

Memo. as to Tablets.

Wrote Received letter Anderson March 20/23

Wrote Cameron M. 4.

Waited up to the 6th of receiving

now telegraphed Anderson same evening.

Tablet cannot be done except ~~to~~

cast iron enamelled. Send instructions.

March 18. Tablets deposit well ordered

P begun.

News. Tablets.

MCGILL UNIVERSITY ARCHIVES	
ACC. NO.	909B/32
REF.	8

Memo on Report

(1)

Proof - Should see proof of -

Title Page

Preparatory note or letter.

Table of Contents.

It will probably be desirable to see one more proof of appendix B. (Copies)

Appendix A C & D are corrected & all right if properly leaded & paged.

Appendix E (Stells) should see proof once more.

Appendix F (Plants) no proof yet read.

Should see proof of Acknowledgement slips.

12 Copies of Report neatly bound for Cameron.

Appendix D. (Insects) should be repaged after the sheet is printed off, & 100 copies printed & sent to Scudder. Done up in brown paper wrappers.

When Dr Hooker's names of plants arrive ^{an} advance copy of the plant list should if possible be sent to Dr Elliott Coles. Smithsonian Inst. Washington D.C.

Say 50 Copies ^{of Report} had letter be sent up from Herald office & kept at my disposal.

Copies of the completed report should go to Cameron say one week before others are distributed or communicated.

Proof of the Remaining Cats should be seen before they are printed off, & when a complete set can be made ~~one~~ should be sent to Cameron.

If Hooker's names do not arrive in reasonable time. The part of the list under unclassified had better not be printed, & the acknowledgments to him in prefatory note, & introductory remarks to plant list withdrawn.

Plants. Reference is made to the plants sent to Hooker by numbers in red pencil on the edge of the MS. list. When his names arrive blanks should be filled in, or former names corrected.

At the end of the list are some plants not classified under their orders, these when the names are got should be intercalated in their proper places.

If Authority arrives from Cameron for putting Dawson's imprint on the title page, please see it done, & ~~when~~ when you get complete list it be turned over to them to keep on acct. Dawson might ~~attend~~ attend to the distribution list. If his name is not put on the Herald people would probably attend to distribution.

Spongilla Paper. Please send copies at leisure to those ^{people} ~~names~~ on my list ~~which~~ ~~seem~~ who would probably be interested in it & also to any others you may think of.

Dear Sir
I am

D. Conn.
Report

49

With reference to
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The most important feature of the Report would appear to be the connected description of the region examined in the vicinity of the 49th parallel; a region of which a great part has heretofore remained unknown. The result of the geological investigations has been the formation of a section more or less complete ~~from~~ ^{across} the Central ^{portion} of the continent from the Lake of the Woods to the Rocky Mountains, & the collection of much general information bearing on the distribution of the various formations over that area, & the definition

of a geological base line for future surveys.

In the Lake of the Woods region an examination has been made of the Laurentian & Huronian rocks, in a locality offering special points of interest. Over the area of the plains the formations represented are the Cretaceous & Tertiary, the region in the vicinity of the line forming an important connecting link between the as yet scattered observations of the north, & those of more elaborate surveys which have been prosecuted in the western States.

& those of

Important information bearing on the question of the age of the lignite formation, a problem of great interest scientifically, has also been obtained. This formation is economically the most important met-wat in the course of the explorations. Its area in the vicinity of the forty ninth parallel has been defined, & its western limit determined as closely as the natural sections ~~which~~ will allow. Typical specimens of the lignites have been subjected to analysis, & prove to be of excellent quality & not only suited to domestic use, but to steam ~~raising~~ ^{power} raising & to some metallurgical

purposes. It has also been found in the course of the exploration that that part of the Laurentian formation near the Mountains yields fuels of superior quality - as it is known to do both North & South of this region - & that in some places there become true bituminous coals.

In the part of the Rocky Mountains visited various points of interest in stratigraphical geology have been noted which serve to fill a gap in our knowledge of that range between the regions in the vicinity of the Saskatchewan described by Dr. Hector, & that further South claimed by Dr. Hayden & other U.S. Geologists.

Over the whole area evidences of the glacial period are found, & ~~many~~ interesting facts in this connection are noted & the connection between the drift-deposits & character of the surface of the country pointed out.

In the concluding chapters the capabilities of the country with regard to Settlement & Agriculture are ~~not~~ treated of. Climatic conditions receive attention. The different influences of certain features are referred to; & means for their amelioration suggested.

The Appendix includes a list of plants & ~~some~~ Molluscs collected, of scientific interest as contributions to the geographical distribution of the forms, & serving also in some degree as an index of the nature of the climate & soil of the country. It also contains the results of examinations of some of the fossil plants, & Vertebrate remains of the collections by Principal Deane & Prof. D. Lope. & of a part of the Entomological collection by Prof. Wm. S. H. Sudder; to which gentlemen the Boarding Commission is indebted for their assistance.

- More especially the
Sarschopper visit above &
treasures of the plains -

News paper articles
Notices of

B. N. A. Boundary Com -

The Daily Telegraph. Oct 4/1875

1 Remark about T.C.P.R. Ry



prices; and hence there has been a great tempta-
tion to import those of an inferior quality on
account of their cheapness, and to sell those
grown in this country, or flowered here until
almost worthless.—James Vick.

The Daily Telegraph.

ST. JOHN, N. B., MONDAY, OCTOBER 4, 1875.

THE BRITISH NORTH AMERICAN BOUNDARY COMMISSION.

We recently made a brief notice of the work of this Commission. We propose now, in two or three short articles, to review that document more at length, as well as to direct attention to the vast region of which it treats. British North America extends from the 53d to the 141st meridian, thus spanning over 88 degrees of longitude; or reckoning 44 statute miles to the degree, requiring a line of 3,916 miles in length to stretch from St. John's in Newfoundland to Mount St. Elias on the borders of British Columbia. In round numbers we may call this distance 4000 miles, or more than twice the span of the vast Atlantic, which separates us from the nearest European port. We are masters, so to speak, of a stretch of country from east to west which it would take a man walking 20 miles a day, 200 days to traverse; or a stage coach travelling day and night continuously at the rate of ten miles an hour, seventy days, or a railway train moving uninterruptedly 20 miles an hour, a little more than eight full days, exclusive of stoppages.

The 97th meridian divides our territory with two equal easterly and westerly divisions, yet the recent survey of the British North American Boundary Commission begins in a vast wilderness, two degrees east of this dividing line, and from the Lake of the Woods pursues an astronomically straight course for nineteen degrees of longitude or about eight hundred and sixty miles; and this long line of survey continues its undeviating track through a country tenanted only at one spot, Dufferin and Pembina on either side of the Boundary line, by civilized men. From the Lake of the Woods to Pembina, on Red River, is a hundred miles of prairie wilderness, from Pembina to the verdant slopes of the Rocky Mountains is a prairie and plain, wilderness again, for six hundred miles more; another hundred miles through forest and alpine heights bring us to the summit of the ranges which limit British Columbia to the eastward. But as yet we have only reached the boundaries of our Atlantic slope of empire; away to the west is our Pacific empire, itself larger than France, and yet through this Alpine province we may continue for nearly four hundred miles on that undeviating boundary line before we touch the waters of the Pacific, and look towards the coasts of China and Japan.

Twelve hundred miles on a uniformly straight line, marked by posts or cut out clean through forests, or indicated by stone monuments in a wilderness almost indefinitely remote, and to nine tenths of our people as practically remote now as the pole, is a part only and not the half of our Southern boundary which separates us from the United States. Before we could arrive at the beginning of this line in the Lake of the Woods, it is worth while thinking of the journey we should undertake. From St. John to Montreal is but a tithe of this expanse. From Montreal to Toronto and thence to Collingwood on Lake Huron, all by rail. Launched on Lake Huron we steam through the Sault Ste. Marie and Lake Superior to Prince Arthur's Landing, a good six hundred miles; from the Landing through endless lakes to Rainy Lake, Rainy River, and at last we may find the beginning of the line of the North American Boundary Commission, which for twelve hundred miles wearily, most wearily, points for ever due west. But what of the country through which this long talked of forty-ninth parallel passes? The Boundary Commission furnishes us with a complete answer in the volume penned by GEORGE MERCER DAWSON, Esq., the able Geologist and Botanist to the Commission, and bearing the title "Report on the Geology and Resources of the Region in the vicinity of the Forty-ninth parallel, from the Lake of the Woods to the Rocky Mountains, with lists of plants and animals collected, and notes on the Fossils."

We are about to introduce our readers to a vast expanse of our territory never before described in one continuous and exhaustive survey. The "line" within the limits before given, has been touched, crossed and recrossed at many points far apart, and its local features described by various explorers, such as Major LONG, Governor STEVENS, PALLISER, HECTOR, and HIND, but nothing approaching the details of its physical geography as a unit of the earth's surface has ever been published, and the present volume carries the reader, mile by mile, over the surface of the vast slope which descends from the wall-like eastern front of the Rocky Mountains to the wonderful prairies of Red River "through many a league of plain," and gently rising up the valley of the beautiful Roseau River, terminates in the reedy marshes of the southern part of the Lake of the Woods.

One would suppose that these eight hundred and sixty miles would lead us through very many changing scenes, and if we based our ideas upon the twice eight hundred and sixty miles we should have to traverse from St. John's, Newfoundland, to the Lake of the Woods, even if we travelled as the crow flies, we might expect endless variety of scenery and singular changes in climate. Such, however, is not the case, and for the most part sameness, without any special feature to win the senses, is the characteristic, and this sameness is occasionally the depressing dullness of treeless plains, rarely the enlivening music of running streams, and only when approaching the majesty of the Rocky Mountains, filling the soul with rapture and admiration. But in so long a journey as the best part of a thousand miles, through which we propose to accompany Mr. G. M. Dawson in his clear and graphic descriptions we shall find it the best economy to start fairly with the author, and begin at the north-west angle of the Lake of the Woods.

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believe, shared by Nova Scotia and Prince Edward Island.

In arrangement this Exhibition is extremely defective, and it is impossible not to feel how much better it would have looked had the goods of the same class all been placed together. That this was not done is perhaps not entirely the fault of the managers, who were embarrassed by goods coming in at the last moment from parties who did not enter them at the proper time. But this proper arrangement of goods in classes is a matter which should be insisted on at any future Exhibition. The want of a separate room or space devoted to pictures, photographs, and the fine arts in general, is also a grave defect in this Exhibition. The pictures, instead of being properly hung, all together, are scattered all over the building in corners and even in the entries, they are placed in all sorts of bad lights, cross lights, and some where there is scarcely any light at all, and one is actually hung up side down. A space in the east end of the car shed should have been fitted up as a picture gallery, in place of the "mercury go round" arrangement which has no business there, and which is simply an eyesore and a nuisance.

A different system of decorating the building will also, we think, have to be adopted when the next Exhibition takes place. The advertising system of decorating, no doubt, has its advantages in a pecuniary point of view, but it fails in other respects, and the eye can scarcely have its aesthetic desires gratified by placards which are simply advertising cards modified by a few yards of cheap furniture cotton. Nor do we think the St. John public will be disposed to stand at another Exhibition the system of turn-stiles which have been in vogue at this one. Turn-stiles might answer well enough if there were a dozen of them, but to attempt to pass a large crowd through two or three in any reasonable period of time is simply impossible. This was abundantly proved on Tuesday night when the gates had to be opened. Hundreds, however, went away disgusted, and there can be no doubt that the managers have lost far more money by these turn-stiles than any possible dishonesty on the part of door-keepers could have subjected them to, even supposing the gentleman who invented them to have paid a liberal sum to the managers for using them. They might answer well enough for a foot toll bridge, such as the suspension bridge at Glasgow, but for an Exhibition which is supposed to be attended by thousands of people they require only to be used once to be scouted ever after.

The British North American Boundary Commission.

SECOND ARTICLE.

A very short time since a letter was returned from the Halifax Post Office to a gentleman well known to us, with the enquiry on the cover, "Where is the Lake of the Woods?" the letter having been directed to a member of an exploring party in that region. If the whereabouts of the "Lake of the Woods" puzzles the Halifax Post Office officials, it is not probable that the general public are familiar with the geographical position of this large and beautiful sheet of water, seventy miles long, forming the eastern boundary of our great prairies in Manitoba, and lying ninety miles east of Fort Garry, or Winnipeg, being part of the present Red River route from Lake Superior westward.

The Lake of the Woods is historically important, the North West angle, with its monument, near the termination of the boundary survey under the Treaty of Ghent, and half a century later it becomes the beginning of a new and more extended line of survey, which, as soon as it touches the 49th parallel, stretches on and on in one undeviating due westerly course for twelve hundred miles, there being no parallel to it on the face of the globe.

The Lake of the Woods is especially interesting in one geological feature, which Mr. DAWSON has pointed out, namely, the possibility that there exists there a series of rocks which are younger than the Laurentian, and older than the true Huronian. This distinction may have great significance, but is of too abstruse a character to be discussed here; we may, however, just say that it bears upon the origin and distribution of the precious metals over a wide area, which, from negative evidence, has hitherto been supposed to possess small value as a mineral region.

The Lake of the Woods is the eastern limit of the prairie country, and descending Roseau River, which flows into Red River near Dufferin, we begin to realize the wonders of the fertile Savannas and meadows which have given to Manitobah its well-deserved celebrity.

Fortunately the country bordering the west side of the Lake of the Woods is not all prairie; indeed, on the boundary line the breadth of forest covered land is about seventy miles before the alluvial tract of incomparable richness begins. Taking the half of this estimated area of the whole of the Red River Prairies, or 3400 square miles, Mr. DAWSON shows that, at 17 bushels of wheat to the acre, this extent of surface would yield 40,992,000 bushels of wheat, or as much as is now produced by the fertile and extensive Province of Ontario. Dufferin is 784 feet above the sea, and 264 feet below the Lake of the Woods. A very large part of Ontario is far more elevated than the Red River Prairies, which lie in a vast continental trough or depression extending from Hudson's Bay to the Gulf of Mexico, and of which we shall have more to say anon.

The second prairie steppe begins about 30 miles west of Red River, and at 40 miles the traveller enters upon great treeless plains which sweep away to the west for hundreds of miles. This is the new ground which invites attention, for all are more or less familiar with the fertility and promise of the lower prairie level, or that of Red River.

On the great treeless plains, timber is only found in narrow belts, along the valleys of the streams, and even bushes become rare. One hundred and twenty miles west of Red River, an island, so to speak, of mountains and forests, appear in the great plains. This is Turtle Mountain, and with an estimated area of 300 square miles, it must become a very important nucleus of settlements. The highest points of this broken, hilly, and wooded region are about 500 feet above the plains surrounding it; one half lies in British, the other half in American territory. The second prairie plateau or steppe stretches for 120 miles west, Turtle Mountain, being suddenly bounded by the bold front of the third prairie steppe, or the grand Coteau de Missouri. The width of the second steppe on the 49th parallel is 250 miles, while that of the third steppe or grand Coteau de Missouri extends to the flanks of the Rocky Mountains, a distance of four hundred and sixty-five miles.

All is not sameness along this weary straight line; but there is much of the loneliness and much of the hopelessness of the desert in its true sense over a wide stretch, on account both of soil and aridity.

The third steppe or the high plains, are very elevated. There is no land in New Brunswick, or Nova Scotia or Prince Edward Island, which reaches even to the mean level of these great plains above the sea. The mean or average altitude is 3,000 feet over the ocean, rising in an undulating slope from about 2,200 feet to 4,200 feet at the foot of those grand Alpine ranges which tower over the great plains and stand like an impenetrable barrier to the west.

As far as known, within the broad limits of the Dominion, the third prairie steppe has an area of 134,400 square miles, or considerably more than that of the British Isles, and of this vast expanse about 114,000 square miles or a region devoid of wood, except in a few secluded northern slopes of hills and ravines, and much of this arid tract is composed of a sterile sun baked clay, or a drifting barren sand. But this description applies only to

the portion beginning some forty miles from the Rocky Mountains and stretching far towards the eastern boundary of this unshippable series of interminable plains.

Its surface is a scared and blurred outline, showing the pitiless result of ages of exposure to rain and storm, with no protective covering of forest growth. It is seamed with deep ravines and coulees, in however, no water flows in summer; its parched and shrivelled up look tells of continued thirst.

There are large areas which are absolutely irreclaimable, because it is impossible to irrigate them. Yet, on the 49th parallel, this great, treeless, arid, thirsty sunbaked steppe, lies between a land of promise and beauty and hand, and a land of promise and beauty and inexpressible grandeur on the other.

Our Shipments to Europe.

The following comparative tables of our shipments of deals and timber to Europe for the month of September, 1874 and 1875, and likewise for the first nine months of 1874 and 1875, together with the names of the shippers, require no comment. It will be seen that our deals shipments were nearly twice as great last month as during September, 1874. For the nine months ending Oct 1st our deal shipments to Europe were only about twenty million feet less than in the same period of 1874, which is a very good exhibit for a dull year. The figures below are worthy of being studied, and their accuracy may be relied on:—

Ports.	Tons.	Deals.
Barrow	1	573
Bristol Channel	4	2,717
Continent	7	2,310
Hull	1	483
Ireland	8	2,073
Liverpool	10	8,438
London	4	4,551
Scotland	1	379
Sundry Ports	2	677
Totals	38	22,201

Shipments from the port of St. John, N. B., to the U. K. and Continent during the month of Sept., 1874:—

Ports.	Tons.	Deals.
Bristol Channel	13	8,068
Ireland	14	6,073
Liverpool	24	25,662
Scotland	3	2,316
Totals	54	42,419

Shipments from the port of St. John, N. B., to the U. K. and Continent during the month of Sept., 1874:—

Shippers.	Tons.	Deals.
A. Gibson	11	11,660
Guy Stewart & Co.	22	18,344
Carvill, McKean & Co.	10	3,632
H. W. Wilson	6	3,950
W. M. Mackay	3	3,151
Sundry Shippers	2	1,692
Totals	54	42,419

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Shipments from the port of St. John, N. B., to the U. K. and Continent during the month of Sept., 1875:—

Ports.	Tons.	Deals.
Barrow	12	8,645
Bristol Channel	30	19,124
Continent	45	18,340
Hull	10	4,260
Ireland	87	40,454
Liverpool	85	84,215
London	11	9,951
Scotland	25	17,341
Sundry Ports	16	6,164
Totals	321	208,394

Shipments from the port of St. John, N. B., to the U. K. and Continent from the 1st of January to the 1st of October, 1874:—

Ports.	Tons.	Deals.
Barrow	12	8,645
Bristol Channel	30	19,124
Continent	45	18,340
Hull	10	4,260
Ireland	87	40,454
Liverpool	85	84,215
London	11	9,951
Scotland	25	17,341
Sundry Ports	16	6,164
Totals	321	208,394

Shipments from the port of St. John, N. B., to the U. K. and Continent from the 1st of January to the 1st of October, 1875:—

Ports.	Tons.	Deals.
Bristol Channel	39	22,968
Continent	9	2,917
Hull	1	285
Ireland	92	85,228
Liverpool	102	100,181
London	3	2,237
Scotland	11	7,895
Sundry Ports	7	2,489
Totals	264	173,700

Shipments from the port of St. John, N. B., to the U. K. and Continent from the 1st of January to the 1st of October, 1874:—

Shippers.	Tons.	Deals.
A. Gibson	161	125,187
Guy Stewart & Co.	86	41,539
Carvill, McKean & Co.	31	21,231
H. W. Wilson	13	6,394
W. M. Mackay	2	1,443
McL. & Wilson	4	1,598
R. Rankine & Co.	4	2,366
Sundry Shippers	20	8,636
Totals	321	208,394

Shipments from the port of St. John, N. B., to the U. K. and Continent from the 1st of January to the 1st of October, 1875:—

Shippers.	Tons.	Deals.
A. Gibson	84	73,758
Guy Stewart & Co.	82	50,146
Carvill, McKean & Co.	42	15,184
H. W. Wilson	22	13,159
W. M. Mackay	15	11,500
McL. & Wilson	5	2,424
Sundry Shippers	14	7,499
Totals	264	173,700

ENTERPRISE.—The Boston *Globe* has recently given pictorial representations of several towns in New England. It has also written up their history and made biographical sketches of their leading men. Such enterprise deserves success.

THERE is an alarmingly extensive sale of fire arms going on in Toronto. The *Globe* of that city states that the riots in Montreal have had a very bad and exciting influence in Toronto.

TRADE AND COMMERCE.

The Trade of Charlottetown.
The following is an abstract of the Customs' duties collected at Charlottetown:—

Month.	1874.	1875.
July	\$9,616	\$13,500
August	5,384	10,698
September	7,334	43,339
Total, 3 months	\$22,334	\$67,537

The increase for quarter 1875 is \$15,644, a very remarkable result in these times.

Timber Limits.
The Coghlan timber limits were sold on Thursday, at the Union House, Ottawa, by Mr. Rowe, for the sum of \$44,500.

Bank of California.
The re-opening of this Bank caused the greatest enthusiasm in San Francisco. The event was hailed with cheers and a rush to deposit. For three hours the amount of deposits exceeded the amount of withdrawals by a degree to the extent of \$750,000. The re-opening took place on Saturday. There is believed to have been created a guarantee fund of \$7,000,000 to meet consequences.

Montreal Flour Market.
The *Witness* of Friday says:—
On the Corn Exchange this morning business in flour was comparatively brisk. There was a slight improvement in the price of Spring Extra, but other brands remained very nearly at yesterday's quotations. The latest advices from Liverpool show a slight rise in wheat.

Flour.—Reck's 8.175 bbls.; Market brisk. Spring Bakers' \$5.40 to \$5.50; Extra, \$5.30 to \$5.40; Superior Extra, \$5.45 to \$5.50; Superfine, \$4.90; Spring Extra, \$5.10; Middlings, \$4.05; City Bags, \$2.60. Sales—200 Strong Bakers', \$5.40; 1,000 Choice do \$5.50; 2,000 Extra \$5.30; 200 do \$5.25; 250 Choice do \$5.40; 1,400 Superior Extra at \$5.50; 178 do at \$5.45; 150 Superfine, \$4.90; 900 Spring Extra at \$5.10; 100 Choice do \$5.20; 500 City Brand do at \$5.25; 2,600 City Bags at \$2.60.

Imports into Saint John.
For September 30th, and October 1st and 2d.
FROM GREAT BRITAIN.
Es-steamship *Student*.—54 pkgs tea, Armstrong & McPherson; 2 cases dry goods, Beard & Venning; 2 cases do, Barnes, Kerr & Co; 3 anchors, 2 cables, and 7 chains, G Biglow. Sons & Co; 31 boxes sugar, 100 pkgs raisins, D Breeze; 4 pkgs dry goods, M C—hour; 9

The margin between the first or Red River steppe and the second prairie steppe, is the abruptly rising slope of "Pembina Mountain." This broken, hilly zone was formerly well wooded, and still the remains of extensive forests are visible which have escaped the destructive fires so frequently prevailing during the autumn months from the Rocky Mountains to Red River. The zone or belt of forest once passed, the treeless, dry, prairies begin, and form a very extensive part of the country south of the Quappelle River and the north-east of the boundary of the Grand Coteau de Missouri. Much of this immense region must remain as pasture lands, for the farther westward we proceed from the fringe of forest on the Pembina Mountain, the drier the climate becomes, and towards the edge of the third prairie steppe, the rain-fall is in general scarcely sufficient for husbandry. But it should be borne in mind that scattered over this vast plateau are a few extensive, partially wooded "mountains," being those portions of the country which have escaped denudation. These enclose many fertile and beautiful spots, and are in fact oases in a comparatively dry plain, though it is not so unfertile as to preclude it from becoming an important and wide spreading pasturage ground, covering, south of the fertile belt of the Saskatchewan, an area equal to that of Nova Scotia and New Brunswick combined.

But now comes a change, and that both well marked and in a measure decisive. The third Prairie steeps, that of the Grand Coteau de Missouri, consists of first, a broken country forming a strip extending from the 49th parallel to the South Saskatchewan, and embracing about 7,000 square miles. This zone is the broken escarpment of the third steppe, and is hilly, stony, and unsuitable from its soil as well as climate for agricultural operations. West of it lies the great table land of the Missouri Coteau, including within its limits the Lignite Tertiary formation of about 1,200 square miles in extent, and a distance along the boundary line of 115 miles. The soil, though it may be fertile, is nevertheless sterile on account of the want of rain; still as a pasturage ground in the future during part of the season it will become valuable. But as a store house of inexhaustible deposits of Lignite coal it is of inestimable local value in a region where wood scarcely exists, and where iron ore is abundant and not remotely removed.

Beyond the tertiary lignite plateau, and stretching as far as Milk River, or a distance of fifty miles, is an arid plain, which may well be termed a desert. It extends as far northward as the borders of the South Saskatchewan, and even beyond that river, between the two branches bearing the same name. The borders of Milk River embrace a comparatively humid and fertile strip of land, where the Big Camp of the half-breeds is situated, but with its days already numbered, for Mr. DAWSON states that in twelve or fourteen years the great northern bands of buffalo will be exterminated, and the "occupation" of the half-breeds gone. This fact involves the very serious question of the future of the Indian tribes subsisting on the buffalo, and the hopelessness of that future unless early provision is made for them.

The Three Buttes or Sweet Grass Hills are elevations lying to the south of the boundary line, which from their altitude condense the moisture of the air and form clouds about them, causing the local climate of the Three Buttes to be humid, and vegetation to be comparatively luxuriant over a small area. But so dry is the climate of the plain encircling them and upon which they rest, that the copious springs issuing from the sides of these hills are soon absorbed by the thirsty soil and atmosphere of the plain. Mr. DAWSON saw a rapidly flowing brook during night and morning hours become dry during the afternoon. From the Sweet Grass Hills to the Rocky Mountains the country improves, and shows evidence of a greater rainfall, and nearing the mountains the fertile belt on their eastern flank is about twenty-five miles broad; the change is sudden and delightful; the rivers and brooks flow with a swift current of blue-colored ice-cold water, over gravelly beds, and are alive with trout. The climate is much milder and the snow rarely lingers longer than three months. Hence it appears that, after passing, for several hundred miles, over a comparatively desert country, the traveller arrives at a land of beauty and fertility, nestling under the shadow of the everlasting hills, and in its summer's warmth bearing all those aspects of beauty and life which can attract and charm.

Thus far we have followed the track pursued by Mr. G. M. DAWSON, in his yearly journeying with the Boundary Commission. The style and manner in which his descriptions are given, the facts by which his conclusions are enforced, and the evident earnest desire to avoid straining a description in any direction leading from the line of truth, enforce the conviction that we are reading a word picture of a vast expanse of our territory as complete as the opportunities afforded enabled a painstaking, a well educated, and a very good observer to produce. We are now at liberty to draw our own conclusions respecting the present value of this boundary line region to civilized man.

Be it observed, in the first place, that this not very inviting area, immense though it may be in point of surface, lies in a great measure south of the fertile belt which extends south of the Red River Prairies towards and beyond the North Saskatchewan, and thence round the base of the Rocky Mountains to the narrow strip, twenty-five miles broad, lying west of the Sweet Grass Hills or the Three Buttes.

Beginning at the Pembina Mountain and ending at the Three Buttes the Boundary Line intersects a region more than twelve degrees of longitude in breadth or about six hundred miles. It is a line cutting a treeless, and, with rare exception, an unfruitful country, in consequence of aridity; this region extends in the form of a triangle northwards towards the Saskatchewan and expands in breadth and increases in dryness towards and far beyond the Missouri. Yet through this uninviting, treeless region, rising from one thousand to four thousand feet above the sea, the Northern Pacific Railway has been projected. We know the fate, so far, of the Northern Pacific Railway, backed though it has been, more or less, by the enterprise and vitality of thirty millions of people, who in point of push have no superior.

As we press northward towards "the edge of the woods," and round by the utmost northern stretch of the great plains we have been describing, we come upon our own "Pembina Belt," through which our Pacific Railway is designed to run, and to this we shall more particularly refer in a subsequent article. Meanwhile, in the possession of sixty thousand square miles of fertile belt, stretching from Red River to the Rocky Mountains, and also in part underlain by great beds of lignite coal, cut through by a navigable river, we have no reason to repine that nature has determined that the region lying for many weary miles north and south of the boundary line will, for a generation at least, fail to win our speculative admiration of its capabilities, or induce the most eager of "Young Canada," to cry out for its occupation and settlement.

Canada at the Centennial.

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the margin between the first or Red River steppe and the second prairie steppe, is the abruptly rising slope of "Pembina Mountain." This broken, hilly zone was formerly well wooded, and still the remains of extensive forests are visible which have escaped the destructive fires so frequently prevailing during the autumn months from the Rocky Mountains to Red River. The zone or belt of forest once passed, the treeless, dry, prairies begin, and form a very extensive part of the country south of the Quappelle River and the north-east of the boundary of the Grand Coteau de Missouri. Much of this immense region must remain as pasture lands, for the farther westward we proceed from the fringe of forest on the Pembina Mountain, the drier the climate becomes, and towards the edge of the third prairie steppe, the rain-fall is in general scarcely sufficient for husbandry. But it should be borne in mind that scattered over this vast plateau are a few extensive, partially wooded "mountains," being those portions of the country which have escaped denudation. These enclose many fertile and beautiful spots, and are in fact oases in a comparatively dry plain, though it is not so unfertile as to preclude it from becoming an important and wide spreading pasturage ground, covering, south of the fertile belt of the Saskatchewan, an area equal to that of Nova Scotia and New Brunswick combined.

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THE BRITISH NORTH AMERICAN BOUNDARY COMMISSION.

Cultivable Areas and Climate.

THIRD ARTICLE.

The country about the Lake of the Woods is not fitted for settlement, except in some few detached spots, but the marshes will ultimately supply peat for fuel, and probably also an abundant supply of the wild rice, which may be used as an article of food, and the straw as a good material for the manufacture of paper. The slope tending towards the valley of Red River is wooded, and thus becomes of vast importance as a source of fuel, but the soil is sandy and scarcely fitted for agriculture, especially in the presence of the large area of wonderfully fertile soil which occupies about 6,000 square miles in the valleys of the Red and Assiniboine Rivers. The whole of this large area, is not in its present condition fitted for the plough, it being dotted with innumerable shallow marshes and swamps, all of which, however, are capable of being very easily drained, and will rapidly be utilized as population increases in this remarkably fertile area. Mr. DAWSON says in brief, that "the uniform fertility of its soil can not be exaggerated."

This is strong language, but it is quite borne out by the statement of every intelligent traveller who has visited and written upon this amazing expanse of rich, productive soil, awaiting the hand of man to bring it into cultivation with the plough alone. But this one condition of fertility is not the only requisite needed to induce settlement; the other conditions are a supply of timber for fuel and domestic purposes, and of water for daily consumption. The water supply, during the short hot summer months was felt some years since to be a difficult one, but now experience shows that almost everywhere, wells sunk to a moderate depth, afford an abundant supply of excellent water, and in numerous instances shallow artesian wells, striking a lower substratum of gravel, yield a flowing streamlet. The timber problem is not so easily met, and care must be exercised in preserving from wanton destruction the forests on the slopes west of the Lake of the Woods, and the fringe of trees on the river banks, together with the young forest growth on the slopes of the western boundary of the Red River plateau, which leads by an abrupt rise to the second prairie steppe.

As to the climate of this fertile area, it may be briefly stated, that it is extreme. Intense but clear and bracing winter cold, with a sudden bright, and genial spring, followed by a glowing summer, a brief but exquisitely beautiful autumn, and we have the characteristics of the Red River climate. The rain-fall is sufficient for all kinds of crops, and averages from 17 to 19 inches.

Proposed
Suggestions for Bd of
Commissioner

Suggestion with
regard to exploration
of B. dy. Commission

ALFON DRACHÉ
MONTREAL

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REF. 1a

Suggestions with regard to explorations desirable in connection with the Boundary Commission.

1. The objects in view should be (1) The collection of all possible information as to the resources of the region, the best means of overcoming the difficulties which it may present, of rendering it a productive part of the Dominion; & (2) The collection of new & important facts of scientific value.

2. With reference to the first of these objects, the most important points would be the search for & examination of useful minerals; the examination of the soils & of materials useful for building etc; the supply of water in the more arid districts & the vegetable & animal productions regarded as indications of the productiveness of the country, & with reference to their own special utilities.

3. With reference to the second object it appears from the published maps etc, that the limits of the several geological formations, their fossils, & their precise geological ages, are as yet very insufficiently known.

The Botany & Zoology are better known, but there may still be new species to be discovered.

& important facts of geographical distribution to be ascertained.

4. With the view of attaining the above ends as fully as possible, it is suggested that the examination of the region surrounding the Lake of the Woods, where the older Rock Formations are represented, should first be undertaken. That line of section should be followed up from thence into the Cretaceous & Tertiary formations of the plains, & that it would be desirable to extend explorations to the North of the Boundary line to such places as might seem to afford prospects of important discoveries.

With reference to these it may be stated as the result of previous exploration, that ^{the} useful deposits to be expected at the Eastern & Western ends of the route would be metallic minerals, of which some are already known to occur, & that in the plains the minerals most worthy of attention are the Coals & clay-iron-stones of the Cretaceous & Tertiary.

It is also suggested that the geologist & Botanist should be allowed to determine, & report on the specimens with such aid as he might obtain in this country, & that they should be subsequently deposited in the Collection of the Geological Survey or other public Museum of the Dominion.

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