the comfort and convenience of that class of passengers. A very little skill exercised in this regard will overcome many of the hardships which immigrants have to endure now-a-days in ocean steamers, and as a consequence greater numbers will crowd into the channel of transportation, *via* the higher latitudes.

Placing the period of the navigation of Hudson Strait in the seven or eight warmer months of the year, there will be no severe cold weather to endure, while on the other hand all the fatigue and worry, and fretting, and sickness, attendant upon the excessive heat necessarily suffered by the more southern routes, will be happily avoided. The temperature of the route in June, July and August, the hottest months experienced, will be cool and bracing, and in every respect travel by it will be greatly superior to that by any other route.

I have already hinted at the probable cost of transporting

immigrants from Europe to the North-West *via* Hudson's Bay, and I repeat, the whole expense ought not to exceed twenty dollars. Take even a ship that would be able to accommodate but one thousand, and, leaving three dollars a head for railway fare from Churchill to the fertile belt, the vessel would realize $17,000 for her immigrant cargo aside from the income from other freights such as merchandise. Indeed, looking at the prospect of the vast immigrant and merchandise freights that will surely find their way westward, and the vaster carriage of the products of the North-West eastward, one cannot fail to see a brilliant future for both the steamship and railway departments of the Hudson's Bay route.

In connection with the question of immigration to Canada, and the Canadian North-West, coupled with the Hudson's Bay route, it will be proper to call attention to an important meeting on Canada in Edinburgh, Scotland, held under the auspices of the "Canada North-West Land Company," on the 6th January 1885. Sir George Warrender of Lochend, Bart., chairman of the company, presided. In opening the proceedings he said that "there were two kindred subjects which were at present occupying the minds of thinkers in Great Britain. These were, first: 'Our relations with the splendid colonies of this vast Empire'; and second, 'The means afforded by these colonies for the relief of a too redundant population at home by emigration.' He would say nothing of the first, as they were met together to consider the second as associated with Canada, and in the belief that it was in the interests of all that British emigration should go to British colonies. Within the last few years the energetic Government of Canada had opened up regions of almost boundless extent and unsurpassed fertility, which within this generation were the home of only the Red Indian, the hardy trapper, the buffalo, the bear, and the beaver. The fertility of these regions was demonstrated to the Scottish public by the cereals, grasses, and roots, grown without any fertilizing agents except those contained in the soil itself, which were now being exhibited in Edinburgh under the auspices of the Canada North-West Land Company. Alluding to the speakers of the evening, and mentioning that Professor Ramsay had taken an opportunity of

visiting the crofters from the West Highlands, now settled on free grants of land in Manitoba, the Chairman said it must be most gratifying and encouraging to Lady Gordon Cathcart to read the testimony borne by the Professor as to the success of her benevolent experiment. Free Government lands, he continued, in the most favourable localities were being rapidly taken up, but free homesteads were still to be had. The Canada North-West Land Company itself possessed some two million acres of selected lands in Manitoba and Assiniboine, and had an organization both here and at Winnipeg for conducting its affairs, and the company was now able and ready to afford every information, advice, and facilities to farmers or young men with small capital, or, as before, to Highland crofters desirous of going to take up homesteads in the North-West."

In reply to Sir George, Dr. MacGregor, from whom I have previously quoted regarding the fertility of the North-West, remarked that all he said two years ago about the fertility of the land in the Canadian North-West had been more than borne out. After a reference to the climate, he said the young were those who should go out—persons used to agriculture. The settler who intended farming his own land should have at least £125 clear capital on his arrival, and it would be better if he had more. Going on to deal with the practical matter of emigration, he asked, how was the poor man in this country to get there? There were multitudes of people in that and other countries, he said, who were precluded from taking advantage of the splendid opportunities which the Dominion Government held out to them, for the simple reason that they were utterly unable to pay the expenses of emigration. The only remedy, he thought, was voluntarily to assist the transference of unutilized labour to lands where labour was in great demand. Where the means of emigration were almost or altogether a-wanting, it was the duty of the Government of that country to intervene, and by some wisely considered scheme to accomplish a work of Imperial necessity, a work which private benevolence was unable to do, and colonization companies were not likely to undertake. He believed it would and must come to that in the long run. Let it be bourne in mind, he added, in conclusion, that the colonization of the North-West had

ceased to be a problem, and was at the present time in process of becoming an accomplished fact. What was wanted there, as elsewhere, was more light all round, and a far more accurate knowledge, especially among the working-classes, as to what our colonies really were.

The doctor's remarks were very timely, and his references to the duty of the Imperial Government in respect of emigration were in the right direction. But he is above all correct when he calls for more light. And when it dawns upon him and his people it will be in the way of assurances of the establishment of the Hudson's Bay route. The light required is as to how the great expense of transporting emigrants can be overcome. ' It will be seen that the speaker referred to, regarded the expenses attending a removal from Europe to America as one of the greatest draw-backs to immigration, and from what I have already shown, it must be plain to the reader that the establishment of a route of transportation *via* Hudson's Strait, will almost entirely abolish this obstacle.

Professor Ramsay, one of the speakers at the same meeting, referring to those whom Lady Gordon Cathcart had so generously assisted to a new life in Canada, and others, said he had found them all prosperous and contented with their lot, especially those who had been out for a whole year, or rather eighteen months. As to the climate, one and all had spoken of the immense superiority of the climate in winter to that of this country, in consequence of the absence of damp. These cases, however, they might feel to be exceptional cases; but there was another side to the picture It might very well be that the crofters would succeed, and that the poor who went forth from the alleys and dens of our cities might be entirely unable to hold their own. He was offering to show what was the lot attending the emigration of different classes of colonists to Canada. Besides crofter colonists, there had been planted last year a colony in the north-west of Canada of emigrants from the densest part of London, assisted by a number of philanthropic persons in London. A set of people less likely to do as farmers could not be conceived, yet, although there had been many difficulties to overcome, he had no doubt it might be said of the whole lot that they were doing well.'

As to Professor Ramsay's views, we on this side of the Atlantic, having exceptional experience of affairs in the North-West, on account of a considerable residence in that part of Canada, might differ from them. It might be well to exercise a good deal of caution as to the class of persons sent out to make a livelihood by farming. At any rate they should be well provided with means to start with, and, what is equally important, they should have some practical instruction in the methods necessary to be pursued in order to succeed. Intelligent farming is just as superior to unintelligent farming in its results as is a wise and prudent management of a commercial business superior to an unwise and imprudent one.

Mr. Peacock Edwards in moving a vote of thanks to the speakers at the meeting said it had fallen to his lot to conduct the colonization scheme of Lady Gordon Cathcart, and he was also one of those who sent out the families from London. He went on to say that the Canada North-West Land Company owned over two million acres within the railway belt west of Brandon and in Southern Manitoba, besides one-half of the town sites between Brandon and the Rocky Mountains, a distance of eight hundred miles. These lands had been selected as combining in the largest measure all the elements essential to successful farming, including suitable soil, convenient timber and water supply, and proximity to railways. Interjected among these selected lands were the free homesteads of one hundred and sixty acres which the Dominion Government offer to settlers, which being in alternate sections, necessarily shared the advantages of the selected lands, which were being taken up at a rate unexampled, he believed, in any British colony. The increase of population in Manitoba for the ten years from 1871 to 1881 was at the rate of 439 per cent. New Zealand for same period the next highest was 91 per cent., and the average increase of the whole of Australasia was only 42 per cent. for same period. The company to which he had referred had an efficient staff of officers in Edinburgh and at Winnipeg, and at various towns adjacent to the lands now opened for settlement, who had been instructed to give gratuitously their services to emigrants settling in the neighbourhood, to direct them from stage to stage on their journey, to advise them in

the selection of homesteads, and in the purchase of stock and implements, and in every way in their power to promote the success of those who asked their assistance. Colonization was thus conducted under conditions specially favourable to settlers. His experience in carrying out the practical details of Lady Gordon Cathcart's emigration scheme was that an ordinary family, of say five members, should have sufficient means to pay their passage from this country to Manitoba, costing about £25, and at least £100 for the purchase of seed, farm implements, a couple of work oxen, a cow, and the erection of a house. There were many families who would only be too glad to avail themselves of the scheme he had just sketched, had they the necessary means. For their case the Canadian Government had made provision. By the 38th section of the Land Act of 1883, sums of money advanced to settlers in payment of the passage out, and in procuring seed, implements and stock, might be made a statutory charge on the one hundred and sixty acres of free lands granted by the Government to such settlers, and the patent of title was not granted to such homesteads till the advance, with 6 per cent., was repaid. Consequently, respectable families who had not the means of their own could offer this security to friends who were willing to assist in making up the amount necessary to give them a fair start in their new homes. He believed the provisions of this statute, which was only recently passed, had not yet become so well known as their importance deserved. He was free to admit that loans under these statutory mortgages were as yet an experiment; but if, as he believed would be the case, it was found by experience that they were well secured and repaid with interest, it might be the solution of the most difficult social problem of the day. Those who wished to improve their condition by settling in Canada were thus enabled to do so on sound commercial principles, without having their self-reliance impaired by accepting charity; and it was on this principle the crofter colonies he had had to do with had been established.

Mr. Edwards greatly underrated the cost of transportation of a family of five from Europe to Manitoba when he placed it at $125. By the present line the expense is considerably more, but, by the

the Hudson's Bay route it will be much less. If those interested in emigration in the Old Country will take up the question of the Hudson's Bay route, and assist those on this side of the Atlantic interested in the scheme in agitating its importance, the day of success in this respect will be greatly hastened.

CHAPTER LVII.

The Growth of Canada and Imperial Federation.

GROWTH IN POPULATION, TRADE AND COMMERCE — EXTENSION OF TERRITORY — CONSOLIDATION — CONFEDERATION CEMENTED BY THE MEANS OF INTERPROVINCIAL COMMERCE — THE ERA OF NATION-BUILDING—THE GREAT RAILROADS—THE HUDSON'S BAY ROUTE — ITS ADVANTAGES TO CANADA AND GREAT BRITAIN — IMPERIAL FEDERATION.

REGARDING the proposed enterprise of opening the Hudson's Bay route as one of the necessary steps in the work of nation-building that has been going forward in Canada so rapidly during the past fifteen years, it will be well now, at the close of this volume, to consider that question in connection with Canada as a whole. Hitherto, and naturally enough, the subject has been discussed only in connection with the North-West, but this consideration must have impressed the reader with the necessity of looking at so important a question from a national standpoint. This at once brings us to the questions, "Is Canada making rapid material progress nation-ward? and whither is she tending?"

The first question must be answered most emphatically in the affirmative. Canada, during the past fifteen years, and indeed during the last quarter of a century has made rapid and material progress. There may have been equal periods in the history of the United States when the forward strides were greater, but if so, they were for the most part attended by somewhat disastrous reactionary consequences. Canadian progress is as rapid as can be consistent with permanency. The development now taking place is of two kinds, viz.: material progress and national growth. Sir John A. Macdonald, in addressing the recent Toronto Convention of his

supporters, gave a summary of the general increase during the forty years of his own public life from 1844 to 1884. From the statistics furnished by him we learn that in 1844 the population of British North America, leaving out Newfoundland, was 1,600,000; in 1884 we may fairly call it 5,000,000. The progress in education has been equally great. During the past forty years the expenditure has grown from $700,000 to about $9,500,000. The pupils have increased from 174,000 to close upon 1,000,000, and the teachers from 5,300 to nearly 20,000. The increase in the number of steam and sailing vessels during the forty years has been 3,233, or in tonnage 951,829 tons. Canada has 38 tons carrying power to every hundred inhabitants. The United States has 17, Australia 20, Europe 10, Norway 95, the United Kingdom 51. Canada stands third in regard to its population as to the tonnage which it floats on every sea. In close connection with this subject is the lighting of the coasts. We, in our northern latitude of tempestuous seas, must of course take care that our sailors and vessels are protected from shipwreck by an efficient and sufficient system of lighthouses. In 1840 Canada as now constituted had 41 lighthouses, while she has now 321, being excelled among the nations by only two, the United Kingdom and the United States.

"With respect to the trade of 1844, the imports and exports of the Provinces now constituting Canada amounted in the aggregate to $33,500,000. That sounds very large. But in 1883 the aggregate trade was over $230,000,000. According to the last census of the United States the aggregate trade of that country in merchandise amounted to about $30 per head of the population. In our last census year the same trade was equal to $47 per head in the Dominion of Canada. Now, as to our exports. During forty years the exports of the products of the mines of Canada have increased 990 per cent., of the forests 196 per cent., of the fisheries 719 per cent., of animals and their products 8,452 per cent., of agriculture 721 per cent., and the export of our manufactures had increased from $6,220—that was all we exported of manufactures in 1844—to $3,500,000. Take one article which will interest the agriculturists of Canada more especially, take the

single article of cheese. The export of cheese in 1844 amounted to $5,250 in all, and in 1883 to $7,252,000. The export of cattle in 1844 amounted to $1,440, in 1883 to $3,900,000. I need not say much about the evidences of increasing prosperity in our postal communication, as my good friend and colleague Mr. Carling has lately expatiated on that subject. I will, however, only say that in 1844 there went through the post-offices of the several Provinces 1,400,000 letters. of which 1,200,000 were sent not beyond four hundred miles of the senders' residences because of cost, the rates of postage being 4½d. for 60 miles, and running up according to a scale to 2s. 3d. a letter if carried a thousand miles. In 1883 the number of letters carried was 90,000,000, and the postage from the Atlantic to the Pacific is but three cents per letter. I well remember myself when I had to pay 1s. 6d., 2s. and 3s. a letter under the old system of older Canada. Now, gentlemen, as regards the cost of transport; and as you know, the value of our agricultural crop, especially, depends greatly on the cheapness of the price at which it can be carried to the market to which it is destined. The freight rate in 1844 for a bushel of wheat from Kingston to Montreal was 12½ cents, and from Chicago to Montreal 28 cents. For the last ten years the average freight rate on a bushel of wheat from Kingston to Montreal has been a little over 2 cents, and from Chicago to Montreal a little over 9 cents. Now, gentlemen, about the great arteries of transport, the railways. When I entered public life there were 16 miles of railway in operation in Canada. There are now nearly 10,000 miles. Canada has $104 invested in railways for each inhabitant, being only excelled by the United Kingdom, which has $107, and by the United States, which have $112. Now as to railway rates. The charge in 1844 was equal to $1.92 per ton and passenger, last year the charge was equal to $1.45. If the rate of 1884 were applied to the passenger and freight traffic of 1883, the result would be the addition of $10,750,000 to the cost of transport. By our railway and canal policy we have reduced the cost of transport so greatly that the saving effected would not only pay the whole interest on our public debt and all the cost of schooling in Ontario, but give the people, through cheapened transport alone

three-quarters of a million for pocket money. In all British North America, not including Newfoundland, the deposits of the people in the savings and other banks amounted to six and a-half millions. They are now 151 millions. In 1844 the total bank circulation was under six millions; in 1884 the circulation, Government and bank, is 45 millions. The value of farm property in Ontario in 1844 was $41,000,000. In 1883 it was $654,000,000."

Pages of statistics from reliable sources may be given equally strong, in proof of the steady, rapid advancement of the Dominion of Canada, but the most pleasing feature of the question is its national aspect. But a few short years ago, within the memory of the older Public School pupils of our land, British North America consisted of half-a-dozen scattered and disunited colonies. They were for the most part obscure and unattractive. Geographically they were widely separated from each other, some of them, and their respective interests were greatly divergent. Who in looking upon these British possessions in 1860, could see in them the constituent materials with which to build a nation? Lord Durham may have had some faith in the idea that a proper scheme of Union would be mutually advantageous to the Provinces, and conducive to the happiness and prosperity of the Canadian people. Sir John Macdonald, the late Hon. George Brown, and their contemporaries in public life in the other Provinces may have seen the elements of Canadian peace and prosperity in their plans of Confederation, but none of them ever dreamed of the great possibilities in store for this country. They had, no doubt, high hopes that from the strength that union gives a greater degree of development would be attainable; but the exigencies of the day, the difficulties of Government with which they had to contend, the unmanageable heterogeneousness of the populations—these were the obstacles that they sought to remove by a Confederation of the colonies, and we may venture to think that they saw but a short distance into the future beyond the political turmoil with which they were surrounded.

However, the work of Canadian Confederation was only begun by the Union of 1867, and it has been going forward ever since, and this is the national progress to which the reader's attention is now

invited. The confederation and consolidation of British North America is a work which we may fairly expect to see fully completed, considerably within the next fifteen years, and when the world's history of the nineteenth century is written, with all its accounts of the fall of dynasties in the Old World, and its triumphs of peace and war in the New, there will be no page in all the vast volume brighter or more attractive than that upon which the achievements of Canadian nation-building are recorded. The world has not yet fully realized the significance of Canada. The country has rested so many years in obscurity, and been spoken of only with associations of discouragement and unimportance that it will be with some difficulty and reluctance that the nations of the world will come into anything like an adequate realization of Canada's position. But if such recognition is slow it is none the less sure. Canada is destined to become one of the great powers of the world, in a future so near that the oldest persons of the next generation will live to see it accomplished and universally acknowledged.

The Union of 1867 included but a small area, and was, after all, in itself not a very significant accomplishment. No wonder that its consummation attracted but little attention outside of Canada. The Provinces then united to form the Dominion, were all embraced within the 60th and 85th meridians of west longitude, and the 42nd and 50th parallel of north latitude. But, as I have said, the work did not stop with the first Union but has been going forward until to-day the Canadian Confederation includes a territory stretching from the 60th to the 140th meridian of longitude west, and from the International Boundary Line, in various latitudes from the 42nd to the 49th parallels, to the Arctic Ocean, comprising almost half the continent, including productive areas sufficient to sustain more than fifty millions of people.

The first great want of the Canadian Confederation was the means of intercommunication between the Provinces, independent of a foreign nation. To reach the North-West or British Columbia it had hitherto been necessary to traverse United States railways. Such is still the case in respect of British Columbia, but by the close

of 1885, one may travel from the Atlantic to the Pacific on Canadian territory and over Canadian railways. This great work will have been achieved at enormous expense, but the advantages to be realized fully warranted the outlay.

When the original Union was consummated in 1867, one could not travel from Nova Scotia or New Brunswick to any part of Quebec or Ontario without passing through the State of Maine, but in a few years the Intercolonial Railway was completed, and by that highway a direct channel of communication was established. Just as the first Act of Union made the Intercolonial a necessity, so did the extension of the Confederation from the Atlantic to the Pacific render the Canadian Pacific indispensible. It would be impossible to build up vast British Provinces in the Prairie Region as constituent parts of the Dominion of Canada, unless they were directly connected with all other parts of Canada by Canadian channels of commerce. The same is true of British Columbia. Hence we may well say that our work so far, has been that of confederating the Provinces; that of uniting them politically first, and then welding them together commercially afterwards. With the close of 1885 this part of the national structure will have been completed, and Canada will be ready to start out with the work of internal development. Having secured proper means of communication between the several Provinces; having established the arteries of interprovincial commerce through which the national life-blood may commence to flow, it will be time to turn attention to our relations with the outside world, and to open up such channels of communication with the countries of Asia and Europe as the possibilities of the Dominion afford.

There is a certainty of an early death to the already sickly sentiment existing in Canada in favour of annexation with the United States, and when this evil is rooted out we shall hear less in favour of independence, or of complete severance from the Mother Country. The greatest objection to annexation with the United States is found in the fact we should not be likely ever to enjoy the full advantages of our geographical position if these territories were governed at Washington. Owing to the shape of the earth, and the

position of Canada upon it, this country enjoys great advantages over the United States in respect of transpacific, transcontinental, and transatlantic trade, and it is not likely that the great central States through which that commerce now flows would consent to see it transferred to higher latitudes without strong opposition. We would be at the mercy of a more numerous population to the south of us, interested in holding trade and commerce to the lower parallels, and, being outnumbered, would have to submit to living beneath our privileges.

I have already pointed out the advantages which the Dominion will shortly enjoy in this respect over the United States, and will again refer to them here. If we take, as is usually done, a central point in Japan, say Yokohama, in latitude 30° 30′ north, we will have a location more than sufficiently far south to test the whole question of distances. It is in a lower latitude than San Francisco, and yet the distance from it to that point is four thousand four hundred and seventy nautical miles, as against four thousand three hundred and seventy-four to Port Moody, or three thousand eight hundred and sixty-five to Port Simpson. There is a Table of Distances given on page 19 of the present work showing the difference in three routes between Yokohama and Liverpool. The first is by way of San Francisco and New York; the second by way of Port Moody and Montreal; the third by way of Port Simpson and the proposed Hudson's Bay route. It is as follows:—

LINE NUMBER ONE.

Yokohama to San Francisco (nautical miles).....	4,470
San Francisco to New York (statute miles).....	3,390
New York to Liverpool (nautical miles)	3,040
Total navigation and railway distance.....	10,900

LINE NUMBER TWO.

Yokohama to Port Moody (nautical miles).....	4,374
Port Moody to Montreal, C.P.R. (statute miles).....	2,885
Montreal to Liverpool (nautical miles).....	3,000
Total navigation and railway distance.....	10,259

LINE NUMBER THREE.

Yokohama to Port Simpson, B.C. (nautical miles).....	3,865
Port Simpson to Churchill, Hudson's Bay (statute miles)	1,450
Churchill to Liverpool (nautical miles).....	2,960
Total navigation and railway distance.....	8,275
Route No. 1.—Total nautical and statute miles.....	10,900
Route No. 2.—Total nautical and statute miles.....	10,259
Route No. 3.—Total nautical and statute miles.....	8,275

The difference in favour of the last route over the first, or that by way of San Francisco, is two thousand six hundred and twenty-five miles, about three quarters of which is saved in railway transportation. In view of these facts, I am of opinion that a better understanding of our advantages as a nation competing for the trade to and from this continent, will remove all desires on the part of Canadians to become one with the Republic to the south of us.

Although it should by all honourable efforts be, if possible, avoided, it is not improbable that the future keen competition between the United States and Canada, may produce a sort of commercial hostility between the two countries. Should this ever come to pass, Canada would find many advantages in being a part of the United Kingdom. Already we see a small cloud rising, and although it is now no larger than a man's hand, it may, before another year elapses, break into storms of international strife. The Fisheries clauses of the Washington Treaty are no longer in force, and if American fishermen carry out their already expressed determination to enter Canadian waters we may find cause to call upon England to aid Canada in defending the honour of the British flag on this continent. Indeed, there are many reasons why even a closer relation with the United Kingdom should be sought.

It is plain enough from the language of Sir John A. Macdonald, at the recent Toronto Convention, that whatever negotiations may have been going on between England and the United States relative to the Fishery Question they have not been successful, and chiefly so because of the latter's disinclination. He said:

"There is a feeling, a very considerable feeling in the Maritime Provinces that the cancellation of the Fishery clauses will greatly affect them, and you hear some people in their despair and their apprehension talking very foolishly, I think, of going down on their knees to the United States, and asking for a continuance of that treaty. Now, gentlemen, the moral of our past experience is this, that the fishing interests of the Maritime Provinces, though they may be temporarily affected if the Americans persist in their course, will not be so for long. It may for a short time compel them to use middlemen in the sale of their fish, and that will be all, while we will have secured to us the exclusive right to fish in British American waters. No course is more suicidal—no course shows a more absolute want of common sense, in any negotiations with so astute a nation as the people of the United States—as to show anxiety. If we go down upon our knees and say we will be ruined unless we have reciprocity, and that without reciprocity annexation would follow, the Americans, who are proud people, and who believe they have a mission to govern this continent, will say, 'Very well, the best way of making Canada a part of the United States is simply by refusing you what you ask; you therefore cannot have it.' I believe the course of my Government is the proper one. We say to the Americans, 'We would be happy to continue our reciprocal relations; we would be happy to increase our commercial relations. We are willing to discuss the question of a Reciprocity Treaty on the most liberal terms consistent with our own interests. We know perfectly well that you will not do what is contrary to your own interests; you cannot expect us to do what is contrary to ours. Let us sit down and see if we can make an arrangement. If we can it is well; if we cannot there is no harm done. You can take your course, we must take ours.' Already, gentlemen, in consequence of some unguarded and unwise utterances in St. John and the Maritime Provinces, the Americans have begun to hold back a little, to see what the result upon Canada will be. But, gentlemen, we know the unwisdom of such a course—not only the unwisdom, but the utter folly, because nothing done by the United States will force us to give up our allegiance to the Queen. No matter what may be the action of the

United States, we will stand by our allegiance; we will not desert the country to which we are so deeply attached, and the institutions we revere." Speaking on the same subject shortly afterwards, Sir John observed: "We see in the Maritime Provinces some of our most extreme Grits, instead of feeling that the country has been humiliated by the treaty in which it was said I betrayed it, crying out for the renewal of the treaty, and charging the Government with want of energy in trying to get it renewed. It is no use now trying, because the Americans have resolved not to renew it. They have given us notice, and we shall have to submit. We will, however, do all we can to increase our commercial relations with the United States, and if we can in the course of such negotiations obtain a renewal of the Fishery clause on fair and equal terms, we shall spare no pains to do so, but we are not going on our knees, which would be dishonest, and would defeat our object, to ask the United States to be good enough to save us from ruin by making this arrangement."

These utterances, along with other signs of the times, indicate that already the leading statesmen of Canada, seeing that the work of Confederation is about finished, are laying some plans for the development of this Canadian nation, the framework of which they have already reared. Imperial Federation of some sort will be a legitimate result of British colonial growth, and more especially of the growth of Canada, where, for years to come, in order to enforce all our rights, we shall often need the guiding and protecting hand of England; not that it will have to be raised in acts of war to defend us, for, in all likelihood, the fact that it is pledged to Canada will be a moral power quite sufficient to spare us from even attempted aggression.

Sir John A. Macdonald, in speaking at the recent banquet given in his honour in Toronto, and referring to the question of Imperial Federation, said: "It is the fashion in some quarters to sneer at loyalty. I believe that the sentiment of loyalty and the sentiment of patriotism are both requisite in order to make any country a great country. I do not believe in that universal Christian charity which makes every man love foreign countries better than his own.

I believe that, even under a cloud of misfortune loyalty and allegiance should be the ruling principle in every honest heart. I believe, as was believed in the times of the old Cavaliers, that

> 'Loyalty is still the same,
> Whether it win or lose the game,
> True as the dial to the sun,
> Although it be not shined upon.'

But when we have loyalty and allegiance of a kind which joins a pure patriotic sentiment to self-interest, then there can be no doubt as to the course we ought to pursue. We are passionately loyal to the sovereignty of Great Britain. We love our Queen and we love British institutions. Our institutions are modelled upon those of England. We draw our inspiration from the great men who have governed England and who are now governing England, and we believe and know that our future prosperity depends greatly upon the continuance of union with the Mother Country. It has been represented that I was in favour of Federation with the Imperial Parliament. I have never made any such statement; I never had any such opinion. I have stated my personal opinion and belief that Canada must still preserve her Canadian Parliament. Canada is the best judge of the best means of governing herself. I believe that to Canadian statesmen only can be confided the trust of putting burdens upon the shoulders of our people, and that no parliament sitting in England, however great and able it may be, and although Canada may be represented upon it, can faithfully, fully, and satisfactorily administer our affairs. The word confederation means a union by treaty, and I believe that a treaty can be made between England and Canada by which we can have mutual commercial advantages and a common system of offence and defence. The Australian colonies will soon be united in a bond similar to, though perhaps not identical with, the Canadian Confederation. Then what will we see? We will see England with her thirty-five millions united to Canada with her five millions, soon to be twice that number, and to Australia with a similar population, and the world will know that if the old Mother Country is attacked, she has two auxiliary nations standing ready to help her."

But I delight most to think of the future of Canada, and its advantages to the United Kingdom, and its possible future greatness in connection with the Hudson's Bay route. When this channel of communication shall have been opened England, and the central portions of the Dominion will be brought fifteen hundred miles nearer to each other. A good deal that has been said concerning the Canadian Pacific highway receives additional force when applied to the Hudson's Bay route. The Hon. Mr. Caron, Minister of Militia of Canada, speaking at the banquet last referred to, said: "I believe that Canada has done a great deal for the Empire in undertaking and vigorously prosecuting that great work, the building of the Canada Pacific Railway. If we can be assured, and I believe we can, that England is getting, through the Canada Pacific Railway, the shortest military route to its colonies in China, and the shortest possible route that can be traced on paper, I believe we point to a work for the completion of which Canada is entitled to be regarded with greater interest in the Mother Country. The distance from Montreal to the Pacific terminus by this route is two thousand nine hundred miles. Troops can be conveyed through by special train over this distance in four days, and not more than twenty-four hours will be required to go from Halifax to Montreal, so that five days, or five and one-half days at the outside, would be sufficient time to transport men from Halifax to Vancouver. Artillery, ordnance, and stores, when carried in freight cars, would require from seven and a-half to eight days to go from Halifax to the Pacific coast. By the use of fast Atlantic steamships between Liverpool and Halifax, and such steamships on the Pacific as the Canada Pacific Railway are now planning for the transport trade on that ocean, infantry, with the usual arms and accoutrements, may be transported from Liverpool to Yokohama in less than twenty-seven days; and to Hong-Kong in less than thirty days, and three days' additional time would suffice for the transport of any materials of war. As far as I can make out, the time which is now required over the old route is about forty days."

Not long since the London (England) *Morning Post* newspaper, speaking in the same strain, and opposing the position taken by Mr.

John Bright on the question of Imperial Federation, urged a closer knitting of Canada with England in order to ensure the protection of England's increasing commerce in the China seas against possible encroachments by France and Russia. The paper said "England has no territory in the Pacific region and aspires to none. The completion of the Canadian Pacific Railway will provide England with a route to Hong-Kong occupying only a little over a month, sixteen days less than the Suez Canal route. The new route will enable England to land troops in China at least ten days in advance of French troops starting at the same time from Marseilles, or Russian troops from Odessa. In the event of the Suez Canal falling into hostile hands Canada might even send twenty thousand or thirty thousand men, which she could easily spare in an emergency, in twenty-five days. All depends upon the cultivation of good feeling between Canada and England."

These statements are all true enough and must have great weight in forcing upon our people the conviction that Canada and the United Kingdom are destined to enjoy closer political relations than at present, but these calculations have double force if applied to the Hudson's Bay route. It will be the beginning of a new era of British progress when the hitherto unrealized fact is utilized that the centre of the North American continent on the 55th parallel of north latitude is nearer Liverpool than New York city. Indeed Prince Albert on the Saskatchewan river in the North-West is but three thousand five hundred miles from Liverpool by way of Hudson's Strait, whereas from the same point to Liverpool via the Canada Pacific and St. Lawrence, the distance is over five thousand one hundred miles. And, in respect of transcontinental transport or travel from the United Kingdom to the far east, the advantages of the Hudson's Bay route, in connection with a railway from Churchill to Port Simpson, will not only afford a safe national route but so greatly minimize time and distance that with its establishment Canada will become one of the most important parts of the British nation, and absolutely indispensable to the mother country. In view of these things one may reasonably hope that England will eventually aid the Dominion in the construction of the Hudson's

Bay railway. The importance of Canada to the parent country is so great that, in a few years at most, one may expect to see a disposition manifested on the part of the latter for closer federal relations. With this will surely come the means of a larger development of Canadian resources, the construction of railways in connection with Hudson's Bay, and the establishment of an extensive international commerce through channels on Canadian latitudes, and consequent national prosperity: Such are the prospects of

OUR NORTH LAND.

APPENDIX.

LIEUTENANT A. R. GORDON'S REPORT ON THE HUDSON'S BAY EXPEDITION, WITH SOME COMMENTS THEREON.

SINCE the foregoing volume was completed, Lieutenant A. R. Gordon, who commanded the Canadian Government Expedition to Hudson's Bay, has made his report; or rather, the report has been laid before Parliament included with that of the Honourable the Minister of Marine and Fisheries. It contains a summary of the acts and experiences of the Expedition, arranged under the following heads: (1) Narrative, (2) Navigation, (3) Resources of the Region, (4) Trade, (5) Natural History, Inhabitants, and Fauna, and (6) Proposed Work for this Year. Appendix A contains the Report of Professor Bell, M.D., F.G.S., and Appendix B contains Observations at Ungava Bay by Mr. L. M. Turner, of the United States Signal Service.

The narrative portion of the Report recounts the progress of the Expedition, which is given fully in the foregoing pages.

Under the heading of Navigation, Lieutenant Gordon says:—"The ice has been supposed hitherto to be the most formidable barrier to the navigation of the Strait; but its terrors disappear, to a great extent, under investigation. The ice met with on the cruise of the Neptune may be divided into three classes—having distinctly separate origins. They are:—Icebergs from the glaciers of Fox Channel, and heavy Arctic field-ice from the Channel itself, and what may be called ordinary field-ice, being that which had been formed on the shores of the Bay and Strait. The icebergs seen in Hudson Strait in August and September would form no greater

barriers to navigation than do those met with off the Strait of Belle Isle, nor were they more numerous in Hudson Strait than they frequently are off Belle Isle.

"Ordinary field-ice was met with off North Bluff and the Upper Savages on the 11th of August. This ice, though it would have compelled an ordinary iron steamer to go dead slow, gave no trouble to the Neptune. Just before entering Ashe Inlet we had to break through a heavy string, which was, however, done without in the slightest degree injuring the ship. In the harbour (Ashe Inlet) the ice came in with the flood-tide, and set so fast that the Eskimos were able to walk off to the ship, a distance of three-quarters of a mile. On the south shore our experience was much the same; but no ice was met with through which the ship could not have forced her way without damage. In the centre of the Strait, to the east of North Bluff, no field-ice was seen at all, and after leaving Stupart's Bay, on the outward voyage, although the vessel lay-to for the night in the ice, it was only to wait for daylight, and not because the ice was too heavy. This pack extended about eighteen miles out into the Strait, and after getting over this distance we came into clear water. From this point to Charles Island, and thence to the end of Salisbury Island, long strings of ice were frequently seen; but as their direction was invariably parallel to our course, or nearly so, we coasted round them. On the homeward voyage none of this field-ice was seen."

The above account of the experiences of the Expedition in the field-ice agrees precisely with that given by the author in the earlier chapters of this volume; but the following remarks concerning the Neptune's struggles with the Arctic ice are not strictly correct. He says: "After passing the east end of Salisbury Island the ice got heavier and closer, and when off Nottingham Island the pack was so run together that I determined to give up the attempt to force the ship through it, and working out again headed more to the southward. In making in for land here we broke the propeller, but succeeded in taking the ship into harbour with the stumps."

I venture a correction of the above paragraph thus: It was when attempting to enter an apparent harbour, where the ice was jammed

into a sort of bay or inlet, that further progress was difficult, and the ship was held off until a more southerly and less obstructed harbour was reached, and not while yet in the Strait, as one might infer from Lieutenant Gordon's statement. Again, he says that in making in for the land the ship's propeller was broken, but that the harbour was reached with the stumps. Only one blade of the screw was broken, so that the steamer was readily taken in with the other; and, I may add, that the break was wholly due to inexperience. Captain Sopp had left the bridge, and gone below for a minute, and just as the vessel was passing through a stretch of heavy ice, and entering the open water, Lieutenant Gordon ordered her a-port, and signalled for increased power. The result was that her bow, coming rapidly round, brought her stern and propeller against the ice in such a manner as to produce a horizontal strain on the weakest part of the blade, and it broke off. If the ship had not been brought about until clear of the ice, the accident would not have happened, and Captain Sopp regarded the whole matter as inexcusable. Had he been on the bridge at the time the mishap would not have taken place.

In speaking of the Arctic ice met with in the neighbourhood of Nottingham Island, Lieutenant Gordon says:—"Viewed from the top of a hill on Nottingham Island the sea in every direction was one vast ice field, and to the southward, between South-east Point and Cape Digges, we saw four vessels fast. This ice was altogether of a different type to what we had hitherto met with. Some of it was over forty feet thick of solid blue ice, not field-ice, which had been thickened by the piling of pan on pan, but a solid sheet of ice, which had evidently been frozen just as we saw it. Much of it was twenty feet thick, and for the general average of all the field we passed through coming into harbour I estimate that the thickness would have been upwards of fifteen feet. The question as to the origin of this ice and whether it will be frequently met with in the west end of the Strait is an important one; for in such ice, when closely packed, a vessel even of the build and power of the Neptune was perfectly helpless. I do not consider that it is possible for ice to form in Fox channel to a greater thickness than ten feet in a single

year, and I feel convinced that much of the ice which we encountered was the accumulation of several years."

Lieutenant Gordon is incorrect in saying that a steamship of the power of the Neptune is perfectly helpless in this ice. To be sure, in entering a harbour where it is jammed sometimes so as to be almost heaped up, the statement will apply correctly; but out in the Strait, where the tidal currents are moving, it would not so greatly reduce the speed of such a craft, and it certainly did not, although it was as heavy as he says, reduce the speed of the Neptune more than fifty per cent. while in the thickest of it.

Lieutenant Gordon gives considerable space to the question of the weather, but as that subject is fully exhausted in another part of this volume, and as there is no disagreement between his remarks and my own on it, further reference to the question here is unnecessary.

In connection with the resources of the region he says that "during the eleven years preceding 1874 about fifty voyages were known to have been made by whaling vessels from New England to Hudson's Bay, and their returns amounted to at least $1,371,000, an average of $27,420 per voyage, which, as most of the vessels engaged in the trade are comparatively small sailing vessels, shows a large margin for profit to those engaged in the business; and, if we allow an average of three vessels per annum since the date of the returns up to the present year, we have $822,600 as the value of the oil and bone taken by our neighbours from the waters of Hudson's Bay since the date of the report above quoted, making a grand total of $2,193,600. Of the fisheries carried on by the Hudson's Bay Company that of the porpoise is the most extensive. Last year the Company secured nearly two hundred in one tide at Churchill, and a much larger number at Ungava Bay. They have established extensive refineries at several of their northern stations, and instead of exporting the blubber in bulk, as formerly, refine it, shipping the pure oil in casks." Further on he says: "I am satisfied that the walrus and porpoise fisheries may be developed to almost any extent; and as increased attention is sure now to be given to this industry, we may rely upon its almost immediate extension. We

met with walrus in great numbers at the western end of the Strait. In one afternoon, while steaming from the Digges Islands to Nottingham Island, we found between fifty and a hundred of them on the ice."

Continuing his remarks in reference to the trade of the region he very properly says: "I have heard it estimated, by men whom I consider competent judges, that a good Eskimo would be worth $500 a year to a trader. The Hudson's Bay Company rate some of their best Indian hunters as worth $1,000 a year to the Company, and, allowing that the Strait's region is a somewhat poorer region than the north-west of the Bay, a family ought still to be worth nearly $400 to a trader. This estimate gives the value of Captain Spicer's station at $20,000 a year, an estimate which I believe to be rather below than above the truth. All goods, destined for trade with the natives, on board of the American whalers, should be chargeable with duty, or a license fee charged them, before they are permitted to enter Hudson Strait, which would be sufficient to cover the duty, so that they may be placed on the same footing as the Hudson's Bay Company; for the value of trade in musk-ox robes, cariboo robes, seal skins, and ivory forms no unimportant part of the profit of the whaling voyage."

Lieutenant Gordon refers at some length to the work yet necessary to be done in order to settle the question of the navigation of our northern waters. He says: "Much will undoubtedly be learned from the observations taken during this winter as to the formation and breaking up of the ice, and generally in regard to its movement, and also of the phenomena affecting navigation; but it would be impossible to state definitely from one year's observations what was the average period of navigability of the Strait. I consider, therefore, that it would be desirable to continue certain of the stations for a second year, and might perhaps be desirable to keep on three of them for a third year.

"For the year 1885-86, I have the honour to recommend that the following stations, Port Burwell, near Cape Chidley, Ashe Inlet, near North Bluff, Stupart's Bay, near Prince of Wales Foreland, Nottingham Island, and Digges Island, be continued.

"The station at Nachvak Bay could easily be disposed of, as the Newfoundland fishermen already visit the place for the cod fishing, and if it were advertised in the St. John's (Newfoundland) papers, I do not doubt that the Department would get offers for the purchase of the house.

"The Expedition for next year should be ready to start from Halifax about the 15th of May—not later than this date—and arriving off Hudson Strait about the 1st of June, if possible, visit and relieve the stations. Should the ice prevent our getting on shore, the ship should push on so as to investigate once for all the condition of the ice in the Strait and Bay in the early part of the season. If successful in getting through the Strait, the voyage should be continued to Fort Churchill, the endeavour being made to arrive there about the opening of navigation, the 15th of June.

"After leaving Churchill, the eastern shores of the Bay should be visited, and a running survey made of such portions of the coast as are practicable. Beacons should be erected on the north end of Mansfield Island, and the south end of Southampton Island. Both these islands are low-lying, with shoal water running for some distance out. They are of a dark grey limestone formation, and most difficult to make out at night, the mariner's only safety being the constant use of the lead. Especially are they dangerous on account of the tides, which run along the east coast of Mansfield Island at the rate of about four knots per hour.

"This work could, I think, be accomplished and the ship be back in the Strait by the 15th of August. The remainder of the time should be devoted to making a running survey of such part of the coast of the Strait as may be possible. Capt. Spicer's station should be called at, and if time permitted, the Hudson's Bay post at Ungava should also be visited, the Expedition returning to Canada in October.

"If, however, the Government regard it more important to investigate the fisheries of the Bay and Strait, the ship should push north for Marble Island as soon as possible, thence to 'The Rowe's Welcome.' After spending a short time in 'The Welcome,' the porpoise fishery at Churchill should be examined

"After leaving Churchill, under any circumstances, the east shore should be visited, and its mineral and other resources examined and reported on."

In a previous chapter, I have fully discussed the points raised in Mr. Gordon's recommendations. Some of them are good; but the Boulton plan upon which he is acting will never settle the question. I refer the reader, in relation to these matters, to Chapters XLVIII. and XLIX., pages 471 and 477, respectively, of this volume, which, I think, fully state the whole question.

THE END.