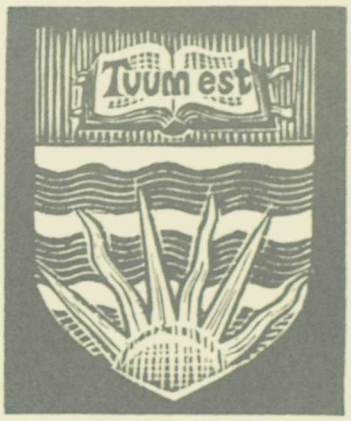
THE LIBRARY



THE UNIVERSITY OF
BRITISH COLUMBIA

EX
LIBRIS

3731
UBC

3731. TAYLOR, JAMES W.

Northwest British America, and its Relations to the State of Minnesota. By James W. Taylor. A Report Communicated to the Legislature of Minnesota by Governor Ramsey, March 2d, and Ordered to be Printed. [At head:] Legislature of Minnesota. 22.4 cm. Modern cloth with leather label (stamped with title from Appendix F) on spine. First leaves lightly foxed.

St. Paul: Newson, Moore, Foster & Company, Printers, 1860

Collation: [1]-$5^4 6^2$, (6)2 is blank; 41, [1] pp. with text in double columns; including full-page map of the Northwest River & Rail Road System.

Provenance: "W. H.," 1928.

References: AII, Minnesota, 309 (calls this the first edition). Graff 4079. Howes T56. Wagner-Camp 365.

Taylor was in 1859 apointed an agent of the United States Treasury to investigate trade and transportation between the United States and Canada. This valuable report, giving information about Canada from Winnipeg on west, was one of the results. The seven appendices include (C) an English address on the explorations of Palliser in the Rocky Mountains of British America, (D) a series of itineraries of routes from St. Paul to Edmonton House and other points in western Canada, and (F) an article by Commander M. F. Maury on the necessity of two railroads to the Pacific, one in the north and one in the south.—TWS.

of British Columbia. [At upper left:] Assiniboine & Saskatchewan Exploring Expedition. [Insets below main map:] Part of British Columbia Lieut. Mayne's Track 1859; Kootanie Pass; Vermillion Pass; Glaciers and Passes of the Rocky Mountains Blue Book—1860. [Below neat line:] W. C. Chewett & Co. Lith. Toronto. 45.7 x 52.6 cm. Partly colored. Graphic scale of main map, about 48 miles to the inch. 6 and 4 cm. tears in right margin repaired with paper tape on verso.

First Edition.

3733. MILTON, WILLIAM WENTWORTH FITZWILLIAM, VISCOUNT, *and* WALTER BUTLER CHEADLE.

Topographic Section of the Continent of North America shewing The Boundary between the British Possessions and the United States Territories the Route of Viscount Milton & Dr. Cheadle across the Continent by the Yellow Head Pass, the proposed line of Railway from Ottawa in Canada to New Westminster or Bute Inlet in British Columbia, as well

Canada West 181

W.H. May 1924 N 65

see Appendix F p. 33 for Maury's letter on a railroad to the Pacific

W.R.C. has very Taylor items except this

LEGISLATURE OF MINNESOTA.

NORTHWEST BRITISH AMERICA,

AND ITS RELATIONS TO

THE STATE OF MINNESOTA.

BY JAMES W. TAYLOR.

A Report Communicated to the Legislature of Minnesota by Governor Ramsey, March 2d, and Ordered to be Printed.

ST. PAUL:
NEWSON, MOORE, FOSTER & COMPANY, PRINTERS.
1860.

mg

GOVERNOR'S MESSAGE.

To the House of Representatives:

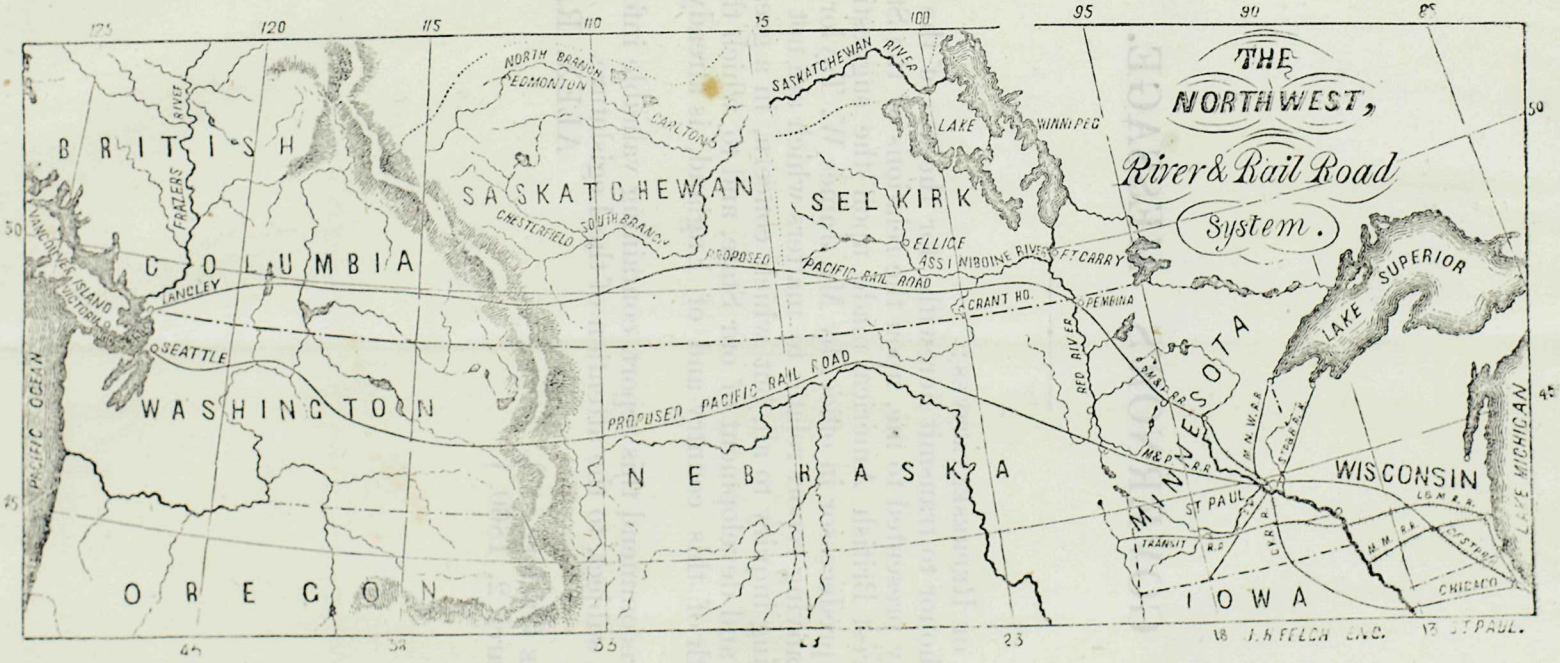
I have the honor to transmit herewith, for the use of the Legislature, a Report this day presented to me, upon the relations of the State of Minnesota to Northwest British America, made upon the suggestion and at the request of my predecessor in office, by Mr. James W. Taylor.

The accompanying report relates to matters which are not merely a subject of interesting inquiry to all, but which concern, in a great degree, the future growth and development of our State, and to which the attention of Statesmen, both of this country and of England, is already considerably directed.

I therefore recommend this report, containing valuable information upon so important a subject, to the attention of the Legislature.

ALEX. RAMSEY.

Executive Office,
St. Paul, March 2, 1860.


THE
NORTHWEST,
River & Rail Road
System.
BRITISH
COLUMBIA
SASKATCHEWAN
SELKIRK
WASHINGTON
OREGON
NEBRASKA
MINNESOTA
WISCONSIN
IOWA
PACIFIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
SASKATCHEWAN RIVER
NORTH BRANCH
EDMONTON
CARLTON
FRAZERS RIVER
CHESTERFIELD
SOUTH BRANCH
LAKE WINNIPEG
ELLICE
ASSINIBOINE RIVER
FT CARRY
PROPOSED PACIFIC RAIL ROAD
TANCLEY
VANCOUVS ISLAND
VICTORIA
SEATTLE
GRANT CO.
PEMBINA
RED RIVER
ST PAUL
TRANSIT R.R.
CHICAGO
PROPOSED PACIFIC RAIL ROAD
18 J. H. FEECH C.E.C. 13 ST PAUL.

REPORT.

ST. PAUL, March 2, 1858.

Hon. Alexander Ramsey, Governor of Minnesota.

On the 18th of June 1859, I received from Hon. HENRY H. SIBLEY, Governor of Minnesota, a communication, requesting me to obtain, in the course of a visit to the Selkirk Settlement, "reliable information relative to the physical aspects and other facts connected with the British possessions on the line of the Overland Route from Pembina *via* the Red River Settlement and the Saskatchewan valley to Frazer's River," and to communicate the same to the Executive Department in a form suitable for submission to the Legislature.

At the Selkirk Settlement upon the Red River of the North, the introduction of GOV. SIBLEY was duly honored by Hon. WILLIAM MCTAVISH, Governor of Assiniboia. The settlement upon the Red river, from the international boundary at Pembina to the mouth of the river in Lake Winnipeg, and upon the Assiniboin river, for a distance of sixty miles west of its junction with the Red river at Fort Garry, have acquired a civil organization, under appointments of the Hudson Bay Company, which is officially designated as "The Colony of Assiniboia." I desire to acknowledge the uniform courtesy, and solicitude to communicate the information sought by me, not only of Governor MCTAVISH, but of Dr. J. BUNN, JOHN E. HARRIOTT, Esq. THOMAS SINCLAIR Esq. and ROBERT MACBETH Esq. gentlemen holding the appointments of Legislative Councillors and Magistrates of the colony of Assiniboia.

The first Territorial Librarian of Minnesota, CHAS. CAVILLEAR, Esq., and Hon. N. W. KITTSON, late Mayor of St. Paul, are now residents at St. Boniface, the seat of the Catholic Episcopate, opposite Fort Garry; and I am greatly indebted for their suggestions. The Historical collections of D. GUNN, Esq., Correspondent of the Smithsonian Institute, were accessible by me.

I shall have occasion, also, in the progress of this report, to produce the testimony of Bishop TACHE of the Catholic Church, and Bishop ANDERSON and Archdeacon HUNTER of the Church of England. To them and others of the Clergy of Selkirk, I would express obligations for valuable information.

It is unnecessary to repeat the narrative of Lord SELKIRK'S remarkable colonization of Red River. Of the present community of ten thousand souls, about five thousand are competent, at this moment, to assume any civil or social responsibility, which may be imposed upon them. The accumulations from the fur trade during fifty years, with few excitements or opportunities of expenditure, have secured general prosperity, with frequent instances of affluence; while the numerous churches and schools sustain a high standard of morality and intelligence.

The people of Selkirk fully appreciate the advantages of communication with the Mississippi River and Lake Superior through the State of Minnesota. They are anxious for the utmost facilities of trade and intercourse. The navigation of the Red River by a steamboat during the summer of 1859, was universally recognized as marking a new era in their annals. This public sentiment was pithily expressed by the remark: "In 1851, the Governor of Minnesota visited us; in 1859 comes a Steamboat, and ten years more will bring the Railroad!"

I was gratified to find that the Hudson Bay Company was no exception to the general

feeling of cordiality. Governor SIBLEY was apprehensive, with the prospect of greatly increased intercourse by the channel of Red River, that American traders and emigrants might be received inhospitably, but no such disposition was shown; and, as to the enterprise of steam navigation, it is now understood that the Hudson Bay Company has become an active party in its future prosecution.

The population of Selkirk, unconnected with the company, is so numerous and influential that all restrictions of trade have been relinquished. Most amicable relations exist between the trading post at Fort Garry, and KITTSON's station at Saint Boniface. Goods are charged with an impost of four per cent. whether brought from Europe or the United States, which constitutes the revenue of the colony of Assiniboia. Land can be purchased by any one at seven shillings sterling per acre, with liberal credits and low interest.

For the present, the jurisdiction of the country is exclusively that of the Hudson Bay Company. There is a probability, however, that representative institutions will be established by an act of the current English Parliament. Letters from London were shown to me in August—particularly a communication from Professor ISBISTER of London, to DONALD GUNN, Esq., of Lower Fort Garry—which stated that one of the latest official acts of Sir EDWARD BULWER LYTTON, before his retirement from the office of Colonial Secretary, was to draft and circulate for the consideration of members of Parliament, a bill providing for the organization of a colony, which should embrace the district extending from Lakes Superior and Winnipeg to the Rocky Mountains, and bounded north by latitude 55°. Its passage was only prevented by the resignation of the DERBY ministry, and I notice that Bishop ANDERSON, in a recent charge to the clergy of his diocese, expresses great confidence that Sir EDWARD'S successor in the Colonial Office, the Duke of Newcastle, "whose attention has for many years been directed to this subject, will be prepared ere long with a comprehensive measure of the same character." (1.)

(1.) The question of a distinct organization, by act of Parliament, is the sole topic of political discussion in the Selkirk Settlements. See file of the *Nor'-Wester*, for January, 1860, a paper published at Fort Garry. In the Appendix (A.) the subject of a Colonial organization is presented in details.

The physical geography of the vast interior districts, which constitute the basin of Lake Winnipeg, will soon be as familiar as that of the territory of the United States within the same lines of longitude. The Canadian Government has lately published the result of an exploration of the channels and valleys of the Red and Assiniboin rivers. The London Geographical Society has given to the world the narratives of Captain PALLISSER and his associates, who have thoroughly explored the vicinity and passes of the Rocky Mountains, between latitudes 49° and 54°. Intelligent parties, organized for hunting adventure or overland transit, are making constant additions to the public knowledge of Northwest America. A citizen of Minnesota, Col. WM. H. NOBLES, whose name is the designation of the most practicable pass of the Sierra Nevada, discovered by him in 1851, has turned his attention since the Gold Discovery of British Columbia, to the details of an Overland Emigration Route, by the valleys of the Red River of the North, the South Saskatchewan and the Kootonais Pass. An exploration conducted by him in the summer of 1859 to Fort Ellice on the western sources of the Assinaboin, was very satisfactory, and its results will be published, as soon as a report by J. W. HAMILTON, Esq., who conducted the same party of exploration from Fort Ellice through the Rocky Mountains, shall be received. (2.)

Upon the general topic, suggested by Gov. SIBLEY, of Communications between Minnesota and Central British America, whether considered in regard to transportation from that extensive district to Lake Superior and the Mississippi river, or in regard to a western connexion with the Pacific coast, I beg leave to submit the following results of recent observation and enquiry.

1. The navigable capacity of the Red River of the North may be comparatively stated, as follows: Ascending the stream from Lake Winnipeg, the navigation to Pembina is equal to that of the Mississippi between Prairie du Chien and Lake Pepin; from Pembina to the mouth of Red Lake river, the channel may be compared to the Mississippi

(2.) See Appendix (B.) Geographical Memoir of the Red River and Saskatchewan District: (C.) Sir Roderick Murchison, on the results of the Palliser Expedition: (D.) Itineraries of Routes from Saint Paul to Fort Ellice and Edmonton House, as observed by Elias Smith, Civil Engineer, and Col. W. H. Nobles.

from Red Wing to Fort Snelling; from Red Lake river to Shayenne, to the Minnesota from Ft. Snelling to Shakopee; and from Shayenne to Breckinridge, to the Minnesota from Shakopee to Fort Ridgley. The only material obstruction—sand bars near the mouth of Goose river—may be removed (so Captain E. Bell, who commanded the steamer, *Anson Northrup*, in the summer of 1859, avers) by an expenditure of one thousand dollars. The Red River is navigable above (south of) Pembina 400 miles, while the distance from the International line by the river to Lake Winnipeg, is 175 miles; total distance navigable by steamers 575 miles. To this add 350 miles for the navigation of the Shayenne, Red Lake river and Assiniboin, (its principal tributaries) and the river coast of the Red River Valley, accessible by steamers, will be found to exceed nine hundred miles.

2. Lake Winnipeg is about two hundred and fifty miles in length, but of unequal breadth. Its area cannot be less than that of Lake Erie, but is far more diversified by islands and headlands. The western bank is alluvial, resting on limestone, while the numerous bays of its eastern shore develope the gneiss, granite and trap rock of the primary formation. The lake is not deep, but with no shallows obstructive to navigation.

3. From a point near the Northwestern angle of Lake Winnipeg, the great navigable channel of the Saskatchewan, divided into two arms at latitude 53 ° and longitude 106 ° may be ascended by steamers to Fort Edmonton on the north branch, and to Chesterfield House or old Bow Fort on the south branch, in close proximity to the Rocky Mountains. The Rapids of the Saskatchewan, near the mouth of the river, can hardly be said to interrupt navigation. Open loaded boats have been tracked (drawn with a rope by men on shore) over the most violent portions of the Rapids, the respective distances being one mile and a quarter of a mile, while, for descending vessels, there is no difficulty. Loaded boats run the Rapids with safety at every stage of water.

4. When Central British America is fully recognized as a colony of England, its interior navigation can be greatly facilitated by canals between the channels of the Assiniboin and the South Saskatchewan, and connecting Lakes Winnipigoos and Manitoba with the Saskatchewan west of the rapids; but with the present natural advantages of the country, it is easy to perceive that steam navigation will greatly contribute to the enterprise of an overland communication from Minnesota to British Columbia, and, what is of more immediate importance to the State, will bring an immense and fertile district, whose colonization can be no longer postponed, into profitable connection with the public thoroughfares of Minnesota.

5. The testimony of John E. Harriott, Esq., Arch-deacon Hunter, Bishop Tache and others was explicit, that the country upon the north branch of the Saskatchewan is superior, for the purpose of agriculture, to the plains of the South Saskatchewan. The latter are destitute of timber, except on a range of elevations near the international boundary, and partake of the cretaceous formation apparent on the Upper Missouri. The regions adjacent to Fort Pelly, Carlton House, Fort Pitt and Edmonton House—well known points in a general northwestern direction from Fort Garry—are remarkably adapted to the cultivation of grain and the sustenance of cattle. The scenery of the North Saskatchewan is fully equal to that of the Mississippi between Galena and the Falls of St. Anthony.

6. The limit of successful agriculture in the Northern Temperate Zone should be carried considerably beyond the Saskatchewan valley, especially near the Rocky Mountains. Sir Roderick Murchison, in a recent address before the London Geographical Society, represents this chain of mountains to be greatly depressed in high northern latitudes, and, indeed, several of the tributaries of the Mackenzie have their sources on the Pacific slope, and wind through the mountains before falling into the great Arctic river. The mountain valleys of the Peace and Liard rivers, from latitudes 56 degrees to 60 degrees, are thus influenced by the Pacific winds, and wheat, with other cereals, is successfully cultivated.

7. The present agriculture of Selkirk confirms the evidence from a variety of sources, that the districts west and northwest of the Red River valley, are well adapted to settlements. For the production of wheat, barley, rye, oats, peas, potatoes, vegetables, grass—

whatever is grown in Minnesota except maize, the region in question will be unsurpassed by any other area of similar extent on the continent. (3.)

The foregoing are material considerations. Closely related to these is a topic of a political character. With the extension of the British Colonial System, now seen to be imminent, there is reason to believe that the governments of England and the United States will consummate the recent settlement of the prolonged dispute in Central America, by an adjustment of the future relations of the British Provinces and American States, upon a basis of mutual interest and good will. Such an International compact might provide for a Customs and Postal Union between the Provinces and the United States. It should, at all events, stipulate that the Reciprocity Treaty, enlarged in its provisions and renewed for a long period of years, shall be extended to the Pacific Ocean, and, in connection therewith, all laws discriminating between American and foreign built vessels should be abolished, establishing freedom of navigation on all the intermediate rivers and lakes of the respective Territories. Such a policy of free trade and navigation with British America would give to the United States, and especially to the Western States, all the commercial advantages, without the political embarrassments, of annexation, and would in the sure progress of events, relieve our extended Northern frontier from the horrors and injuries of war between fraternal communities.

Who can doubt that it would be speedily followed by overland mails and the telegraph on the Pembina and Saskatchewan route, and a Continental railroad, as advocated by MAURY, which England would recognize as essential to her interests in Northwest America and the Pacific coasts? (4.)

The above is intended as an enumeration, by no means as an exposition, of our relations to Central British America. I shall close this communication with some notes, equally cursory, upon Northern Minnesota.

1. The steamboat navigation of the Red River of the North will be regular during the summer of 1860. The *Anson Northrup* is in course of thorough repair and equipment. Arrangements are also in progress for additional steamers upon Red River and Lake Winnipeg.

2. It is hoped and presumed that a weekly mail to Pembina will be conceded by the Government of the United States. The authorities of Assiniboia will cheerfully contribute to the expenditure requisite for such a mail service.

3. The Legislature of Minnesota having, at the present session, adopted memorials to the Executive and Legislative Departments at Washington, in favor of an extension of the Reciprocity Treaty, in favor of a military post in the valley of the Pembina River, and for the extinction of the Indian title in the northwest portion of Minnesota,—I shall not enlarge upon those topics.

4. My return trip from Pembina, was over the probable extension of the branch line of the Minnesota and Pacific Railroad, by way of the Crossing of Red Lake River, Detroit Lake, and Otter Tail Lake, to Crow Wing. For the first eighty miles of this route, from Pembina to the Rapids which limit steamboat navigation from the mouth of Red Lake River, the trail follows a ridge, as distinctly defined as the formations south of Lakes Erie and Ontario, over which pass the well known "Ridge Roads." The vicinity of Otter Tail Lake for fifty miles in all directions, is unsurpassed in the combination of forests, small prairies, lakes and rivulets, by the most favored sections of the State. I am satisfied that the whole course of the Leaf Mountains, as the divide between the tributaries of the Mississippi and Red Rivers is designated, will be found no less attractive, even to Red Lake. The forests surrounding this lake are destined to furnish large quantities of pine lumber to the Red River settlements.

5. On the subject of coal deposits, while no doubt exists that the sources of the Saskatchewan traverse an extensive coal field, it is yet uncertain whether the upland district which separates the basins of the Minnesota and the Red River of the North from those of the Up-

(3.) See Appendix (E.) for some extracts, showing the increased productiveness of plats near the northern limit of their successful growth. The extraordinary returns from the cereals sown at Selkirk illustrates this climatic law.

(4.) The whole subject of railroad communication with Asiatic Commerce is luminously presented in a communication of Commander Maury to Col D. A. Robertson. Appendix (F.) See (G.) an abstract of intelligence respecting British Columbia and (H) in regard to a Pacific Ocean Telegraph.

per Missouri and the Saskatchewan, are carboniferous. By all geological analogy, a coal formation should exist between the silurian system of Minnesota and Selkirk, and the cretaceous plateau which Nicollet identified on the Missouri, due west from St. Paul, and which Professor HINDES, of the Canadian Exploration, traced along the same longitude as far north as latitude 53°.

6. The allusion just made to the exploring expedition conducted under the authority of Canada, justifies a tribute to the zeal and intelligence with which the enterprise of an Emigrant and Transportation Route, from Fort William on the north shore of Lake Superior, to Fort Garry, is prosecuted. With the civil organization of Central British America, a wagon road between those points, to be followed by a railroad, will receive all requisite encouragement, certainly from the Canadian Treasury, perhaps by the efficient cooperation of the Home Government. The Northwest Transit Company, acting under a Canadian charter, but understood to have enlisted London capitalists, is expected to resume operations during the summer of 1860. These movements of our Provincial neighbors cannot fail to influence the policy of Minnesota in favor of more satisfactory communications than we now possess between Lake Superior and the channels of the Upper Mississippi and the Red River of the North.

I desire, in conclusion, to express my obligations to the late Executive of Minnesota, for the confidence implied by the commission, to which the foregoing is a response. Believing firmly that the prosperity and developement of this State is intimately associated with the destiny of Northwest British America, I am gratified to record the rapid concurrence of events which indicate that the frontier, hitherto resting upon the sources of the Saint Lawrence and the Mississippi, is soon to be pushed far beyond the International frontier by the march of Anglo-Saxon civilization.

Very respectfully submitted,

JAMES W. TAYLOR.

APPENDIX "A."

CENTRAL BRITISH AMERICA.

From the Atlantic Monthly for January. (1859)

Even before the announcement of the discovery of gold upon the Frazer River and its tributaries, the people of Canada West had induced the Parliament of England to institute the inquiry, whether the region of British America, extending from Lakes Superior and Winnipeg to the Rocky Mountains, is not adapted, by fertility of soil, a favorable climate, and natural advantages of internal communication, for the support of a prosperous colony of England.

The Parliamentary investigation had a wider scope. The select committee of the House of Commons was appointed "to consider the state of those British possessions in North America which are under the administration of the Hudson Bay Company, or over which they possess a license to trade;" and therefore witnesses were called to the organization and management of the Company itself, as well as the natural features of the country under its administration.

On the 31st of July, 1857, the committee reported a large body of testimony, but without any decisive recommendations. They "apprehend that the districts on the Red River and the Saskatchewan are among those most likely to be desired for early occupation," and "trust that there will be no difficulty in effecting arrangements between her Majesty's government and the Hudson Bay Company, by which those districts may be ceded to Canada on equitable principles, and within the districts thus annexed to her the authority of the Hudson Bay Company would of course entirely cease." They deemed it "proper to terminate the connection of the Hudson Bay Company with Vancouver Island as soon as it could conveniently be done, as the best means of favoring the development of the great natural advantages of that important colony; and that means should also be provided for the ultimate extension of the colony over any portion of the adjacent continent, to the west of the Rocky Mountains, on which permanent settlements may be found practicable."

These suggestions indicate a conviction that the zone of the North American continent, between latitudes 49° and 55°, embracing the Red River and the Saskatchewan districts east of the Rocky Mountains, and the area on their western slope, since organized as British Columbia, was, in the judgment of the committee, suitable for permanent settlement. As to the territory north of the parallel of 55°, an opinion was intimated that the organization of the Hudson Bay Company was best adapted to the condition of the country and its inhabitants.

Within a year after the publication of the report, a great change passed over the North Pacific coast. The gold discovery on the Frazer's River occurred; the Pacific populations flamed with excitement; British Columbia was promptly organized as a colony of England; and, amid the acclamations of Parliament and people, Sir Edward Bulwer Lytton proclaimed, in the name of the government, the policy of continuous colonies from Lake Superior to the Pacific, and a highway across British America as the most direct route from London to Pekin or Jeddo.

The eastern boundary of British Columbia was fixed upon the Rocky Mountains. The question recurred, with great force, what shall be the destiny of the fertile plains of the Saskatchewan and the Red River of the North? Canada pushed forward an exploration of the route from Fort William, on Lake Superior, to Fort Garry, on the Red River, and, under the

direction of S. J. Dawson, Esq., civil engineer, and Professor J. Y. Hinde, gave to the world an impartial and impressive summary of the great natural resources of the basin of Lake Winnipeg. The merchants of New York were prompt to perceive the advantages of connecting the Erie Canal and the great Lakes with the navigable channels of Northwest America, now become prominent and familiar designations of commercial geography. A report to the New York Chamber of Commerce very distinctly corrected the erroneous impression, that the valleys of the Mississippi and St. Lawrence rivers exhausted the northern and central areas which are available for agriculture. "There is in the heart of North America," said the report, "a distinct subdivision, of which Lake Winnipeg may be regarded as the center. This subdivision, like the valley of the Mississippi, is distinguished for the fertility of its soil, and for the extent and gentle slope of its great plains, watered by rivers of great length, and admirably adapted for steam navigation. It has a climate not exceeding in severity that of many portions of Canada and the Eastern States. It will, in all respects, compare favorably with some of the most densely peopled portions of the continent of Europe. In other words, it is admirably fitted to become the seat of a numerous, hardy, and prosperous community. It has an area equal to eight or ten first class American States. Its great river, the Saskatchewan, carries a navigable water line to the very base of the Rocky Mountains. It is not at all improbable that the valley of this river may yet offer the best route for a railroad to the Pacific. The navigable waters of this great subdivision interlock with those of the Mississippi. The Red River of the North, in connection with Lake Winnipeg, into which it falls, forms a navigable water line, extending directly north and south nearly eight hundred miles. The Red River is one of the best adapted to the use of steam in the world, and waters one of the finest regions on the continent. Between the highest point at which it is navigable, and St. Paul, on the Mississippi, a railroad is in process of construction; and when this road is completed, another grand division of the continent, comprising half a million square miles, will be open to settlement."

The sanguine temper of these remarks illustrates the rapid progress of public sentiment since the date of the Parliamentary inquiry, only eighteen months before. Of the same tenor, though fuller in details, were publications on the subject in Canada and even in England. The year 1859 opened with greatly augmented interest in the district of Central British America. The manifestation of this interest varied with localities and circumstances.

In Canada no opportunity was omitted, either in Parliament or by the press, to demonstrate the importance to the Atlantic and Lake Provinces of extending settlements into the prairies of Assinniboin and Saskatchewan—thereby affording advantages to Provincial commerce and manufactures like those which the communities of the Mississippi valley have conferred upon the older American States. Nevertheless, the Canadian government declined to institute proceedings before the English Court of Chancery or Queen's Bench, to determine the validity of the charter of the Hudson's Bay Company—assigning, as reasons for not acceding to such a suggestion by the law officers of the crown, that the proposed litigation might be greatly protracted, while the interests involved were urgent—and that the duty of a prompt and definite adjustment of the condition and relations of the Red River and Saskatchewan districts was manifestly incumbent upon the Imperial authority.

This decision, added to the indisposition of Lower Canada to the policy of westward expansion, is understood to have convinced Sir E. B. Lytton that annexation of the Winnipeg basin to Canada was impracticable, and that the exclusive occupation by the Hudson's Bay Company could be removed only by the organization of a separate colony. The founder of British Columbia devoted the latter portion of his administration of the Colonial Office to measures for the satisfactory arrangement of conflicting interests in British America. In October, 1858, he proposed to the directors of the Hudson's Bay Company that they should be consenting parties to a reference of questions respecting the validity and extent of their charter, and respecting the geographical extent of their territory, to the Judicial Committee of the Privy Council. The Company "reasserted their right to the privileges granted to them by their charter of incorporation," and refused to be a consenting party to any proceeding which might call in question their chartered rights.

Under date of November 3, 1858, Lord Caernarvon, Secretary of State for the Colonies, by the direction of Sir E. B. Lytton, returned a dispatch, the tenor of which is a key not only to Sir Edward's line of policy, but, in all probability, to that of his successor, the Duke of Newcastle. Lord Caernarvon began by expressing the disappointment and regret with which Sir E. B. Lytton had received the communication, containing, if he understood its tenor correctly, a distinct refusal on the part of the Hudson's Bay Company to entertain any proposal with a view of adjusting the conflicting claims of Great Britain, of Canada and of the Company, or to join with her Majesty's government in affording reasonable facilities for the settlement of the questions in which Imperial no less than Colonial interests were involved. It had been his anxious desire to come to some equitable and conciliatory agreement, by which all legitimate claims of the Company should be fairly considered with reference to the territories or the privileges they might be required to surrender. He suggested that such a procedure, while advantageous to

the interests of all parties, might prove particularly for the interest of the Hudson's Bay Company. "It would afford a tribunal preeminently fitted for the dispassionate consideration of the questions at issue; it would secure a decision which would probably be rather of the nature of an arbitration than of a judgment; and it would furnish a basis of negotiation on which reciprocal concession and the claims for compensation could be most successfully discussed."

With such persuasive reiteration, Lord Caernarvon, in the name and at the instance of Sir E. B. Lytton, insisted that the wisest and most dignified course would be found in an appeal to and a decision by the Judicial Committee of the Privy Council, with the concurrence alike of Canada and the Hudson's Bay Company. In conclusion, the Company were once more assured, that, if they would meet Sir E. B. Lytton in finding the solution of a recognized difficulty, and would undertake to give all reasonable facilities for trying the validity of their disputed charter, they might be assured that they would meet with fair and liberal treatment, so far as her Majesty's government was concerned; but if on the other hand, the Company persisted in declining these terms, and could suggest no other practicable mode of agreement, Sir E. B. Lytton held himself acquitted of further responsibility to the interests of the Company, and proposed to take the necessary steps for closing a controversy too long open, and for securing a definite decision, due alike to the material development of British North America and to the requirements of an advancing civilization.

The communication of Lord Caernarvon stated in addition, that, in the case last supposed, the renewal of the exclusive license to trade in any part of the Indian territory—a renewal which could be justified to Parliament only as a part of a general agreement adjusted on the principles of mutual concession—would become impossible.

These representations failed to influence the Company. The Deputy-Governor, Mr. H. H. Barens, responded, that, as, in 1850, the Com pany had assented to an inquiry before the Privy Council into the legality of certain powers claimed and exercised by them under their charter, but not questioning the validity of the charter itself, so, at this time, if the reference to the Privy Council were restricted to the question of the geographical extent of the territory claimed by the Company, in accordance with a proposition made in July, 1857, by Mr. Labouchere, then Secretary of State for the Colonies, the directors would recommend to their shareholders to concur in the course suggested; but must decline to do so, if the inquiry involved not merely the question of the geographical boundary of the territories claimed by them, but a challenge of the validity of the charter itself, and, as a consequence, of the rights and privileges which it professed to grant, and which the Company had exercised for a period of nearly two hundred years. Mr. Barens professed that the Company had at all times been willing to entertain any proposal that might be made to them for the surrender of any of their rights or of any portion of their territory; but he regarded it as one thing to consent for a consideration to be agreed upon to the surrender of admitted rights, and quite another to volunteer a consent to an inquiry which should call those rights in question.

A result of this correspondence has been the definite refusal of the Crown to renew the exclusive license to trade in Indian territory.—The license had been twice granted to the Company, under an act of Parliament authorizing it, for periods of twenty-one years—once in 1821, and again in 1838. It expired on the 30th of May, 1859. In consequence of this refusal, the Company must depend exclusively upon the terms of their charter for their special privileges in British America. The charter dates from 1670—a grant by Charles II. to Prince Rupert and his associates, "adventurers of England, trading in Hudson's Bay"—and is claimed to give the right of exclusive trade and of territorial dominion to Hudson's Bay and tributary rivers. By the expiration of the exclusive license of Indian trade, and the termination in 1859 of the lease of Vancouver's Island from the British government, the sway and influence of the Company are greatly restricted, and the feasibility of some permanent adjustment is proportionately increased.

There is no necessity for repeating here the voluminous argument for and against the charter of the Hudson's Bay Company. The interest of British colonization in Northwest America far transcends any technical inquiry of the kind, and the Canadian statesmen are wise in declining to relieve the English cabinet from the obligation to act definitely and speedily upon the subject. The organization of the East India Company was no obstacle to a measure demanded by the honor of England and the welfare of India; and certainly the parchment of the Second Charles will not deter any deliberate expression by Parliament in regard to the colonization of Central British America. Indeed, the managers of the Hudson's Bay Company are always careful to recognize the probability of a compromise with the government. The late letter of Mr. Barrens to Lord Caernarvon expressed a willingness, at any time, to entertain proposals for the surrender of franchises or territory; and in 1848, Sir J. H. Pelly, Governor of the Company, thus expressed himself in a letter to Lord Grey: "As far as I am concerned, (and I think the Company will concur, if any great national benefit would be expected from it,) I would be willing to relinquish the whole of the territory held under the charter on similar terms to those which it is proposed the East India Company shall receive on the expiration of their charter—namely, securing the proprie-

tors an interest on their capital of ten per cent."

At the adjournment of the Canadian Parliament and the retirement of the Derby Ministry, in the early part of 1859, the position and prospects of English colonization in Northwest America, were as follows:

1. Vancouver's Island and British Columbia had passed from the occupation of the Hudson's Bay Company into an efficient colonial organization. The gold fields of the interior had been ascertained to equal in productiveness, and greatly to exceed in extent, those of California. The prospect for agriculture was no less favorable—while the commercial importance of Vancouver and the harbors of Puget's Sound is unquestionable.

2. The eastern slope of the Rocky Mountains and the valleys of the Saskatchewan and Red River were shown by explorations, conducted under the auspices of the London Geographical Society and the Canadian authorities, to be a district of nearly four hundred thousand square miles, in which a fertile soil, favorable climate, useful and precious minerals, fur-bearing and food yielding animals, in a word, the most lavish gifts of Nature, constituted highly satisfactory conditions for the organization and settlement of a prosperous community.

3. In regard to the Hudson's Bay Company, a disposition prevailed not to disturb its charter, on condition that its directory made no attempts to enforce an exclusive trade or interfere with the progress of settlements. All parties anticipated Parliamentary action. Letters from London spoke with confidence of a bill, drafted and in circulation among members of Parliament, for the erection of a colony between Lakes Superior and Winnipeg and the eastern limits of British Columbia, with a northern boundary resting on the parallel of 55°; and which, although postponed by a change of ministry, was understood to represent the views of the Duke of Newcastle, the successor of Sir E. B. Lytton.

4. In Canada West, a system of communication from Fort William to Fort Garry, and thence to the Pacific, was intrusted to a company—the "Northwest Transit"—which was by no means inactive. A mail to Red River over the same route, was also sustained from the Canadian treasury; and Parliament, among the acts of its previous session, had conceded a charter for a line of telegraph through the valleys of the Saskatchewan, with a view to an extension to the Pacific coast, and even to Asiatic Russia.

Simultaneously with these movements in England and Canada, the citizens of the State of Minnesota, after a winter of active discussion, announced a determination to introduce steam navigation on the Red River of the North.—Parties were induced to transport the machinery and cabins, with timber for the hull of a steamer, from the Upper Mississippi, near Crow Wing, to the mouth of the Shayenne, on the Red River, where the boat was reconstructed. The first voyage of the steamer was from Fort Abercrombie, an American post two hundred miles northwest of St. Paul, *down north* to Fort Garry, during the month of June.—The reception of the stranger was attended by extraordinary demonstrations of enthusiasm at Selkirk. The bells of Saint Boniface rang greeting, and Fort Garry blasted powder, as if the Governor of the Company were approaching its portal. This unique, but interesting community, fully appreciated the fact that steam had brought their interests within the circle of the world's activities.

This incident was the legitimate sequel to events in Minnesota which had transpired during a period of ten years. Organized as a territory in 1849, a single decade had brought the population, the resources, and the public recognition of an American State. A railroad system, connecting the lines of the Lake States and Provinces at La Crosse with the international frontier on the Red River at Pembina, was not only projected, but had secured in aid of its construction a grant by the Congress of the United States of three thousand eight hundred and forty acres a mile, and a loan of State credit to the amount of twenty thousand dollars a mile, not exceeding an aggregate of five million dollars. Different sections of this important extension of the Canadian and American railways were under contract and in process of construction. In addition, the land surveys of the Federal Government had reached the navigable channel of the Red River; and the line of frontier settlement, attended by a weekly mail, had advanced to the same point. Thus the Government of the United States, no less than the people and authorities of Minnesota, were represented in the Northwest movement.

Still, its consummation rests with the people and parliament of England. Sir Edward Bulwer Lytton was prepared with a response to his own memorable query—"What will he do with it?" Shall the Liberal Party be less prompt and resolute in advancing the policy, announced from the throne in 1858, of an uninterrupted series of British colonies across the continent of North America? This will be determined by the Parliamentary record of 1860.

[It will be seen from the following report of a debate on the British Parliament, received since the foregoing papers were in type, that the expectation of a speedy colonial organization beyond Minnesota, is likely to be realized at an early day:]

THE RED RIVER SETTLEMENT.

HOUSE OF COMMONS, Feb. 13.

The Earl of Carnarvon inquired what was the intention of Her Majesty's government with regard to the administration of the Red River Settlement and those parts of the Saskatchewan

district recommended by the committee of the House of Commons in 1857 to be withdrawn from the jurisdiction of the Hudson's Bay Company. The noble earl stated that on the 31st of May last the exclusive licence to trade which had been granted to the Hudson's Bay Company expired, and the company accepted the serious responsibility of declining to renew it upon any other terms than those on which they had previously held it. Later in the year the government wisely took powers under an Act for the appointment of magistrates in the Red River Settlement and parts of the Saskatchewan districts, and for securing a more effective system of criminal administration. He wished to know whether any, and if any, what steps had been adopted under that Act. Communications which had reached him from various quarters led him to fear that the present state of the Red River Settlement was one calculated, to say the least, to cause some uneasiness. First of all, there was a strong feeling of dissatisfaction on the part of the colonists themselves, and he might state that during the short time he had connexion with the Colonial Office, two petitions were received from the inhabitants of the settlement, praying for extensive alterations in the form of government and general system of administration. Secondly, the settlement had been entered by a large number of Canadians, who refused to pay duties on the ground that they were not leviable from them, and introduced spirits among the Indians, thereby contributing to their demoralization. Moreover, the same persons, by distributing themselves over ground not belonging to the Red River Settlement, were raising a question of great legal nicety, which ought not to be determined in such an irregular manner. Lastly, during the past year American citizens had crossed the borders in considerable numbers, introduced spirits, established an unlicensed and irregular trade, and were practically under no sort of control or authority whatever. He was not afraid of American colonization in that part of the world, which presented an ample field for energy, industry, and speculation of all kinds. Even in the case of British Columbia, which possessed special attractions, he entertained little apprehension, because he believed that the same sense of law and order, and the same obedience to constituted authority which prevailed in every part where the Anglo-Saxon race had taken root, would be displayed in that recently established community. But he viewed the Red River Settlement in a different light, and he should esteem it a grievous misfortune if, from any omission on the part of the Home Government or of the local authorities, the sympathies of the settlement should be alienated from the Crown, and, cut off as it was from all communication with British North America, it should turn rather towards the United States than towards Canada. There were two roads which connected the Red River Settlement with our possessions in North America, but they were little used, and, indeed, were impracticable during the greater part of the year; whereas the road which connected the settlement with the territory belonging to the United States was a good one, and was the route by which the largest amount of traffic was carried on. Last summer trade to the amount of $1,500,000 passed between the Red River Settlement and the United States; a small steamer had been placed on the Red River in order to facilitate the traffic, and, upon the whole, he was afraid the tendency in the Settlement was towards a connexion with the American Republic. This was a very important question, and the present time was a most critical one, so much so that upon the conduct of the Colonial Secretary during the next few years it might depend what should be the ultimate destiny of this colony. He did not advocate the payment of any sums out of the Imperial exchequer to attain the objects which he had in view; but he believed that this was a question rather of policy than of expenditure, and that much might be accomplished by a judicious exercise of the influence of the Colonial Office. The noble earl concluded by asking the questions of which he had given notice.

The Duke of Newcastle said that, with reference to what had hitherto been the licensed territory of the Hudson's Bay Company, the government of that company, although theoretically swept away, yet practically remained in force. The posts of the company continued in existence, and, as the jurisdiction of the company was of a very primitive and patriarchal kind, not founded upon any exact form of law, it had in fact, survived the expiry of the license. He was satisfied that the less we disturbed the present relations between the Europeans and half-breeds and the native Indians the better, and therefore, although many gentlemen had offered their services, he had not yet exercised the power of appointing magistrates which was conferred upon him by the Act of last session; nor should he do so, unless the introduction of spirits among the Indians, or other irregularities or disorders, should render it necessary.—With regard to the Red River and Saskatchewan districts, no information of such serious character as those mentioned by the noble earl had been received at the Colonial Office. Canadians and Americans had, no doubt, crossed the frontiers, but nothing had occurred to lead the authorities to apprehend any evil consequence from the presence of either one or the other class of persons. No definite steps had yet been taken with regard to these settlements. His noble friend knew how little information there existed until lately as to the land which was available for colonization. It was not till within the last three or four weeks that he had received the concluding portion of Capt. Harris' report, and he had still later been put in possession of the important document prepared by Mr. Dawson of Toronto, which did so much credit to that gentleman, a native of Canada and a member of its Legislature. Another important reason for not coming to any immedi-

ate decision on this question was the difficulty as to communication with the settlements.—There were only three modes of access—one from the north; one from the south through the territory of the United States; and one from the east, through Canada. It was of great importance that these territories should be colonized by British subjects, and that every facility should be given for the fullest access to them. The scheme advocated by Mr. Dawson in his report was, he thought, the most likely to tend to the colonization and settlement of these districts that could be devised. Before anything could be done, however, for the future settlement of these districts, it was necessary to make some arrangement with the Hudson's Bay Company. It was his desire to arrive at such a settlement by amicable means, and he hoped to be able to do so. Papers were published last session containing a correspondence between the Colonial office and the Hudson's Bay Company, in which the company expressed a willingness to yield upon equitable terms, either immediately or by degrees, the jurisdiction over these two settlements—the Red River and the Saskatchewan districts, with a view to their colonization under Imperial auspices. It was, of course, necessary to ascertain what these equitable terms were, and he intended to put himself into communication with the Hudson's Bay Company, in order to see whether the territory in question could not be surrendered to the Government without litigation or dispute. The next step would be to establish some form of government in these settlements, which, in the first instance, ought to be as simple and as inexpensive as possible. It was desirable that legislation should take place, if possible, during the present session on this subject.

APPENDIX "B."

GEOGRAPHICAL MEMOIR OF THE RED RIVER AND SASKATCHEWAN DISTRICT OF BRITISH AMERICA.

Extract from Report of a Committee of the St. Paul Chamber of Commerce, Jan. 22, 1859.

The area comprised within the rivers, converging to Lake Winnipeg is estimated to contain 400,000 square miles. Familiar as the American public is with the progress of Mississippi States, the Committee are inclined to review the basin of Lake Winnipeg from our western stand-point, of its capacity to be divided and occupied as States or Provinces, each having an average area of 50,000 square miles. Starting, therefore, from that point of the Western boundary of Minnesota, which is now or may be improved to become the head of steamboat navigation on the Red River, the indulgence of the Chamber is asked, while we proceed in convenient subdivisions, to group a considerable number of facts, geographical and otherwise, demonstrating the future importance of that river navigation which is to be the avenue to the vast district inclosed between latitudes 49 deg. and 55 deg., and extending from the shores of Lake Winnipeg to the Rocky Mountains.

THE AMERICAN VALLEY OF THE RED RIVER.

Of this district, Lac Traverse in one direction, and Otter Tail Lake in a line nearer north from Saint Paul—either point not more than two hundred miles distant—may be regarded as its extreme southern limits; Pembina and the international frontier, the Northern, while the longitude of Red Lake on the East, and of Minnewakan or Spirit Lake on the West, are convenient designations of the remaining boundaries. This area would extend from about lat. 46 to 49, and from longitude 95 30 to 99 deg.

Capt. Pope, in his exploration of 1849, remarks that for fifty miles in all directions around Otter Tail Lake, is the garden of the Northwest. The outlet of the Lake, constituting the source of the Red River of the North, has been very favorably described by Dr. Owen, of the United States Geological Survey. It presents a succession of lakes and rapids, while at other points rolling prairies extend from its banks, crested with beautifully dispersed groves of timber. It was in this section of Minnesota that the magnesian lime stone containing silurian fossils, identical with those in the bluffs of the Mississippi below St. Paul, was recognized by Dr. Owen *in situ*—showing that the primary formation, which divides Minnesota from Northeast to Southwest, is succeeded to the Northwest by the ascending series of sedimentary rocks.

Many of our citizens have frequently traversed the district just named, and their testimony is, that Westward from Otter Tail Lake for at least one hundred miles, and Northward to Red Lake, if not beyond, no more favorable distribution of beautiful prairies and forests can be imagined. The lakes are numerous but small, and almost invariably skirted with timber, the sugar maple largely preponderating. Seldom is the traveler out of sight of these groves, while the soil is unsurpassed.

From Dr. Owens' Geological Report, it appears, that below the head of navigation the Western bank of the Red River is a vast plain but on the East, where the country is level, timber is more abundant on the river banks; the soil is congenial to the ash which attains a large size; below the mouth of Red Lake River strong chalybeate springs ooze from the clay banks; saline springs are also found, and all accounts concur that hardly an acre but is eminently adapted to the cultivation of wheat. This great staple, with the aid of machinery, will hereafter be cultivated more advantageously over the Northwestern areas of the continent, than in the Mississippi basin.

ASSINIBOIA.

We believe that this is the official designation of the district of British America occupied by the Selkirk Settlements. It embraces the lower or northern section of the Red River, and the productive valley of the Assiniboin. Here is a civilized and interesting community of 10,000 souls—with schools, churches, a magistracy, and a successful agriculture. Its trade, consisting largely of the exchange of furs, is concentrating at St. Paul, and is estimated during the year 1858, to have amounted to $1,000,000.

The Committee would refer, for fuller details in regard to the community at Selkirk, to the numerous publications recently made. The most important of these is a document circulated by the Canadian Government—the Report of an exploring expedition—which among other interesting statements, shows that the soil and climate are even more favorable to agriculture than the vicinity of Toronto. The Minnesota farmer recognizes in these details a remarkable coincidence with his own experience.

CUMBERLAND.

But North of the Red River Settlements, is a region, almost a discovery of recent explorers, which is even more attractive than the prairie district contiguous to the Red and Assiniboin rivers. Immediately West of Lake Winnipeg, are Lakes Winnipegoos and Manitoba, with an outlet flowing into Lake Winnepeg in latitude 52 deg. Tributary to Lake Winnipegoos, are the Red Deer and Swan rivers, which drain a country of rare beauty and fertility. A traveler, writing to a Canadian newspaper, describes its general features as rich prairies, interspersed with belts of heavy oak and elm, while the itinerary of Sir George Simpson affords a most glowing picture of the sources of Swan River. Under date of July 14th, he observes, "In this part of the country we saw many sorts of birds, geese, loons, pelicans, ducks, cranes, two kinds of snipe, hawks, owls and gulls; but they were all so remarkably shy that we were constrained to admire them from a distance. In the afternoon we traversed a beautiful country with lofty hills and long valleys, full of sylvan lakes while the bright green of the surface, as far as the eye could reach, assumed a foreign tinge, under an uninterrupted profusion of roses and blue bells. On the summit of one of these hills we commanded one of the few extensive prospects we had of late enjoyed.—One range of hights rose behind another, each becoming fainter as it receded from the eye, till the farthest was blended in almost undistinguishable confusion with the clouds, while the softest vales spread a panorama of hanging copses and glittering lakes at our feet."

As Cumberland House is situated north of the valley of Swan River, upon the Saskatchewan, its name has been chosen to designate the district between longitudes 100 deg. and 105 deg. and from latitude 52 deg. to 55 deg. An equal area immediately south, and between the parallels of 49 deg. and 52 deg., is no less attractive and fertile.

SASKATCHEWAN.

There remains, from longitude 105 to 115, and from latitude 49 to 55, the respective valleys of the North and South Saskatchewan—ample in area and resources for four States of the extent of Ohio. We propose to consider the whole interval westward from the junction of the two rivers to the Rocky Mountains, without subdivision, as, indeed, it is presented by Colton's Map of North America.

The prairie districts adjacent to the South Saskatchewan, are described by the Canadian explorers, as inferior to the rich alluvial plains of the Red and Assiniboin rivers, but Sir George Simpson's sketches of his route from Fort Carlton to Fort Edmonton, are suggestive of a superior agricultural region. During his first day's route, he describes the county "as so picturesque in its character that almost every commanding position presented the elements of a picturesque panorama. The next day he camped near a large lake; and on successive dates he refers to "bands of buffalo in all directions to the number of about five thousand," "abundant game," "bold scenery," "delicious wild fruits," "luxuriant crops of the vetch or wild pea, almost as nutritious a food for cattle and horses as oats," "a seam of coal ten feet in thickness," &c.

But there is an authority in regard to the more western portions of the Saskatchewan, whom the committee are solicitous to bring prominently before the public. We refer to Father De Smet, the devoted Jesuit missionary to the Indians of Oregon, mentioned by Gov. Stevens, in a recent address before the New York Geographical Society, as "a man whose name is a tower of strength and faith," possessing high scientific attainments and great practical knowledge of the country. His "Oregon Missions" is a publication of much interest, consisting of letters to his superiors; and a portion of this volume narrates his explorations and adventures in the Saskatchewan valleys of the Rocky Mountains. In September, 1854, he left the source of the Columbia river in latitude 50, and crossed the Rocky Mountains, descending their eastern slope in latitude 51. He entered on the 18th of September, "a rich valley, agreeably diversified with meadows, forests and lakes—the latter abounding in salmon trout." This was a mountain valley, however, and it was not till three days afterwards that he reached Bow-river or the South Fork of the Saskatchewan. Thence he continued northward, noticing sulphurous fountains and coal on the Red Deer, a branch of the Bow river. Descending the valley of the Red Deer, which is also described in very glowing terms,

at length he emerged upon what he describes as "the vast plain—the Ocean of prairies."

On the evening of the same day, the missionary reached and was hospitably received at the Rocky Mountain House, latitude 53 deg., and longitude 115 deg., and on the 31st of October started for another journey on the plains; but after two weeks absence, was compelled to seek refuge from the approach of winter (now the middle of November) at Edmonton House on the Upper Saskatchewan. From this shelter he thus writes in general terms:

"The entire region in the vicinity of the Eastern chain of the Rocky Mountains serving as their base for thirty or sixty miles, is extremely fertile, abounding in forests, plains, prairies, lakes, streams and mineral springs. The rivers and streams are innumerable, and on every side offer situations favorable for the construction of mills. The northern and southern branches of the Saskatchewan water the district I have traversed for a distance of about three hundred miles. Forests of pine, cypress, thorn, poplar and aspen trees, as well as others of different kinds, occupy a large portion of it, covering the declivities of the mountains and banks of the rivers.

"These originally, take their rise in the highest chains, whence they issue in every direction like so many veins. The beds and sides of these rivers are pebbly, and their course rapid, but as they recede from the mountains they widen, and the currents lose something of their impetuosity. Their waters are usually very clear. The country would be capable of supporting a large population, and the soil is favorable for the production of barley, corn, potatoes, and beans which grow here as well as in the more southern countries.

"Are these vast and innumerable fields of hay forever destined to be consumed by fire or perish in the autumnal snows? How long shall these superb forests be the haunts of wild beasts? And these inexhaustible quarries, these abundant mines of coal, lead, sulphur, iron, copper and salt petre—can it be that they are doomed to remain forever 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 extenive region."

Life at Edmonton during the winter season is thus sketched:

"The number of servants, including children, is about eighty. Besides a large garden, a field of potatoes and wheat belonging to the establishment, the lakes, forests and plains of the neighborhood furnish provisions in abundance. On my arrival at the Fort, the ice house contained thirty thousand white-fish, each weighing four pounds, and five hundred buffaloes, the ordinary amount of the winter provisions. Such is the quantity of aquatic birds in the season, that sportsmen often send to the Fort carts full of fowls. Eggs are picked up by thousands in the straw and weeds of the marshes. I visited Lake St. Anne, [a missionary station fifty miles north-west from Edmonton.] The surface of this region is flat for the most part, undulating in some places—diversified with forests and meadows, and lakes teeming with fish. In Lake St. Anne alone were caught, last autumn, more than seventy thousand white-fish, the most delicious of the kind; they are taken with a line at every season of the year.

"Notwithstanding the rigor and duration of the winter in this northern region, the earth in general appears fertile. Vegetation is so forward in the spring and summer that potatoes, wheat and barley, together with other vegetables of Canada, come to maturity."

On the 12th of March, Father DeSmet started on his return trip, proceeding with sledges drawn by dogs over the snow, to Fort Jasper, situated Northwest from Edmonton on the Athabasca river, half a degree north of latitude 54 deg. Here occurred the following hunting adventure:

"Provisions becoming scarce at the Fort, at the moment when we had with us a considerable number of Iroquois from the surrounding country, who were resolved to remain until my departure in order to assist at the instructions, we should have found ourselves in an embarrassing situation had not Mr. Frazer come to our relief, by proposing that we should leave the Fort and accompany himself and family to the Lake of Islands, where we could subsist partly on fish. As the distance was not great we accepted the invitation, and set out to the number of fifty-four persons and twenty dogs. I count the latter because we were as much obliged to provide for them as for ourselves. A little note of the game killed by our hunters during the twenty-six days of our abode at this place will afford you some interest—at least it will make you acquainted with the animals of the country, and prove that the mountaineers of the Athabasca are blessed with good appetites. Animals killed—twelve moose deer, two reindeer, thirty large mountain sheep, or big horn, two porcupines, two hundred and ten hares, one beaver, ten muskrats, twenty four bustards, one hundred and fifteen ducks, twenty-one pheasants, one snipe, one eagle, one owl; add to this from thirty to fifty-five white fish and twenty trout every day."

Father De Smet soon afterwards returned to the Western slope of the Rocky Mountains, whither we will not follow him.

We have thus exhibited the natural features of the great central district soon to be brought into close commercial relation with Minnesota by the navigation of these important rivers of the Northwest. We have rested our observations hitherto upon latitude 55 deg., but the suggestions already uttered in the British Par-

liament, of an extension by canal to the navigable tributaries of the McKenzie will warrant the consideration of a territorial division beyond that limit.

ATHABASCA.

The valleys of the Peace and Athabasca Rivers, eastward of the Rocky Mountains from latitude 55 deg., share the Pacific climate in a remarkable degree. The Rocky Mountains are greatly reduced in breadth and mean elevation, and through the numerous passes between their lofty peaks, the winds of the Pacific reach the district in question. Hence it is that Sir Alexander McKensie, under the date of May 10th, mentions the exuberant verdure of the whole county—trees about to blossom, and buffalo attended by their young. During the late Parliamentary investigation, similar statements were elicited. Dr. Richard King, who accompanied an expedition in search of Sir John Ross, as "Surgeon and Naturalist," was asked what portion of the county visited by him was valuable for the purpose of settlement. In reply, he described "as a very fertile valley," a "square piece of country" bounded on the south by Cumberland House, and by the Athabasca Lake on the north. His words are as follows:

"The sources of the Athabasca and the sources of the Saskatchewan include an enormous area of country. It is, in fact, a vast piece of land surrounded by water. When I heard Dr. Livingston's description of that country, which he found in the interior of Africa within the Equator, it appeared to me to be precisely the kind of country which I am now describing. * * * It is a rich soil, interspersed with well wooded country, there being growth of every kind, and the whole vegetable kingdom alive."

When asked concerning mineral productions, his reply was, "I do not know of any other mineral except limestone; limestone is apparent in all directions. * * The birch, the beach and the maple are in abundance, and there is every sort of fruit." When questioned further, as to the growth of trees, Dr. King replied by a comparison "with the magnificent trees round Kensington Park in London." He described a farm near Cumberland House, under very successful cultivation—luxuriant wheat, potatoes, barley and domestic animals.

The committee will not extend, by any generalization of their own, these geographical statements. They prefer, in conclusion, to dispose of the subjects of climate and population, in the impressive language of a writer in the Knickerbocker Magazine for October 1858.

"Here is the great fact of the North-Western areas of this continent. An area not inferior in size to the whole United States east of the Mississippi, which is perfectly adapted to the fullest occupation by cultivated nations, yet is almost wholly unoccupied, lies west of the 98th meridian, and above the 43d parallel, that is, north of the latitude of Milwaukee, and west of the longitude of Red River, Fort Kearney, and Corpus Christi; or, to state the fact in another way, east of the Rocky Mountains, and west of the 98th meridian, and between the 43d and 60th parallels, there is a productive, cultivable area of 500,000 square miles. West of the Rocky Mountains and between the same parallels, there is an area of 300,000 square miles.

"It is a great mistake to suppose that the temperature of the Atlantic coast is carried straight across the continent to the Pacific.—The isothermals deflect greatly to the north, and the temperatures of the Northern Pacific are paralleled in the high temperatures in high latitudes of Western and Central Europe. The latitudes which inclose the plateaus of the Missouri and Saskatchewan, in Europe, inclose the rich central plains of the continent. The great grain growing districts of Russia lie between the 45th and 60th parallel, that is, north of the latitude of Saint Paul, Minnesota, or Eastport, Maine. Indeed, the temperature in some instances, is higher for the same latitudes here than in Central Europe. The isothermal of 70 deg. for the summer which on our plateau ranges from along latitude 50 deg. to 52 deg., in Europe skirts through Vienna and Odessa in about parallel 46 deg. The isothermal of 55 deg. for the year runs along the coast of British Columbia, and does not go far from New York, London, and Sebastopol. Furthermore, dry areas are not found above 47 deg., and there are no barren tracts of consequence north of the Bad Lands and the Coteau of the Missouri; the land grows grain finely, and is well wooded. All the grains of the temperate districts are here produced abundantly, and Indian corn may be grown as high as the Saskatchewan.

"The buffalo winter as safely on the upper Athabasca as in the latitude of St. Paul, and the spring opens at nearly the same time along the immense line of plains from St. Paul to Mackenzie's river. To these facts, for which there is the authority of Blodgett's Treatise on the Climatology of the United States, may be added this, that to the region bordering the Northern Pacific, the finest maritime positions belong throughout its entire extent, and no part of the west of Europe exceeds it in the advantages of equable climate, fertile soil, and commercial accessibility of coast. We have the same excellent authority for the statement that in every condition forming the basis of national wealth, the continental mass lying westward and northward from Lake Superior is far more valuable than the interior in lower latitudes, of which Salt Lake and Upper New Mexico are the prominent known districts. In short, its commercial and industrial capacity is gigantic. Its occupation was coeval with the Spanish occupation of New Mexico and California. The Hudson Bay Company has preserved it an utter wilderness for many long years. The Frazer River discoveries and emigration are facts

which the Company cannot crush. Itself must go to the wall, and now the population of the great northwestern area begins."

In review of the foregoing, especially when considered in connection with the probable organization of the Province of Saskatchewan at the next session of the British Parliament, your Committee entertain great confidence that the announcement of a Steamboat upon Red River in June 1859, will arrest such a degree of interest that the travel and transportation of the next season will be very considerable—probably ample to remunerate the enterprise; while, the future increase will be fully equal to the extraordinary progress of steamboat interests upon the Upper Mississippi.

APPENDIX "C."

EXPLORATION OF THE ROCKY MOUNTAINS IN BRITISH AMERICA BY CAPTAIN PALLISER.

Extract from the Address of Sir Roderick I. Murchison, at the Anniversary Meeting of the Royal Geographical Society, May 23d, 1859.

The important results of the exploring expedition under Captain J. Palliser, as communicated by the Colonial Office, and as dwelt upon in awarding the Founder's Gold Medal to that officer, have necessarily given great satisfaction to us, proceeding as they do from men who were especially recommended for this public service to Her Majesty's Government by our Society as well as by the Royal Society.

When Captain Palliser first proposed to make this exploration, one of the main points of interest to geographers was a survey of that part of the Rocky Mountains to the north of the United States boundary which separates the great tracts now named British Columbia from the eastern mass of British North America. Her Majesty's Government deemed it, however, of paramount importance that, in the first instance, the nature of the ground between Lakes Superior and Winnipeg should be accurately surveyed, in order to set at rest all questions of colonization as dependant on the possibility of making practicable routes of communication. For example, whether the Canadas might be brought into profitable communication with the Red River Settlement. The remoter or more western explorations were destined to develop the true nature of the great prairie region, as watered by the North and South Saskatchewan rivers and their affluents. Collaterally, it was resolved, if possible—and mainly at the instance of this Society—to determine the elevation of the Rocky Mountains in those parallels of latitude, and to point out the passes in them by which communication might be opened out between the vast country occupied by the Hudson Bay Company and the great British seaboard on the Pacific.

In the award of the Patron's Medal to Captain Palliser, allusions have been made to some of the principle results obtained by the researches of the expedition under his orders. But I should not do justice to the leader and his associates, nor to my own feelings, were I not to add a few words of explanation and comment. The first year's labors were necessarily of more importance to the Government than they could be to geographers and naturalists. The great object was to determine the capability of establishing an intercourse between the rocky region of Lakes Superior and Winnipeg on the east and the rich prairie countries on the west; and though astronomical, physical, and magnetical observations of considerable importance were made—these countries being to a great extent known before, and their outlines being monotonous—that portion of the survey created but slight interest among us.

Not so when the Rocky Mountains, to which we had specially directed attention, came to be surveyed.* On proceeding from Fort Carlton, Palliser showed his good sense in approaching these mountains from the rich Buffalo prairies midway between the North and South Saskatchawan. An experienced buffalo hunter himself, he knew that if his men were not well supplied, by no efforts, however well directed,

* Dr. Hector had, by directions of his chief, made a successful foray in dog-sledges to the eastern edge of the Rocky Mountains during the winter, in which he procured men and horses.

could they succeed. Accordingly, having established a good base, and having secured abundant provisions at Slauter Creek, he divided his force into three parties. Leading one of these himself across the Kananaski Pass, and returning by the Kootanie Pass in north latitude 49½°, and directing Captain Blakiston to explore the still more southerly or boundary Pass, he sent Dr. Hector to traverse the chain by the Vermilion Pass, and to explore, as a geologist and naturalist, the much loftier mountains into which the chain rises in its trend to the N.N.W. This division of his forces well merited, therefore the expressions used in the award which has been sanctioned by the Council.

The marked success of the survey accomplished by my young friend Dr. Hector has been peculiarly gratifying to me, inasmuch as I had answered for the capacity he would exhibit in applying his scientific knowledge. Thus, in addition to the determination of latitude, longitude, and the altitude of the mountains and two of their passes, Dr. Hector presents us with a sketch of the physical and geological structure of the chain, with its axis of slaty subcrystalline rocks, overlaid by limestones of Devonian and Carboniferous age, and flanked on the eastern face by Carboniferous sandstone, representing, probably, our own coalfields, the whole followed by those Cretaceous and Tertiary deposits which constitute the subsoil of the vast and rich prairies watered by the North and South Saskatchewan and their affluents. His observations on the erratic or drift phenomena are also curious and valuable.

Prevented by his instructions from descending into the valleys of Columbia, and there to ascertain practicable routes to the far west, which he will look out for during the present summer, Dr. Hector, though so severely injured by the kick of a horse as to be incapacitated from moving for some days, contrived so to travel northwards as to round the base of the loftiest mountains of the chain before he returned to his winter quarters in October, after an absence of eighteen weeks from his chief, but laden with valuable geographical and geological knowledge.

In this survey he had the merit of showing that the Vermillion Pass—which is less than 5000 feet high, and therefore 1,000 feet lower than any other known pass of the Rocky Mountains—had another decided advantage over them, inasmuch as its western slope, from the summit level of the horse path, is so little steep that its explorer had no doubt that even a road for carts may be there established. The descents westward, or into the drainage of the Columbia, in the other passes, are exceedingly steep; and, according to Captain Blakiston, the Kootanie Pass can only have a railroad made along it by the formation of tunnels of several miles in length, and by encountering the difficulty of the steep western gradient of 194 feet per mile.

Another singular natural feature of comparison is, that whilst the Vermillion Pass is less than 5,000 feet above the sea, the adjacent mountains on the north rise to near 16,000 feet, showing the great depth of the gorge. On the other hand, in the range beyond the British boundary, to the south, and where no peak (not even that of Fremont) exceeds 13,000 feet, the passes range from 6,000 to 7,000 feet high.*

Whether one of the heights called Mounts Brown† and Hooker by Mr. Douglas, in honor of our eminent botanical contemporaries, be still higher than the Mount Murchison of Palliser and Hector, it is certain that the chain diminishes rapidly in its trend from this lofty

* In anticipation of what may hereafter be published in the "Journal of the Royal Geographical Society," the reader is referred to the papers presented to Parliament in April, relative to the "Exploration by Captain Palliser of that portion of British North America which lies between the northern branch of the River Saskatchewan and the frontier of the United States, and between the Red River and Rocky Mountains." These printed documents are accompanied by a map, executed by Arrowsmith, from the surveys of the Palliser expedition, together with dispatches of the leader and officers under his command, and tables giving the calculations of latitude and longitude by which the positions of places were fixed. An additional paper and map on the southern part of the Rocky Mountains near the American boundary, as prepared by Captain Blakiston, who had quitted the expedition, has very recently been sent to the Society, with the notice from the Secretary of the Colonies that it was not looked upon as an official communication until sanctioned by Captain Palliser. These last mentioned documents, which seem to me to be also ably prepared, have not yet been laid before the Society. The public will soon possess an excellent map by Arrowsmith, in which all the new discoveries are inserted. This map is entitled "The Provinces of British Columbia, Vancouver Island, with portions of the United States and Hudson Bay Territory."

I was recently informed by my friend, the Right Hon. Edward Ellice, that the geographical position of these passes was laid down many years ago upon a MS. map, at the instance of the Hudson Bay Company, by Mr. David Thompson. I have further learnt from Mr. Arrowsmith, with whom he corresponded, that Mr. Thompson explored the vast regions of the Hudson Bay Company in all directions during twenty-eight years, and projected the construction of a general map of the whole country between Hudson Bay and Lake Superior on the east and the Pacific on the west! It appears that the last six years of his labors were spent on the west side of the Rocky Mountains—it being important to note that his MS. maps were all made from the actual survey, corrected by numerous astronomical observations. The largest affluent of the Frazer River in British Columbia, "the Thompson," justly bears the name of this great but little known geographical explorer; and I therefore trust that there is no foundation for a report which has been spread, that it is proposed to substitute some other appellation for the name of this meritorious man. Beginning his astronomical observations in 1792, Mr. David Thompson was in 1817 appointed the Astronomer of the North American Boundary Commission, and was upwards of eighty years of age when he died in Canada. In the words of Mr. Arrowsmith, "he has left no one behind him who is possessed of a tenth part of his acquaintance with the territories of the Hudson Bay Company, whose directors were duly sensible of his great merits." Whatever may be the fate of that remarkable Corporation, we must all admit that it has not only maintained British rights over wide tracts of North America, but has also, in addition to Thompson, produced some of the best geological explorers of snow-clad Arctic countries, including our medallist Rae; whilst its dealing with the various fur hunting tribes of Indians have been so equitable as to have maintained the attachment of these poor people, who under such influence have been preserved, instead of falling before the white man, as in other parts of America.

† Mount Brown is said to be 16,000 feet high.

cluster to the north. We know, indeed, that Mackenzie, the first great explorer of those regions, passed through the range in north latitude 56°, at a comparatively lower level. Again, we further know that in proceeding northwards these mountains dwindle into insignificance before they reach the Arctic Ocean.

It will be recollected that seven years ago Captain M. H. Synge of the Royal Engineers, who had been quartered in the Canadas, and had made excursions into the adjacent western territories, being deeply imbued with the importance of the original observations of Mackenzie, and attracted by his glowing description, made a warm appeal in favor of the establishment of a line of communication between the Atlantic and Pacific, by passing from Lake Athabasca and the Peace River, thence traversing the Rocky Mountains on the parallel followed by Mackenzie.

But that scheme must now, I apprehend, give way before the shorter passages across the mountains in a more southern parallel, and which will, it is hoped, bring a rich prairie country on the east into intercourse with our newly discovered gold region on the west, as well as with Vancouver Island, the natural resources of which were brought before us by Colonel W. C. Grant. During the animated discussion which took place among us in the year 1851, Mr. Asa Whitney, of the United States, in proposing his gigantic plan of an inter-oceanic railway, candidly told us that the best line of intercourse between the two oceans would be found within the British territories, and the Palliser expedition has already gone far to demonstrate the truth and value of his suggestion.

With a knowledge of the data acquired by the Palliser expedition, men of ardent minds contemplate the formation of a railroad, or, if not, of a practicable route, which, traversing British possessions only, shall connect the Atlantic and Pacific Oceans. But when we reflect that the length of this line is above 2,000 English miles, and that the greater part of the route on the east will have to traverse wild and unpeopled regions, we cannot rush to hasty conclusions as to the practicability of such an enterprise. Neither ought we to deride a plan which may be ultimately called for when British Columbia and Vancouver Island shall have risen into that importance which they must attain as British Colonies. For, it is now ascertained, that the tract lying between the North and South Saskatchewan on the east is one of great fertility, where no intense cold prevails, and that, once through the Rocky Mountains, the traveler enters a country of cedars and rich vegetation, in which even wheat may be grown at heights exceeding 2,000 feet above the sea. In the mean time we need, at all events, have no hesitation in assuming that the electric telegraph will, ere long, be at work across British North America.

Believing it to be of the deepest geographical importance, that men who have distinguished themselves as Palliser and his associates, should not, through a misplaced economy, be held to their original instructions, and be forced to return homewards by retracing their steps from Fort Edmonton, over the previously beaten tracks of North America and the United States, I have had great pleasure in supporting the request of the gallant leader of this expedition and of his associate, Dr. Hector, that they might be allowed to wend their way home next summer by again traversing the passes in the Rocky Mountains, and thence to explore the great intervening tracts of British Columbia, including the auriferous region of Frazer River. I am happy to say that Sir Edward B. Lytton readily complied with this request, and that the Palliser expedition is thus about to establish fresh claims upon our approbation.

APPENDIX "D."

ITINERARIES OF ROUTES FROM ST. PAUL TO PEMBINA, FORT GARRY, FORT ELLICE AND EDMONTON HOUSE.

ST. PAUL, MIN., March 1st, 1860.

J. W. Taylor, Esq.:

SIR: In compliance with your request, I herewith submit to you copies of the most reliable itineraries of the various routes between St. Paul and Pembina on the Red River of the North; also of routes beyond the latter place recently described by parties traveling overland to Frazer's River.

The following is a list of the "Tables of Distances" furnished:

(A) 1st. From St. Paul to Pembina, via Crow Wing and the "Woods road."

(B) 2d. From St. Paul to Pembina, via St. Cloud, White Bear Lake, Graham's Point, and the W. side of Red river.

(C) 3d. From St. Paul to Pembina, via portions of various routes.

(D) 4th. From Breckinridge to Pembina, by the channel of the Red River of the North.

(E) 5th. From Pembina to the Rocky Mountains, routes and portions of routes.

A few remarks are necessary as to the composition of the tables.

From St. Paul to the second crossing of Otter Tail river, the distances are given from the actual survey and location of the military roads, though the latter portion (from Wadena) of the "Ft. Ripley and Red river road" not being yet opened out, the road as at present traveled is necessarily somewhat longer (about 8 miles) than the line given in the table. The State road from St. Cloud to Breckinridge, in like manner, is but partially constructed, the line as surveyed being at least 18 miles shorter than that (the traveled road) given: the shortness of notice has prevented me from procuring and inserting said surveyed length with exactness.

From the second crossing of Otter Tail river to Pembina, as also from St. Cloud (via White Bear Lake and Graham's Point) to Pembina, the distances are taken from the odometer measurements of various expeditions, but as in their details they offer many discrepancies, I have thought it best to include them all, so that the observations of future travelers may decide upon their relative value.

The portions of other land routes are but estimated, and, of course, not strictly reliable.

The routes beyond Pembina are mostly from odometer measurements.

Along the channel of the Red River of the North the distances are ascertained with comparative exactness from Breckinridge to the mouth of Buffalo river, the forwardness of the U. S. Land Surveys in the Red River valley admitting of it; but from Buffalo river to Pembina Captain Pope's table of distances has been used. Capt. Pope estimates this latter portion of the river as 248 miles in length, but when it is correctly known, by survey, I do not think it will be found to exceed 230 miles, making the actual distance by water from Breckinridge to Pembina about 370 miles. Maj. S. H. Long, in 1823, stated the distance from the mouth of Red Lake to Pembina to be 130 miles.

The following summary exhibits the relative lengths of the detailed routes between St. Paul and Pembina:

STATEMENT OF TOTAL DISTANCES

(Omitting the detours spoken of above.)

		Miles.
1st.	Via Crow Wing and Detroit Lake	413 to 424
2d.	St. Cloud, Alexandria, Dayton, and the "forks of trail," say,	420
3d.	St. Cloud, Richmond, White Bear Lake, Elbow Lake, Dayton, and the "forks," say	445
4th.	St. Cloud, Richmond, White Bear Lake, Graham's Point (about), and the road through Dakota Territory,	464
5th.	St. Cloud, Richmond, White Bear Lake, Graham's Point (about), and the river,	600
6th.	St. Cloud, Alexandria, Dayton, Breckinridge, and the river, say,	590
7th.	St. Cloud, Alexandria, Dayton, Breckinridge, Shayenne, and the river, say,	525

I am, sir, very respectfully,

Your obedient servant,

ALFRED J. HILL.

A.

Table of distances from St. Paul to Pembina—Crow Wing or Woods Road.

I. ST. PAUL TO LAKE FLOYD.

United States Military Road Surveys, 1857.

FROM ST. PAUL (FULLER HOUSE) TO	Mls.	Total
St. Anthony (opposite the Falls)	9	9
Manomin	7½	16½
Anoka (east of Rum river)	10	26½
Itasca	6½	33
Orono (Elk river)	7	40
Humboldt (Big Lake)	8½	48½
Marseilles (Bear Island)	9	57½
Boyington's Tavern	4	61½
Clear Lake	4	65½
East St. Cloud (Brantford post office)	9	74½
Sauk Rapids	3	77½
Watab	5½	83
Langola	12½	95½
Swan River	10	105½
Little Falls	3	108½
Belle Prairie	5½	114
Olmstead's	8½	122½
Mouth of Nokay river (opposite Fort Ripley)	½	123
Crow Wing	7	130
Chippewa Agency at Gull River	4½	134½
Opposite mouth of Long Prairie river	12½	147
Commencement of Grand Marais—end of built road	5	152
Crossing of Crow Wing river—Wadena	8½	160¼
Crossing of Wing river	9¾	169¾
Crossing of Bluff creek	12¼	182
Commencement of Leaf Mountain	6	188
Outlet of Leaf Lake	5	193
Leaf City	2	195
Otter Tail City (to left of road)	5¼	
First crossing of Otter Tail river (Rush Lake	7	202
Second " " "		
[*end of surveyed line.*	16	218
Third crossing of Otter Tail river } *Odometer*	4½	222½
Detroit Lake—north shore } *measure-*	10½	233
Lake Floyd (Eagle's Nest Lake) } *ments.*	6	239

II. LAKE FLOYD TO PEMBINA.

Col. Nobles. 1859.

FROM LAKE FLOYD TO	Mls.	Total
North end of small lake to left of road	2½	241½
Timbered lake, to left	5¼	246¾
Buffalo river, 10 feet wide, 1 foot deep	5¼	252
Dividing ridge, lake and timber	8½	260½
Junction of St Cloud and Pembina trail	11⅜	272
Crossing of Wild Rice river, 35 feet wide, 2 feet deep.	5	277
Crossing of Wild Rice creek, 15 feet wide, 1 foot deep.	5	282
Crossing of Sand Hill river, 30 feet wide, 1½ feet deep.	19¾	301¾
Crossing of Sand Hill creek, (12 feet)	6	307¾
Bad marshes	1¾	309½
Stony butte and lake	11¾	321¼
Small creek, water in holes	3½	324¾
Crossing of Red Lake river, 175 feet wide, 3½ feet deep.	4½	329¼
Small lake and marsh	11	340¼
Small lake	4¾	345
Coulee	12½	357½
Crossing of Snake river	4	361½
Crossing of Middle river, 20 ft. wide, 6 in. d'p	7	368½
Crossing of Pine river, 15 ft. wide, 1 ft. deep	6	374½
Bend of Pine river	4	378½
Small creek	6½	385
Big Point	15¼	400¼
South fork of Two Rivers	6¼	406½
Mouth of Two Rivers	5	411½
Pembina	12¼	424

III. RED LAKE RIVER TO PEMBINA.

Col. F. L. Smith. 1856.

FROM ST. PAUL TO	Mls.	Total
Red river		329¼
Small lake	18	347¼
Middle river	17½	364¾
Tamarac river (R. aux Epinees)	4	368¾
Small stream	16½	385¼
South branch of Two rivers	11	396¼
North branch of Two rivers	4¼	400½
Lac du Nord Ouest	11½	412
Pembina, west side of Red river	¾	412¾

B.

Table of distances from St. Paul to Pembina—plain trail.

I. ROUTE OF MAJ. WOODS AND CAPT. POPE.

June and July, 1849.

FROM ST. PAUL TO	Mls.	Total
Crossing at Sauk Rapids		78½
Cold Water creek	16	94½
Crossing of Sauk river (Richmond)	5	99½
David Lake (now Henry Lake)	14	113½
Lake Henrie (now Lake George)	7	120½
Crossing of Crow river	8	128½
Lightning Lake (now Grove Lake)	11	139½
White Bear Lake	14	153½
Pike Lake	13	166½
Main branch of Chippewa river	11	177½
Elk Lake	2	179½
Tipsina, or Pomme de Terre river	5	184½
Elbow Lake	10	194½
Rabbit River (W. branch of Pomme de Terre)	4	198½
Crossing of Otter Tail river	20	218½
Crossing of Red river (near Graham's Point)	22	240½
Crossing of Wild Rice river, west	13½	254
Crossing of Shayenne river	11	265
Crossing of Maple river	17	282
Rush river, turned it	18½	300½
" bend	9½	310
Point of ridge	16	326
Main branch of Elm river	7½	333½
South branch of Goose river	8½	342
Salt Lakes	8½	350½
Main branch of Goose river	10½	361
Crossing of "	2½	363½
Turtle river	18	381½
Big Salt river	19½	401
Little Salt river	9	410
Little Hill river	12½	422½
Cart river (R. de la Chavrette)	2½	425
Steep Hill river	2	427
Heartshorn river	3	430
Mud river and commencement Poplar Isl'ds	7	437
Branch of Tongue river	16	453
Mouth of Pembina river	10½	463½

II. ROUTE OF ELLIS SMITH AND PARTY.

August, 1858.

FROM ST. PAUL TO	Mls.	Total.
Crossing at St. Cloud, say		74.52
Sauk river bridge	6.83	81.33
St. Joseph	4.94	86.27
Cold Spring	9.88	96 15
Sauk river ferry, Richmond	5.57	101.72
Lake Henry	15.80	117.52
Lake George	5.66	123.18
Crossing of Crow river	10.27	133.45
Grove Lake	10.40	143.85
Chippewa river	5.23	149.08
White Bear Lake	6.11	155.19
Little Chippewa river	17.52	172.71
Lake	.84	173.55
Rapid river, (main branch of Chippewa)	7.11	180.66

	Mls.	Total.
Lake (Pomme de Terre Lake)	8.07	188.73
Pomme de Terre river	1.41	190.14
Lake (Elbow Lake)	9.22	199.36
Lightning Lake	5.52	204.88
Crossing of Otter Tail river	15.42	220.30
Crossing Red river (near Graham's Point)	22.90	243.20
Crossing of Wild Rice river, west—bridged	11.39	254.59
Crossing of Shayenne river, bridged	14.82	269.41
Crossing of Maple river	18.49	287.90
Crossing of Rush river (creek only)	7.61	295.51
Bed of stream, water in pools (Rush river)	9.72	305.23
" " "	13.64	318.87
Hemlock river (main branch Elm river)	23.62	342.49
Goose river (south branch of ?)	5.07	347.56
Stream, 20 feet wide	11.79	359.35
Stream, 20 ft. wide (Goose R. main branch)	5.97	365.32
Lake	4.61	369.93
Turtle river	17.39	387.32
Stream	4.97	392.29
Salt river (Little Hill river) bridged	32.98	425.27
Water in marshes	25.02	450.29
Crossing of Pembina river (ferry) Pembina	15.30	465.59

C.

Table of distances of portions of various routes between St. Paul and Pembina.

I. SAUK RAPIDS TO SIOUX WOOD RIVER.

Gov. Stevens' Expedition. June, 1853:

FROM SAUK RAPIDS TO	Mls.	Total
Cold Spring brook	18	18
Sauk river ford (Richmond)	6	24
Lake Henry	19½	43½
Branch of Crow river, 20 feet wide	19	52½
Lightning Lakes (Grove Lakes)	9¾	62¼
Branch of Chippewa river, 20 feet wide	6¼	68½
White Bear Lake	5	73½
Tributary of South branch, 15 feet wide	10½	84
Swift brook, 6 feet wide	3½	87½
Pike Lake	1¾	89¼
Chippewa river, 124 feet wide	10¾	99½
Elk Lake	½	100
West branch of Chippewa river (Pomme de Terre) 140 feet wide	8¼	108¼
Elbow Lake	9¼	117½
Rabbit river (west branch of Tipsina)	6	123½
Small brook, 12 feet wide	5¼	128¾
Small brook (tributary of Rabbit river)	11¾	140½
Bois des Sioux river, 8 miles above mouth	10	150½

II. ST CLOUD TO GEORGETOWN.

Stage and Mail Route—Table prepared by Mr. B. C. Borden. 1859.

FROM ST CLOUD TO	Mls.	Total
St. Joseph	7	7
Cold Spring	10	17
Richmond	4½	21½
Oak Grove	19½	41
Sauk Centre	17	58
Kandotta	2	60
Osakis	10	70
Alexandria	12	82
Evansville	22	104
Dayton (Wascata P. O.)	27	131
Breckinridge	24	155
Graham's Point	12	167
Burlington (by land)	26	193
Shayenne (by land)	20	213
Georgetown (by land)	4	217

III. ST. CLOUD, VIA SIOUX WOOD R., TO GOOSE R.

Col. C. F. Smith. August, 1856.

FROM ST. CLOUD TO	Mls.	Total
First crossing of Sauk River	3	3
Cold Water creek	14	17
Second crossing of Sauk river (Richmond)	5	22
Lake Henry	18	40
Lake McLeod (Grove Lake)	15	55
Branch of Chippewa river, beyond White Bear Lake, which passed to left	18⅝	73⅝
Pike Lake	4⅓	78
Tipsina, or Pomme de Terre river	18	96
Elbow Lake	13	109
Rabbit river	10⅔	119⅜
Bois des Sioux river, about 4 m. from mouth	17½	137
Graham's Point	17	154
Wild Rice river, west	6¼	160¼
Shayenne river	15	175¼
Maple river	13	188¼
Crossing of Maple river	3½	191¾
Creek emptying into Maple river	7	198¾
Rush river	15½	214¼
Small branch of Elm river	15	229¼
South branch of Goose river, here left road	11½	240¾

IV. DETROIT LAKE TO GEORGETOWN.

By Mr. Borden.

Estimated		55

V.

Elbow Lake to Wascata, about	18	
Wascata (Dayton) N. to forks of trail, about	80	98

VI.

From the Upper Sioux Agency (Yellow Medicine) on the Minnesota river, to Breckenrige, the distance, by the land route, is at least 125

VII. RAILROAD LINES.

1st. The length of the "branch" line of the Minnesota and Pacific Railroad from St. Paul to St. Vincent, as far as surveyed and located, to Crow Wing, is about 125 miles.

2d. The length of the main line of the same railroad, as surveyed and located to a point on the Sioux Wood river within 8 miles of Breckinridge, is about 207 miles.

D.

Breckinridge to Pembina by the channel of the Red River of the North.

FROM BRECKINRIDGE (*mouth of Sioux Wood River*) TO	Mls.	Total
Crossing of trail	11½	11½
Graham's Point	5½	17
Fort Abercrombie	6½	23½
Mouth of Wild Rice River West (Psihu R.)	52½	76
" Shayenne river	41¾	117¾
Village of Lafayette	¾	118½
" Shayenne	2½	121
Mouth of Buffalo river (Georgetown)	7½	128½
" Elm river	25¼	153¾
" Wild Rice river East	6¼	160
" Goose river	22¼	182¼
" R. au Marais No. 5 (from Pembina) [Sand Hill R?]	1	183¼
" Sand Hill river [R. au Marais?]	23½	206¾
" Coulee des Vaches	5¼	212½
" Coulee de la Butte de Sable	1	213½
" Coulee du Nez Rouge	4½	218
" Riviere au Marais, No. 4	8¼	226¼
" Coulee du Jeune Bauf	3	229¼
" La Grand Coulee	8	232¼
" Coon creek	7¾	240
" Red Lake river (La Grand Fouche)	4	244
" Coulee de L'Anglais	4½	248½

	Mls.	Total
" Riviere au Marais, No. 3	7½	256
" Turtle river	11¼	267¼
" Riviere au Marais, No. 2	27¾	295
" Salt river	3½	298½
" Riviere au Marais, No. 1	13	311½
" Park river	7¼	318¾
" Riviere aux Epines	2¾	321½
" Coulee du Bois Percee	26¾	348¼
" Black river	3	351¼
" Two Rivers	11¾	363
" Pembina river	13½	376½

E.

Routes and portions of routes to the North and Northwest of Pembina.

I. PEMBINA TO THE FOOT OF THE MOUNTAINS.

W. E. Smith and G. C. Burnham. 1858.

FROM PEMBINA TO	Miles.	Total.
Fort Garry	70.23	70.23
Fort Ellice, ascending the Assiniboine	231.29	301.52
Touchwood Hills Fort, W.N.W. course	169.47	470.99
South branch of the Saskatchewan, do	129.34	600.33
North branch of do do	54.88	655.21
Crossing the north branch about a day and a half's journey west of Carlton to Jack Fish Lake (*per Odometer*)	105.10	760.31
Fort Pitt, estimated	70.00	830.31
Edmonton "	180.00	1,010.31
The foot of the Mountains "	180.90	1,190.31

II. PEMBINA TO FORT ELLICE, VIA ST. JOSEPH.

Col. W. H. Nobles. 1859.

FROM PEMBINA TO	Miles.	Total.
St. Joseph by the South trail	81¾	
" North trail	34¾	
St. Joseph to Oak Village, about	142	
Oak Village to Fort Ellice, about	61	
Whole distance to Fort Ellice, about		238

III. PEMBINA TO THE KOOTONAIS FORT.

Dr. A. J. Thibodo. 1859.

FROM PEMBINA TO	Miles.	Total.
Fort Ellice (via Fort Garry)	300	300
Fort Qu Appelle	126	420
The elbow of the Saskatchewan	146	566
The entrance of the Kootonais Pass	546	1,112
Kootonais Fort	105	1,217

IV. PEMBINA TO MOUTH OF RED RIVER, *by water.*

FROM PEMBINA TO	Miles.	Total.
Fort Garry (confluence of Assinboine) estimated	100	
Lake Winnipeg, beyond the delta, "	43	143

APPENDIX "E."

INCREASED PRODUCTION OF CULTIVATED PLANTS NEAR THE NORTHERNMOST LIMIT OF THEIR GROWTH.

Extracts from an article upon the "Acclimating Principle of Plants," in the American Journal of Geology, by Dr. Forry.

The cultivated plants yield the greatest products near the northernmost limit in which they will grow.

I have been forcibly impressed with this fact, from observing the productions of the various plants, which are cultivated for food or clothing in the United States. The following instances will go far to establish the principle, viz :—

The cotton, which is a tropical plant, yields the best staple and surest product in the temperate latitudes. The southern parts of the United States have taken the cotton market from the East and West Indias, both as regards quantity and quality. This is partly owing to the prevalence of insects within the tropics, but principally to the forcing nature of a vertical sun. Such a degree of heat developes the plant too rapidly—runs it into wood and foliage, which become injuriously luxuriant; the consequence is, there are but few seed pods, and these covered with a thin harsh coat of wool. The cotton wool, like the fur of animals, is, perhaps, designed for protection; and will be thick and fine in proportion as the climate is warm or cool. Another reason is to be found in the providence of the Deity, who aims to preserve races rather than individuals, and multiplies the seeds and eyes of plants, exactly as there is danger of there being destroyed by the severity of the climate, or other causes. When, therefore, the cares and labors of man counteract the destructive tendency of the climate and guaranty their preservation, they are, of course, more available and abundant.

The lint plants, flax, hemp, &c., are cultivated through a great extent of latitude, but their bark, in the southern climates, is harsh and brittle. A warm climate forces these plants so rapidly into maturity, that the lint does not acquire either consistency or tenacity. We must go far north in Europe, even to the Baltic, to find these plants in perfection, and their products very merchantable. Ireland is rather an exception as to latitude; but the influence of the sun is so effectually counteracted there by moisture and exposure to the sea air, that it is always cool; hence, the flax and potato arrive at such perfection in that region.

It holds equally true in the farinaceous plants. Rice is a tropical plant; yet Carolina and Georgia grow the finest in the world; heavier grained, better filled, and more merchantable, than any imported into Europe from the Indies. The inhabitants of the East Indies derive their subsistence almost exclusively from rice; they must be supposed, therefore, to cultivate it with all skill and care, and the best contrivances for irrigation. Such is, however, the forcing nature of their climate, that the plant grows too rapidly, and dries away before the grain be properly filled. Indian corn, or maize, if not a tropical plant, was originally found near the tropics; and although it now occupies a wide range, it produces the heaviest crops near the northern limit of its range. In the West Indies it rises thirty feet in height; but with all that gigantic size, it produces only a few grains on the bottom of a spongy cob, and is counted on only as rough provender. In the Southern part of the United States, it reaches a height of fifteen feet, and will produce thirty bushels to the acre; in the rich lands of Kentucky and the Middle States, it produces fifty or sixty bushels to the acre; but in New York and New England, agricultural societies have actually awarded premiums for one hundred and

fifty bushels to the acre, collected from stalks only seven feet high. The heats of a Southern sun develope the juices of this plant too quickly. They run into culm and blade, to the neglect of the seed, and dry away before fructification becomes complete.

Wheat is a more certain crop in New York, the northern part of Pennsylvania, and Ohio, and in the Baltic regions of Europe, than in the south either of Europe or America. In the north, snows accumulate, and not only protect it from the winter colds, but from the weevil, Hessian fly, and other insects that invade it; and in the spring it is not forced too rapidly into head, without time to mature fully, and concoct its farina.

A cold climate also aids the manufacturing of flour, preserving it from acidity, and enables us to keep it long, either for a good market, or to meet scarcities and emergencies. Oats grow in almost every country; but it is in northern regions only, or very moist or elevated tracts, that they fill with farina suitable for human sustenance. Rye, barley, buckwheat, millet, and other culmiferous plants, might be adduced to illustrate the above principle; for all their habits require a more northern latitude than is necessary to their mere growth.

The grasses are proverbially in perfection only in northern and cool regions, although they will grow everywhere. It is in the north alone that we raise animals from meadows, and are enabled to keep them fat, and in good condition, from hay and grass alone, without grain. It is there the grasses acquire a succulence and consistency enough, not only to mature animals, but to make the richest butter and cheese, that contribute so much to the tables of the luxurious. The grasses which do, often, in the south, grow large enough, are without richness and nutriment; in hay, they have no substance; and when green are too washy to fatten animals; the consequence is, most animals in those latitudes browse from necessity, and are poor and without size or beauty. It is the same hot sun which forces them to a rapid fructification, before they have had time to concoct their juices. The sugar cane produces, perhaps, better where it never seeds, than in the tropics; for the juices will never ripen so as to granulate, until checked by frost or fructification. In the tropics, the cane grows twenty months before the juices ripen; and then the culm has contracted a woody, fibrous quality, to such a degree as to resist the pressure of the mills, and yields but little juice, and that to an increased effort. In Louisiana we succeed well with the sugar culture; because, while the culm is succulent and tender, a white frost checks the growth, ripens the juices and in five months gives us a culm, tender, full of juice, easy to press, and yielding much grain of sugar. When Louisiana, therefore, acquires all the necessary skill, she will most probably grow this article cheaper than the West Indies.

Tobacco is a southern plant, but there it is always light and chaffy; and although often well-flavored, it never gains that strong narcotic quality which is its only peculiar property, unless you grow it as far north as Virginia. In the south, the heat unfolds its bud or germ too soon, forces into full expansion the leaf, and drives it to seed before the narcotic quality can be properly elaborated. We may assert a general rule applicable to all annual plants, that neither the root nor the leaf acquires any further size or substance after fructification.

The tuberose, bulbous, and other roots, cultivated for human and animal subsistence, are similarly affected by climate, and manifest habits in corroboration of the above principle. The Irish potato, although from or near the tropics, will not come to perfection but in northern or cool countries, or in moist, insular situations, as Ireland. It is in such climates alone, that its roots acquire a farinaceous consistence, and have size, flavor, and nutriment enough to support, in the eminent way in which they are susceptible, animal life. In the south, a forcing sun brings the potato to fructification before the roots have had time to attain their proper size, or ripen into the proper qualities for nourishment. In Ireland the plant grows slow, through a long and cool season, giving time for its juices to be elaborated and properly digested; hence that fine farina and flavour which characterizes them. The sweet potato produces larger, better flavored, and more numerous roots in Carolina, where it never flowers, than in the West Indies. In the latter place this plant runs wild, covers the whole face of the earth with its vines, and is so taken up with making foliage, that the root becomes neglected, and is small and woody. In order to have the onion in perfection, it must grow through two years, swelling all the time its bulbs. In the south, however, it seeds in one year, and before it has made much bulb. Beets, carrots, parsnips, turnips, radishes, and other roots, are equally affected by a hot sun, and scarcely worth cultivating far to the south. They all fructify before they have formed perfect roots, and make foliage at the expense of their bulbs; hence they will always be articles of commerce; the south will have to depend upon the north for them.

The salad plants are in like manner affected by climate, and give further proofs of our assumption. Cabbages, lettuces, endive, cellery, spinage, plants whose leaves only are eat, to protect their leaves from cold (through a kind of instinct,) wrap them up in leaves, which form heads, and render many of their other parts tender and crisp for use. These leaves, thus protected, are not only tender, but more nutritious, because their growth has been slow and their juices well digested. In the south, a relaxing sun lays open the very buds of such plants, gives a toughness and thinness to the leaves, and they are too unsubstantial for animal support, because of such quick and rapid developement.

The delicious and pulpy fruits are, in a still more striking way, illustrative of our principle. The peach, nectarine, plum, apple, cherry, currant, gooseberry, apricot, and many other such families, are not in perfection in the south. It is in Pennsylvania, Virginia, Maryland, Jersey and in the north of Europe that we enjoy them, although, originally, they came from near the tropics. The peach of the Carolinas is full of larvæ, gum and knots, and too stringy and forced to be juicy and flavored. The apple of the south is too acerb to be either eaten or preserved. The plums, apricots, cherries, currants, gooseberries, &c., will not even mature until we go far north. All the trees which bear these delicious fruits will grow luxuriantly in the south, make much foliage and wood, with but little pulp, and that unsavoury. The kernel in the one-seeded fruit seems to be first object of nature in southern climes; that becomes strong, oily, and enlarged; and one of the peach family has so entirely neglected the pulp, that it has only a husky matter around the kernel, as the almond. The changeableness of the weather in the south, in the spring season, throws plants off their guard; the frosts attendant on those changes destroy the young fruit; and it is only one year in three that the crop hits at all. The desiccated or dried state of these fruits enables us to enjoy them through the year; but in the south their acidity carries them into fermentation or decomposition before they can be divested of their aqueous parts. The climate of the south is equally against converting them into cider, or any other fermented liquor, because the heat forces their compressed juice so rapidly into an active fermentation, that it cannot easily be checked until it passes into vinegar. For the same reason distillation goes on badly in hot climates, and cannot be checked long at the proper point to give much alcohol: and whether we aim to enjoy the delidious freshness of these fruits themselves, sip the nectarin of their juices, refresh ourselves with their fermented beverage, stimulate our hearts with their brandies and cordials, or feast through the winter upon the dried or preserved stores of their fruits, we are continually balked by the severity of a southern climate, and for such enjoyment must look to the north.

The melons are always affected by too great a degree of heat, even though their vines flourish so much in southern latitudes. The forcing sun hurries them on to maturity before they have attained much size, or acquired that rich saccharine and aromatic flavor for which they are so much esteemed. The cantelope-melon will rot, or have its sides baked by a hot sun, before it is fully formed; and the water-melon is always woody, dry, and devoid of its peculiar sweetness and richness in the south. Vines have been known to run one hundred feet, and bear no melon. It is in Philadelphia and its neighborhood, and in similar latitudes that the markets are loaded with delicious melons of all sorts, whose flavor so much refresh and delight us. It is there, near their northern limit, that we cultivate them with such uniform success.

The orange, strictly a tropical plant, is more juicy, large and delicious at St. Augustine (Florida,) than at Havana; and fruiterers, in order to recommend an orange, will say that it is from some place out of the tropics. In the West Indies, the pulp of the orange is spungy, badly filled with juice, and has too much of a forced flavor to be pleasant. The hot-house forcers of Europe, or at Rome, anciently at first produced bad fruit; too dry, too small, and without flavor; because they overacted. They have lately found out that fact, and now the productions of the hot-houses of London, Paris, &c., astonish and delight us with the quantity and excellence of the fruit. They have found out that gradual and uniform heat is the desideratum; countervailing the cold rather than imparting much heat. Fruit thus produced is pronounced better than any grown in the natural way, however perfect the climate.

The juices of the grape are best matured for wine near the northern limit of their growth. On the Rhine, in Hungary, the sides of the Alps, and in other elevated or northern situations, the wine is strongest, richest, and most esteemed. The French wines rank before the Spanish and Italian; and in no southern country of Europe or Africa, except Madeira, where elevation makes the difference, is the wine in much repute. The grapes of France are more delicious for the table than those of Spain or Madeira. In the northern part of the United States, the excess of heat and moisture blights the grape to such an extent that all attempts have failed in its cultivation. The grape-vine, however, whether wild or cultivated grows there very luxuriantly. The vinous fermentation can also be best conducted in a climate comparatively cool; and all the pressing, fermenting and distillation of the juice of this delicate fruit can be safer and more profitably managed in a mild region.

The olive, and other oleaginous plants, yield more fruit, of a richer flavor, and can be better pressed, and the oil preserved, in a mild climate. In France the tree is healthier, and the fruit and oil better than in Spain or Italy; and the Barbary States are known to import their oil from France and Italy.

Many other plants might be named, whose habits would equally support our position. It is presumed, however, that enough have been cited to call the attention of philosophy to this curious subject, and enable us to give proper attention to it, in all the practical operations of agricultural pursuit. Much time and expense might be saved, and profits realized, if this were more generally understood.

We have already observed, that the heat of the sun in southern climes forces plants to a false maturity, runs them on too rapidly to fructification, and renders dry and woody the culms, stalks and leaves of the plants, where these parts are used. Hence the chaffiness of

the leaf, the dryness of the culm, the lightness of the grain, and the unsavory, spongy quality of the pulp of the plants in those latitudes. Hence the difficulty of fermenting their juices, distilling their essences, and preserving for use the fruit, juice, or blades of such plants. The prevalence of insects is another bar to the productiveness of southern plants; swarms of them invade and strip the leaves, bore the fruit, and lead to blight and decomposition; and just in proportion as the labors of man have rendered plants succulent, and their fruits and seeds sweet and pleasant, do these insects multiply on them, devour their crops, and defeat the objects of husbandry.

The labor of man too is more conservative in northern climates, because his arm is better nerved for exercise, his health and spirits more buoyant; and instead of saying "Go and work," he says, "Come and work;" treads with a cheerful heart upon his own soil, and assists in the cultivation, collection and preservation of his own productions. It is in temperate climates that man can be most familiar with nature; it is there he has the best opportunities of observing the guarantees which nature has for the preservation of her animals and plants against the devastation of the elements; he sees an occasional apparent neglect of individuals, but a constant parental care of races. In every thing he sees the wisdom and benevolence of God.

APPENDIX "F."

PROF. M. F. MAURY AND PACIFIC RAILROADS—THE PHYSICAL, COMMERCIAL AND MILITARY NECESSITY OF TWO RAILROADS, ONE NORTH AND ONE SOUTH.

[At a special meeting of the Chamber of Commerce of the city of St. Paul, Minnesota, held on Saturday, January 22, 1859, at the Room of the Chamber, Col. D. A. Robertson submitted a letter of Commander M. F. Maury, U. S. N., (Superintendent of the Observatory at Washington,) upon the subject of Pacific Railroads.

On motion of Gov. Alexander Ramsey, Col. Robertson was requested to furnish a copy of the same for publication, it being in the estimation of the Chamber the most able exposition of the subject treated upon ever written.

The request of the Chamber was complied with as follows:]

ST. PAUL, Jan. 24, 1859.

Dear Sir—I venture to comply with your request in behalf of the St. Paul Chamber of Commerce, to furnish a copy of Commander Maury's letter of the 4th inst. for publication, (striking out the portion of a private nature.)

In doing so, it is proper to remark that the letter was written in the course of private correspondence, yet, in furnishing it for publication, I confidently rely upon the acquiesence of its distinguished and patriotic author. Its contents, especially at this time, are of too much national value to be allowed to remain in the obscurity of any private hand. May I not say, with safety, that the scientific, geographical and commercial facts therein presented, with such transcendent ability and high authority, settle the whole question so long debated about routes and roads to the Pacific?

Yours truly,

D. A. ROBERTSON.

To WM. R. MARSHALL, Esq., President St. Paul Chamber of Commerce.

OBSERVATORY, WASHINGTON,
January 4, 1859.

My Dear Sir:

* * * *

I have often wished that the question, pure and simple, Railroad or no Railroad to the Pacific, could be put to the popular vote of the nation. Never, since the Memphis convention of 1849, should I have had any doubt as to the result. The vote would be largely for the road.

While all admit the importance of one or more such railways, there has been such a diversity of opinion as to routes and plans, that no one route has as yet met with friends enough to carry it through in spite of its rivals, and I do not think that it ever will.

Two roads at least are necessary. At least two roads—one at the North, the other at the South, are required for the common defence. At least two roads—one at the South, the other at the North—are necessary, socially and commercially; for by two roads so placed, the markets of China, Japan, and the Amoor, will be brought nearer to us by many days' sail than it is possible for one road to bring them. This may sound paradoxical; yet I hope, before I am done, to explain the paradox to your satisfaction.

Let us first consider the importance of two roads in their military aspect. Vancouver Island commands the shores of Washington and Oregon; and whether the terminus of the

Northern road be on Puget Sound or at the mouth of the Columbia river, the munitions sent there could be used for no other part of the coast, for Vancouver overlooks them.

They could not, on account of Vancouver in its military aspects, be sent from the northern terminus to San Francisco and the South; nor could the Southern road—supposing only one, and that at the South—send supplies in war from its terminus, whether at San Diego or San Francisco, by sea either to Oregon or Washington. Vancouver would prevent, for Vancouver commands their coasts as completely as England commands those of France on the Atlantic. So complete is this military curtain that you never heard of France on the Atlantic sending succor by sea to France on the Mediterranean, or the reverse, in a war with England. The Straits of Fuca are as close as the Straits of Gibraltar.

In preparing for the national defenses of the Pacific, this fact, and the fact that Vancouver Island is in the hands of a foreign power, are well calculated to impress peculiar features upon any system that may be adopted.

But I promised to explain why two roads, one at the South, the other at the North, will bring the markets of Asia much nearer to us than either road, singly, would make them.

Before, however, I go into that explanation, let us clear away some of the obstacles which error has placed in the way of a Northern route to the Pacific.

Most men of our age were educated under the belief that parallels of latitude and terrestrial climates are correlatives; that we might tell the temperature of any unknown country or region of country, if we knew its latitude.

Humboldt and Dove exploded this idea with their isothermal lines. For example, they show that the mean annual temperature of North Cape, lat. 70° in Europe, is the same as that along the north shore of Lake Superior, in lat. 50°. Here is a difference of 20° of lat. without any difference in the average annual temperature of the two places.

There is a difference in the length of day and night at the two places, and so far as climate is affected by difference in the length of day and night, climate is to that extent, and no farther, an affair of latitude. But with differences in length of day and night, the relations between climate and latitude cease. The thermometer and hygrometer then become the true exponents of climate. Every region, indeed, tells the whole story of its climates by its flora.

Let us get rid then of our old notions concerning the relations of latitude to climate, and with unbiassed minds lay out this north temperate zone, which we inhabit, into thermal bands, and then study the flora of these bands. After we shall have done this, then I think we will be able to agree, at least among ourselves, as to the necessity of two routes to the Pacific. Moreover, we can select those routes that will be the best agriculturally and commercially; and when we shall finish with this investigation, you will find that these two routes lie exactly where the best plan of national defense requires them—the Northern route commencing at the western boundary of Minnesota, and going to Puget's Sound, with a branch, in the course of time, to the mouth of the Columbia—the Southern route commencing at El Paso in Texas, and going thence to San Diego and San Francisco.

I speak of these routes as the routes which commerce and agriculture as well as war require. The elements indicate them. I place the climatology of these, the agricultural and commercial resources of the regions through which they pass in the same category, because commerce is based on difference of agricultural productions, and difference of productions is an affair of climate altogether. Therefore, in studying climates and routes we study variety of production, and cannot help looking at them in their commercial aspects.

The Army Meteorological Observations, Blodget's Climatology of the United States, and Dove's Isothermal Maps, enable us to divide that portion of the northern temperate zone occupied by the United States, into two grand and characteristic thermal bands.

The fauna and the flora of these two bands differ. The people differ—their climates differ—the industrial pursuits in them differ—and, therefore, I call them grand and striking subdivisions.

Speaking in a general way, the United States lie between the mean annual isotherms of 35° and 70°.

Take a school map of the world and let us draw with a pencil these isotherms across Europe, Asia, and Africa also.

Beginning on the west coast, with the pencil at Sitka, draw it with a free hand thence through the mouth of the Red River of the North, touching the north shore of Lake Superior, crossing the St. Lawrence below Quebec, and thence to St. Johns, Newfoundland. Now beginning in Europe, near Christiana, draw your pencil up towards the Gulf of Onega; then draw through Orenberg to Kiachta, Marghen and the mouth of the Amoor. You can now see sufficiently near for our present purpose how the isotherm of 35° runs. The mean temperature of all places south of this line is not more than 35°.

In like manner we sketch off roughly the annual isotherm of 70° through the new world and the old. It starts from San Diego, crossing the Colorado at its mouth, and then passing down through Chihuahua to Austin, in Texas, it goes by New Orleans and Pensacola to the sea. Striking the African coast near Mogador, it goes through Cairo, Ispahan, Delhi, to Canton. The mean temperature of all places to the north of this line is less than 70°.

Now let us divide the belt included between these two isotherms into two nearly equal ther-

mal bands, by tracing likewise with a free hand the isotherm of 52°, the mean (nearly) between 35° and 70°.

Beginning near Cape Orford on the West Coast, this isotherm passes up towards the Dalles, then down a little to the west of Salt Lake to Santa Fe; then up to Scott's Bluff, and then through St. Louis and Louisville to Baltimore. Taking it up in England it passes through Belgium towards Zurich, then up towards Olmutz, and so on through Varna, Derbent, Kokan and Pekin.

This line divides this belt thermally and geographically into two bands of nearly the same size. They include the garden spots of the earth. In them man laid his first hearthstone, and from them the lights of civilization and christianity have shed their first and their brightest rays.

Let us, for the convenience of reference, call the Northern band the upper band, and the Southern one the lower.

We are now prepared to cast the eye over them, and to generalize concerning the commercial and agricultural aspects of the two routes.

The plants which give physiognomy to the fields and forests of these bands are, for the upper band, conifers, the willow, the beech, larch, fir, alder, elm, hickory, birch, cranberries, and pasture grasses. For the lower band, the characteristic plants are thick-leaved evergreens, and arborescent grasses, the cypress, cedar, ash, and magnolia, with roses.

The chief commercial plants, besides the cereals—which are common to both—are for the lower band, the orange, the vine, the fig, peach, date, pomegranate, citron, the melon, St. John's Bread, the sweet potato, rice, indigo, tobacco, hemp, cotton, tea, sugar, and naval stores. For the upper band, buckwheat, hay, Irish potatoes, turnips, apples, pears, plums, herds and flocks.

Most of the railways, both in Europe and America, are in the upper band; so are the great centers of commerce, and the places for fairs in Europe and Asia—a sure sign that the occupations of the people in the upper band are not so exclusively agricultural as those of the lower. In other words, we are reminded by this division that the people, in spite of legislative enactments, tariffs and protection, have obeyed the laws enacted by nature as expressed for the geographical distribution of labor, and that man, though the same in both bands, has in each heeded those physical conditions by which he finds himself surrounded, and directed his labors to those pursuits which promise the best returns.

This circumstance reminds us that railways in the upper bands should be much more apt to have full freights both ways than are railways in the lower band. The latter carry away tobacco, hemp, cotton, rice, sugar, &c., and may bring back in a single car, the manufactured articles for which a whole train-load of cotton has been exchanged. Hence, as a rule, railroads in this band carry more than they fetch. The same raw and bulky articles go into the upper band to be manufactured, and when manufactured, they are put on the rails for distribution, and for market—thus increasing freights for this band both ways.

Each one of these thermal bands in the United States wants its roads from sea to sea, and each must have it. Each wanted its system of roads between the Atlantic Ocean and the Mississippi River, and each has it, whether Congress would or not—and so it will be between the "Grand Ocean" and the Mississippi.

Look at the steel engraved map in Putnam's Railroad Guide and you will see how these systems of roads have been formed. Until last summer Virginia would stretch no railway line from any of her fine harbors into the valley of the West. North Carolina had no harbors; hence, the blank space on that map between Ohio and Georgia.

On the other hand, there was the great chain of Lakes. Then there was the Baltimore and Ohio, and the Pennsylvania Central Railroads, which were commenced at a very early day, and pushed forward with vigor. Now see what a net-work of roads these have called out, reaching to and beyond the Mississippi, and stretching due East to connect with these.

While Virginia would not, and North Carolina could not, South Carolina and Georgia went to work with their system of roads, which has already stretched itself towards the setting sun far beyond the Mississippi.

Texas has given a most magnificent grant of lands and loan of money to her Southern Pacific Railway, which will extend the Southern system as far as El Paso, within 600 miles of the Pacific.

Roads from New Orleans, Vicksburg, Memphis, and other points, are to join the Texas road. Memphis and El Paso are in the middle of the lower band. Hence, you perceive, this band has its roads well under way, and it is high time Uncle Sam should take hold and extend it Westward.

Unfortunately, this road has had troubles to an extraordinary degree—but it's a long night that has no day, and it now begins for the first time to see the light of real day. The dawn is promising.

So, too, in Minnesota: St. Paul is in the center of the upper band, and there is a railroad already under way from St. Paul to Pembina. A branch from this road leading to the Pacific will most fairly represent the system in the upper band. St. Paul is in the middle of it, and the distance by an air-line from the Western limits of Minnesota to Puget's Sound is 870 miles; making only (say) 1500 miles of road to be provided for by the general government, in order to secure both of these roads. Indeed, if the Southern road be taken to the California line, California will take care of it thence to San Francisco. So that by providing for the

construction of some 500 miles, government can now secure one at the South. Ten years ago, when this question of a road to the Pacific began first to be agitated, government would have had to provide for it all the way from the Mississippi to the Pacific—so it was held—and that would have required a single road about 2,000 miles long. Now, government aid along 1,500 miles will give us two.

These bands give a complete quietus to all objections to the Northern roads, on the score of climate. In other parts of the world roads abound in just such climates. The road from St. Petersburg to Moscow, and the Prussian roads, with others in the same bands in Europe, are even in a higher latitude than the St. Paul road will be; yet climate is no objection to them. Neither is it to the Canada railways, nor to any others as far North as the rails have been laid. We all expect to see the day when Russia will be extending her system of rails into Siberia, and none of us—for in that matter all of us have unbiassed minds—anticipate any difficulty on the score of climate.

Rain maps for these bands show that the average annual amount of rain along this northern route and until you pass the Rocky Mountain range—after which the climate is mild, like that of England—is less than it is along any railway in the Atlantic States, or in the Mississippi valley, or, indeed, in any part of the world. They show that the average amount of precipitation, both snow and rain, in winter, for that part of the route which lies between the Pacific range of mountains and St. Paul, is less than three inches!

Thus, I think, the question of climate, of terrific snow storms and impassable drifts along this route, may be considered as disposed of.

We return now to the paradox, that by these two roads to the Pacific, the markets of Asia will be much nearer to those of the Mississippi valley than either road alone could bring them. To explain this, it is only necessary to remind you how the winds blow and the currents set that control the routes of sailing vessels—the burden cars of the sea—between the eastern shores of Asia and our west coast.

The route to Asia lies through the N. E. trade winds. These winds blow between the parallel of 30 deg. N. and the Equator; and vessels that take this route usually run across the broad Pacific between the parallel of 18 deg. and 25 deg. N. where the trades are strongest. Returning, they take the great circle route—the shortest distance—and keep well up to the North; for now the "brave west winds" of those extra-tropical regions which would have been adverse for the outward voyage, are fresh and fair for the homeward run. So you perceive that a vessel trading under canvass between our Pacific States and China describes on every round voyage, an ellipse; coming out of the straits of Fuca or the Columbia river for instance, her course is first to the southward, as though she were bound round Cape Horn, and until she gets into the N. E. trade winds. Her course is then west until she enters the waters of the China Seas. She then hauls up to the northward and westward for her port. On the return voyage, her course on coming out of her Asiatic port, is to the northward and eastward, until she gets fairly within the "brave west winds." With these she steers to the eastward, following the great circle route gradually shaping her course to the S. of E. until she reaches our own shores again.

If she be bound to San Francisco, her route, until she gains the offings of the Straits of Fuca, would be the same as though she were bound into Puget's Sound or the Columbia river.

Thus you perceive that, on the outward voyage, San Francisco is on the way side from Puget's Sound and Columbia river to China; whereas, Puget's Sound and Astoria are on the way-side of the route from China and Japan to California.

To see how one road only would work, let us suppose it at the north—running from St. Paul to Puget's Sound. Let us now follow a package of merchandize—say of ginseng—that is sent over this road from Memphis to be bartered in China for tea. The ginseng would first go North up the Mississippi to get to the road. Thence it would cross to the Pacific; arriving at Puget's Sound, it would then be shipped for China. Now it must come *back to the South again to get into the trade-wind region*. Thus you observe it would have to go more than a thousand miles up the Mississippi out of the way; and when it reaches the Pacific, it would have to return again as far to the South. Being exchanged for tea in China, it would be nearest for the tea to stop at Puget's Sound, take the Railroad and come South on the Mississippi, instead of coming South by sea along the Pacific coast.

Now let us, in imagination, place the road at the South instead of at the North, and take a bale of furs to illustrate the route of trade and travel. The fur, we will suppose, is sent from St. Paul. It comes down the Mississippi to get to the road. That would not be out of the way for the *fur*, for it is bound South for the Northeast trade winds at any rate; and it would be, in a national point of view, perhaps more desirable to have it go South by the Mississippi, than by sea in the Pacific. But when the silk for which it has been exchanged in China, on St. Paul account, arrives, on its return off the entrance of the Straights of Fuca, it has to turn out of its way. Instead of finding railway transportation to take it through from Puget's Sound across to Minnesota, it has to run away to the South. Perhaps a week after it might have been in St. Paul by a Northern road, it arrives by sea in California, and is carried by rails to Memphis. Now it has to *double upon itself to go North, and re-cross every parallel of latitude that it crossed after turning out of its way from Juan de Fuca.*

This doubling will require two or three weeks of time, besides risk and expense.

With *two* roads there will be no *doubling*, hence two roads will bring China and Japan and Russia very much nearer to the Mississippi valley than one can do. The distance saved will be, in furlongs, nearly twice the length of the Mississippi river, and in time some two or three weeks.

Whether the government therefore aids in the building of these roads or not, these circumstances will of themselves call for the construction of at least two roads to the Pacific—one at the North, the other at the South. Northern capital and Southern capital will assist in both.

I have thus endeavored to make clear the paradox with which I set out, and I hope I have succeeded in showing to your satisfaction that at least two railways—one at the North the other at the South—are required to the Pacific.

There are no toll-houses on the lakes, and none on the Gulf of Mexico. The commercial voices of these two waters, could it be heard, would be raised, each trumpet-tongued, in favor of these two routes.

The nearest way from Brazil and the Amazon, as well as from the West Indies to China, would then be by the South Pacific Railway.

* * * * * * *

Yours truly,

M. F. MAURY.

D. A. Robertson, St. Paul, Minnesota.

APPENDIX "G."

BRITISH COLUMBIA.

From the Correspondence of the London Times.

VICTORIA, VANCOUVER'S ISLAND,
December 9, 1859.

All recent accounts from British Columbia have been of a most satisfactory and encouraging character.

Its wealth, and the vast extent of its auriferous area, are now established by undeniable evidence; the satisfaction of the miners with their success, and the arrival here of large quantities of gold dust, the discoveries of new "placers," and the extension of old diggings in which gold is found deeper and further inland from the rivers than was at first expected, all go to establish these two important facts.

NEW GOLD DIGGINGS.

Rich diggings have been discovered in the Similkameen valley, a short distance north of the 49th parallel, within the territory of British Columbia. The valley of the Similkameen (pronounced "Sheemilkeemeen,") which is watered by a river bearing the same name, is extensive, fertile, abounds in rich pasture, and is well adapted for settlement. The climate is genial and there are many extensive tracts in the Similkameen country especially favorable for stock raising, as in winter the snow never lies, however deep it may be in the mountainous country around. The river is a tributary of the Okinagan, which falls into the Columbia near 48° north latitude. This new mining country is accessible from Fort Hope on Frazer river, and from the neighboring American country, (Washington Territory,) the inhabitants of which have availed themselves of the facility to mine there during last autumn with success, which produced the usual "excitement." Gold has also been discovered and worked to a considerable extent on Quesnell's river and Lake some 250 miles to the north of the last mentioned locality. In short, the whole of the interior portions of the country, from a point about 45 miles from (above) the mouth of Frazer river up to the vicinity of the Rocky Mountains, including New Caledonia, are now ascertained to be auriferous; and, what is equally important, extensive tracts of good land adapted for agriculture have been at the same time discovered.

QUEEN CHARLOTTE'S ISLAND.

The problem whether the gold area extended as far north as the northern boundary of British Columbia to the Russian line has also been solved. Captain Torrens, late of Her Majesty's 55th Regiment—a gentleman who combines a life of adventure with a high spirit of enterprise—organized an expedition, including scientific men, some months back, to explore Queen Charlotte's Island and the north-west coast of British Columbia. They first made for Fort Simpson, the Hudson's Bay Company's northernmost establishment on the Pacific, situate in latitude 54 deg. 20 sec., near the Russian boundary.

From Fort Simpson they crossed to Queen Charlotte's Island (a dependency of the colony of British Columbia,) and landed on Point Rose, an isthmus which forms the north-eastern extremity of the island. Captain Torrens has kindly furnished me with notes from his journal and from them I will extract a succinct account of his wanderings. From Point Rose the party coasted southward, "prospecting" as they went along. The "color," as the miner calls a successful trial for gold, was found almost everywhere on the coast in the concrete, and in the different strata of gravel in the cliffs; but the best "prospects" were derived from the black sand on the beach from Point Rose to Skidegate, a distance of some sixty odd miles on the south coast. Captain Torrens thinks the discovery of gold in black sand (iron pyrites,) on the sea coast a remarkable fact. Gold in considerable quantities is found similarly situate on the north coast of California, at a place

called Gold Bluff, where miners have been at work extracting it from the "black sand," by machinery and the use of quicksilver, for the last nine years. At Skidegate village the Indians behaved in so hostile a manner that the party went back in their canoes to Fort Simpson. Smitten by qualms of conscience at their inhospitality, or, more probably, having a dread of Governor Douglass' vengeance, as he had sent a message beseeching kind treatment for the party, the Indians, to make amends, sent a deputation to Fort Simpson to invite Captain Torrins to repeat his visit under a promise of safe conduct from the chiefs of the "Haidahs," the most powerful tribe on the island. Thus encouraged, the Captain and his men started again. *En route* they visited Pitt Island which lies on the east side of Queen Charlotte's Island, between it and the mainland. Here they found specimens of gold-bearing quartz. They then made for Gold Harbor, on the east side of Queen Charlotte's Island, where a considerable quantity of gold quartz was blasted in 1852, under the auspices of the Hudson's Bay Company, and sent to London—a fact which added to the exhibition of golden nuggets by the Indians frequenting Victoria, had raised high hopes among the more speculative of our townsmen that great wealth lay here.

Captain Torrens was disappointed if he entertained any such hopes. He found the gold "leads" worked out. At least, he and his party thought, and they left again for the mainland. On their way back they visited an island 25 miles to the north of the Queen Charlotte groupe, which they found to be very rich in copper ore. They visited also Kagahni and Tongass islands, a little beyond the parallel of the British possessions, and Chatsina, on the main Russian Territory. These localities they found to contain lead, bismuth, plumbago, and quartz rich in sulphurets, which analyze from $135 to $200 per ton, in great abundance.

Captain Torrens describes the character of the north-west coast of British Columbia as "highly mountainous, one long continued formation of slate interspersed with frequent veins of crystalized quartz."

THE MAINLAND.

The Captain having determined to examine the interior of the mainland of British Columbia in this northern portion of it, he ascended the Naas river, which empties into the Pacific about 40 miles north of Fort Simpson. Nothing remarkable struck his notice until he and his men had got up the river for forty miles. Here they observed evidences of volcanic action at some remote period in the discolored and blistered appearance of the rocks; and here they commenced "prospecting," which they continued for a distance of 100 miles, being the extreme distance they proceeded to, and throughout which they found the bars in the river to be auriferous. The trip being essentially a "prospecting trip," they did not settle down to the general operations of a mining camp, remaining only a day here and a day there, as circumstances permitted. The river being full, the 'bars' were but little exposed. Good diggings were, however, discovered, and the whole party were sanguine that a new goldfield will be opened up in this remote part of the world next spring, when Captain Torrens returns to his exploration of the Naas river and surrounding country.

The navigation of the river was accomplished in canoes. It is not adapted for steamers, being too rapid. The scenery is very bold and picturesque. The weather in autumn was beautiful. Of the soil the Captain says:—"Magnificent plateaus of land are now to be found where once flowed torrents of water; open lands occur also at intervals, the vegitation upon which is luxuriant." In addition to the discovery of gold and of good land on the Naas river, Captain Torrins was informed that the Indian trails were so good as to be "available for pack trains with but little trouble"—a fact which is of the first importance to facilitate the transit of goods by a short route from the coast into New Caledonia, where gold is now being worked, which is known to be highly auriferous; and where, from the amenity of the climate in winter, and the abundance of pasture a large mining population would settle were it not for the difficulty and great expense of transit by way of Fraser river.

Captain Torrens is loud in his praises of the humanity, kindness, and liberality of the Hudson's Bay Company, from whom he and his party received important assistance.

ANOTHER EXPLORER.

Another explorer has just returned from the same part of the world, whose report has added to our meagre information of the topography of the northern and western portions of the new colony, and to which the Governor attaches considerable importance.

Mr. Downie, an old California pioneer, where, although a Scotchman and of course a foreigner, he was liberally promoted to the brevet rank of "Major," started also from Fort Simpson, in August, on a tour of exploration into the interior by the Skeena river, which falls into a bay or inlet at Port Essington, about 50 miles north of Simpson. What with hardships, starvation, annoyances of Indians, and ignorance of the route, and of the languages of the savages, the Major's trip was an eventful and romantic one, and he has made a tremendous story of it himself in the shape of a report to the Governor; but I must limit myself to a short abstract, which will embrace the main points.

The bay at Port Essington runs inland, and is deep and navigable for thirty miles. The rocks are gigantic, no quartz appearing. "The banks of the Skeena are low, with small hardwood and cotton trees (poplar,) and some good sized white oaks, the finest I have seen west of Fraser river, on its margin. Vessels drawing

four feet can ascend the river for twenty miles, but no further;" the rest of the navigation must be accomplished by canoes. Near the embouchure of the Skeena the poor Major first came to grief. Some "honest" Indians stole his coat, but he was soon consoled for the loss by finding "some chrystalized quartz with gold in it, with an Indian on the Scenetoys river," a tributary of the Skena, which led him to conclude "that good paying quartz will be found here." Paddling along for about 100 miles, the work of many days, no doubt, but of which the Major gives no account, he "got fairly over the coast range of mountains," through which the Skeena flows. Once over the range he found "gold, a few specks to the pan; and the whole country looks like a gold country, with fine bars and flats, and clay on the bars." Bars and flats and clay on them are considered gold locations. "The mountains look red, and slate and quartz can be seen." A slate formation indicates the neighborhood of gold. The Major is skillful in judging by "symptoms," for he discovered no end of gold diggings and quartz leads in California. After some days journey beyond the coast range, keeping a north-easterly direction the Major got intelligence of what he calls the "Plumbago Mountain;" of this mineral he got a specimen. "From here to the village of Kitcoonsa the land improves, the mountains recede from the river, and fine flats run away four or five miles back to the "mountain sides." The milder natural scenery would seem to have improved the manners and tempered the dispositions of the Indians inhabiting the valley of Kitkoonsa. They were very kind to the Major and wished him to live with them.

THE CASCADE COUNTRY.

In a district which I take to lie between two ranges of the Cascade Mountains, about 200 miles northward and eastward of Fort Simpson, he found "the prospects" of gold to vary much but on the whole concludes that it is the best looking mineral country he had seen in British Columbia. On crossing the second range of the Cascade Mountains, the Major "enters an extensive coal country, the seams varying in thickness from 3 to 35 feet"—a fact which he was able to ascertain from the river having cut through them. He traced the veins for a mile in length. It took him twenty days from Fort Simpson to this coal district, but by good travelling arrangements, it could be done in a week. I must now take a tremendous jump with the Major to Babine Lake, near the northern boundary of British Columbia. This lake is deep and broad, and 100 miles long—facts which are corroborated by some of the gentlemen of the Hudson's Bay Company, and who add that the *Great Eastern* could float upon it. The Major reports that this lake is the source of Skeena river, and he corrects the mistaken and long-received opinion that it is the source of Simpson's River, as laid down in the maps. To compress the Major's most original, but confused descriptions, I would say that for about 100 miles to the southward and westward of and up to Babine Lake, the country is well adapted to settlement. "The land is first-rate and wild hay and long grass abound. No heavy pine timber, but plenty of cotton-wood, of which the canoes are made;" abundance of salmon and wild berries, and the weather in September pleasant. The winters, however, must be very severe. From Nass-Glee to Fort Kilmaurs—a Hudson's Bay Company's station on Babine Lake—the distance is about 50 miles, and "the land is good the whole way." The Major was enchanted with this part of the country. He calls Kilmaurs a lovely place, and moralizes a bit in the following strain:—"It seems a great pity to see this beautiful land, so well adapted to the wants of man, lying waste, when so many Englishmen and Scotsmen, would be glad to come here and till the soil." If gold is found to abound, one would think the country could be more readily peopled by Canadians than by Scots or English. From Babine Lake the Major made a portage of ten miles to Stuart's Lake, "over a good trail," made by the Hudson's Bay Company. Arrived at Stuart's Lake the Major and his party were put to great shifts, being without food, without ammunition to shoot ducks with, and without a canoe to cross the lake in. "We camped here three nights without food, sleeping the greater part of our time to stifle our hunger;" their only consolation being "the grand idea of their enterprise in exploring a new route from the Pacific, which will one day connect the ocean with the Atlantic." With the aid of Indians who treated them with the greatest kindness, they made the passage of Stuart's Lake on a raft of logs, and at length made Fort St. James, another Company's establishment at the south-east end of Stuart's Lake, in the district of New Caledonia. True to his instinct and to his mission, the indefatigable Major, having been driven on a lee shore on Stuart's Lake, at a point some fifteen miles from the north end of the lake, tried his hand at "washing," and "obtained a small prospect of gold." "On the north side of the lake the ground is rocky, but south of the lake the land is as good as can be, and will produce anything."

For one who has only seen the country bordering on the coast of British Columbia, and that through which Frazer river runs, which is mountainous, broken and rugged to a degree, it is difficult to imagine so level and so productive a country as the interior is throughout the greater portion of its extent. The Cascade Mountains are passed, and the soil and climate change for the better, while the scenery becomes softer and more subdued.

I must wind up the Major's story, which I have already made longer than I intended. After paying a tribute of praise to the agent in charge of Fort St. James, who received them "with that kindness and hospitality I have al-

ways found at the Company's posts," he winds up his narrative with a short table of distances: —"Stuart's Lake is 50 miles long; Babine Lake 100 miles long to Nass Glee, course about S. E. and N. W.; from Nass-Glee to Fort Simpson, 250 miles." From Fort St. James the Major ran down a feeder of Frazer's river, called Stuart's river, some 50 miles to Fort George. Here he took the main stream of Frazer's river, down to Fort Alexander, on the southern confines of New Caledonia, where he found a community of miners in constant and regular communication with the lower country, and whence he had no difficulty in getting to Victoria by the ordinary route of travel.

NEW ROUTE TO THE MINES.

Imperfect as the poor Major's exploration has been, it establishes the fact that gold exists from the coast to near the northern and eastern boundary of the colony, well nigh to the Rocky Mountains, in portions of the country never before "prospected;" but far more important is the fact which he asserts, that easy means of transport of merchandize exist by the route he travelled, which will be much shorter from Port Essington to New Caledonia than the present route by Frazer's river; while the difficulties are far less, and the carriage will be much cheaper, even adding the freight coastwise from Victoria to Port Essington.

I confess I feel rather astonished, if the Major is correct, that these indefatigable "pathfinders," the Hudson's Bay Company's officers, did not discover this northern and easier route, for they took great pains to find a better one than the old route by Frazer's river, &c., which is so bad that frequently 50 and 60 horses perish from fatigue and hunger on the journey. It is true that till lately the Fort Simpson Indians were very fierce and intractable, and it might have been imprudent to transport much property through their neighborhood.

PRODUCTIVENESS OF THE MINES.

It is impossible to give an estimate of the production of gold in British Columbia. All accounts agree that the individual earnings of the miners are much larger than in California or Australia. It is very common to light upon a man going to San Francisco with several thousand dollars, upon others with one thousand each, and upon many with some hundreds; but besides these exceptional cases which come to light it is all guess work.

The amount "manifested" as exported in the last three months was $451,866, which is a good amount for so small a number of miners as have been at work within that period; but I should think an amount equal to the sum just stated must have been taken by private hands. Assuming for example, that 1,000 miners have left the mines with $500 a piece, a low estimate, this would make $500,000 taken away in the last quarter, besides tne $451,866 manifested. I doubt, besides, that the amounts shipped on freight are all given.

The export of gold is not the only test of the productiveness of the mines. To the success of the mining interest I attribute the growing prosperity of Victoria—the building of houses, stores, and shops by the merchants, traders and shopkeepers, and by other inhabitants. To the same cause I attribute the demand for improvements in real property which has lately taken place. Much of the gold produced remains here and goes to pay for local improvements. When I see men who came to Victoria eighteen months ago poor, growing rich, ceasing to borrow money, and building houses and shops, I can have no doubt as to the source of their improved means. Another most important "sign of the times," and a most gratifying one, is the growth of confidence in the permanent progress of the place and in the future productiveness of the mines. When cautious and prudent men, after long observation and due reflection, begin to make permanent investments in real property, there need be no fears entertained of the future. My own conviction is that the day of the retrogression of both colonies is past. Their progress may be slow, or it may be rapid, but progress they must.

APPENDIX "H."

PACIFIC OCEAN TELEGRAPH BETWEEN NORTHERN ASIA AND AMERICA.

The following paragraphs are from an article in the *Atlantic Monthly*, for March 1860, upon the "Progress of the Electric Telegraph."

"A late European steamer brings a report that two Russian engineers have proceeded to Pekin, China, to make preparations for a telegraphic connection between that place and the Russian territory.

"There is reason to believe that arrangements will soon be made at St. Petersburg, through private companies and government subsidies, for completing the line of telegraph from Novogorod to the mouth of the Amoor, and thence across the straits to Russian America. In the meantime a company has already been formed and incorporated in Canada, under the name of the Transmundane Telegraphic Company, which will afford important aid in continuing the proposed line through British America. The plan is, to carry the wire from the mouth of the Amoor across Behring's Strait, to and through Russian and British America. From Victoria a branch will be extended to San Francisco, and another to Canada. The line from San Francisco to Missouri is under way, and Mr. Collins, who is engaged in the Russian and Canadian enterprise, thinks that by the time it is in operation he shall have extended his line to San Francisco.

"This is unquestionably the most feasible route for telegraph communication between America and Europe; and, though the longest by several thousand miles, it would afford the most rapid means of communication, owing to the great superiority of aerial over subaqueous lines."

To a similar effect is an item of European intelligence, in the New York *Herald*, of February 20, 1860:

"An overland route for telegraphic communication with America has been proposed in France, making use of the existing lines from London to Dresden, and from thence entering the Russian empire, and passing through Moscow and Kasan. Then crossing the Ural mountains to Yakoutsk and on to the Behring Strait, crossing this, and passing through Russian America to Canada and the United States."

SP
F5504.2
T38
1860