CORRESPONDENCE

Letters are received from various sources and timely and timely to the needs of the trade. It is hoped that all correspondence will be answered. The editor does not hold himself responsible for opinions of correspondents.

CANADIAN HARDWOOD LUMBER ASSOCIATION.

Winnipeg, Ont., February 10th, 1909.

Dear Sir,—Such an association as the above does not exist. The need of one was never more apparent than during the year 1899. The demand for hardwood lumber was such that anything that looked like lumber was put upon the market. There being no uniform system of inspection, sales or less dissatisfactions took place between buyer and seller. An association composed of hardwood manufacturers and wholesale dealers could formulate and adopt such rules for inspection as would become general among all classes of dealers, and thereby obviate a great extent of friction that might otherwise follow. In the United States they have an association called “The National Hardwood Lumber Association,” which was organized in 1808, 1898, and in eighteen months had a membership of about four hundred of the prominent lumbermen from Baton Rouge, New York and Chicago, and some from all the East, West and Southern States, including four from Canada. At a meeting held in Memphis, Tennessee, last November, they adopted rules for inspection of hardwood lumber and the measurement of hardwood logs.

If Canadian lumbermen would organize and adopt such rules for inspection, great good would certainly result to all parties concerned. Just now, before the new cut of lumber is put upon the market, would be a most opportune time to take united action on these lines.

I would be pleased to see an expression of opinion upon this subject from some of your many readers.

Yours truly,

O. G. Anderson.

IMPRESSIONS OF THE BRITISH MARKET.

[From a Correspondent.]

The most important market for lumber in Great Britain is, of course, London, which not only supplies the trade in that city, but also the home counties and the south coast. The principal business is in pine and spruce, but this trade appears to be a kind of monopoly, being in the hands of a small group who are led by the gentlemen exporters in Canada, the Quebec shippers, who buy and control the outputs of the saw mills in Canada. I found a great many responsible firms in London who are anxious to get in direct communication with the saw mills in Canada. Frequently negotiations do not lead to business on account of the usual want of confidence. The London buyers hesitate to buy lumber from unknown sources, and the small saw mills in Canada, not knowing the people on Great Britain, have great distrust in direct dealings except for payments on the Canadian side against bills of lading. The Canadian millmen, who understand the position on both sides, consequently step in and sanction the bulk of the profits that are in the trade, and the Canadian saw mills supply work for the Canadian millmen, at least in a great degree.

I found several highly respectable and responsible brokers in London and other large receiving ports, whose names I could give, and who can be trusted in every way. They are prepared to deal even with small buyers, and are ready to advance fixed prices, and handle consignments, in which case they sell for the saw mills direct to consumers. This way even the small saw mills are put in direct communication with the actual consumers and derive much of the benefit of the large prices of the profits which are now taken by the numerous millmen, through whom their lumber is sent into the markets.

Consignments as a rule cannot be advocated, but on the other hand, if the right people handle consignments honestly, the result is most favorable for the saw mills. In pine particularly I found that all grades except mill cuts are salable, but each grade ought to be handled separately and differently marketed.

Regarding the measurement, I understand that the large companies in Great Britain always measure, and their measurement accounts are undeniable evidence in the law courts, and sellers as well as buyers always accept their statement. The large companies are perfectly impartial.

Regarding division stuff, when the Canadian saw mills can put themselves in direct communication with the right parties on the other side, they will find there is a market for this hardwood in London, but I am inclined to think that the Canadian manufacturers ought to have agents in London, Liverpool, Glasgow, etc., who would take proper care of their interests there. Such agents can be found, and who also guarantee the accounts in case the buyers should fail before the goods are paid for. To deal direct with the actual concern is not advisable, as the saw mills ought to have somebody to guard their interests when disputes occur regarding quality, etc.

J. B. M.

BRITISH COLUMBIA LETTER.

[Correspondence of the Canada Lumberman.]

Timber and shingle manufacturers of this province have met about one month ago and completed organization, under the name of the British Columbia Lumber and Shingle Manufacturers’ Association. Mr. John Hendry of the British Columbia Mills, Timber and Lumber Co. was elected president of the association, and Mr. J. G. Scott, of the Pacific Coast Lumber Co., vice-president, and Mr. W. T. Teas, secretary-treasurer. The timber and shingle mills in Vancouver and New Westminster have been most active in the organization, and it is expected that in a short time every large mill in the province will have followed suit. Under the proposed arrangements manufacturers expect that prices can be regulated as far as British Columbia is concerned so as to enable the mills to carry on business much more profitably than in the past, and to more equitably divide the business done. For instance, it has often happened that orders have had to be refused owing to a mill having contracts to satisfy too far ahead. Owing to the friendly relations now established, it is claimed that the output will be regulated to some extent so that all the mills in the province will as far as practicable be made to share alike, according to their capacity, in all the business done. The lumber and shingle companies of British Columbia joined what is known as the North Pacific lumber combine, but this arrangement was found not to work satisfactorily. The combine was manipulated from Puget Sound, and it was very soon found that such manipulation, however, was of no use, as Canadian manufacturers, were concerned, was impossible, and the Canadians withdrew. Since then very low prices for lumber have prevailed.

The Victoria Lumber and Manufacturing Co. have just completed a double building for new mill at Chemainus, making it the largest in the province. Your correspondent now learns that plans are being perfected for an even larger mill to be built at some point on the northern coast of the island. It is said that the mill will be a ten-bend one and will have a capacity of 400,000 per day of ten hours. The company owns one of the best timber limits on the island, and do an extensive export trade, shipping to the Orient, South Africa, America and Australia.

It is reported that the second mill owned by Mr. Creasy, which is situated on the Fras-Arrowsmith, is about two miles above this city, will also re-commence operations in the near future. The mill of the Consolidated Barnet, which has been idle for several years, is being revived, and will be in operation again in about six months.

Mr. Murray, forest ranger, has recently made a survey of timber in order to enforce the payment of Government dues thereon. This timber has been already cut for cordwood, shingle bolts and for making of ours is of a larger size than might be expected. The masts are made by the thousands, the trades are altogether in the hands of the Japanese, usually taking the best and largest trees, cutting great lengths, and when used, the heart and every portion of the logs have been rejected. The Government, however, requires that wood be placed on the entire log at the rate of 50 cents thousand feet.


DOMINION FORESTRY ASSOCIATION.

The committee appointed at a preliminary meeting held in Ottawa recently to consider the formation of a Dominion Forestry Association, have called a meeting for March 8th next, in the Railway Committee room of the House of Commons, to take final steps. All persons interested are invited. Following is a copy of the invitation issued by the secretary:

OTTAWA, Feb. 16th, 1909.

Dear Sir,—I beg to inform you that at a meeting of several gentlemen interested in Canadian forestry, held at Ottawa the 15th of January last, a resolution was passed appointing a committee, consisting of

Hon. Sir H. G. Joly de Lotbiniere, of Quebec.

Wm. Little, Esq., of Montreal.

J. R. Booth, Esq., of Ottawa.

Dr. W. Saunders, Director of Experimental Forests, Ottawa.

Thos. Southworth, Esq., Chief of Ontario Forestry, Toronto, and:

E. Stewart, Esq., Chief Inspector of Timber Forestry, Department of the Interior, Ottawa, to call a meeting of all persons interested, to be held in the Committee room of the House of Commons, on Thursday, the 8th day of March, at 10 o’clock a.m.

The committee is very desirous that an accurate representation from all parts of the Dominion should be present. They are of opinion that the time has arrived when the efforts being made by our various governments for the adoption of rational forestry methods should be assisted and guided by intelligent public opinion, and they are anxious to forward the formation and association as they have in view.

The committee cordially invite you to be present at the meeting, and you are also requested to invite any persons whom you think might be interested in the subject.

Yours respectfully,

E. STEWART, Secretary.

It is hoped that there will be a large attendance of persons prepared to assist this important movement.
CANADIAN FORESTRY ASSOCIATION

CCES: [4] ORGANIZATION MEETING IN OTTAWA.—OFFICERS ELECTED. DISCUSSION OF FORESTRY PROBLEM.

Canada is rich in natural resources, and her wealth of timber area is unques
tionably an important asset. Hence it is to those in power seen fit to steps to preserve and in places increase this, which is destined to become all the more vital and important as the various provinces raise in population.

A Canadian Forestry Association has accordingly been formed, the pro
gress of which fully realizes the absolute necessity of promoting standing timber and restoring sections of the Dominion not enjoying the former, even blessings, of well distributed forest growths.

At the inaugural meeting held in the Railway Auditors' room of the House of Commons, etc., on Thursday, March 8th, Sir Henry Joly de Lotbiniere, Minister of Inland Revenue, and several other prominent members of the forestry movement, representatives nearly all the provinces and territories, and proceedings were conducted and the papers issued in a manner that bespeaks success for the Association.

In his introductory remarks, Sir Henry Joly de Lotbiniere, the President of the Canadian Forestry Association, stated that those who were most interested in and intimate with matters affecting timber resources, encouraged by the success of the efforts of the promoters and members of the American Forestry Association, had decided that the present was an opportune time to establish a Canadian association working along similar lines. The primary object would be to advocate and encourage judicious methods of dealing with our forest wealth.

Canadians united with the American Association knew great success it had attained in this direction, and it was to be expected much greater success should be attained in Canada, where the forests still remain to a great extent under the control of the Crown.

Another fact was to awaken public interest in the true interests resulting from undue destruction of the timber along the waterways and sources of water. The chairman also considered that the public domain should be thoroughly explored as the proper resources and the best uses of the forest portions properly ascertained. With no effort still in view, a portion of the unappraised land, he considered, should be permanently reserved for the growth of timber.

The next was to promote interest everwhere in the public domain and its division into agricultural, timber and mineral lands, with a view of directing immigration and the pursuit of our pioneers into channels best suited to advance their interests and the public welfare. With this accomplished a portion of the unappropriated lands of the country would be permanently reserved for the growth of timber.

The next was to encourage and disseminate for the benefit of the public reports and information bearing on the forestry problem, in general, and especially with respect to the wooded and prairie districts of Canada, and so encourage the study of forestry by the ranching generation.

The following were elected as officers of the association: Honorary president, Lord Minto; president, Sir Henry Joly de Lotbiniere; vice-president, Mr. William Little; secretary, Mr. E. Stewart, Inspector of Forestry, Department of the Interior, Ottawa; assistant secretary and treasurer, Mr. R. H. Campbell; directors, Messrs. Hiram Robinson, E. W. Ruthburn, C. Jackson Booth, Thos. Southworth, Hon. G. W. Allen, Dr. Saunders and Professor Macoun.

At a subsequent meeting of the Executive Committee the following vice-presidents for the different provinces were appointed: Assiniboia, Hon. W. D. Perley; Alberta, Mr. Wm. Pearce; Ontario, Mr. J. B. McWilliams; British Columbia, Mr. H. Bostock, M. P.; New Brunswick, Hon. D. C. King; Quebec, Hon. S. N. Parent; Manitoba, Mr. Stewart Maloy, Saskatchewan, Mr. Thomas McKay; Prince Edward Island, Hon. Donald Ferguson; Nova Scotia, Dr. A. H. McKay; Newfoundland, Lieutenant-Governor of Newfoundland; Athabasca, Mr. Wilson, Yukon, Mr. William Ogilvie.

The membership fee was placed at $1, life membership being secured by the payment of $10. The following parties interested and who were present at the meeting forthwith joined the association: Sir Henry Joly de Lotbiniere, Prof. Wm. Saunders, Ottawa; W. D. Perley, Wolseley, N.W.T.; William Little, Westmount, G.W. Allen, Toronto; Jas. Homidag, Quebec; Finlay Young, Killarney, Man.; R.H. Campbell, Ottawa; M.J. Butler, Deseronto; D. James, Thornhill, Ont.; J.B. McWilliams, Peterborough; E. Stewart, Ottawa; Frederick Todd, Montreal; Alex. MacLaurin, Charlemagne, Que.; Robt. Bell, Ottawa; Robt. Hamilton, Grenville, P.Q.; John F. McKay, Montreal; Hon. E. J. Davis, Toronto; F. W. Gibson, Crown Lands Department, Toronto; Aubrey White, Crown Lands Department, Toronto; Thos. Southworth, Crown Lands Department, Toronto; J. M. Macoun, Ottawa; W. T. Macoun, Ottawa; Hiram Robinson, Ottawa; Gerald Spring Rice, Pinse, N.W.T.; B. Spring Rice, Pinse, N.W.T.; R. St. Fupart, Toronto; J. R. Duff, School of Science, Toronto; C. E. C. Usher, Montreal; Sir Wm. Hickson, Montreal.

The annual meeting will hereafter be held in Ottawa on the last Thursday in March, and special meetings shall be held at such times and places as the executive may decide.

AFTERNOON SESSION.

At the afternoon session interesting and instructive papers were read. The first was by Dr. Bell, E.D., M.D., F.R.S., of the Geological Survey of Canada, and is printed below:

CANADA'S NORTHERN FORESTS.

By ROBERT BELL.

The subject of this distribution of the forest trees in Canada has come particularly under my attention, as I have had the opportunity of travelling for forty years in the north country as geologist for the northern region.

The forests of North America exhibit a variety and
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Grander in size than those of any other country or continent on the earth. The reason is supposed to be connected with the condition of the earth before the glacial period. It is supposed that the polar regions had a climate similar to ours of northern countries. After the disappearance of the glaciers the trees have been working their way northerly again. Some of the species already reached are the extreme persistent species, others are not. The trees whose seeds are scattered by the wind, such as the poplar and spruce trees, will spread more quickly, while others, such as those that have their seeds in the form of nuts, will travel more slowly, the seeds being few in number and being more slowly distributed. A single poplar might distribute seed over a whole country in season of years.

The verge of the forest is at present moving southward, both in America and on the continent of Europe, but still a number of trees have not yet had time to reach the southern limit. An example of this is the black walnut, which is abundant in western Ontario, but only occurs in isolated cases at Ottawa and Quebec. This is one of the trees with which our chairman, Sir Henry Joly, has been making experiments in Quebec.

The number of species of trees in North America is larger than in any similar area. There are 340 species between the northern limit and the Gulf of Mexico. The British islands have only fourteen species, and over the whole continent of Europe there are only twenty-five to thirty species. In Canada there are about 150 species, 50 being east of the Rocky Mountains and 25 west of that line. As the continent diminishes rapidly to the south we must necessarily have a large number of species in the south, so in the north we have large forests with a small number of species and in the south small forests with a large number of species.

The chief factors in causing a flourishing growth of trees are the climate and a sufficient supply of moisture. The variations of the climate in North America admit of a great variety of growth from the cedars in the north to the tropical trees of the Gulf of Mexico in the south. The northern forests of Canada stretch from Labrador to Alaska, some six thousand miles, and have a breadth of fully two thousand miles.

Western Canada is not wooded in the plains and prairie country. In the eastern, or prairie country, there are clumps of poplar, but on the plains only a few trees in the deep alluvial of the rivers. This region is triangular in shape, being about four miles in width and six miles on each side. It is wooded principally with poplar, birch, etc., and in the north there are coniferous areas of coniferous trees.

In the area of our northern forests we have about thirty times the area of England. The area of England is about 39,000 square miles. From Ontario to James Bay is about 600 miles, and it is about 600 miles farther to the southern limit of forests. In Labrador we have an area 1,000 miles wide by 1,000 miles from north to south, equal to the whole of Europe, and covered by timber on the east side of Hudson's Bay to latitude 53 north. On the west side of Hudson's Bay the range is about latitude 59 north, and continuing west in the Mackenzie basin it reaches latitude 63 north, beyond the Arctic circle.

This sketch of our great forest wealth will show the necessity of some steps being taken to protect and preserve the forests, as well as to ensure the deriving of a proper revenue from them, and show the necessity for the organization of an association such as the one formed here to-day.

As a result of the climatic conditions the timber lines vary, but they do not in all cases. The mean temperature of the year does not cover the extremes of heat and cold, proximity to the sea or the plains region, former geological conditions, etc., all of which affect the succession of the trees.

The white cedar is one of the most peculiar in regard to its limits. The reason why it does not extend farther west than the eastern part of Manitoba is probably due to the dryness of the climate. There is, however, a patch on the west side of Lake Winnipeg, near Grand Rapids, which was probably started from seed carried by the Indians. They are fond of decorating their lodges with white cedar. The trees on this patch are 40 to 50 years old. The seed may have been carried on branches taken in this way from the eastern side of the lake. Isolated colonies of other species are probably due to the fact that these specimens are in advance of the main body. The white cedar is at its perfection in Gaspe and New Brunswick, occurs little in Nova Scotia, while there is none in Cape Breton or Newfoundland. There is no trace of it on the outside of the Labrador coast, owing to the biting sea air. In the north the direction of the line of growth is due to the coldness and dryness. There is not much barren land, except in Labrador and west of Hudson's Bay, practically all of the Dominion being well wooded.

In Ontario and Quebec the limits of the trees are a pretty good indication of climate, but in the west other factors, such as soil and moisture, affect the problem, because the same species does not always grow under the same conditions. For example, in the south some species will seek the cooler situation, and in the north the warmer. The white cedar, balsam fir, spruce, hemlock, and white birch choose the coolest places in the southern part of Ontario, while farther north they seek the warmest.

The coniferous woods are comparatively slender in its distribution, being found only in Ontario and Quebec about to the divide between James Bay and the southern slope. North of Lake Superior it has been destroyed by fire and has not had time to reproduce itself. It occurs in Newfoundland, but on the extreme eastern forests.

A bird's-eye view of the country in which the spruce grows would show a patchy appearance, due to the fact that different areas have been burnt over as different times. The spruce forests attain an adult growth in 25 years, and there will be patches of these trees of all ages and ages up to 100 years.

The origin of forest fires on accessible parts is usually to travellers, campers, miners or settlers handling fire carelessly. Vast amounts of valuable timber have been destroyed in the past on this way, and a great deal is still destroyed by Indians and others leaving fire. But I think that the greatest cause of forest fires in the north is lightning, though there may be other causes. One of the most curious of which I have heard is told of a tradition of the Indians in regard to a fire in the Lake Temagami district. They attribute it to a shooting star, quite a possible reason. Other causes may be the spontaneous combustion of prairie, etc. One of the principal causes in the accessible parts of the country is the facility of getting matches. Eddy's matches are probably responsible for a great number of the fires. If people had to employ flint and steel the fires would probably not be so numerous.

I have calculated that about one-third of the country may be considered as brute, that is, under second growth up to about ten years of age; one-third as intermediate, including trees between ten years of age and upwards, and one-third including trees assuming the character of trees up to those of one hundred years of age. These make up an area thirty times as great as that of England. Any of the one-chineth parts will have an annual demand of 50 millions of cords of the ordinary population of Canada, that is, five million people could get what is required for mining, fuel, etc., by taking the timber from a space the size of England. The white pine is able to allow the twenty-nine other parts to grow up to be ready later on.

Spruce trees grow much more rapidly for thirty years than they do afterwards. Very large is made between thirty and one hundred years.

If any proof is wanting of forest fires having in remote time, it is supplied by the post-Iroquois, where we find the charred remains of an old Abnaki fir near Toronto trees have been cut two or three hundred feet below the surface.

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Mr. E. STEWART,
Secretary Canadian Forestry Association,

Mr. R. H. CAMPBELL,
Assistant Secretary and Treasurer Canadian Forestry Association.

have also been found elsewhere. We have charcoal in the habits of trees, such as the Bankstand pine, requires fire to facilitate, if not to continue its action. The cones are exceedingly numerous, curve inward and adhere to the branch short, grow in bunches of three or four and will remain on a tree till it falls away with old age. Though be true that this is not the only way, the seen from the cones of the abies of fire. The cones of
Dr. Saunders: Does increase in elevation help the growth of certain trees.
Dr. Bell: Some grow better on high land, for instance the hard maple.
Dr. Saunders: The reason I asked that question is because I have found on the Riding Mountain, at an elevation of 1,800 to 1,900 feet, Populus tremuloides growing to a great height, while on the lower ground it was not nearly the same size.
Mr. W. T. Macoun: Has the white pine been found growing upon swamp land?
Dr. Bell: Yes, I have found white pine growing in swamp land in some places in Western Ontario.
Dr. Saunders: How far north does one go before the tamarack changes its character as to choice of ground? I have seen tamarack in wet ground as far north as the Swan river.
Dr. Bell: The change takes place about the height of land. The absence of trees in Manitoba must be due to some inherent difference in climate. The trees do not stop abruptly on reaching Manitoba, but begin to curve southwest at an earlier point.
Dr. Saunders: Why is it that on the southern banks of the rivers in the west the trees are of considerable size, while on the northern banks they are smaller? Is not this due to fire? Dr. Bell: I have noticed the east and west banks show the same difference, the east slopes having a better growth than the west. I think it is due to the fact that in the spring, being exposed to the sun on the south-facing bank, the sap is forced up early and the first severe frost bursts the bark and destroys the tree.
Dr. Saunders: We have had apple trees killed at the Experimental Farm before they were large enough to run sap.
Mr. Stewart: I was at the meeting of the Manitoba Horticultural Society lately, and Mr. Stephenson showed specimens of wild and hibernian apples grown at his place in Manitoba. The apples were well-formed and mature.
Dr. Saunders: I know Mr. Stephenson's place well and the trees are growing at an elevation of less than 700 feet. There is heavy wood to the north and west, while the orchard is so surrounded by evergreens that it is difficult to find it.

HISTORY OF ECONOMIC FORESTRY IN ONTARIO

Mr. Thomas Southworth, Chief of Forestry for the Province of Ontario, read a paper on the "History of Economic Forestry in Ontario," in which he outlined the steps which had been taken by the early government of Canada for the reservation of timber, and also the policy now being followed in regard to the setting aside of timber reserves such as that at Lake Temagami, the forests on which will be dealt with in a scientific a manner as possible. At one time, Mr. Southworth stated, the forest was considered by the settlers to be an enemy to be removed. As a result, in some of the older counties of Ontario, the present wooded area was less than 5 per cent. of the whole. The land burned over is still unsettled and unsuited for tillage, and should be placed in forest reserves. Fire ranging, Mr. Southworth said, served both to protect and establish the timber areas. He considered it fortunate that the crown kept control of the timber instead of disposing of it to lumbermen, as had been done in the United States.

During the French occupation the home government made no provision to protect any but the oak timber, but happily this condition of affairs had been improved on. Amongst the measures adopted for the protection and reproduction of the forests were the remission of taxes on forest lands and the establishment of Government nurseries similar to those supported in New Zealand. The high lands, he maintained, should be well kept timbered, as the rivers have their sources there. The fact was mentioned that farmers are now planting trees as wind-breaks to protect young corn crops, and the author referred to the fact that the fire rangers had saved many millions of feet of timber, and Mr. J. R. Booth remarked that there was not one fire now where ten occurred years ago. This happy improvement was due to the efforts of the lumbermen themselves as well as the rangers.


I wish to make some remarks with some of you gentlemen may not agree, but I know of what I am speaking, and I would urge you to support the proposition that I have proposed, but I hope those who may be of a contrary opinion will put forward their views of any questions that may be discussed. There is a diversity of causes for prairie fires. The present is the only large part of Manitoba covered with forest, and also some scattered forest in Ontario. In fact, south of Indian Head less than forty years ago there was a considerable growth. In places where now there are no trees and where settlers say that trees will not grow, for 40 or 50 years ago they were covered with forests.

I want to recapitulate a statement of Dr. Bell's. I saw two prairie fires in 1895 at Crow Lake caused by lightning. If the trees they caused by lightning, Dr. Bell is probably right in saying that forest fires to the north of the prairies are so caused. I have seen there four thunderstorms caused one another on the prairie, and not many rain. I was on the prairie before the settlers. I have the privilege of exploring in the year 1895 for mesure red inks on the prairie, looking for vast stumps still between eighteen and nineteen hundred miles. At that time the prairie was covered with stumps and in other places there were many traces of abrupt forest, especially on the edge of what is the prairie now. B. splendid Last Mountain, before you reach Long Lake, we would find not a tree in the region. Had I known the privilege of exploring in the year 1895 for mesure red on the prairie, looking for vast stumps still between eighteen and nineteen hundred miles. At that time the prairie was covered with stumps and in other places there were many traces of abrupt forest, especially on the edge of what is the prairie now. B. splendid Last Mountain, before you reach Long Lake, we would find not a tree in the region. Had I known the privilege of exploring in the year 1895 for mesure red on the prairie, looking for vast stumps still between eighteen and nineteen hundred miles. At that time the prairie was covered with stumps and in other places there were many traces of abrupt forest, especially on the edge of what is the prairie now.
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but there are trees that never produced wood. Whereas the olden days, the sap was bled from the trees as fast as it could be done. This alkali is not potash, derived from the ashes of fires, but is derived from gypseous rock.

The saline lands are not watered for timber. When I was at the Elk River in B.C., the Halff-Boards would go to the pond and try the water by tainting it. But I would send them directly to one which I knew contained fresh water.

How did I know? I found that in the spring of the year, when the first vegetation appeared, the plants in the ponds, lakes, or streams, were fresh. The pond has an imperceptible bottom and in the fall of the year it begins to be salt. In the latter part of August and September the sedges, which remain in most of the ponds and lakes, grow very rapidly, and change color where the water is saline. Mr. Archibald Mitchell, a forestry expert, thought much would make trivial things mean much for them.

To do we get humidity? What is the benefit of a forest? What is the difference between country covered with grass and a country covered with forest?

A tree turns out thousands of leaves and has great roots far down in the ground, and the sun is pumping water out of the tree all day long. It is pumping water out of the depths of the soil, and that water for hundreds of square miles is passing out into the atmosphere. The cutting off of the forests means that the rainfall will be carried off the surface of the land. Surface currents are not interfered with, but are only prevented from taking the humidity out of the air. Thus you have the climate suited to the growth of cereals. The humidity in the air compensates for the want of it in the climate.

In the prairie are pure, white, and black: one pine, the Banksan; one balsam, Abies balsamea; two poplars, trembles and the balsam poplar; and tamarack. The north country produces these and no others. Of the elm tree, which does not grow on the prairie, there is a magnificent specimen occurring fourteen miles north of Regina in the valley of Qu’Appelle. The elm is a river bottom tree. The oak extends from the prairie up on the prairie to Fort Ellice. The red oak occurs also on the prairie at the Assinaboias at the Durd Hills, four hundred miles west of Winnipeg.

In 1879 the country up to Moose Jaw had a sufficient supply of timber for building purposes.

In all that country there should be no difficulty in re-occupying the forest, with poplar and white spruce. I eliminate the cold and the chinsooks altogether.

Let us consider, now, the main prairie, including the country four hundred miles from Moose Jaw to Calgary. Mr. Pearce has solved the problem of tree growing at Colby and will tell you what he has done. I saw Mr. Pearce’s place before he planted trees and can tell how successful he was.

My report of 1886 showed that this district was not a desert. Where there is a sandy soil there is no desert. How are the trees to get on? Precisely in the way that they were taken off. I say that cold has nothing to do with it. I am not against planting new forests in the western prairies, but I would not lay it down that the prairie is a stony and water only. Two years ago, when I was at the west, a gentleman was deceased, but then Mayor of Calgary, said to me, "The Chinooks prevent the growth of trees." I called his attention to a large tree in the valley of Bow River. I asked why one was killed while another was left. The reason was that one had water and the other had not. When the trees are planted on the prairie and given plenty of water, as has been demonstrated by the success of the efforts of the Canadian Pacific Railway Company at Macoun and Medicine Hat, they will grow and thrive. If it can be done in one it can be done in ten.

With the Indian Head I was told I saw a dam built or a well, and, when asked: to sketch at a gathering in the evening, I told the people that I would like to see a village, with a station the man who built that station. There is a dam and plenty of water, as has been demonstrated by the success of the efforts of the Canadian Pacific Railway Company at Macoun and Medicine Hat. This dam there proves that the dam there is proof of the success of a water supply.

In the prairie region west of Moose Jaw there should be dams put across the creeks and some spruce and some poplar put there. It will cost the dam and sylva, and you can get your industry inestimably. These are the times that exist wherever there are trees. The trees grow in all the hollers. There must be a snow-catcher and the trees will grow. The tree must be grown at least ten years before it is put. This tree must be put in another place and the drought gets below to the root. The almost inevitable result is that the trees wither and die.

In 1886 we reached Sliding Lake, and north towards the Saskatchewan in some sand hills we discovered twenty-four of these trees, one foot in diameter, and not a shrub around them. The cutchburn I reached in regard to them was that the sand hills received the water from the air and the trees specifying where there was no water, and the fire could not get at them. That satisfied me that neither chinook or cold had to do with the matter.

An important point where a dam might be built is at Cypress Hills. In order to make use of the water out of the Cypress Hills.

A paper on "Tree Planting in the West" was read by Mr. William Pearce, Superintendent of Mines for the Department of the Interior at Calgary. He stated that no great skill or effort is required to reforest the great treeless plains of the west. It could not be done economically, however, he claimed, if water had to be artificially supplied. Irrigation is a necessity for forestation.

Mr. Archibald Mitchell, formerly forester for Lord Dunraven and the Earl of Rosebery in England, submitted the following contribution relating to forestry in the North-West:

FORESTRY IN THE NORTH-WEST.

By ARCHIBALD MITCHELL.

I do not think it will be at all necessary for me at this time to touch upon the principles upon which the future forest system of Canada ought to be based. In the face of such a question, for such a purpose, I feel that anything I could say in my presentation would be unnecessary and altogether uncalled for.

Upon the existing forests of Canada then, I will say little beyond expressing the hope that a thoroughly sound system of forest management will very shortly be established. It seems to me that the people of Canada are suffering a lack of knowledge on this subject. If it is only could be placed before them, laying due emphasis upon the necessity for such a system, together with the general principles of management, the way would be very soon have its fall working order. Canadians are a business people, and a system founded upon a solid basis of facts and figures could not but appeal to them and win their approbation.

This Association, I have no doubt, will speedily accomplish the object for which it has been constituted, and Canada will in a very little while be in possession of a forest system which will be a splendid movement to advance the prosperity of Canadian intelligence and business enterprise.

With regard to the needs of the West, however, I may be allowed to say a few words, more particularly in regard to the grazing regions of Southern Alberta and Assiniboia. In these regions, it is superfluous to mention, form a magnificent stock-feeding area, and the prairie in summer are covered with thousands of cattle and horses. I say summer, because, in the wintertime, every one clear cold weather is experienced the stock seek the shelter of the river bottoms. They get among the willows there and congregate in great numbers. Food, naturally, soon gets scarcer, and the animals become quite poor in condition, and prolonged cold weather may kill the one or two. There is abundance of food out on the prairie, but the rigor of the climate prevents its being used. When a Chinook wind occurs and the snow is swept off the prairie, there is no means to leach the snowbrush because of the cold north wind, or, when they do not go to the grass before another snow comes up and the cold weather is more severe than before and there is more snow, then they cannot return to good grass before another storm comes on and to be allowed to return to the shelter of the river bottoms.

Now, if there were groups of trees, say about 30 to 40 acres in extent, placed all over the prairie a few miles apart, all this would be avoided. The cattle would have something to feed on in their feeding grounds, they would never lose, and could not lose, a condition, and much provisory hay to their owners would be avoided.

Every rancher in this country well knows how much more feed his cattle will gain on his stock as they are on the pasture, as if the scheme is one which is too large for private enterprizes; then very few ranchers have succeeded in raising even a tenth part of what they could raise on the one and a half acres, and the increased rainfall as a result of that, and which is the result of the settled rainfall as a result of the scheme. Such a scheme will be infinitely beneficial, and it is the department of Canada the partial adoption of the scheme. Whether any particular manner indicated will deserve a most worthy