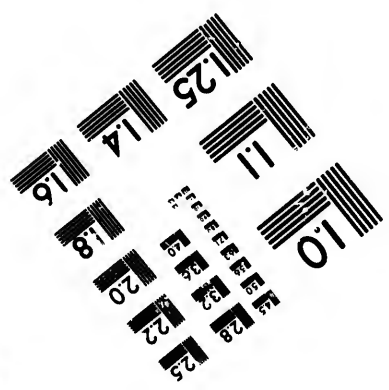
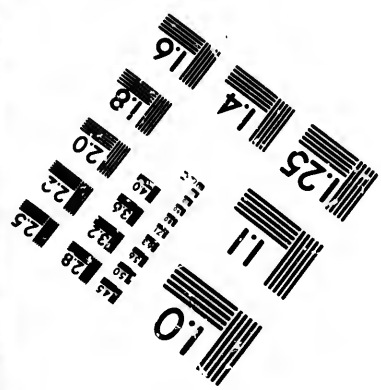
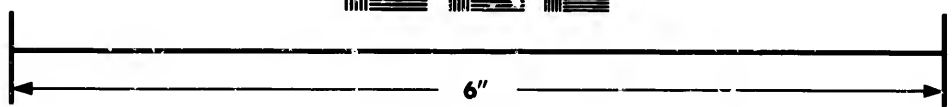


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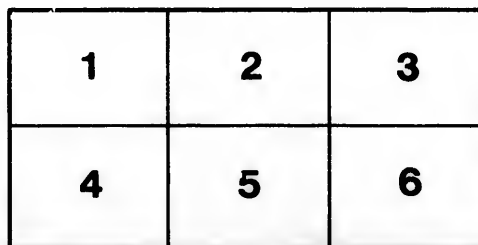
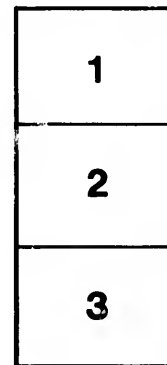
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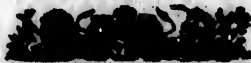
AS COMPARED WITH THE WESTERN STATES OF AMERICA;

ITS CLIMATE, SOIL, AGRICULTURE, AND MANUFACTURING  
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—  
**LAND POLICY.**

—  
LATEST INFORMATION, CHEAPEST AND BEST WAY TO GET TO MANITOBA.

What is required, and how to Farm, &c.



BY THOMAS SPENCE,  
*Clerk of the Legislative Council of Manitoba.*

QUEBEC:  
S. MAROITTE,  
1876.

# MAINTOBA

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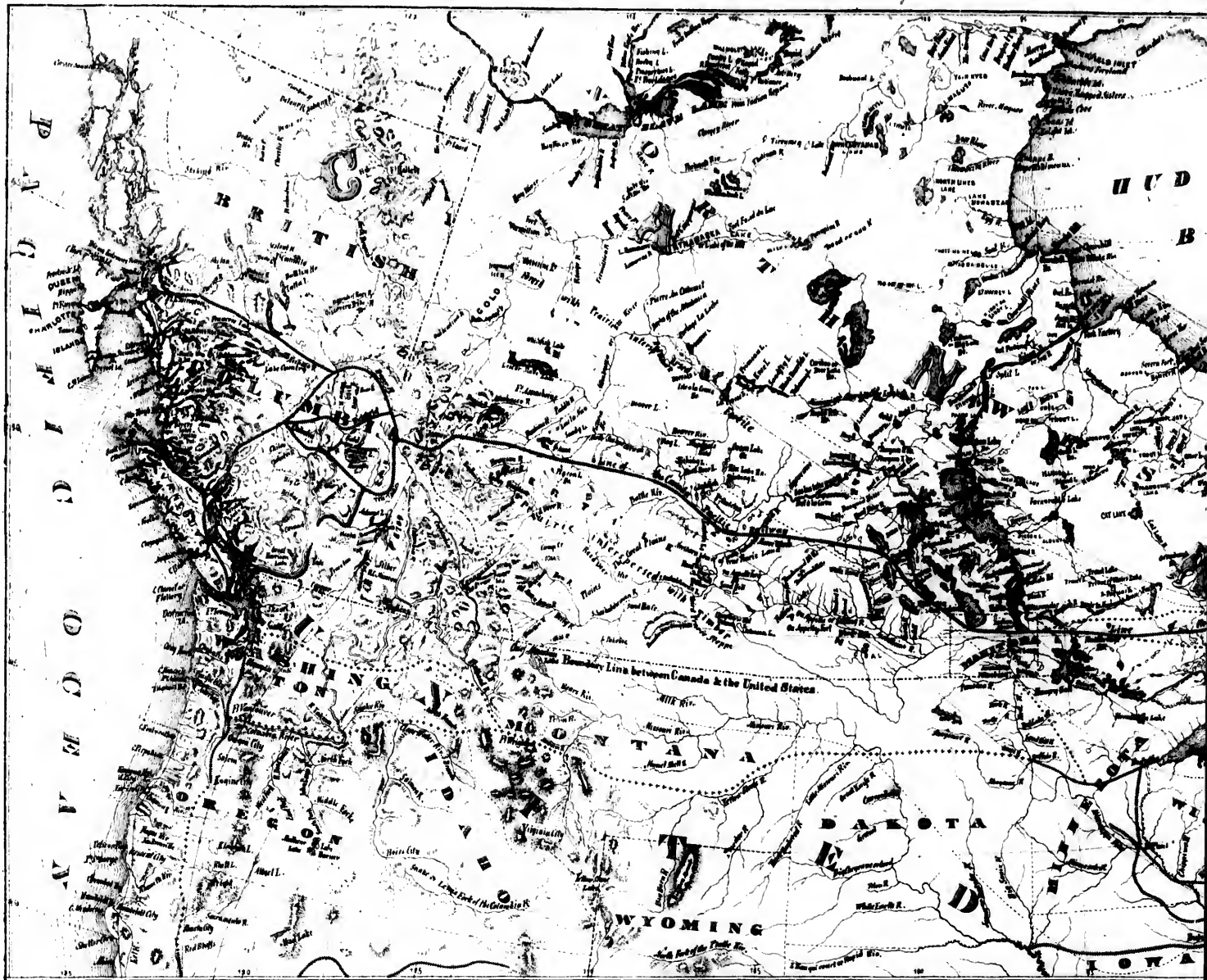
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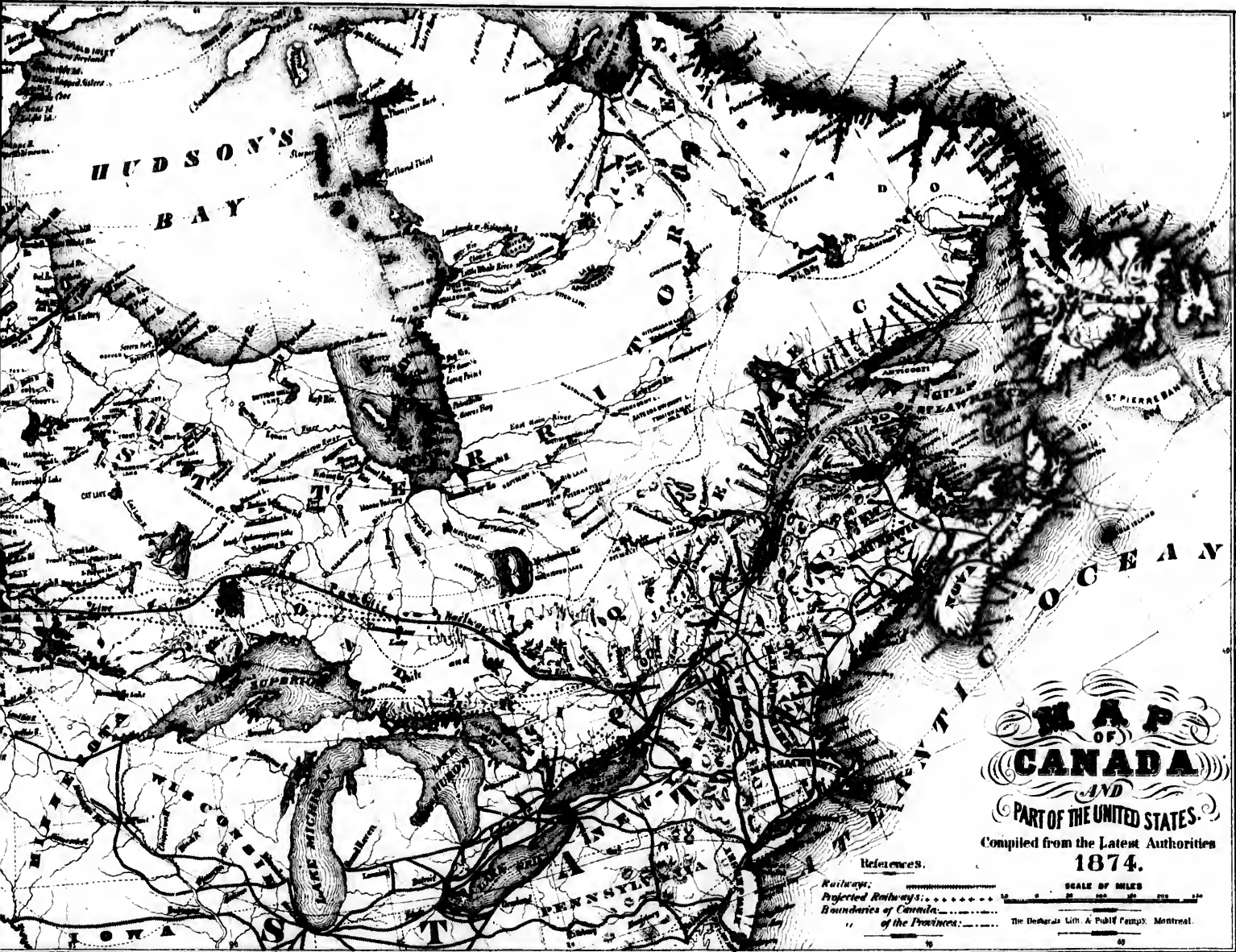
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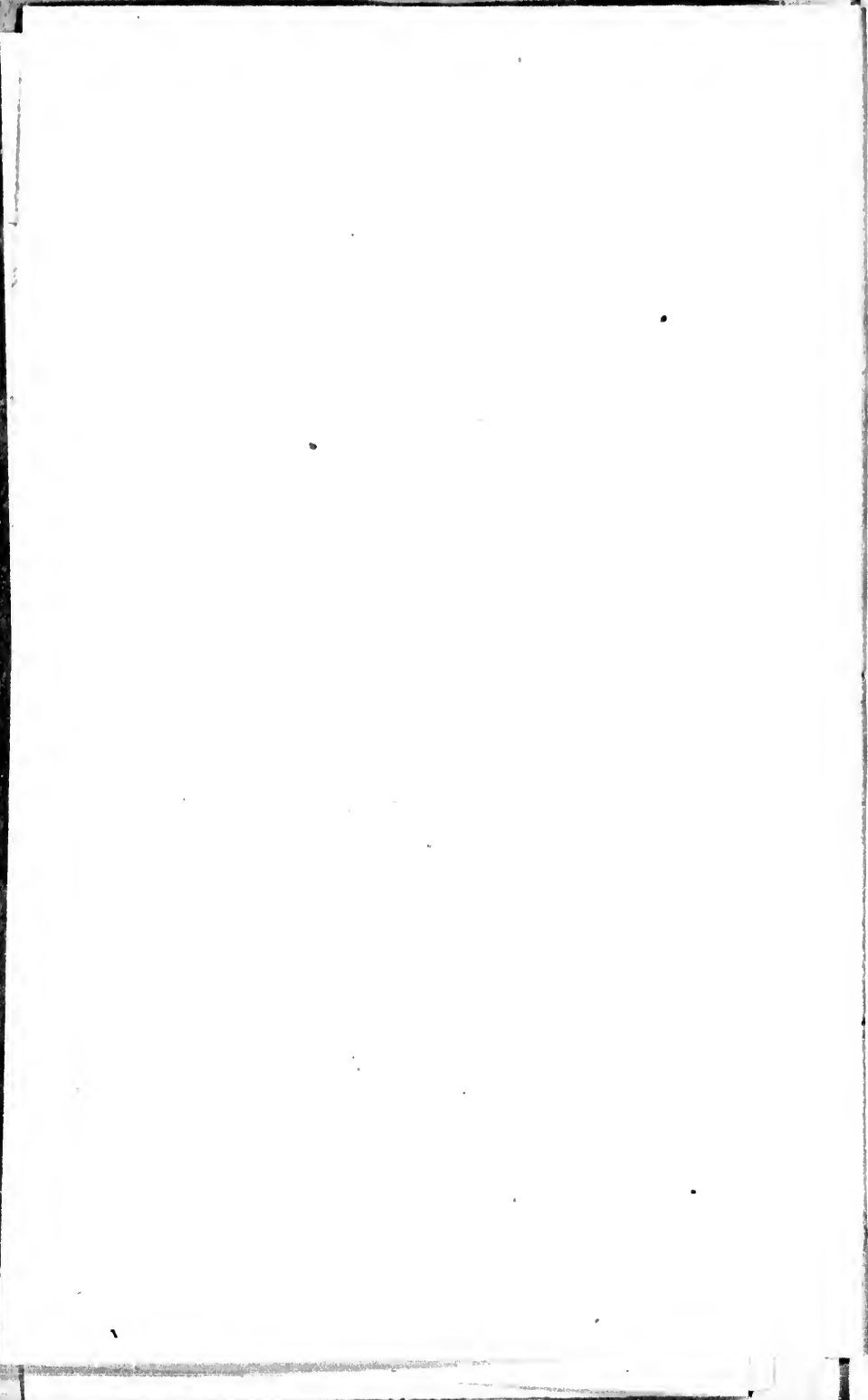
**MAP**  
OF  
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AND  
PART OF THE UNITED STATES.

Compiled from the Latest Authorities  
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References.

- Railways: .....
- Projected Railways: .....
- Boundaries of Canada: .....
- of the Provinces: .....

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QUEBEC:  
S. MARCOTTE,  
1876;



## PREFACE

### TO FIRST EDITION.

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In this Pamphlet there is, for obvious reasons, no attempt at strictly scientific classification. Its humbler, but perhaps more practical, purpose will have been served, if it shall help to make MANITOBA and the NORTH-WEST of the Dominion better known abroad and at home.

As a guarantee for the reliability and practical use of the information indicated by its title, it may be sufficient to state that, during the First Session of the Legislature, the copy, before being sent to the Printer, was read before a "Joint Committee," of both Houses, on "Agriculture and Immigration," the members of which were nearly all agriculturists of the best standing and long experience in Manitoba, who unanimously passed the following resolution:—"Having heard read an Essay entitled 'MANITOBA and the NORTH-WEST of the Dominion, its RESOURCES and ADVANTAGES to the Immigrant and Capitalist, as compared with the Western States of America, &c., &c.,' this Committee unanimously concur in its reliability and practical correctness of information; also approve of some very valuable suggestions; and consider the said Essay would prove a useful and economic medium for drawing attention to the resources of this country, and therefore recommend the same to the favorable notice of both Houses, with a view to the encouragement of its publication."

T S.

WINNIPEG, MANITOBA,

June 5, 1871.

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# P R E F A C E

## TO SECOND REVISED EDITION.

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Three years have now elapsed since the writer devoted himself to the task of preparing—from his own experience in the country, as well as from that of others, native-born—a small work, which would afford reliable and practical information to those requiring such; for deciding upon the superiority of the advantages offered by the Province of Manitoba and the Great North-West of British America, over that of the Western and North-Western States of America, the latter of which have attracted so much attention, for many years past, by an energetic and liberal system of advertising the sale of Railway lands.

This having been the *first* guide of the kind, *issuing from the country*, it has been eagerly bought up, and quoted from by the Press, and other writers abroad.

Since the date of the first edition, however, many changes have necessarily taken place in the Territory, which necessitates the present issue of a carefully revised and enlarged edition, which the author trusts will meet with general appreciation.

Its present value, as a reliable means of information to the Emigrant and Capitalist abroad, is enhanced by the fact, that, with the liberal policy of a new Government, a broad field of commercial activity is now open before us, with the commencement of the great Canadian Pacific Railway; and its connection with the Railway system of the United States, will be the main artery and life's blood of British America's Great North-West, not only bringing the prosperous farmers, but the hundreds of thousands who will follow by attraction to this promised land, into triumphant competition with the agriculture of the world, in its central marts.

In conclusion the writer would only add (in addition to a resolution passed by a Joint Committee on Agriculture of both Houses of the Local Legislature of Manitoba, and which is quoted in the preceding Preface) the following opinions, which were omitted in the first edition.

FROM LIEUT.-GOVERNOR ARCHIBALD.

GOVERNMENT HOUSE,  
Fort Garry, Dec. 26th, 1871.

I have read Mr. Spence's Pamphlet entitled "Manitoba and the North-West of the Dominion, as compared with the Western States," with much interest. It draws the comparison with much force and discrimination; and altogether the pamphlet is a valuable contribution on the subject of the North-West, and of particular value to the intending Emigrant.

(Signed,)

ADAMS G. ARCHIBALD,  
Lieut.-Governor.



FROM THE LATE SIR GEORGE E. CARTIER, Br.

OTTAWA, Feb. 15, 1872.

I am directed by the Hon. Sir George Et. Cartier, to convey to you his thanks for a copy of your Essay on "Manitoba and the North-West of the Dominion," and to state that, after having perused the pamphlet, he thinks very highly of its contents, and will not fail to recommend the same to the favourable notice of the Minister of Agriculture.

(Signed,)

B. SULTE,  
Secretary.

FROM THE MEMBERS OF THE EXECUTIVE COUNCIL OF THE  
PROVINCE OF MANITOBA.

GOVERNMENT HOUSE,  
Fort Garry, Manitoba, Dec. 27th, 1871.

"We have attentively read Mr. Spence's pamphlet on 'Manitoba and the North-West, compared with the Western States, as a field for the Emigrant and Capitalist.' We highly approve of the pamphlet, and recommend the same with confidence to the public, as being reliable, and well worthy of careful perusal."

EXTRACT FROM A REPORT OF A JOINT COMMITTEE OF BOTH  
HOUSES OF THE LOCAL LEGISLATURE ON IMMIGRATION, MAY, 1871.

"Mr. Spence's pamphlet, entitled, 'Manitoba and the North-West of the Dominion, its Resources and Advantages, in comparison with the Western States of America,' should be read by every intending Emigrant, both in the Eastern Provinces and Europe."

ALEXANDRA COTTAGE, St. Boniface  
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# MANITOBA

AND THE

## NORTH-WEST OF THE DOMINION.

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“Let us depart! the universal sun  
Confines not to one land his blessed beams:  
Nor is man rooted like a tree, whose seed  
The winds on some ungenial soil have cast  
“Here where it cannot prosper.”

SOUTHEY.

Many years ago, one of the Pioneer Missionaries to this vast North-West of British America,—Father De Smet, thus wrote his reflections:—  
“Are these vast and innumerable rich fields of hay for ever destined to be consumed by fire or perish in the autumnal snows? Can it be that they are doomed to remain for ever inactive? Not so. The day will come when some laboring hand will give them value. A strong, active, and enterprising people are destined to fill this spacious void. The wild beasts will, ere long, give place to our domestic animals; flocks and herds will graze in the beautiful meadows that border the numberless mountains, hills, valleys, and plains of this extensive region.” Not so; indeed the dream and earnest wish of this good missionary is now at last a realized fact. By the admission of “Rupert’s Land” into the Dominion of Canada, now stretching from the Atlantic to the Pacific, and with the establishment of Manitoba as its midway Province, the curtain has been raised upon a Drama of colonization and enterprize, to be re-enacted in a new and magnificent portion of our Dominion—the North-West, the

future destiny of which will be a great and glorious one, with an area sufficient to provide homesteads for the surplus population of the old world for several centuries; fortunate, therefore, will be the descendants of those who may now obtain a foothold within its gigantic borders; possessing all the true elements of future greatness and prosperity, its rapid growth and wealth will be unparalleled in the history of British America.

In the words of Whittier,

"I hear the tread of Pioneers, of nations yet to be,  
The first low wash of waves where soon shall roll a human sea."

A plain statement of facts is all that is at present required, with which to go before the world to ensure the commencement of a stream of immigration that will soon fulfil Bulwer's grand project of a chain of loyal provinces, from the Atlantic to the Pacific, induced by the liberal policy of the Federal Government. Manitoba, in the first session of its Legislature, four years since, set an example by the true policy of a liberal "Homestead Law" in keeping with the spirit of the age in which we live, and more liberal than that of any in the United States. In addition to the exemption from seizure of the debtor's ordinary furniture, tools, and farm implements in use, are also one cow, two oxen, one horse, four sheep, two pigs, and the food for the same for thirty days. A further clause says:—"The land cultivated by the debtor, provided the extent of the same be not more than *one hundred and sixty acres*, in which case the surplus may be sold with privilege to first mortgagees. The house, stables, lawns, fences, on the debtor's farm, are, by this Act, declared free from seizure, by virtue of all writs of execution issued by any court of this Province," thereby shewing that we have no limitation as to the value of the farm or residence thus secured to the family; whatever its value *may become*, it remains the shelter, the castle, the home of the family, to cluster round its hearthstone in the hour of gloom and disaster, as securely as they were wont to do in the sunshine of prosperity. We must remember that no general law can be framed for the protection of the unfortunate, that will not sometimes be taken advantage of by others; but it may be safely asserted, that such an exemption law will be found a blessing to thousands of worthy men, women, and children, for everyone unworthily shielded by its provisions.

It is not within the province of this work to enter into details of the early history of the Red River Settlement of the Northwest; suffice it to say, therefore, that the Colony was planted by Lord Selkirk, in 1812, at the mouth of the Assiniboine, as an auxiliary to the Hudson Bay Company's trade, and as a source of agricultural supply, &c.

After the result of various exploring expeditions throughout Rupert's Land, under Palliser, Hinds, Dawson, and others, became known, public opinion in England and Canada began to appreciate the immense value of

this country; and in 1857 a Parliamentary investigation was ordered, which suddenly astonished the world at its revelations. After many delays, struggles, and troubles, we, having now fairly entered upon a brilliant career of development, with peace and prosperity before us, gladly extend the hand of welcome to the world, and offer a home of future independence to millions of our fellow creatures.

The Territory of the Northwest and British Columbia may be roughly estimated as occupying the whole area north of the forty-ninth parallel; and its magnitude can only be judged by comparison as follows:—

The area of the United States, as officially ascertained, is 2,936,166 square miles.

The Northwest of British America, including British Columbia, 2,598,837 square miles.

If the comparison is made with Europe, the area of all Europe is 3,811,594 square miles.

That of the Dominion, north of the forty-ninth parallel, only 2,598,837 square miles.

And if we add the total area of the Eastern Provinces and Prince Edward's Island, 351,570 square miles.

The whole Dominion of Canada has now an excess of area of 34,241 square miles, over that of the whole United States.

To return to Manitoba and the Northwest Territory, the area of rich soil and pasturage which we possess in the valleys of the Assiniboine and Saskatchewan alone, is about 40,000,000 acres, of which about 18,000,000 acres are *at once available for the agriculturist*, and this land is black with richness.

Of the rivers and lakes of this rich valley, in addition to the almost numberless smaller ones, there is

*The Saskatchewan River*, whose two great branches drain two-thirds of this district and is the most important. Both its great branches rise in the Rocky Mountains, crossing eighteen degrees of longitude, through undulating slopes of green and grassy uplands, the favorite pasture of myriads of wild cattle. This great stream affords in both branches about 1,400 miles of steamboat navigation, of which about 400 miles are the joint volumes of the confluent streams.

*The Red River* rises in Minnesota, in the United States, close to the sources of the Mississippi, and enters British Territory at the boundary line of Manitoba, about 120 miles from its mouth, where it discharges into Lake Winnipeg; it is navigable for about 400 miles, and last season four fine and commodious steamers, carrying freight and passengers, plied the river; also several smaller tug steamers. The number will be continually increasing.

*The Assiniboine* draining the plain between these rivers is the principal tributary to the Red River, emptying at Fort Garry, or Winnipeg, (new name) the capital of Manitoba. This river, with improvements at a comparatively trifling cost, would give nearly 200 miles of navigation.

*Lake Winnipeg*, fifty miles from the Capital, is 264 miles long, and averaging 35 miles wide, is the common reservoir of these confluent streams, discharging its waters into Hudson's Bay.

*Lakes Manitoba and Winnipegosis* are connected with *Lake Winnipeg*, on the west by navigable channels, and are two other large bodies of water, being together as long as *Lake Winnipeg*, with about half its breadth. The water area of these Lakes will equal that of Ontario and Erie combined.

In the present sparsely settled state of the country, the pioneers of immigration will have great advantages in being able to appropriate the best lands and most eligible situations for wood and water; although it may be here remarked, that what in many parts is now a treeless prairie, may, in a few years, be covered with timber; as soon as civilization checks the annual scourge of prairie fires, wherever these fires are arrested, the land is soon covered by a dense growth of timber, generally poplar.

From the tendency of population being governed primarily by the direction of the navigable waters, so will the pioneer immigrant lay the foundation of thriving towns along their great extent to the foot of the Rocky Mountains.

In comparing the advantages and resources of this great Northwest of the Dominion of Canada with the West and Northwest of the United States, we must bear in mind, that the rate of area absorbed by settlement in ten years in the Western States of America, was 170,955 square miles, and continually increasing; and that from the reports of explorations, made under the auspices of the United States Government, of the region between the Mississippi and the Rocky Mountains, the startling facts are revealed, "that the *western progress* of its population has nearly *reached the extreme western limit* of the areas available for settlement; and that the whole space west of the ninety-eighth parallel, embracing one-half of the entire surface of the United States, *is an arid and desolate waste*, with the exception of a narrow belt of rich land along the Pacific coast."

That rich but narrow belt referred to has already been blocked out with the prosperous States of California and Oregon, with a population of over 1,200,000. This momentous fact was first announced by Professor Henry of the Smithsonian Institute, from whom we quote: "The whole space to the west between the 98th meridian and the Rocky Mountains is a barren waste, over which the eye may roam to the extent of the visible horizon, with scarcely an object to break the monotony. The country may also be considered in comparison with other portions of the United States, a wilderness unfitted for the use of the husbandman, although in some of the mountains, as at Salt Lake, by means of irrigation a precarious supply of food may be obtained." It is not necessary to quote the detailed description of this American Sahara, the concluding words of Professor Henry are more to our purpose.

He says: "We have stated that the entire region west of the 98th degree of West longitude, with the exception of a small portion of

Western Texas and the main border along the Pacific, is a country of comparatively little value to the agriculturist, and perhaps it will astonish the reader if we draw his attention to the fact, that this line, which passes southward from Lake Winnipeg to the Gulf of Mexico, will divide the whole surface of the United States into two nearly equal parts. This statement, when fully appreciated, will serve to dissipate some of the dreams which have been considered realities as to the destiny of the Western part of the North American continent. Truth, however transcends even the laudable feelings of pride and country, and in order properly to direct the policy of this great Confederacy, (the United States), it is necessary to be well acquainted with the theatre in which its future history is to be enacted."

Again, there is something almost appalling in the picture of the region bordering the Northern Pacific Railroad in Dakota territory, the Northern boundary of which is the fertile belt of our North-West. It is presented in a letter to the *New York Tribune* by Major-General Hazen, U. S. A., from which we select extracts, which should not fail to carry conviction to the most obtuse intellect. This officer has been stationed at a military post at the mouth of the Yellowstone river, about two degrees south of our boundary line in longitude 103, and having been there for some years, he is in a far better position to judge of the facts than the most expert and observant of transient visitors could possibly be; he gives for the first time a glimpse of the barrenness and desolation of the route which the *Northern Pacific Railway was to develop* in that region which is inexpressibly shocking, and should act as a serious warning to emigrants and capitalists in Europe investing in United States Railway lands. He says:

For two years I have been an observer of the efforts upon the part of the Northern Pacific Railroad Company to make the world believe this section to be a valuable agricultural one, and, with many others, I have kept silent although knowing the falsity of their representations while they have pretty fully carried their point in establishing a popular belief favourable to their wishes.

When reading such statements of its fertility as appear in the article entitled "Poetry and Philosophy of Indian Summer," in that most estimable periodical *Harper's Monthly*, of December, 1872—in which are repeated most of the shameless falsehoods so lavishly published in the last two years, as advertisements in the interests of that company, and perhaps written by the same pen—a feeling of shame and indignation arises that any of our countrymen, especially when so highly favoured with the popular goodwill and benefits, should deliberately indulge in such wicked deceptions.

The theoretical isothermals of Captain Maury and Bidget, which have given rise to so much speculation, and are used so extravagantly by those who have a use for them, although true along the Pacific coast, are not found to have been true by actual experience and observations, in this middle region.

The past season, as seen by the meteorological report, has been exceptionally rainy and favourable for agriculture here, and the post has with great care, and by utilizing all the available season, made an extensive garden with the following results. The garden is situated immediately on the river bank, about two feet above high water. Potatoes, native corn, cabbage, early sown turnips, early peas, early beans, beets, carrots, pursnips, salsify, cucumbers, lettuce, radishes, and asparagus

have grown abundantly and have matured. Melons, pumpkins, and squashes have not matured. Tomatoes did not turn red: American corn (early) reached roasting ears. Onions, with wheat and oats, matured at Fort Berthold, D.T., 150 miles below, on the Missouri River. I am told by those who have been here a long time that this may be taken as a standard for what may be expected the most favourable seasons on the immediate bottoms of the streams. The native corn matures in about ten weeks from planting. It puts out its ears from six to eight inches from the ground, and has a soft white grain without any flinty portion, and weighs about two-thirds as much as other corn.

My own quarters are situated on the second bench of the banks of the Missouri at about fifty feet above that stream, and 600 yards away from it. And to raise a flower garden ten feet by forty, the past two years has required a daily sprinkling of three barrels of water, for which we were repaid by about three weeks of flowers.

The site of this post is supposed to be exceptionally fruitful, but I have before me a letter from Mr. Joseph Anderson of St. Paul, Minn., who was hay contractor at this post in 1872. His letter states that in order to find places to cut the hay required by his contract that season, some 900 tons, he was compelled to search over a space of country on the north side of the river 25 miles in extent in each direction from the post, or some 400 square miles, and that there was none thick enough to be cut for as great a distance beyond.

Respecting the agricultural value of this country, after *leaving the excellent wheat growing valley of the Red River of the North*, following westward 1,000 miles to the Sierras, excepting the very limited bottoms of the small streams as well as those of the Missouri and Yellowstone, from a few yards in breadth to an occasional water-washed valley of one or two miles, and the narrow valleys of the streams of Montana already settled, and a small area of timbered country in North-West Idaho (probably one-fifteenth of the whole), this country will not produce the fruits and cereals of the east for want of moisture, and can in no way be artificially irrigated, and will not in our day and generation, *sell for one penny an acre*, except through fraud or ignorance; and most of the land here excepted will have to be irrigated artificially. I write this knowing full well it will meet with contradiction, but the contradiction will be a falsehood. The country between the one hundredth meridian and the Sierras—the Rio Grande to the British possessions—will never develop into populous States because of its want of moisture. Its counterpart is found in the plains of Northern Asia and in Western Europe. We look in vain for those expected agricultural settlements along the Kansas and Union Pacific Railroads, between these two lines, and 20 years hence the search will be quite as fruitless. We have in Nevada and New Mexico fair samples of what these populations will be.

My statement is made from the practical experience and observation of 18 years of military service as an officer of the army, much of which has been upon the frontier; and having passed the remainder of my life a farmer. For confirmation of what I have here said, I respectfully refer the reader to Gen. G. K. Warren, of the Engineer Corps of the army, who made a scientific exploration of this country extending through several years, and has given us our only accurate map of it; or to Prof. Hayden, for the past several years engaged upon a similar work. The testimony of Gov. Stephens, Gen. Fremont, and Lieut. Mullans, is that of enthusiastic travellers and discoverers, whose descriptions are not fully borne out by more prolonged and intimate knowledge of the country.

Herr Hass, the agent of the Berlin and Vienna banks, sent out to examine the country, could easily say the country is good, so long as he advised his people to invest no money in it; and it is doubtful if that remark was based upon a sufficiently authoritative investigation of the country to merit the credence given it. Certainly it is incorrect. And especially valueless is the testimony of men of distinction of our own country who are not practical agriculturists, but have taken journeys in the fruitful months of the year to the Red River of the North, to the rich valleys of Montana, or to the enchanting scenery of Puget Sound, except upon those particular points.

I am prepared to substantiate all I have here said, so far as such matters are susceptible of proof, but from their nature many things herein referred to, must, to many people, wait the action of the great solvent—Time.



I have no personal feeling in this matter since, rather on the contrary, the railroads in these Western countries ameliorate the condition of troops serving here, but I would prefer to see these roads based upon honesty and the needs of the country, commensurate with their cost. Nor can I see much difference between the man who in business, draws a cheque upon a bank where he has no money, and selling bonds secured by lands that have no value.

I will say to those holding the bonds of the Northern Pacific Railroad that by changing them into good lands now owned by the roads in the valley of the Red River of the North, and east of that point, is the only means of ever saving themselves from their total loss.

Fort Enford, D. T., Jan. 1, 1874.

W. B. HAZEN,

Now looking upon that picture, and on this, let us draw the comparison. Upon the northern edge of that great Sahara, we have the valleys of the Red River and Saskatchewan, carrying their rich and grassy undulations to the gorges of the Rocky Mountains, forming an isolated belt of verdure across the western half of the British American continent; an isthmus of fertile and habitable lands between the Arctic wastes, which extend to the frozen ocean on the north, and the vast deserts on the south, between the Mississippi River and the Pacific coast. Kansas, Eastern Nebraska, Dakota, and Minnesota, are rapidly filling up, and all that remains are less than 90,000 square miles; or at the present rate of demand of land absorbed by immigration, about five years or less, to the turning point in American history. It is not difficult to foresee the result, namely, that the entire expansive movement of population on the American continent, will be concentrated in the direction of our fertile valleys in the basin of Lake Winnipeg. Now our projected Pacific Railway, unlike the Northern Pacific, will run through a country fertile for more than two thirds of its whole length, and can be fed by an industrious and wealthy population, besides developing our immense mineral wealth, east and west. Meantime, probably before another season is passed, through a wise and far seeing policy, we shall be linked by rail with the sea board on the east, and the whole Railway system throughout the Eastern Provinces and the United States by an International connection on our frontier at a point only sixty miles distant from Winnipeg; this completed, will at once bring this vast, rich but heretofore almost isolated country within fourteen to fifteen days of Liverpool, in England.

In addition to which, we have now, our own National highway to the sea through British Territory, namely the Lake Superior or Government route under control of the Dominion Government, and by which immigrants are conveyed at an almost nominal rate, although occupying longer time. This route is more fully referred to in another place.

The elements for appraising the market value of the Canadian Pacific land grant, sufficiently exist to make it absolutely certain that it can be sold for a sum much greater than the cost of constructing and equipping the road. The policy of the Company will probably be however at first to sell its lands at such moderate prices as to render their speedy absorption and settlement certain. For the information of those likely to become settlers along its

line, we may here state that the ignorant objections heretofore urged to a Canadian Pacific route, on the score of climate, are forever set at rest by the ascertained facts of temperature, and the groundless notion that snow storms and drifts in winter would prove an obstacle, is disposed of. The facts are, that from the Red River to the Rocky Mountains, the total fall of snow during the winter is comparatively small under the similar latitudes, and is no obstacle to railroads. The snow storms among the plains of the Saskatchewan are only one-fifth of what they are in the railroad State of Massachusetts.

This route is indicated as the natural pathway of commerce by the vast and inexhaustible coal beds of the Saskatchewan, speaking of which, Sir William Armstrong, some few years ago, raised the question in the old country of the possibility of the coal mines of England becoming after a time exhausted. The question was widely discussed at the time and all became thoroughly convinced of what paramount importance to a country's prosperity were the coal fields. From geological reports and the engineers' surveys, it appears that the Saskatchewan district possesses one of the largest coal fields in the world. Between the 59th parallel and the North sea, it has been calculated that there cannot be much less than 500,000 square miles that are underlaid by true coal. The average breadth of this belt is about 280 miles.

In addition to the coal, this country contains rich deposits of iron ore, and on both slopes of the Rocky Mountains immense gold deposits, the development of which is yet in its infancy.

Surely, with these riches, there is a great future in store for this Northwest, to be developed by the completion of the Canadian Pacific Railway and which will afford employment to thousands of immigrants who will ultimately settle along its line. The wonderful provision of coal in the Northwest, makes its possession of immense importance to Canada, as the scarcity of coal is one of the most serious wants at present and affects every branch of manufacture and industry. Here we cannot do better than refer to the remarks of Mr. Taylor, a missionary in the coal district of the Saskatchewan, who lately sent specimens for analysis to the Professor of Natural Science in Victoria College, Cobourg, Ontario. He says :

"The specimens where the outcrop in each case and taken from points at least 300 miles apart. The accompanying table of assays of coal from some of the principal mines in the United States and Nova Scotia are highly valuable for comparison, and when it is remembered that their samples were taken from the bed of the mine, and my specimens from the outcrop, the superior quality of the Saskatchewan coal is fully established."

## ANALYSIS BY PROF. HAANEL, VICTORIA COLLEGE.

Locality.	Spec. gr.	Moisture.	Vol. Matter.	Fixed Carbon.	Ash.	.
I.....	1.375	11.88	28.66	57.25	2.21	100.00
II.....	1.375	11.41	29.07	56.94	2.58	100.00
III.....	1.340	6.69	33.70	53.25	6.36	100.00
IV.....	1.337	6.89	33.57	50.90	8.64	100.00
Maryland.....		1.25	15.80	73.01	9.74	99.80
Pennsylvania.....		0.82	17.01	68.82	13.35	100.00
Virginia.....		1.64	36.63	50.99	10.74	100.00
Joggins.....		2.50	36.30	56.00	5.20	100.00
Springhill.....		1.80	28.40	56.60	13.20	100.00
District of Pictou.....		1.750	25.875	61.950	10.425	100.00
Same locality, top bench.....		1.500	24.800	51.428	22.272	100.00
District of Richmond.....		30	25	56.40	13.35	100.00

The numbers I to IV are as follows :

The Pembina Coal, 100 miles N. W. from Edmonton—I.

That from near Belly River, South Saskatchewan—II.

That from Belly River—III.

That from Saskatchewan River, near Fort Edmonton, 900 miles N. N. W. of Fort Garry—IV.

I and II are bituminous coals, of a bright lustre, irregular fracture, showing, to judge from the small specimens sent, no distinct lamination, of a high spec. gr., 1.775, comparatively free from sulphur, and giving out little tarry matter upon cooking.

III and IV are also bituminous, of a less spec. gr., 1.340 and 1.337 respectively. Lustre, dull, distinct lamination; fracture at right angles to lamination, irregular, with bright surfaces. Parallel to the plane of lamination, the slabs separated are dull. Gives out *considerable* tarry matter upon cooking.

A quantitative examination gave the following results in 100 parts :

	Spec gr.	Moisture given out at 212° F.	Volatile Matter at red heat.	Fixed Carbon.	Ash.
I—100.....	1.373	11.88	28.66	57.25	2.21
II .....	1.375	11.41	29.07	56.94	2.58
III.....	1.340	6.69	33.70	53.25	6.36
IV.....	1.337	6.89	33.57	50.90	8.64

From this you will at once notice the similarity of the results obtained in I and II and III and IV respectively. The spec. gr. of I and II is the same, and the analysis of the two specimens differ from each other *less* than two consecutive analyses of the same coal are often found to do. The variation is not 17 per cent.

The amount of moisture of these two specimens is somewhat surprising. Exposure of the powdered coal for four and a half hours in drying bath to a temperature of 212° F. resulted in either case in a loss of over 11 per cent. It is quite possible that, if the coal has been taken from the outcrop, it is injured by weathering. A sample from the interior of the seam might give different results.

These two specimens of coal do not cake, and leave a coke of a brilliant lustre. The amount of ashes is very small, and of a reddish yellow (playing into orange) colour. Since it is a matter of some satisfaction to be able to inspect personally both coke and ash, I have forwarded to you with this specimen of the same.

The spec. gr. of III varies from that of IV by only 003, and the analyses differ much more from each other than those of I and II, yet not sufficiently to constitute these two very different kinds of coal. Percentage of ash is greater, that of moisture less, than of I and II; coke of a dull, greyish blue lustre; ash, grey, pulverulent.

If the specimens are compared among themselves, I and II prove the best, IV the poorest, yet by no means a *poor* coal. None of the specimens contain inspissated pyrites, and are comparatively free from sulphur.

I and II contain all the qualities to render them superior coal for heating purposes, and III and IV are much better than a great deal of the coal from Pennsylvania, such as we are often obliged to burn.

For comparison, I add some assays of Pennsylvania, Maryland and Virginia coal, quoted from Dana, and Joggins and Springhill coal, from the Cumberland coal field; from the carboniferous district of Pictou, and from the district of Richmond. These last quoted from Dawson's Acad. Geol.

February 13th, 1874.

The measure of working the coal fields of the North-west is of such immediate importance to the country, that every inducement will doubtless be held out to private companies to develop these rich fields, which are more important to the prosperity and development of the Dominion than the possession of a mine of diamonds. In advance of the completion of

that grand enterprise, the Canadian Pacific Railway, we possess the magnificent extent of collateral water line, almost directly on the path of the future Railway, and occupying three-fourths of the entire distance across the Continent. The introduction of steam navigation throughout this extensive water line will revolutionize the whole traditional system of traffic with the Indians, and other people of the interior. In times past, it has cost the Hudson Bay Company, annually, about \$500,000 for the collection and transshipment of their furs. This will not appear extraordinary when it is known that the cost, under the system of transportation of maintaining a single bateau for the season of navigation, including the wages and provisions of men, is from \$1,500 to \$2,500—one of these boats carries five tons. To make the upward voyage with loaded boats, from Red River to Fort Edmonton, on the North Saskatchewan, a distance of 1,062 miles, requires a period of two months. A steamboat which would carry, say 100 tons, would make the trip in one week at the farthest, at a cost not greater than that required to support a bateau. To sum up this statement, to carry five tons 1,000 miles in a bateau, and return, consumes the season, at a cost of say \$2,500, or \$500 per ton. To carry 100 tons in a steamboat, and return, might consume a month, at a cost of say \$1,000, or \$10 per ton. Transportation by steamboat would, therefore, cost one-fiftieth of the expense by the old modes. As already remarked, the tendencies of settlement will be governed mainly by the direction of the navigable streams which offer a wide field of enterprise and investment for capital.

The Pacific terminus of our Railway will possess one of the finest harbours in the world, in a mild climate, and supplied with all the essentials of a first-class naval station, in the adjacent coal mines and forests.

Its position with respect to Asiatic ports is such as to give it the command of the ocean trade, as the following comparative table of sailing distances from the principal ports in Asia will prove:

	To Victoria.	To San Francisco.
From Amoor.....	3,895 miles	4,110 miles.
“ Shanghai.....	5,215 “	5,439 “
“ Canton .....	5,975 “	6,140 “
“ Calcutta .....	8,805 “	8,070 “
“ Melbourne .....	6,930 “	7,205 “

From Manitoba to Vancouver, the distance by Railway will be about 1,700 miles.

Assuming the early development of this immense extent of fertile country, the North-West, with its commercial radius extended by Railways and Steamboat navigation, with an unlimited market, both in the Eastern and Western hemispheres, must occupy a position without a parallel in the world.

The imports of England alone, from Indian and Pacific seas, annually exceed *one hundred of millions of dollars*. We are on that

highway, over which a great part of that world of wealth will pass from the Pacific to the Atlantic, and the completion of this Railway will have achieved a success that will result in greater benefits to mankind, and lend more honor to British fame than all the blood-stained victories of war. Such is the sublime destiny which develops itself for the future of this new North-West of the Dominion of Canada.

#### THE SOIL AND ITS AGRICULTURAL CAPACITY.

Several authorities flatteringly speak of Red River and the Winnipeg Basin as "among one of the finest wheat countries in the world." The soil is an alluvial black argillaceous mould, rich in organic deposit, and resting for a depth of from two to four feet on a tenacious clay. The measures of heat are ample for the development of Indian corn, considerably improving westward; some varieties thrive well in Manitoba, but it is not claimed as a profitable staple.

Those requiring a growing period of not more than seventy days would, however, form a sure crop in Manitoba. According to Blodgett, Indian corn is restricted, as a profitable staple, to the middle regions of the West, between parallels 42° and 43°. Wheat is the leading staple of the upper belt of the temperate zone. Blodgett (an American authority) states, "that the basin of the Winnipeg is the seat of the greatest average wheat product on this continent, and probably in the world." The limestone sub-strata of this region, with its rich deep calcareous loam and retentive clay subsoil is always associated with a rich wheat development, while its hot and humid summers fulfil all the climatological conditions of a first-rate wheat country. Some fields on the Red River have been known to produce twenty successive crops of wheat without fallow or manure, and the yield has frequently reached as high as forty bushels per acre. An important feature in the soil of Manitoba and the North-West is, that its earthy materials are minutely pulverised, and the soil is everywhere light, mellow and spongy. With these uniform characteristics, the soils are of different grades of fertility, according to local situations. A general ingredient of the soil is sand, of which silica is the base, as of all good soils. It plays an important part in the economy of growth, and is an essential constituent in the organism of all cereals. We are told that about 67 per cent. of the ash of the stems of wheat, corn, rye, barley, oats, &c., is pure silica, or flint. It is this which gives the glazed coating to the plants and gives strength to the stalk. Now this silica is an acid and is insoluble but readily combines with lime, soda, magnesia, potash and the other ingredients of our soil, and in this condition is readily available to the use of the plant and forms an essential element in the growth of the cereals; from this and other causes is attributable the superiority of our wheat over all other grown East or South.

It is here important to notice, that Mr. J. W. Taylor, U. S. Consul at Manitoba, a gentleman of considerable agricultural experience, lately sent to some of the largest wheat buyers in the East, samples of wheat from this

Province, for comparison of valuation, and which were pronounced to be worth *about fifteen cents per bushel more than any other samples handled by them.*

The average yield of wheat in Manitoba, deduced from the aggregate of local estimates, is twenty-five bushels to the acre, the range of ordinary yields being from fifteen to thirty-five. Experience has taught us to allow largely for the disposition to base general inferences on the most striking and notorious instances, and for the general habit of confounding a usual result with an average one.

A comparison of the yield of wheat for past years at Red River with the best districts of the United States will show its superiority over them, viz :-

Red River Spring Wheat, average production,	25 bushels per acre.
Minnesota do	do 20 do do
Wisconsin do	do 14 do do
Pennsylvania do	do 15 do do
Massachusetts do	do 16 do do

The weight as compared with the following States, is :

Manitoba Spring Wheat.....	63 to 66 lbs. to the bushel.
Minnesota do.....	60 to 65 lbs. do
Illinois do.....	52 to 58 lbs. do
Ohio do.....	57 to 60 lbs. do
Pennsylvania do.....	57 to 60 lbs. do

The soundness and fullness of the grain is unmistakably indicated by the fact, that it *will command a higher price* than any Western State grain, when it goes to market unmixed and well cleaned.

Winter wheat has not been tried, except in one or two instances, the result being unfavourable to its reputation as a reliable crop; and an opinion is generally prevalent, that it cannot be grown successfully; but this opinion is not warranted by facts. The success of winter wheat depends peculiarly upon having a moderate and sure covering of light snow, not condensed by thaws, and packed close by warm winds. Such a snowy covering requires—firstly, a moderate fall of snow; and secondly, a low, uniform range of temperature, free from winter rains and prolonged thaws, sufficient to dissipate the snowy covering.

These are, in fact, the decided characteristics of our winters. The precipitation of snow at Manitoba is about 25 inches for the whole winter.

It is remarkable also that light falls coincide with quite low temperatures. The short noon-day heats, which often carry the thermometer for an hour or two above freezing point in winter, are not sufficient to create a thaw, and even a whole day, but slightly above freezing, will not seriously affect the snow.

In the foregoing comparison with the yield of wheat in the best districts of the United States, there is certainly food for honest pride in the agricultural capacity of Manitoba.



Wheat growing has been termed the "back-bone of agriculture." When the vital importance of maintaining and increasing the production of a grain so essential to civilized man is considered, it cannot be assigned a less place in agricultural anatomy. Wheat is pre-eminently the food of civilized nations; and, perhaps, there can be no surer measure of their civilization than the culture and consumption of that cereal. History affirms its agency in shaping the power and character of nations. They have grown sturdy and progressive in the ratio of wheat consumption by all classes. Scientific analysis confirms the indications of History. Anatomy and Chemistry shew that food to be best, which gives toughness to muscular fibre, and tone to the brain.

England, who has long been the conceded mistress of the seas, and whose dependencies well nigh encircle the globe, has so stimulated and enlarged her capacity for wheat growing, that her annual average is twenty-eight bushels per acre; but her consumption so far outruns her production, that she lays the world under contribution for her supplies of bread. The grave significance of the question involved is not susceptible of concealment, when the fact is considered that while the consumption of wheat, as the choice food of the human race, is rapidly extending, the capacity of wheat growing regions for its production is rapidly diminishing. We are told that in New England, U. S., the entire wheat product of a year is barely sufficient to feed her own people for three weeks, and the State of New York for six months. In the ten years ending in 1860, the wheat crop of only four States decreased 6,500,000 bushels. In the light of these facts it is not difficult to foresee that the North-West of the Dominion of Canada must yet assume a proud pre-eminency in wheat growing.

The following facts are demonstrated:—

*First.*—That there exists a constantly and inevitably increasing foreign demand for breadstuffs, with a constantly increasing demand for domestic consumption.

*Second.*—That therefore the value of wheat, as a commercial staple, is advancing in a compound ratio.

*Third.*—That within this zone, the climate and other causes tend to concentrate the growth of wheat in the best districts.

*Fourth.*—That Manitoba and the North-West Territory is the best of these wheat districts, having the largest average yield, the most certain crops, and the best and healthiest grains.

*Fifth.*—That therefore the production of wheat must be thrown, with a constantly increasing pressure, upon the resources of this district, to supply the constantly expanding markets of Europe, giving a full development to its agriculture, and the highest value to its soil.

#### OATS, BARLEY, RYE, POTATOES, ETC.

The whole group of subordinate cereals follow wheat, and are less restricted in their range, growing five degrees beyond wheat, in the Mackenzie River Valley to the Arctic Circle. Barley is a favourite alternative

of wheat in Manitoba, and yields enormous returns, with a weight per bushel of from 50 to 55 pounds. Oats also thrive well. Potatoes—the well-known principle established by climatologists, that “cultivated plants yield their greatest and best products near the northernmost limits of their growth” applies with peculiar force to the production of potatoes with us. The mealy quality, the snowy whiteness, the farinaceous properties, and the exquisite flavour which distinguish the best article, reach perfection only in high latitudes.

The potatoes grown in Manitoba are well known to be unsurpassed in all the qualities named, while their prolific yield is not less remarkable. Turnips, parsnips, carrots, beets, and nearly all bulbous plants, do equally as well as potatoes.

#### CLIMATE AND SEASONS.

The natural division of the seasons in the valley of Lake Winnipeg is as follows:—

*Spring*.—April and May.

*Summer*.—June, July, August, and part of September.

*Autumn*.—Part of September and October.

*Winter*.—November, December, January, February, and March.

The peculiarity of spring is strikingly represented by the early and rapid advancement of temperature in May. It is the excessive cold of the long winter season, embracing five months of the year in this latitude, which reduces the annual mean, being  $34^{\circ} 38''$ , while that of Montreal is  $42^{\circ} 03''$ ; but Blodgett claims that the whole Saskatchewan Valley has a climate very nearly as mild, in its *annual average*, as that of Wisconsin, Northern New York, and Ontario, which would give it a winter mean of 15 degrees. The mean for the three months, December, January and February, at Fort Garry, in Manitoba, is  $6^{\circ} 85''$ ; at Montreal,  $16^{\circ} 83''$ . In April and May, the mean temperature rises to  $39^{\circ} 83''$ , and  $58^{\circ} 46''$ , being about equal to Toronto. The winter climate grows rapidly milder in the same parallel westward, even where there is an increase of elevation, and in the Saskatchewan Valley, almost represents the climate of Ontario.

The buffaloes have wintered in myriads on the nutritious grasses of its prairies, up to as high a latitude as Lake Athabaska; and the Half-breeds and Indians camp out in the open plains during the whole of the winter, with no shelter but a buffalo skin tent and robes, and horses of the settlers run at large and grow fat on the grasses which they pick up in the woods and bottoms.

The following table will serve for comparison between the summer temperatures of the Manitoba, with the agricultural climates south of us:

	JUNE.	JULY.	AUGUST.	SUMMER MEAN.
Red River.....	69 10	71 16	63 03	67 76
Chicago.....	62 7	70 08	86 05	67 03
Iowa.....	66 4	70 05	63 09	68 06
Wisconsin.....	61 7	68 06	65 07	65 03
New York.....	64 2	68 05	66 07	66 05
Ontario.....	59 93	67 95	64	63 98

It will thus be seen that the summer climate is warmer than that of Northern Illinois, Western Wisconsin, Northern New York, or Ontario. The fall plunges into winter almost as rapidly as the spring emerges from it. In relation to agriculture, the intensity of winter cold is of comparatively little moment, and its effects upon the physical comfort is mitigated by a clear dry atmosphere, such as makes the winters of our Eastern Provinces the season of animal and social enjoyment.

Prominent among the questions proposed by the emigrant, seeking a new home in a new country, are those concerning the climate, its temperature, adaptation to the culture of the grand staples of food, and its healthfulness.

The climate of our North-West has long been the subject of unjust disparagement. "It is too far north," "the winters are intolerable," &c. To the native settler the seasons follow each other in pleasing succession. As the sun approaches its northern altitude, winter relaxes its grasp, streams and lakes are unbound, prairie flowers spring up, as if by the touch of some magic wand, and gradually spring is merged into the bright beautiful June, with its long warm days, and short, but cool and refreshing nights. The harvest months follow in rapid succession, till the golden Indian summer of early November foretells the approach of cold and snow; and again winter, with its short days of clear bright sky and bracing air, and its long nights of cloudless beauty, complete the circle.

The average fall of snow is about six inches per month. The snow falls in small quantities, at different times, and is rarely blown into drifts so as to impede travelling. With the new year commences the extreme cold of our winter, when, for a few days, the mercury ranges from 15 to 35 degrees below zero, falling sometimes even below that. Yet the severity of these days is much softened by the brilliancy of the sun and the stillness of the air. Thus, while in lower latitudes, they are being drenched by the cold rain storms, or buried beneath huge drifts of wintry snow, Manitoba enjoys a dry atmosphere, with bright cloudless days, and serene starlight nights; and when the moon turns her full orb'd face towards the earth, the night scene of Manitoba is one of peerless grandeur.

#### FROSTS AND ADAPTATION OF CLIMATE TO AGRICULTURE.

The liability to disastrous frosts in the season of growth, and which so intimately concerns the interests of husbandry, is not any worse in Manitoba than in many parts of Ontario. At the former place, the Spring of 1869 was an exceptionally late one, and in May, several light frosts were experienced, which did no serious damage to the crops; in fact the injury was scarcely noticeable, which may be accounted for from the following reasons:—

1.—The dryness of the atmosphere (which is a peculiarity of this region), allows a much lower range of temperature, without injury to vegetation, than in moister climates; and in addition to the heat, gives greater vigour to the plants, they grow rapidly but with firm texture, and

are consequently able to resist much cold on account of their excessive vitality, the same as a person who has dined heartily on rich food is better able to bear the cold of winter.

2.—The sudden change of temperature, which is often the case in this region,—one extreme following another in rapid succession,—is less deleterious to vigorous plants than a gradual lowering of temperature. The earth and plants still retain the heat previously absorbed, and are thus enabled to bear an atmosphere at 20° much better than at 35°, after their latent heat has been given off. The soil in the prairies is in general dry, and is rapidly warmed by the rays of the sun in Spring.

3.—The dryness of the air is accounted for from the fact, that the moisture conveyed in the air has a tendency to soften the delicate covering of the plants, and thus render them more sensitive to cold.

4.—The heat retaining character of the soil. For these and several other reasons that might be mentioned, the climate of Manitoba is less subject to killing frosts, than might at first be supposed, on account of its high latitude.

The following statement, compiled from a meteorological register, kept by the Hon. Mr. Gunn, M.L.C., will be found interesting. We extract the six agricultural months of 1860.

#### ST. ANDREW'S PARISH, MANITOBA.

*April.*—The warmest day was the 28th. Ther. at 7 a.m. 36°, at 2 p.m. 72°, at 9 p.m. 48°—average 52°. The coldest day was the 1st. Ther. at 7 a.m. 15°, at 2 p.m. 34°, at 9 p.m. 21°—average 23 3/4°. On the 8th, the Red River ice breaking up; commenced sowing wheat on the 25th. Eight inches of rain fell during the month.

*May.*—The 13th was the warmest day. Ther. at 7 a.m. 69°, at 2 p.m. 84°, at 9 p.m. 72°, at 2 p.m. 40°, at 9 p.m. 44°—average 39°. Finished sowing wheat on the 5th. One inch of rain fell on the 25th.

*June.*—The warmest day was the 1st. Ther. at 7 a.m. 65°, at 2 p.m. 75°, at 9 p.m. 67°, average 69°. The coldest day was the 6th. Ther. at 7 a.m. 43°, at 2 p.m. 49°, at 9 p.m. 42°—average 44° 2/3. Nine inches of rain fell during the month. On the 20th, strawberries ripe and beautiful.

*July.*—The warmest day was the 13th. Ther. at 7 a.m. 72°, at 2 p.m. 82°, at 9 p.m. 85°—average 79° 2/3. The 22nd was the coldest day. Ther. at 7 a.m. 60°, at 2 p.m. 61°, at 9 p.m. 49°—average 56° 2/3. On the 8th, two inches of rain fell, accompanied by strong wind which lodged many fields of wheat. Five inches of rain fell during the month.

*August.*—The 6th was the warmest day. At 7 p.m. 73°, at 2 p.m. 86°—average 79°. The 31st was the coldest day. Ther. at 7 a.m. 46°, at 2 p.m. 60°, at 9 p.m. 40°—average 48° 2/3. Four inches of rain fell during the month. On the 24th, commenced reaping wheat.

*September.*—The 17th was the warmest day. Ther. at 7 a.m. 57°, at 2 p.m. 75°—average 66°. The 5th was the coldest day. Ther. at 7 a.m. 45°, at 9 p.m. 41°—average 43. Slight frost on the 2nd. Five and a half inches of rain fell. Finished shearing wheat on the 15th.

Prof. Hind, in his report, remarks :—

"It cannot fail to be noticed that the general absence of late spring and early autumn frosts, with an abundant fall of rain, during the agricultural months, are its distinguishing features in relation to husbandry. The melon growing in open air, and arriving at perfect maturity in August and September; Indian corn succeeding admirably, when due precaution is used to ensure ripening before the middle of September, are strong proofs of the almost uniform absence of summer frosts."

It may not be out of place here to refer to the amount of sunlight received during our growing seasons, viz :—Whilst at New Orleans, in July, they have fourteen hours sunlight; we, in Manitoba, have sixteen hours, with much longer twilight than they, consequently our vegetation grows more rapidly than theirs, and matures much sooner. This is a beautiful law of compensation—as what we lack in heat is made up in sunlight during our summers. Some persons in their zeal for our climate have contended that sudden changes are rare, and of no great violence. This is a mistake. Changes are sudden, violent and not very rare. We are about half way between the equator and the north pole, and subject to either extremes. This instead of being a disadvantage, is rather in our favour—it gives variety, a thing desirable at times; then again, these changes are, for the reasons already given, seldom pernicious. Plants and animals are armed with the proper implements for resistance. I would not infer that we are subject to hurricanes, or other violent commotions of the atmosphere, any more, or as much as other places. But we have a touch at times of both extremes, a vibratory movement of the climates of the torrid and the frigid zones alternately. Rains, hail and snow, alternating with the soft and sometimes sultry breezes of the south. There is a great variety of climates in Manitoba. Yet there is no place south of us where crops are surer (excepting the dreaded scourge of the grasshopper), or where the quality of vegetables is better. With the progress of the year, the supply of heat and moisture slowly declines, until the autumn harvest is closed. The autumnal equinox being passed, and the season of vegetable growth ended, suddenly the fall of rain is arrested. "Indian summer" is ushered in, and then follows the loveliest month of all the year; the weather warm, the atmosphere hazy and calm, and every object appearing to wear a tranquil and drowsy aspect. A few days more, and the sleeping earth lies quiet and serene. From the house-tops, the white smoke ascends in airy, inverted cones, whose bases dissolve away in the steel blue sky, and the sun rises bright and glorious, suffusing the wide landscape with an ephemeral but ineffable beauty. Many of the prevailing impressions concerning the winter of Manitoba, among those who have never experienced them, are founded in gross error. Notwithstanding the marvellous accounts of intense cold and biting winds, and snows of untold depth, which have been disseminated in years gone by, and have gained a great degree of credence, the winter of Manitoba is the most healthful and invigorating of the seasons, and is to many the charm of the year.

## RAINS.

The Great American Desert derives its barrenness from the lack of rain. The valley of Lake Winnipeg, on the other hand, is abundantly supplied with moisture during the summer months, having an excess of humidity, compared with Toronto, by about 14 to 17 inches of rain. No feature in the meteorology of Manitoba and the North-West Territory is likely to excite so much interest to agriculturists as the extraordinary fall of rain during the agricultural months, while we have less snow by about 33 inches on the total fall of winter.

## SALUBRITY OF CLIMATE.

Of paramount importance to the emigrant is the healthfulness of the locality which is to be the scene of his future labours, and the home for himself and family. What to him are fair fields, flowering meadows, buried in the luxuriant growth of fertile soils and tropical suns, if they generate fever-producing miasma and vapour?—what are soft and perfumed breezes, if they waft the seeds of pestilence and death?—What are bountiful harvests of golden grain, rich and mellow fruits, and all the wealth the earth can yield, if disease must annually visit his dwelling, and death take away, one by one, the loved and the young? It is well known that some of the fairest portions of the Western States are so fruitful of the causes of disease as almost to preclude settlement. And thousands have left their comparatively healthy Canadian and European homes to find untimely graves in the prairie soil of Indiana, Illinois, Iowa and Missouri. And even in the sections of these States deemed most healthy, the climate has an enervating effect upon those accustomed to the bracing air of Northern Europe and our Eastern Provinces.

The dryness of the air, the character of the soil, which retains no stagnant pools to send forth poisonous exhalations, and the almost total absence of fog or mist, the brilliancy of its sunlight, the pleasing succession of its seasons, all conspire to make Manitoba a climate of unrivalled salubrity and to make this the home of a joyous, healthy, prosperous people, strong in physical, intellectual and moral capabilities. Therefore, the assertion that the climate of our North-West is one of the healthiest in the world may be broadly and confidently made, sustained by the experience of its inhabitants. Some of the hardiest and strongest men the writer has ever seen are Europeans and Canadians, who came to this country at an early date, and finally became settlers. Agriculture, therefore, cannot suffer from unhealthiness of climate.

## SOCIAL STANDING AND POPULATION.

The social standing at present of the agricultural and industrious classes in Manitoba may be estimated by the great proportion of excellent schools and churches, the latter being as follows: Roman Catholic, nine; Episcopalian, ten; Presbyterian, five; Methodist, three. This is exclusive of the Roman Catholic cathedral of St. Boniface, and Church of England

cathedra of St. John's, both being fine structures. The former is the See of the Archbishop, to which is attached a large and flourishing college, under the most able professors; also a nunnery and college, under the care of the good Sisters of Charity. In connection with the Episcopalian cathedral there is a college, which is also in a flourishing condition. Throughout the North-West Territory there are Missionary stations of different denominations—that of the Roman Catholic, in the Saskatchewan district, being a Bishopric—and strenuous efforts are now being made to establish an Episcopal Bishopric there also.

Separate schools are now established all over the Province, under able and competent teachers, are well attended, and are under the control of a Board of Education, appointed by the Lieut.-Governor in Council, two of which Board are selected to act as superintendents, one Roman Catholic, and one Protestant. The schools also receive liberal support from the Local Government, the moneys being appropriated in reference to the efficiency of the schools, the number of scholars in attendance, and the capacity and services of the teachers in the different districts.

The population, at the last official census taken, for the Province of Manitoba only, was, in 1870, 11,961; of which were Roman Catholics, 6,247; and Protestants, 5,716.

Notwithstanding the absence of railway facilities up to the present time for immigration, the increase has been very considerable, at least twenty-five per cent. In 1870, the town of Winnipeg, the Capital of the New Province, contained only a few stores and houses, besides the Hudson's Bay Company's Fort Garry, with a population of about three hundred. It now possesses four steam saw mills, several brick yards, a sash and door factory, one large first-class hotel (the Pacific) in progress, numerous smaller ones, and a population of about 3,000, with several fine streets and stores, and rapidly increasing. With the development now about taking place by railroad construction, and other public works, a few years hence will see the mere hamlet of 1870 rivalling in wealth and population the large western cities of the United States.

In 1830 the population of Chicago was only 70, in 1840, 4,470; although now it can boast of a population of over 300,000. Still the rate of increase of the new City of Winnipeg, in *four* years, has been nearly equal to that of Chicago's early days in *ten* years.

#### THE COLONY SYSTEM.

The system of emigrating in small colonies will be found to be very advantageous, as well as economical; neighbours in the old home may be neighbours in the new; friends may settle near each other, form communities, establish schools, and, in short, avoid many of the traditional hardships which have usually attended pioneer life.

The Colony system is also calculated to supply the needs of all members of the community, to furnish employment to every industry. Wherever a Colony is established there will be found near its centre the



blacksmith, shoemaker, carpenter, storekeeper, post-office, school house, and church ; and with the progress of our Pacific Railway, and Steamboat Navigation, a market for their grain. One hundred or more families, uniting to form a community, may insure everything that goes to make up the sum of civilization at once, namely, good government, by forming a Local Municipality, which our general Municipal Act provides for, elect their officers and make their own By-Laws, good neighbours, morality, security to property, comfort and prosperity. Each head of a family, or any person not the head of a family, who has attained the age of 21 years, may, on payment of only ten dollars, or two pounds stg., secure a quarter section, or 160 acres of rich land, *ready for the plough* (See " Dominion Lands Act. ") In the State of Minnesota the homestead privilege is restricted to 80 acres.

#### OUTFIT.

Immigrants can obtain all implements for the farm at a reasonable rate on their arrival in Manitoba ; also all articles of household furniture, stoves, iron and tinware, bedding, ready-made clothing, groceries and dry goods of every description ; but each family should bring with them a good tent, which will be found valuable and economical, the Government immigrant buildings at Winnipeg not being sufficiently extensive to meet a large immigration, besides being almost indispensable during the summer's operations, and while preparing buildings for winter.

The necessary capital to make a fair start with depends very much upon circumstances : the construction of the Railway will afford lucrative employment ; and a settler with a family who determines to commence farming on his arrival, ought to have provision for one year, or the wherewithal to procure them. Such a one, desiring to start comfortably, should have the following :

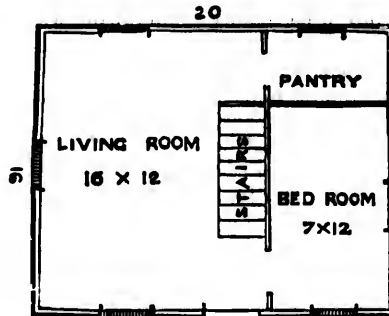
One Yoke of Oxen, say.....	\$120 00
One Waggon.....	100 00
Plough and Harrow.....	25 00
Chains, Shovel, Tools, &c.....	70 00
Stove, Beds, &c.....	70 00
House and Stable, say.....	200 00
Seeds, Yoke, &c.....	15 00
Total.....	\$560 00

A person having \$1,000, or about £200 stg., can, if he wishes, carry on farming on a larger scale, purchase another quarter section or less, at the rate of one dollar per acre, and in addition cut all the hay he wants in the marshes. A very comfortable house, large enough for a family of several persons, may be built at a cost of \$260, or £52 stg. It would be 16 ft. 20 inside, contain a living room 13 x 16, bedroom 7 x 12, pantry 4 x 7, on the ground floor, with stairs leading to the attic. The studding would be twelve

feet from the sills to the eaves, the lower storey eight feet; four feet above, with a sloping roof, will give an attic large enough for good sleeping accommodation. The house would need five windows, one outside and two inside doors. The items of expense would be approximately as follows, not including assistant labour, that may be required :—

4,000 feet common Lumber, at \$30.....	\$120 00
4,000 Shingles, at \$6.....	24 00
Nails, & c.....	20 00
Sheathing Paper (to make air tight).....	30 00
Doors, Windows, &c.....	38 00
For Contingencies, say.....	28 00
Total.....	<u>\$260 00</u>

The following diagram shews the arrangement of the interior—ground floor.



Plan.—Scale 3-16ths of an inch to the foot.

The eaves should project a foot or more, to carry the rain from the sides of the building; until bricks can be obtained for the chimney, a joint of stove pipe will serve instead, only great care should be taken to protect the surrounding wood from taking fire. The plan is drawn on a scale of 3-16ths of an inch to the foot, so that a settler with the plan before him may make his own calculations, and be his own joiner. The house should front towards the East or West. The winds prevailing in Manitoba are from the North, and South-West. Easterly storms do not often occur. In building the house, oaken posts at each corner, five to six feet in length, and eight or ten inches in diameter, should be sunk into the ground nearly their full length, and the sills spiked firmly to them. This, with proper bracing, will give sufficient firmness to the structure against the strong winds which often prevail on the prairie. In the autumn, it should be well banked round with manure or earth, with battened walls, (strips to

cover the seams,) and sheathing paper (a kind of thick pasteboard); such a house is very warm, and will give good accommodation, till the owner is in circumstances to replace it with one of more ample dimensions.

#### BEST TIME TO SETTLE.

Immigrants desiring to farm should be on the ground, if possible, in the month of June, that they may have time to break up a portion of their land for next year. The prairie sod *must be broken in June or July*, when the grass roots are filled with juice, to secure a thorough rotting of the turf; and, if turned early in June, potatoes may be dropped into the furrow, and covered by the plough with the tough sod, and will grow through it; the yield will be about half a crop. Indian corn may also be planted on the sod, while turnip seed may be sown, and very slightly covered; but the ground will be in better condition for the succeeding year, when nothing is planted upon the turf. In the following spring the ground should be thoroughly harrowed, and the wheat drilled in or sown broadcast. If sown in May, it will be ready for the reaper early in August, and as soon as it is taken off, ploughing may commence for the next year's crop. An early variety of Indian corn should be used. After the furrow is turned, it may be planted by chopping a place with a single stroke of the hatchet, dropping the corn in, and pressing it down with the foot. Squashes, pumpkins, and melons grow on the sod. Beans also may be grown on the turf, and, by using early varieties of seed, an abundant supply of these articles of food may be raised for the use of the family. A great advantage to the new settler, in having a good yoke of oxen is that they will work better in the breaking plough, and grow fat on the green grass that they eat at night: whereas, the horses, accustomed to a liberal supply of oats, will not do so well at first on grass alone.

#### FOR FENCING.

Poplar will generally be found in small groves on the prairie, or on the banks of streams, and if the bark is peeled off, makes a good and lasting fence, small Ash or Oak being used for the pickets, when it can be conveniently found. For the balance in farming, tact, energy and enterprise, with a well-settled purpose, will be a safe passport to early independence, growing in wealth with the development of the country.

#### THOSE WHO SHOULD EMIGRATE.

Immigrants most likely to succeed in the present unadvanced state of the country would be farmers and stock raisers, with a limited number of mechanics, not entirely dependent upon constant employment at their trade, or afraid of pioneer life, but desirous of securing a home of future independence. Agriculturists, or small capitalists, as pioneers, are the more eligible, who seek to improve their condition by their experience, and desire larger and quicker returns for labour bestowed and capital invested. The present rates of wages are, on an average, considerably higher than in the Eastern Provinces, and provisions about fifty per cent. higher. Sometimes

beef and pork are difficult to be had at any price, occasioned by the numerous arrivals, the supply being unequal to the demand. Immigrants from the Eastern Provinces should, therefore, bring all the live stock possible with them, and those from Europe can purchase to advantage in the States, \$80 to \$90 being asked at present for a good working ox, \$50 for a milch cow, and from \$100 to \$125 for the common Indian\_breed<sup>2</sup> of horses.

To the man of means any portion of the year is favourable to come to Manitoba, but to the poor man who expects his support from the soil, the value of time is an important consideration. As a rule the fall is the worst time he could come, while early spring is the best.

#### STOCK RAISING AND WOOL GROWING.

The experience of many years shows that no physical impediment, arising from climate or soil, exists to prevent the prairies of our Northwest becoming one of the best grazing countries in the world, and with the introduction of immigration, in few years, the beautiful prairies of the Red River, the Assiniboine and Saskatchewan, will be enlivened by numerous flocks and herds, and the cattle trade already springing into importance, will rapidly increase, or, without much difficulty, be diverted into a southern channel. For raising cattle and horses, Manitoba is equal to the State of Illinois, and for sheep-raising it is far superior. The quality of the beef and mutton raised upon our northern grasses, has been pronounced of superior excellence. Among the peculiar advantages of Manitoba, for stock-raising and wool growing, the most prominent are—1st. The richness and luxuriance of the native grasses. The grass is mainly cut on the swamps and meadows, which chequer the prairies, or fringe the streams and lakes. 2nd. The great extent of unoccupied land, affording for many years to come, a wide range of free pasturage. 3rd. The remarkable dryness and healthfulness of the winter. The cold dry air sharpens the appetite, and promotes a rapid secretion of fat, and a vigorous muscular development. The wool grows finer and heavier, and mutton, beef and pork is sweeter and more juicy. It is nearly forty years since the introduction of sheep into Red River, and no case of any disease attacking them has ever been seen or heard of. Well-fed ewes produce fleeces from 2 to 3½ pounds. Wethers produce fleeces from 6 to 8 pounds, the wool being of a good quality.

According to established laws of nature, cold climates require a larger quantity, and finer quality of wool or fur, than warmer ones; hence the wool and fur-bearing animals are found in perfection only in northern regions. The thick coating of the sheep, especially identifies it with a cold country.—the excessive heat to which their wool subjects them in a warm climate, as in Australia, generates disease. In Manitoba they are not subject to the rot and other diseases so disastrous to sheep in warm and moist climates. Beyond all question, wool would be the best crop to raise for some time to come for exportation, as the freight on two hundred dollars worth of wool, will not be more than on five dollars worth of wheat.

It is well to note that, although the winters in Manitoba are apparently longer, the actual number of days which stock has to be fed here is no more than in Ohio and Southern Illinois. All stock requires shelter during the winter in this climate, but the necessity is no greater than in the Western States. The washing, chilling and debilitating rains of these States are far more injurious to out stock than our severest cold. All the shelter which stock requires here is that readily furnished by the immense straw piles which accumulate from the threshing of the annual grain crop. A framework of rails or poles is made, and the straw thrown over it, leaving the south side open; under this cattle stand and feed on the hay or straw, in perfect security from the inclemencies of the severest winter.

#### DAIRY FARMING

Is now an important branch of Agriculture in the older Provinces of Canada, in connection with factories for cheese and butter making on a large scale, for European consumption. In Ontario alone no less than 200 cheese factories being in operation, that Province deriving an income of nearly two millions of dollars a year from this single article of produce, and this over and above the value of the whey and other adjuncts, and of the cheese sold to retail dealers for home consumption. The quality of the cheese is said to stand favourably alongside some of the best English cheese, and is esteemed almost as highly as the latter. When such is the result in Ontario, what a field is presented to the enterprising capitalist by this Province and the North-West Territory! and the immense source of wealth it offers for the development of that branch of agricultural industry.

The cheese sent from all Canada last year to Great Britain was only one-eighth of the British demand.

#### TIMBER AND FUEL

Nearly all the rivers and streams are skirted with belts of timber, fit for building and fuel, principally oak, ash, whitewood and poplar, in some parts tamarac and spruce, and very extensive forest tracts. The prairie is often dotted with groves of poplar, presenting, in summer, beautiful and charming landscapes, and no doubt wise legislation will provide for the encouragement of the growth of timber, as is done in the United States. Poplar is very rapid in its growth, also soft maple from the seed, which in the third year will attain a height of nearly four feet.

#### THE SALAD PLANTS.

Cabbage, lettuce, celery, spinach, &c., are not only more tender with us than in warm climates where the relaxing sun lays open their very buds, and renders their limbs thin and tough, but are more nutritious, because their growth is slow, and their juices well digested. The cabbage attains enormous size, as also the cauliflower, pumpkins and cucumbers, the latter come in rather late, but instead of throwing too much of their growth into the vine, as they do south, fully mature, and grow very fine and large.

## FRUITS.

The culture of fruit, especially the apple, has been entirely neglected heretofore in Red River; in fact it has never been attempted by the settlers, probably on account of there generally being such an abundance of wild fruits, or the difficulty of procuring cuttings. For this and other reasons an erroneous impression has prevailed, that we could not raise fruit or apple orchards,—an extraordinary inference, when we consider that many forms of wild fruit are indigenous to the country, abounding in the woodlands, and unsurpassed in flavour, size and productiveness—the principal of which are strawberries, whortleberries, saskatoon, and marsh and high bush cranberries, therefore immigrants are not likely to suffer for want of fruit.

In Minnesota the wild plum improves so much by being transplanted and cultivated as to equal any of the garden varieties. The high-bush cranberry also improves by transplanting, and makes a beautiful ornament to the grounds about the prairie farmer's house.

The celebrated and delicious apple peculiar to the neighborhood of Montreal, known as the "*Fameuse*," will no doubt be successfully raised in Manitoba; although we are nearly five degrees further north than Montreal, yet we are twenty-six degrees further west. At the suggestion of the writer, some plants have lately been imported from Montreal, and are doing well; as also a variety from nurseries in Minnesota. The "*Fameuse*" is a rich and beautiful apple, peculiar to the climate and soil of the Island of Montreal, a rich loam with a heavy clay subsoil, which retains the rooting, and prevents the growth of the tree pushing ahead too rapidly for the severe frosts of that latitude. It should be borne in mind that it is not the severity of the winter that kills the young apple tree, but the *alternate thawing and freezing* of the south side of the tree in the spring, which can be avoided by mulching and protecting the stem of the tree when young, by a wrapping of straw; with these precautions, and procuring plants from a suitable climate, or planting the seeds, and thus acclimatising, there is no reason why every farm may not have its orchard in Manitoba, as in other parts of the Dominion.

## FLAX AND HEMP.

Several years ago, at the instance, it is stated, of the late Sir George Simpson, Governor of the Hudson's Bay Company, flax and hemp were cultivated to a considerable extent by the settlers in Red River. The product was of an excellent quality, and gave every promise of furnishing a valuable commodity for home manufacture and for exportation. The cultivation of these important crops was stimulated for a few years by premiums given by the Hudson's Bay Company, then administering the government of Assiniboia, but, when the premiums were withdrawn, the cultivation soon ceased; the universal complaint at that time was the want of a market, or of machinery to work up the raw material, and this led them to discontinue this very important and profitable branch of industry. At the nunnery of St.

Bouiface, the industrious Sisters of Charity still continue its cultivation and work up the raw material on a scale sufficient to meet their own wants.

It is well known that flax and hemp come only to perfection in a cool country; their bark in southern climates is harsh and brittle, because the plant is forced into maturity so rapidly, that the lint does not acquire either consistency or tenacity. With immigration and enterprise, no doubt, our North-West will prove equal for flax and hemp growth to Northern Europe.

#### BEEES

would also, no doubt, thrive well in the North-West, as they require a clear, dry atmosphere, and a rich harvest of flowers; if the air is damp, or the weather cloudy, they will not work so well. Another reason why they work less in a warm climate is, that the honey gathered remains too fluid for sealing a longer time, and, if gathered faster than it thickens, it sours and spoils. Our clear, bright skies, dry air, and rich flora, are well adapted to the bee culture, and, since the process of burying bees during the winter has been introduced successfully in Minnesota, and generally adopted in the North-Western States, the length and coldness of our winter ceases to be an obstacle. In fact, experience in Minnesota proves that bees succeed better there, consume less honey during the winter, and the colony comes out much stronger than in warmer climates.

#### GAME.

The prairies and forests abound in a great variety of wild animals, among which are deer, bears, wolves, foxes, wild cats, raccoons and rabbits. Otter, mink, beaver and muskrat are the principal aquatic animals that frequent the water courses. Buffalo in the Saskatchewan valley. Pigeons, grouse, partridges, and prairie chickens are among the feathered game. In the fall and spring, ducks and geese are found in immense numbers.

#### FISH.

The larger lakes abound in white fish, a delicious article of food, weighing from four to five pounds. The fisheries of the lakes, when properly developed, will form an important source of revenue. The rivers and streams abound in pickerel, pike, catfish, sturgeon, sun fish, gold eyes, &c., so that Manitoba, and the North-West to the Rocky Mountains, present superior attractions to the tourist and sportman.

#### THE MINERAL RESOURCES

of the North-West Territories may be said to consist mainly of copper and iron, coal, gold, limestone and clay, of the latter of which there is an abundance underlying the soil, from which bricks of a good quality are made.

Beds of marl, adapted to the use of pottery, are to be found in various places.

#### SALT-SPRINGS

are numerous, the brine of some being very pure, yielding upwards of a bushel of salt to thirty or forty gallons of brine—the writer having himself made salt from brine of that strength on the surface without boring, and of as good a quality as American or English productions. The North-West, which must in a few years consume vast quantities of salt, for pork and beef packing, and fish, will eventually be supplied from this source, as well as a large export trade to the Western States. The value of this source of wealth may be estimated from the fact that over ten million bushels are annually imported into Chicago alone, from New York and Pennsylvania.

#### GOVERNMENT.

Manitoba has a form of Government similar to that of the other Provinces of the Dominion. The Legislature consists of a Legislative Council composed of seven members (to be increased), and a Legislative Assembly of twenty-four members.

The Executive consists of the Lieutenant-Governor, a Provincial Secretary, Provincial Treasurer, Minister of Public Works, President of the Council, and Attorney-General. The Judicial power is vested in a Supreme Court, District Court, and Justices of the Peace.

#### LAW OF DESCENT.

When a person in this province dies, possessing lands, &c., which have not been otherwise lawfully devised, by an act passed in the first session of the first Legislature, his property descends, subject to his debts: 1st. One-third of the real and personal estate goes to the widow, and the remaining two-thirds in equal shares to his children, and to the lawful issue of any deceased child. 2nd. If without children, to his widow, during her life, and after her decease to his father, and directly to his father when no child or widow is left. 3rd. If no child or father be left, or widow, in equal shares to his brothers and sisters, and so on to more distant relatives, the law regulating the descent of real property in a regular and equitable manner.

#### PUBLIC-LANDS.

The whole area of the Province, by system of survey, and exclusive of road allowances, 9,008,540 acres, deducting for Half-Breed grant 1,400,000 acres, Hudson Bay Company's twentieth and school section reserves 707,680, leaving available area of 6,900,960 acres within the present boundary, which will soon either be enlarged or an additional Province be created westward, with the advance of Immigration.

#### SYSTEM OF SURVEY.

Each township consists of thirty-six sections, of one square mile each,



and road allowances in all cases will be one chain in width, and set out and allowed between all townships and sections.

Sections are numbered thus: a raised mound of turf with picket marked being at each corner of section.

	N						
	31	32	33	34	35	36	
	30	29	28	27	26	25	
	19	20	21	22	23	24	
W	18	17	16	15	14	13	E
	7	8	9	10	11	12	
	6	5	4	3	2	1	
	S						

#### HOW TO GET TO MANITOBA.

The Emigrant leaving Europe and arriving at Quebec, Portland or New York, can, after the season of 1874, travel direct through by Railway to Manitoba from any of those points, a distance of about 2,000 miles, and occupying from five to six days time, at a rate of from \$40 to \$50. The first class fare will be about \$80, including meals, and by the Lake Superior Government route, at a much cheaper rate. Until such through Railway connection is completed, a connection with the Railway terminus is, in the meantime, made by line of steamers on the Red River, at a point about one hundred and thirty miles south of Winnipeg, but the cheapest route, and to many the most pleasant, is by Railway to Collingwood, on Lake Huron; thence by first class steamers to Thunder Bay, on Lake Superior; thence by the Government summer route to Manitoba, for full

particulars of which see advertisement. On arriving at Winnipeg, application should be made to the Dominion Government Immigration Officer, in charge at the building, who will supply all information for the future guidance of the immigrant, best locations, &c. By this latter favorite route, every variety of scenery will be met with,—now rugged, bold, grand, and imposing; now lovely, beautiful and picturesque, giving pleasure and gratification to the eye of the artist and lover of Nature's grandeur. The peculiar properties of the air impart a softened brilliancy to the landscape, similar to what is seen under the skies of Italy. Clothed in the garments of summer, and lighted by the gorgeous tints of its sunshine, nothing could surpass its scenery.



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Entered according to Act of Parliament of Canada, in the year One Thousand Eight Hundred and Seventy-Four, by THOMAS SPENCE, in the Office of the Minister of Agriculture.

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