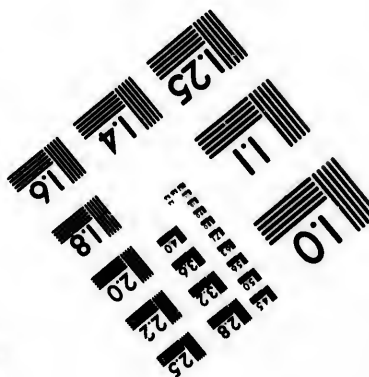
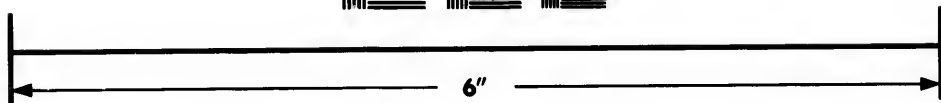
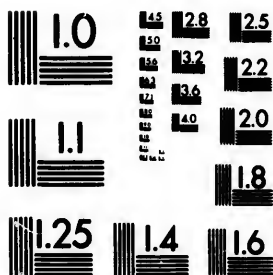


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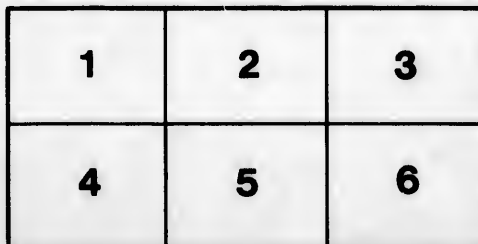
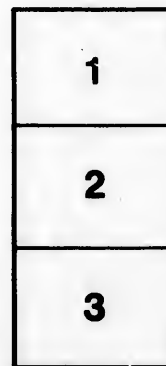
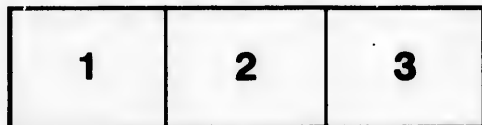
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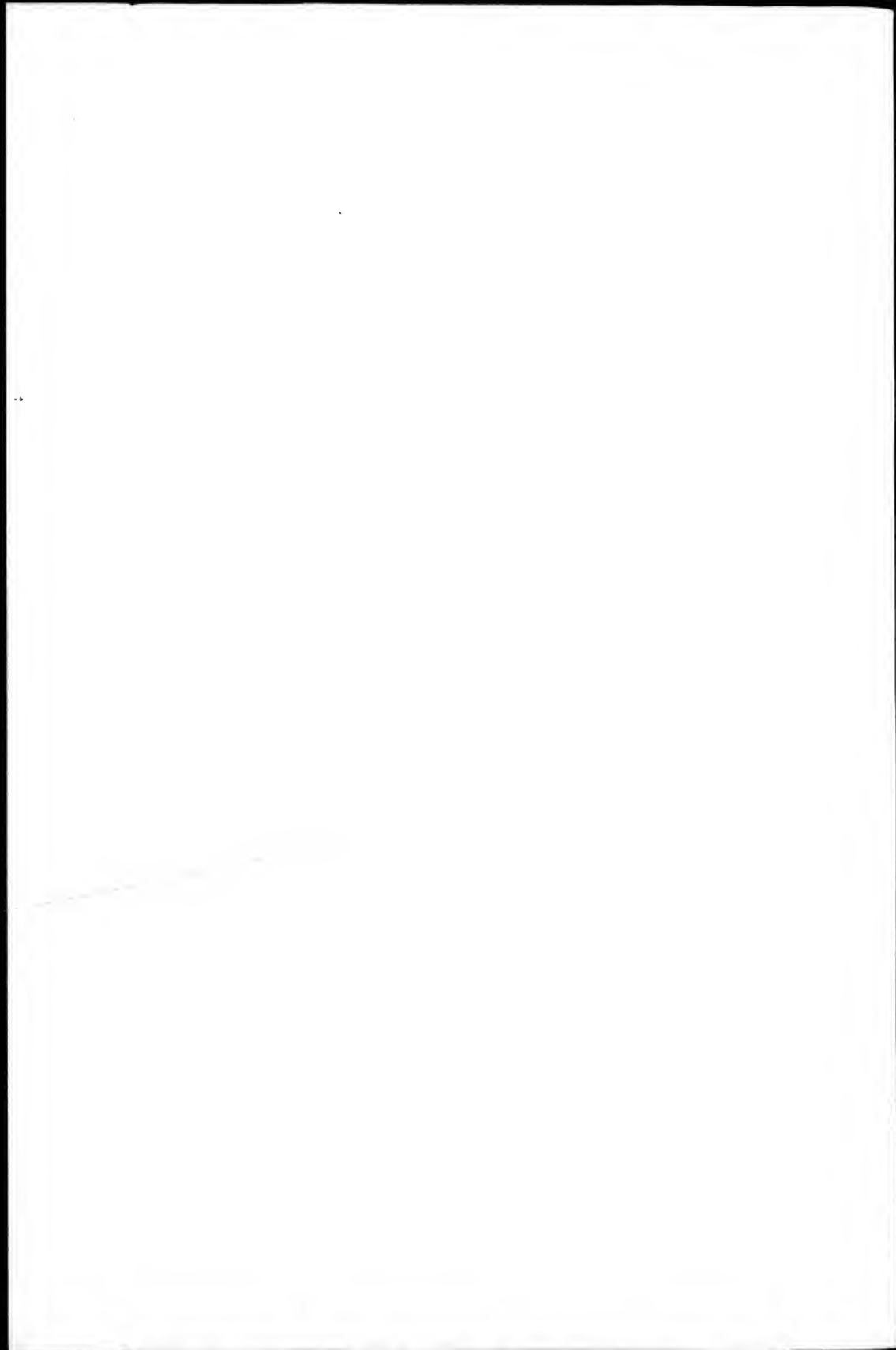
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“MONTREAL:”

AND

“THE OTTAWA:”

TWO LECTURES DELIVERED BEFORE

THE

MECHANICS INSTITUTE OF MONTREAL,

IN JANUARY, 1853 AND 1854.

BY

THOS. C. KEEFER, CIVIL ENGINEER.



MONTREAL:

**PRINTED BY JOHN LOVELL, ST. NICHOLAS STREET,
1854.**

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MONTREAL.

LADIES AND GENTLEMEN,

In selecting the name of your beautiful City for the subject of my remarks to you this evening, I feel some explanation is due respecting the intended scope of this Lecture. By assuming so comprehensive a title, I by no means profess ability to do justice to the subject, nor is it possible, within the limits of an evening's Lecture, to discuss a tithe of the subjects which affect Montreal.

For the sake of the many fair faces who have honored us by their presence this evening, I regret that we are compelled to consider almost exclusively, the weightier matters which concern this goodly City. Not that I would by any means intimate that such topics have no interest for ladies—that they are unconcerned about the welfare of their City—in other words, the prosperity of their husbands, their fathers and brothers. However vulgar the observation, none know better than the ladies that it is the annual balance sheet which determines the concerts and pianos—the summer jaunts and the sea-side bath—the fine furs and the velvets—the silks and the satins—the parasols and the scent bottles, and all the innumerable and incomprehensible elements which form a material basis for what is called domestic bliss.

The subject is familiar to you, and you may perhaps say to me, “tell us something that we do not know;” what have you, a comparative stranger, got to say about our City? we know all about Montreal.

"Know thyself" is a maxim as applicable to communities as to individuals, and if I am guilty of presuming that you have overlooked something deeply concerning you, if I insinuate that you do not exactly embrace your full and true position—it is not that I arrogate a superior discernment, but perhaps offer views suggested by a somewhat greater indifference, as a looker on can sometimes determine the best move at chess more safely than the players. Life has oftentimes been compared to a game at chess, and in our day so keen is competition, so well understood are the causes of success or failure, that cities must struggle for their corporate capacity as well as families for their subsistence, and play out their part with the same patience and shrewdness, the same energy and decision which are everywhere and in every cause the essentials to success.

It is an undoubted fact that we all overrate what is remote, underrate what is familiar to us. The knowledge which concerns us most is generally the last acquired. The saying, "far off cows have long horns," is but a vulgar rendering of the divine proverb, "a prophet is not without honour save in his own country." Distance lends enchantment to our view of other things besides scenery. No man, it is said, can be a hero to his own valley, because there is nothing heroic in flannel drawers and a nightcap, and yet a man's a man for a' that—for George Stephenson, the father of the Locomotive Engine, after having remarked that he had dined with princes, peers, and commoners, and also that he had dined off a roe-herring and gone through the meanest drudgery, summed up as follows:—"I have seen mankind in all its phases, and the conclusion I have arrived at is this,—that if we were all stripped there is not much difference." Our neighbours and commercial rivals seldom rate themselves below par, but a lingering remnant of colonial tutelage must, I suppose, be assigned as an explanation of the fact that there exists in this section of the Province a want of confidence in something or in somebody, and it must be either in our resources or in ourselves!

Perhaps a too great familiarity, as the copy book says, excites contempt. I had the fortune or misfortune to be born within hearing of the roar of Niagara; I saw that great cataract when so young that I do not remember any first impressions. I supposed the world was full of such places and, as a boy, passed on until my attention was attracted by the praises of strangers. Our children will weary with forty miles an hour on our Railroads, having had no experience of the bark canoe and the corduroy road, and they will daily gaze on the St. Lawrence, without being impressed with its surpassing volume.

To appreciate correctly our own position we should raise ourselves, if possible, beyond the influence of the smoke of our own City, survey impartially the operations which are going on round about us, and then determine whether we will set to work in earnest to improve our home, or at once change it and make room for more congenial spirits. One of the great causes of the rapid development of this continent is the fact that every man has had it in his power (from the cheapness of land and facilities of water communication) to gratify his whims as well as his necessities, and to pitch his tent in that precise spot where he desired to dwell. This deliberate choice of habitation is almost as much a duty as a privilege, for, if a man finds himself in the wrong place he becomes discontented, and with true human perverseness too often determines that that place shall not have the best of the bargain.

The next best thing to finding a ready-made paradise here on earth, is to make one out of such materials as present themselves, as the good wife does out of the humblest home. A man should not only be contented with his lot, but he should also make the most of it: and it is incumbent upon every one to investigate the resources of his homestead before he covets his neighbour's patrimony, else, like many over nice people, he may go through the bush and cut the crooked stick at last.

It may be objected that these are not the most appropriate subjects for a Mechanics Institute. It is usual, I know, on these occasions to make the subject a scientific one, to take up some of the —isms or the —ologies, and expound them. If I am guilty of any innovation in meddling with the domestic affairs of this City, my apology is that having been honored with a request to address you, I am more anxious to benefit than to amuse you. We are a practical people, and we live in an eminently practical age, and what more edifying, what more profitable subject can the Mechanics of this City discuss, than the causes which favor or which threaten the prosperity of Montreal. The prosperity or adversity of a city is immediately felt by every interest in it. The capitalist may survive "hard times," but the first symptoms of depressions are felt by the working classes,—and by the working classes I mean all of us who labor for our subsistence. Wages go down—the brakes are at once put on—wives and children are denied former comforts and the limited enjoyment of the present is embittered by anxious forebodings for the future. If then the working classes, who form a decided majority of the body politic, are the most seriously inconvenienced by a stagnation or reaction in business—an inquiry into the causes which induce or avert the public adversity is surely most appropriate on their part, not only because they are the earliest and greatest sufferers, but because in their hands rests a remedy. We live in a country, thank God! where almost every man has some influence, and if he does not exercise it to his own advantage, it must be because he does not understand his own interest.

We too frequently wait to be led—perhaps in the end by the nose!—forgetting that if we only form a strong battalion politicians innumerable will volunteer to lead us on to victory and its spoils. Now those enterprises are always the most irresistible which spring up from the people—those the most doubtful which come down from the public bureaux. When, therefore, the mechanics in

a city, or the farmers in the country, become protectionists or free traders, temperance men or railroad men, it is amazing with what agility the leading politicians become convinced and place themselves at the head of movements which they can no longer withstand.

The moral of this is, that if the working classes study the resources and wants of their districts and devise any enterprise for its welfare, they can carry it because they have the votes.

The credit of a city or country is the great engine through which she is to recover or maintain her position, and the control of that credit is in the hands of the majority. It is unfair—nay, more, it is dishonest—that any portion of a community should evade their quota of contribution to enterprises in which all are interested, and from which all will derive proportionate benefit. The free horses should not be ridden to death. Montreal should therefore do as every city, county, town and township in the United States and Western Canada are doing—tax all for the benefit of all.

I propose, with your indulgence, to advert to some of the principal wants of this City—to take a rapid survey of its position, and the causes which have operated, and will operate for or against her, and trust the explanations made, will satisfy you that I could in no way be more useful than by drawing your attention to questions which must sooner or later be discussed; and, however mistaken my own views may be, succeed in enlisting your interests in some course of action, for action is the watchword of the day.

Time was when a premium upon exports by the St. Lawrence, caused by a protected demand for our products in Britain, gave Montreal a monopoly of the export trade, not only of Upper Canada, but also of the Western States; while, at the same time, differential duties forced nearly all transatlantic imports through your warehouses. Now, not only has American export by the St. Lawrence ceased altogether, but transit privileges have been afforded

over American routes to Upper Canada, so that she is exporting and importing through her inland ports at such a rate as threatens to reduce your City to the position of a country town, a mere trading point for a few miles of surrounding territory.

Again, it is but yesterday that the Green Mountains were an impassable barrier to the southern valley of the St. Lawrence, and the products of the industry of this thickly settled district were concentrated in Montreal. Now, faith in science has removed mountains, and numerous Railroads made and making are gathering where they did not sow, and probably another winter will see the whole surplus of the South shore carried off to Portland, Boston and New York, leaving nothing for shipment on the opening of the navigation.

The mere superiority of New York, as a seaport, over Montreal and Quebec, immediately upon the cessation of all protection in favor of the latter, was sufficient to turn the western tide through the diminutive channels of the New York Canals, in preference to the more capacious St. Lawrence. This result took place whilst you were competing upon equal terms, *i. e.* when transport by both routes was confined to water communications, equally influenced by frost, commencing and suspending navigation at the same time: but now a more formidable rival has appeared, one whose operation is not impeded by frost, whose path is not restricted to vallies of rivers where water navigation may be made, and who for nearly five months in the year has no competitor. The Ogdensburgh Railroad has run past you on the St. Lawrence, has turned your flank, and intercepted your supplies. This road passes disdainfully by us, preferring to climb over 1000 feet of elevation, in order to reach a village west of Montreal. It was natural to suppose that New York would seek the Western States without calling here, but when Boston also prefers a western point to this, when she attaches so little importance to us, and so much to Western trade, is it not time for us to value that Western

trade, and revise our estimate of ourselves. While Boston offers a continuous Railway to nearly all that is valuable west of us, New York, by a line from Rome to Cape Vincent, gives a winter market to Upper Canada through Kingston. Three or four roads are congregating on the Niagara river and will penetrate to the most valuable parts of Western Canada. Similar lines will be multiplied, and when the demand arises during the winter, these roads will sweep the Western Province of its surplus before the ice leaves our wharves. If the country is emptied while we are curling in the Canal basin, what have we to export. If Upper Canada exports in winter, will she not import proportionally during the same season.

But you may say—we have our canals, and will be content with the business which they must bring us ;—but let us look at this.

Quebec exports our timber, because rafts can go there cheaper than vessels can come after them, and because tide water assists the loading. Montreal has hitherto exported most of the agricultural produce, and imported nearly all the supplies from sea, because the batteau and durham boat, and the barge of the Rideau route could not profitably proceed to Quebec, and transshipment was therefore made here. But this is changed—the boats which now come down from the West will not continue to stop here unless you make it their interest to do so. You cannot yet bring up a ship drawing twenty feet of water, but hundreds of such can ride in the stream at Quebec, and there most assuredly Western propellers will meet them and exchange pork and flour for iron and salt, unless you make that exchange more profitable here. The possession of our large canals is the only thing which, since the loss of protection—the abolition of the differential duties and the opening of the Inland transit trade between New York and Western Canada can preserve Montreal. Quebec, come what may, can stand upon her timber toes. But at the same

time, these canals are instruments which can be wielded with equal force against as well as for you. It is extremely fortunate that the completion of the canal was secured before the repeal of the Corn Laws. It is scarcely probable they would have been undertaken after that event, and it is pretty certain that if the St. Lawrence navigation had been in the state it was prior to the Union, all agricultural exports from Upper Canada, by the route of the St. Lawrence, would have ceased. The canals have placed the inexhaustible West within your reach, and you are nearer to the lakes and can carry between them and tide-water cheaper and quicker than any other city in America. But these are advantages which we must not merely talk about, but prove.

No sooner have we completed the Herculean task of our magnificent canals, than like all other builders we find we are not half done. Our competitors on the other side of the line have not only canals but railroads alongside of them. The canal is the street and the railway is the side-walk. Trade and travel can thus keep company. We have provided for the trade only, and made no provision for the travel. For nothing is more certain than that travel follows trade, because on those routes where the most business is done, (as for instance the route from Albany to Buffalo,) there there is the greatest travel. Now, if trade and travel are inseparable, we cannot expect to enjoy much of either until our travelling facilities are improved. This City has been by no means backward in railway enterprises—she has been forward, too forward literally. It would perhaps have been better for her in this respect, if she had looked backward—to the West and North behind her—rather than so much forward toward Portland and New England. I doubt whether we have made a good selection in amalgamating with Portland on a “differential” gauge. We have, perhaps, thus thrown the greater capital and influence of Boston in favor of the Ogdensburgh road, and aided its completion. But it is natural that Montreal should first attempt the compara-

tively shorter connections with long American lines, than grapple with the magnificent distances towards the West; and the truth must be told, ours is rather an expensive country to furnish with commercial facilities, particularly with railways. We only require canals where we have rapids, but we must have railroads along the whole frontier, which is of a disproportionate length to the depth of country behind it. The Province, by a public guarantee and a trunk line, has undertaken to put a good face on matters: but we must look after the backing, otherwise the benefits will be too superficial—we will be all front, without the proper depth and solidity.

The Trunk Line, though of great public importance, will probably be so located as to be of but secondary utility to Montreal. The Western stream will be tapped at Kingston and Prescott by the Cape Vincent and Ogdensburgh Railways. Lastly, one of your best and hitherto surest customers, Bytown, is slowly but steadily working her way to Ogdensburgh, and will carry with her the trade of the Ottawa valley.

Thus, from having been in 1845 one of the most fortunate of cities, possessing almost a monopoly of the imports of Upper Canada, and having a premium on the exports of breadstuffs, American as well as Canadian, you are now assailed on all sides. New York is not only fast taking your place as the outport of Upper Canada, but for the trade which still belongs to the St. Lawrence, Quebec will be assuming the position of a rival; while the railways of New England and New York are cleaning out the country before and behind you.

It is a fitting time, therefore, to 'take stock' and see where we stand. Our liabilities to ourselves, to our children, to the times we cannot evade; we should, therefore, look into our assets, take a careful and comprehensive survey of our position, and determine upon a course of policy and united action for the future. This result can only be accomplished by the formation of a strong and extended public opinion, based upon a thorough

investigation. Nearly all great public works, here and elsewhere, are to be ascribed to the efforts of a few individuals generally deemed visionaries, humbugs, or rogues, by their contemporaries; but, in these latter days, our wants accumulate so rapidly that we should no longer wait for the appearance of apostles or champions of progress to lead us on; this was the feudal, the despotic system, but if we are capable of governing ourselves, we ought to be able to prescribe for ourselves and order what we want.

I will now briefly allude to the more important duties which are before us, each of which would be a fitting subject for an evening's discussion.

First in importance are our Navigation interests. It is her seaport which Montreal should most highly prize and most sedulously nourish, and as she labours under some disadvantages from natural causes, these must be noticed.

1st. The existence of some obstructions in the channel in and above Lake St. Peter, prevents the arrival of the largest class vessels from sea. These obstructions are fortunately not insuperable, and when we remember that Glasgow, which at one time was only approachable by fishing smacks drawing six feet water, now displays in the Broomielaw some of the finest craft afloat, we have every encouragement to persevere until Montreal shall be to Quebec what Glasgow is to Greenock.

2nd. In consequence of the limited frontage between the shoals under Point St. Charles opposite the Canal, and the Current St. Mary, there is an insufficient amount of harbour accommodation, and the value of that we have is reduced by local phenomena. The rise of water in winter and the shoving of the ice, prevent the erection of warehouses on the wharves, and of permanent machinery for discharging cargoes, so that the commerce of the port, particularly its business as an *entrepot* is burdened with a heavy charge for drayage. The same local phenomena prevent us from laying up craft for the winter in the harbour, thus driving to other ports the population

and outlay required for the winter repairs, and checking the descent of upper lake vessels as soon as the first frost sets in. Fortunately, indeed for this City, there is within reach of it a remedy for this objection. We are in the same position as at a tide-water port (in consequence of this winter rise of water)—and have the same need of docks, but we have not the flux and reflux of the tide to work them with; but we have an abundant supply of water close at hand, at a sufficiently high level for this purpose. The Canal basins are docks precisely similar to the kind which must be resorted to, but, although these are a great relief to the harbour they will not be accessible, on account of the shortness of the locks, to screw-steamers and the largest class of craft which may be expected at Montreal, and they are moreover no more than sufficient for the trade of the Canal itself.

We must, therefore, “fence in,” from time to time, as many acres of the Point St. Charles shoals as may be required, and fill up the enclosure with water from the Canal, or from the river above the rapids. No excavation is required, and these basins may be approached through the Canal until the arrival of longer or wider craft calls for the construction of larger locks.

Point St. Charles is the proper point for the Railway Freight Termini, and for the Railway Bridge: the docks in the river at this point would therefore be accessible to railway tracks, so that the vessels and the railroad cars can, when necessary, be brought side by side, and elevators worked by water-power be employed to discharge grain. These facilities should not be confined to any one railway; it is the best arrangement for all railroads, terminating on either side of the river below the Lachine rapids. The natural causes we have alluded to, will always operate largely against both the Champlain and St. Lawrence and the St. Lawrence and Atlantic Railroads, in any attempts which they may make to do an extensive business in connection with the river. Shallow water, strong currents and the winter rise of the river, make

the system of docks or basins such as those at the Canal, almost indispensable at St. Lambert and Longueuil, but the high head of water is wanting there. The Portland road looks to the St. Lawrence for its principal business : but to conduct this business—particularly the transport of wheat, corn, barley, &c., profitably, and on terms of equal competition with rival roads, it is indispensable that it should be able to have warehouses and elevators alongside of the craft coming down from the western lakes. Moreover if these South shore railroads make their termini in Montreal, they will get rid of the steam towage of deeply laden western craft from the Canal, over and up to Longueuil and St. Lambert.

Before these roads undertake any extensive expenditure in the river opposite Montreal, it behoves them to investigate the Bridge question and see whether the expenditure which they propose to make, if invested in a bridge would not be more profitably applied than elsewhere.

The City of Montreal should meet the Bridge question heartily and liberally, as a matter of self-interest. If the Railway termini are permanently established on the opposite shore, and no provision be made for a bridge, the imperfect mode of communication will create an interest there, which, instead of being auxiliary, as Brooklyn and Jersey City are to New York, will be rivals, and from their perfect communication with the most important parts of America, South, West, and East, will possess all the elements of absolute independence. Fortunately for the interests of this City the local unfitness of the South shore for a good connection with the St. Lawrence, in addition to the necessity for an unbroken communication with the line of Western Railroads terminating in Montreal, bring not only a powerful but a mutual interest to this Bridge question which guarantees its early achievement.

The good old City of Quebec has taken alarm at the railway operations at Point Levi, and has sought for a bridge, but the fates are against her ; and there seems

nothing for the ancient and modern capital, but emigration to the South shore, unless indeed she is content with the North shore timber coves, her citadel, a political menagerie every alternate four years, and the dining of American tourists. As the chances for any bridge across the St. Lawrence, below Montreal, are most remote, and no more favourable point for crossing exists above us, a bridge at this place will have the widest support provided Montreal takes steps to bring that support to it. Now, the difficulties of crossing the St. Lawrence below Montreal, the distance of the railway from the South shore between Quebec and Montreal, even supposing the crossing were good, and the great length of time, five months of the year, during which the large population of the North shore are closed in, gives Montreal a monopoly, if she is wise enough to avail herself of it, of the business of this whole population, including that of the ancient and honorable City of Quebec herself. The impassable state of the St. Lawrence at Quebec, will cause all travel and imports for that city, for five months in the year, to be made through Montreal, and it will be your own fault if it is not done through here for the remainder of the season. The route from Quebec to New York will be as short by the North shore through Montreal, as that through Richmond and Sherbrooke, and to the whole West, still shorter. The North Shore Railroad, when reversed, becomes not only practicable but highly desirable. As a part of the Trunk Line, or as a means of giving an outlet to the intermediate country through Quebec, it could not be sustained, because Quebec is no market, and from the state of the river in winter, cannot be put in communication with a market. But reverse the proposition and start a road from Montreal, as an extension of the three roads going South, and of those to be built going West, and every section of it twenty miles in length as soon as opened can be properly worked and extended, as circumstances warrant, or be at once taken up as a whole. There is great encouragement for Montreal to

embark in this enterprize, because she need fear no rivalry, the North shore is a regular *cul de sac*, and can never get an outlet or inlet as advantageous as that through Montreal.

I have said that no more favorable site for a bridge presents itself above us than can be found here. But I do not mean to say that the country cannot be permanently invaded, at Prescott for instance. By extending piers from the South shore to the edge of the channel, steamers with railroad tracks upon them can ferry loaded cars between Ogdensburgh and Prescott throughout the year, whenever necessity arises. The whole St. Lawrence valley west of us is so exposed to inroads from the United States, and so contiguous to a highly populous district on the other side of the boundary, that Montreal must not anticipate too much from the Trunk Line. But there is a region west of her, for the trade of which she can put forth her energies under encouraging auspices. The valley of the Ottawa above Bytown and Perth, is a *cul de sac*, with no outlet above these two towns. It is well settled, and a good agricultural country for nearly one hundred miles above Bytown and the most valuable timber region perhaps in the world. It abounds in minerals, fertile soil, and water power unlimited. The import trade of this region is greater, for the population, than perhaps any other part of America; because, not only must the greater portion of their consumption be imported, but as the lumbering business is conducted on the cash principle, and wages are highly remunerative, the population are more able, and do consume more and live better than any country population I am acquainted with. I speak from experience when I say that I never saw elsewhere money more plenty, and the means of comfort more universally diffused than on the upper Ottawa. The reason is, that the population instead of being idle during the winter, and consuming their substances like bears in a hollow tree, are steadily employed on cash wages.

We have said that this valley is a *cul de sac*. None but the Voyageurs go through it. But it is a *cul de sac* unlike the North shore below, for there the farther you go after you pass Quebec, the worse you are off. Not so with the Ottawa; if you only burst the narrow belt between the upper Ottawa settlements and the broad expanse of Lake Huron, you are at once on the track of the Chicago, Wisconsin and Superior trade. Western produce from Chicago to Michigan and Superior can be delivered on the Georgian Bay, at a point nearer to Montreal than Hamilton is, as cheaply as it can be carried to Sarnia or Detroit.

This project may be deemed premature and too extensive; but it is not necessary that it should now be undertaken as a whole. Over one hundred and fifty miles from Montreal westward may now be safely undertaken as a local road; and as far as Montreal is concerned as a matter of necessity and self-preservation. The Bytown and Prescott road now far advanced will carry out the Ottawa trade to Prescott where it meets the Trunk Line, but, as there must be transshipment at this point in order to come on the Trunk Line which is of a different gauge, the Ogdensburgh route will be more advantageous.

Again, it has been shown that the Railroads on the South shore, opposite us, will not bring produce into market, because this produce will find a better market to the South. The Trunk Line skirting the bank of the St. Lawrence between Prescott and Montreal draws from one side only; and as the farmers in the rear must come out to the front, in order to get the Railroad, they will be brought so near the Ogdensburgh road, that they may be induced, particularly during the winter when they have their best roads, to cross Lake St. Francis on the ice to the Ogdensburgh line, as they are now doing. That the business which is brought from above Prescott may be stopped there or at Kingston, has already been mentioned. Again, as the farmers of the interior, between

the Ottawa and St. Lawrence, must now come to the latter for a market and an outlet, their position will not be improved by a Railroad also on the river; it will not shorten their teaming, and, therefore, the influence of the Grand Trunk in developing this portion of the Province near Montreal will be feeble. Now, it is of great importance to Montreal that she should have a road which will traverse an agricultural district, because the consumption of a large city will pay the Railway transport on every article, even of the coarsest description of agriculture, or of the forest, which can be found within one hundred miles of it. Thus we can bring firewood, hay, milk, potatoes, lumber, &c., from Two Mountains, or Glengarry, and the Counties west of there, when we cannot afford to bring these articles from points west of Kingston.

The location of the Trunk Line on the front, as a provincial work for through travel and the mails, therefore not only justifies but creates a necessity for another line in the rear, which can neither be called a parallel nor a competing one: for it will do a business, and create a business which cannot and will not be done by the Trunk Road. Such a route is now absolutely essential for the protection of the interests of this City as a means of preventing the tide of the Ottawa trade from flowing toward the St. Lawrence and thus placing it in dangerous proximity to the Ogdensburgh road.

If I have succeeded in making myself clear on a subject so trying to your patience—it will be conceded that the great Ottawa railroad should forthwith be commenced. Whether or not, the present favorable position of the money markets, and the eagerness for investments in all promising Railroads should be taken advantage of, to place the whole route to Lake Huron in the market—does not affect the question. A Railroad from Montreal up the Ottawa can now be profitably sustained as far as the counties of Lanark and Carleton. The extension to Lake Huron must follow sooner or later, nor will it stop there.

The four great Lakes—Ontario, Erie, Huron, and Superior are separated by three peninsulas—at Niagara—Detroit—and Sault Ste. Marie,—to these points must all surrounding Railways converge—for at these points connections and crossings may be constantly maintained. A railroad terminating on the Georgian Bay would be confined to its local business, for four or five months in the year, as is the case now with the Ogdensburgh road ; but if extended to Sault Ste. Marie and carried over into the peninsula of Michigan, it could thus penetrate Wisconsin, Minnesota, and the Upper Mississippi, to all of which it would be the shortest route to the east, and draw over it a stream of traffic which can hardly be overrated.

This route, when made, must become one of the great lines of this continent. It is a route worthy of this City. If Portland could project and successfully urge forward a route through the Mountains to Montreal—the latter with double her population may with confidence cope with an undertaking not more than double the extent. The particular and indeed supreme importance of this route when opened to the Western trade is that it would place Montreal on the route of the great American trade from West to East and vice versâ. Wherever a town is by canal or railway wheeled into the line of this trade, the effects, as at Buffalo, Oswego, and Ogdensburgh, are immediately perceptible. Montreal would then have the double advantage of an inland transit as well as a sea trade.

But it is not pretended that such a railway,—which would secure the travel and a portion of the trade of the North West,—would be sufficient to enable us to compete with Buffalo, Oswego, and Ogdensburgh, for the carrying trade between the East and the West. Those points have the benefit of our unequalled Inland Navigation, which supplies such an extraordinary amount of freight that the quantity which any city which is on this track may aspire to, is only limited by her enterprise and means. Whatever vicissitudes or temporary checks

may befall our sea trade, this inland traffic is ever to be depended on—and if there be any possible means whereby Montreal can be placed upon the carrying route between the manufactures of the East and the consumers of the West—and between the food producers of the West and the food consumers of the East, no effort should be spared to attain this enviable position, in order that whenever the sea trade is unpropitious we may have the second string to our bow. Now there is one million of tons to be sent from the West to the East every year, and there is one-fifth of a million of tons to be sent from the East to the West. This commerce does not belong by right to any one route, the whole of it is open to the competition of Dunkirk, Buffalo, Oswego, Ogdensburgh, and Montreal, and the last comers appear to be the favourites.

It would seem at first view that Montreal was too much out of the way to indulge in any expectations of benefitting by this waterborne traffic between the Eastern and Western States. In point of distance, it is true, that starting from Cleveland or Hamilton, the route to New York is much more direct through Buffalo and Oswego than via Lake Champlain, but experience is more valuable than opinion, and the facts that the great majority of the business done over the Ogdensburgh road is with New York proves the truth of the old saying, "that the longest way round is sometimes the shortest way home." The reason is that a cargo of flour from the Lakes can reach New York quicker through Ogdensburgh and Lake Champlain, with but 66 miles of canal, than through Buffalo and Oswego with 363 and 209 miles of canal respectively, because a propeller from Cleveland to Ogdensburgh will carry—at eight miles the hour—the load of five canal boats, which move only about $2\frac{1}{2}$ miles the hour.

Now, it is in our power by constructing a canal, to enable that propeller to proceed directly into Lake Champlain instead of stopping at Ogdensburgh, and thus save two transshipments and their accompanying damage and detention—and in so doing, to raise the stock of our St.

Lawrence Canals to fully double their present value, and bring one of the greatest currents of commerce within our reach. As an instance of the effect of having and of not having an interest in this Western trade—it is sufficient to refer to the fact—that the tolls received on the Welland Canal are nearly three times greater than those received on the St. Lawrence Canals.

It cannot be denied that there has been some prejudice, or at least some indifference displayed in relation to this Canal, in consequence of the proposed point of departure, Caughnawaga. The entrance of a Canal at Caughnawaga would not benefit that point unless there were transshipment—and now that a Railroad is there, which will cause transshipment, any attempt to arrest the destinies of Caughnawaga will be as vain as it would be, on our part, suicidal. The Canal is now necessary to enable Montreal to compete with Caughnawaga—to make this City the depot and entrepot and enable vessels to load here for Lake Champlain instead of forcing this business to be done at Caughnawaga.

The great portion of the business of this Canal would be through trade, which if not invited down here would remain at and above Ogdensburgh. The benefit to be reaped by Montreal from the work is chiefly incidental—and the larger the trade of the Canal the greater will be these incidental advantages. With such a stream of shipping, as this Canal properly located would induce, a large portion of which would be partially laden or in ballast, you could send up freights to the Western Lakes at the lowest rates—and at any moment by the aid of the telegraph, arrest a cargo destined for New York, if required to complete a contract here. This Canal would complete your position as a depot or produce market, so that you could store here either for the Gulf trade and the Lower Provinces by sea navigation—or for New York and New England by Inland waters. When once Montreal is placed upon the route between New York and Chicago, steamers ascending or descending could fill out

or exchange a part of their cargoes here, and this facility of trading inland in all directions on the best terms must exercise a powerful influence over our sea trade and tend greatly to increase the number of vessels arriving here. The trade between the Western Lakes, and New York and New England, together with the Ottawa lumber trade, must comprise the great bulk of the future commerce of this Canal. If Montreal desires to reap the greatest benefit from this work, she should place it where it would be most efficient, and to be most efficient it should be located where it will be most convenient to this Western and Ottawa trade—neither of which should be burthened with the additional lockage of the Lachine Canal doubled—when they have no business to do here. So far from “diverting trade” from Montreal, this Canal would simply restore to the St. Lawrence Canals, trade which has been diverted from them by the Ogdensburgh Railway. The trade of Upper Canada and the Western States now finds its way to New York through cheaper routes than by Montreal. If Caughnawaga can attract it from Ogdensburgh, and Longueuil cannot do so, surely it is better for Montreal to get it any where within reach than to see nothing of it whatever. Even if you were to reap no incidental advantages it could do you no harm, and inasmuch as it must give increased impulse to the Ottawa lumber trade it would enrich the country behind you,—enrich your customers and thereby enrich you.

Caughnawaga should be treated as one of the future suburbs of this City. From the St. Gabriel Lock, which will ere long, be a central point of departure, Caughnawaga can be reached in about the same time and cost as Longueuil. There would be no more lockage between the Sea and Lake Champlain via Caughnawaga, than by any other route, and in this case, the up trade of iron, salt, coal, fish, &c., must pass through Montreal, whereas in the other, it would stop at Longueuil, making that point quite as efficient a rival as Caughnawaga. So also with the down trade, I mean that intended for Lake Cham-

plain—supposing that you could induce it to undergo 90 feet of unnecessary lockage—it would either descend by the rapids direct to Longueuil, or if it passed down the Canal, it would do you no more good, than it would do to Beauharnois or Cornwall.

The same arguments which are used for the Champlain Canal will apply to the improvement of the rapids, between Coteau du Lac and Montreal,—with this additional consideration, that the whole benefits of this expenditure would tell upon both the Sea and the inland trade of this City. When we reflect that our largest Mail Steamers every day descend from Prescott to tide water without passing through a Canal or Lock, it is wonderful that we should not sooner have inquired into the causes which prevent all boats, freight as well as passenger craft, descending by the river, and thus reduce the time and cost of bringing cargoes to the seaports. I can speak from personal knowledge when I say that the impediments to this unrestricted navigation of the rapids, by all boats which may reascend the Cánals, are utterly insignificant when compared with the effect to be produced by their removal. The improvement of the rapids and the construction of the Ship Canal to Lake Champlain are works of the very first importance, and would produce greater results from the expenditure required, than any other works in the country, perhaps upon the Continent, and certainly are more worthy of the consideration of the Legislature than such speculations as the Sault Ste. Marie Canal.

We have now taken a cursory view of some of the leading enterprises which Montreal should promote in order that she may build up her commerce upon a more solid and enduring foundation than one based upon commercial legislation. Legislative measures are certainly the cheapest modes of relief, but when they are contested so as to partake of the character of class legislation, they are ropes of sand. Nothing can be more dangerous,—nothing more hostile to the best interests of this City can be

devised—than the attempt to confer by temporary Acts of Parliament commercial advantages upon the seaports at the expense of the inland ones. To engage in a war with Upper Canada upon these points would be to alienate your best customer. You cannot fail to be as unsuccessful in result as you would be unjust in position.

The constitution of the United States prohibits the levying of greater duties at one port in the Union than at another. Goods entered at Chicago via Montreal, are liable to no more duty than those entered at New York. Instead, therefore, of attempting to force the trade of Upper Canada by Legislation, through the St. Lawrence, invite, coax, not only this trade but that of the whole North West through this river, by making it as free as the Ocean. Then you will make Oswego, Cleveland and Chicago, Hamilton, Kingston and Toronto, Inland Seaports, if I may use the term, and unite them with you in one common bond of interest.

This indifference upon the subject of the free navigation of the St. Lawrence is in the Lower Provinces, at least, almost criminal. Upper Canada, with the power of selecting New York or Montreal, can afford to neglect this question. The Lower Province, which will be the greatest gainer by the measure, appears to attach a value to the monopoly she possesses, whereas it is a positive curse to her. Sam Slick tells us of a bear which having seated himself upon the moving log in a saw-mill, and becoming annoyed with the encroachments of the saw, embraced it with a characteristic hug until it cut him through, tumbling a hairy slab of bear's meat on either side of the saw log. Now all parties must admit that the commercial position of the Lower Provinces is chiefly to be maintained by an increase of Shipping. It is wise then to "hug" a system which discourages an increase of Shipping, and which is cutting us in two. Have you any thing to fear from a crowd of American merchantmen in the St. Lawrence? Why not exclude the travellers of that country from our Hotels and Steamers? There is as

much reason in the one course as in the other. Canada East is Commercial, Canada West is Agricultural; if like the Northern and Southern States they clash,—the Union Act may like the U. S. Senate maintain equality of representation in the face of inequality of population, but this will only be submitted to upon the basis of perfect commercial equality. Upper Canada will, ere long, possess double the population of the Lower Province, and and will certainly claim equal rights.

But there is an interest growing up in this country which will inevitably overpower all others, and overturn any unequal legislation bearing upon the Inland trade. The Railways cannot go to sea. The surplus of this country has for more than one-third of the year no other market, nor any other outlet to a market, than that to be found in or through New York and New England; and it cannot be supposed that this great interest will consent to be debarred from the international trade inland, even if the people who were supplied by it were content to submit to so short-sighted a policy.

I have alluded to a question of public policy because it is one which most deeply concerns your welfare. Montreal, while she should never forget her interests as a seaport, should also recollect that these interests depend on her ability likewise to maintain an inland trade. If you are enabled to overcome the deep tide water advantages of Quebec, for transhipment between the Ocean and the Lakes, it will be because you possess other advantages which Quebec does not which will enable you to compete successfully with her. The ability to bridge the River, the large surrounding area of fertile and populous country, the junction of the Ottawa with the St. Lawrence, the proximity of New England with her millions of consumers, and of the West with its rapidly increasing millions of producers for whom you may become the successful caterers,—these conditions will enable you, by the aid of Railways, to bring about a concentration of trade and travel here which is impossible at

Quebec. But if by a mistaken policy you spurn the inland trade, which is always here always increasing, and fall back solely upon the fluctuating and uncertain trade by sea, prospering chiefly from the negative fact that ships come here when they can find nothing better to do elsewhere, you will, like Ephraim, be "let alone." Before we ask Upper Canada to import through our warehouses, we should satisfy her of our ability to discharge the responsibilities we would assume. How would you supply from the Ocean your Western nursery in winter? Not through the United States, for of course Uncle Sam would not be long in bottling us up in the route for which we had evinced so strong a predilection; nor could we complain, after discriminating against him, if he should withdraw the bonding and warehousing privileges by which we make use of his seaports when our own are useless. How then is Montreal to provide an outlet for her young and rising family in Western Canada during the five mortal months of winter? Echo answers—**HALIFAX AND QUEBEC RAILROAD!**

It is a wiser as well as a more honorable policy to endeavour to better ourselves by legitimate means rather than at the expense of others, and experience has shewn that in free countries no other course can be depended on. I do not pretend to say that differential duties in favor of the St. Lawrence will not grant advantages to Montreal which she does not now possess, but I do believe they will bring with them disadvantages more serious; that while we grasp at the shadow we will lose the substance. I would prefer directing your attention to enterprises the beneficial effect of which can neither be conferred upon you nor taken from you by legislation, and which, if they do not make you friends, will at least not add to your enemies, and will be equally useful and indispensable to you under any system of commercial legislation. Of what use would differential duties and increased trade be to you unless your Harbour be enlarged,—unless vessels of deeper draught can come to your

wharves? It is more profitable, therefore, to direct our attention to objects which we cannot dispense with, and which will be far more efficient means of attracting and securing the trade and sympathies of Upper Canada and the West than engaging in a struggle in which we can obtain nothing permanent but the ill-will of those whom it is our interest to conciliate. The very agitation of schemes which, however mistakenly you may consider it, are yet sincerely looked upon in Upper Canada as an attempt at a sort of commercial robbery, will drive Western Canadian merchants in disgust to New York. This is not a question between Free Trade and Protection,—neither of which systems as a whole are suitable for us any more than that the same food would assimilate in the digestive organs of the infant and the full-grown man. This is a question between the inland and the seaports—the former *seventy* in number, the latter only *two*,—a question which it is proposed to settle not by fair and honourable commercial rivalry but by coercive legislation.

There are other subjects of interest which time will not allow me to enter upon, significant of the future that is in store for Montreal. The water power of the St. Lawrence capable of driving its millions of spindles will sooner or later be called into activity. Our magnificent rapids cannot much longer be allowed to flow uselessly to the sea—the admiration of travellers—the toys and playthings of romantic maidens—the gigantic rocking horses of annual flocks of tourists who come and go as regularly as the wild geese.

There are also minor wants but not less important, to be noted. The health of the City calls for an efficient system of drainage and sewage, for which the topography is most favorable. You have perhaps escaped the cholera at the expense of one-third of the City in ashes. There is the only thorough scavenger for a city badly drained: and it is perhaps fortunate that the same poverty which causes our early towns to neglect their drainage also

builds of combustible materials, thus providing the future fuel for the purifying process.

Your physical wants provided for, the moral ones come next, although some philosophers—forgetting that the gospel was not preached to the poor until the lepers were cleansed, the dead were raised, the blind received their sight, the lame walked, and the deaf heard,—would reverse this proposition.

You need a Public Library. This City is certainly deficient in this important respect. You also need an Alms House—a public receptacle for beggars—where the idle may be made to work and the impotent be cared for. Our door bells are ever on the ring—our housemaids ever on the run to answer the calls of shivering wretches—and who shall discriminate between the worthy and the unworthy ;—we can refuse none, for we may “entertain angels unawares.”

And having done our duty may we not also enjoy ourselves—may we not combine the useful with the ornamental, and while yet the City is young, before it numbers its hundreds of thousands, set aside public lungs to let in the light and air of heaven among our thickening streets—lay off Parks and Gardens to give new attractions to the stranger,—new recreations to the toil-worn citizen.

Cannot Nuns' Island be secured as a Water Park for the future use of the City? Should not the vacant fields on either side of St. Catherine Street between Philip's Square and the Protestant Orphan Asylum, be laid out as a park before they are built over—where the pure air and the constant breeze drawn round the head of the Mountain may be enjoyed by a few minutes' walk from the busy haunts on either side of McGill Street. And the long-talked-of Boulevard? Will not Montreal avail herself of the magnificent features of the Mountain to have a drive where the tired mechanic may sport his cab or sleigh with wife and baby alongside the gay turnout of the merchant prince, or the high official? Will she not covet

an attraction which few cities in America can and none have availed themselves of. Would it not arrest for a day the tribe of pleasure-seekers who seem to be the legitimate descendants of the famous—

Mynherr von Slam,
The richest merchant in Rotterdam,

—and who seem to have inherited his cork leg. May it not be even possible that the facilities afforded by Railways will induce many of the wealthy idlers who congregate in New York and Boston to visit us during the winter, to wrap themselves in our furs and enjoy that abundance of snow, that keen exhilarating atmosphere which they so much prize “down south,” and of which we have perhaps a surplus.

In conclusion, permit me again to vindicate the propriety of the topics brought under your notice this evening. Is there not a marked change in the general appreciation of what are called public improvements? Is not the English tongue rapidly girdling the earth? California and Australia,—and who is not interested in them—who has not friends there,—having in the duly appointed time revealed their hidden treasures, America has opened up the Isthmus of Darien while England is breaking through that of Suez. America is agitating a Railway from the Atlantic to the Pacific,—England one from the British Channel to the Ganges, from Calais to Calcutta, passing through Constantinople and the valley of the Euphrates, with a station at Antioch and a junction to Jerusalem. In the Ohio basin, in the Mississippi valley, on the Atlantic slope of the Alleghanies, throughout Western Canada, from the Saguenay to Panama, from Halifax to San Francisco—everywhere one subject, the making of Railways, rules the public mind. Shall we alone fold our arms until the question is put, why stand ye here all the day idle? What other city of this population has not made, or is not now undertaking all the practicable routes within her reach?

Practical mechanics is the hand-maid of Science. The

Printing Press has distributed the hoarded lore of Time. The civilization of a country is but another term for the Arts and Sciences of that country. The Ancients were the fathers of Astronomy, of Mathematics and Sculpture:—in Euclid, in Archimedes, they had their Bacons and Newtons but they had not their Watts and their Arkwrights—nor was the world then ready for them.

One great civilizing engine the Romans understood and employed—perfect roads. The spread of Christianity, the first great moral revolution applied to the earth, devolved upon that age and that empire which alone of all previous ages and empires possessed the capabilities for giving effect to the Divine injunction,—“Go ye into all lands preach the Gospel to every creature.” The broad, hard inimitable highways which radiated from ancient Rome into every conquered Province between the Pillars of Hercules and the banks of the Euphrates were garrisoned up to the very borders of that barbarian cloud which hung for centuries over the Roman frontier. These great arteries worked by the heart of the then mistress of the world pent up the flood of barbarism until Christianity had taken root, until it alone survived the wreck and triumphed over those fierce intruders who had just broken the secular power of hitherto invincible Rome.

Constructed to convey the mail clad cohorts, the relentless Eagles, and the swift vengeance of the Roman Senate into revolting provinces, these noble roads were in the providence of God made the efficient and indeed the indispensable means of waging a spiritual warfare, and bore with jealous care the swift footed messenger of the Gospel of peace beyond the lofty Alps and the far distant Pyrenees. And may not we be entering upon those latter times, when many shall run to and fro and knowledge shall increase? and may not the vast, the almost incredible extension of the Railway system, the Electric Telegraph, and the Ocean Steamer over all the Christian Earth, be a forerunner,—a necessary and an indispensable forerunner—to that second great moral revolution, the

Millenium,—“when the sword shall be beaten into a ploughshare and the spear into a pruning hook ;—when nation shall not rise up against nation, neither shall there be war any more.”—It may be a heresy—but is there not reason for a belief that the regeneration of the dark corners of the earth is to be accomplished, not through the pulpit alone, nor by sectarian schools,—nor yet the philosophy of cheap literature—nor by miracles—but by a practical elevation of the people, to be brought about by a rapid development of Commerce and the Arts. Ignorance and prejudice will flee before advancing prosperity. Wherever a railway breaks in upon the gloom of a depressed and secluded district, new life and vigour are infused into the native torpor,—the long desired market is obtained—labour now reaps her own reward—the hitherto useless waterfall now turns the laboring wheel, now drives the merrier spindle, the cold and hungry are now clothed and nourished ; and thus are made susceptible converts to a system the value of which they are not slow to appreciate. The pulpit will have then its grateful listeners, the school its well filled benches,—the stubborn opponents of wordy philosophy will then surrender to a practical one the truth of which they have experienced.

Let then the bigot, the theorist, and the agitator ply their unprofitable trade,—let them lay the flattering unction to their souls that they alone are engaged in the high and holy cause of moral elevation. Let them commiserate the apparently low aims, the ceaseless toil and drudgery of the practical mechanic ;—but know for a certainty that bigotry and intolerance, agitation, and the highest order of speculative philosophy have existed in the midst of starving and uneducated masses ;—that it is the Steamboat and the Railroad which has peopled the recent wilderness of the North West—and by granting facility of access and by securing a reward to labor, have diffused a degree of comfort and prosperity, unprecedented in history. Every new manufacture, every new

machine, every mile of railway built is not only of more practical benefit, but is a more efficient civilizer, a more speedy and certain reformer, than years of declamation, agitation, or moral legislation. And shall not the mechanic, ever the pioneer of progress, lift up his eyes from the work bench and look ahead? Has he, the humble instrument in a mighty revolution, no right to think on such things? "Thou shalt not muzzle the ox that treadeth out the corn!"

I venture to believe that, as mechanics we may devote some moments to a consideration of the tendencies, the prospects, and the utility of the great enterprises, which give character to the age, and in the execution of which we are in a greater or less degree the agents—that this feeling of being useful in our day and generation will while away with a diminished degree of weariness the many hours of labor—that as you ply the busy hammer or wield the heavier sledge some of you may dream that you are fast driving nails into the coffin of prejudice, of ignorance, of superstition and national animosities; that as you turn down the bearings or guide the unerring steel over all the 500 parts of a locomotive engine, fancy will picture you cutting deep, and smooth, and true, into obstacles which have so long separated one district, one family, one people from another—and that you may exult in the reflection that those huge drivers will yet tread out the last smouldering embers of discord, that those swift revolving wheels—by practically annihilating time and space and by re-uniting the scattered members of many a happy family—will smooth the hitherto rugged path, fill up the dividing gulf, break through the intervening ridge, overcome or elude the ups and downs of life's chequered journey, and speed the unwearied traveller upon his now rejoicing way.

MONTREAL, January, 1853.

THE OTTAWA.

LADIES AND GENTLEMEN,

I have selected for this evening's lecture one corner of Canada more on account of its obscurity than for its prominence—a district of which I will venture to say Canadians, generally, know less than of many foreign countries,—one which few have ever seen, and which very few have examined. The reason of this ignorance is soon explained. Many persons have supposed that Bytown, the capital of the Ottawa, was so named because everybody gave it the go-by; and indeed the whole Ottawa valley, an off-shoot from that of the St. Lawrence, is so removed from the trunk line of travel that it has escaped the eye not only of Canadians proper, but of those indefatigable and 'through by daylight' tourists who "see Canada" from Niagara to Quebec in thirty-six hours. The requisites for an examination of the Ottawa are:—a strong constitution, and a still stronger digestion,—the stomach of a locomotive and the appetite of a saw-mill,—abilities to ride without a saddle,—to walk after as well as before dinner,—to paddle a bark canoe, run a rapid, and swim when your canoe is swamped in a "cellar," or riddled on a rock. You must be able to eat salt pork and petrified biscuit, and drink tea which would peel the tongue of a buffalo; or if you can get far enough away, and are something of

a vegetarian, you may try *tripe de roche* with Labrador tea for an alterative. If you "tho' hating punch and prelacy," are yet like

..... the Puritan divine,
Who followed after Timothy and took a little wine,

it must be high wines, 40 o. p., condensed for convenience of portaging, and in color and in character veritable blue ruin. If a teetotaller, when you havn't time, or wood, or dry weather enough to make a Molly of yourself and "put the kettle on," you have the limpid waters of the Ottawa conveyed to your mouth in the "gum dish," a tin receptacle for a mixture of rosin and tallow where-with the seams of your bark canoe are payed, or—as I have seen some voyageurs do—in a well-worn shoe, another instance of the universality of the adage, "there's nothing like leather." If you would sleep on a sweltering night in June, nothing short of chloroform will render a novice insensible to the melody of those swamp serenaders, the mosquitoes, or the tactics of their blood-thirsty ally, the black fly, who noiselessly fastens upon your jugular while the mosquito is bragging in your face. Two remedies are at your service, either of which some persons will be found captious enough to consider worse than the disease. The first cure is the one applied to hams—smoke yourself until your eyes are like burned holes in a blanket, and until you have creosote enough in your mouth to cure a toothache. The second is to smear all your assailable parts with Canadian balsam, until after a night's tossing in your blanket, you have wool enough on your face and hands to make you look as well as feel,—decidedly sheepish.

But do not consider me as desiring in the slightest degree to damp the ardour of any enthusiastic Tourist up the Ottawa. I am only relating the experience of the improvident or reckless traveller—and such are the well-known characteristics of human nature that the slight inconveniences I have hinted at will only inflame the zeal of romantic youths and maidens bent upon "see-

ing the elephant." If you store well your hampers and take camp followers enough to carry them, and if you don't lose them by upsetting your canoe in a rapid, you may avoid the pork, &c.—and if you are expert at throwing a stone or a fly, you can bring down a partridge, or bring up a trout for an occasional change of diet. Where cooking utensils are necessarily limited, the fish, flesh and fowl,—or, speaking more precisely, the trout, pork and partridge are sometimes boiled together in the solitary pot; but a more commendable course is to fry the fish and grill the others. Expedition is the maxim of all sylvan cookery, and as plucking the feathers off a partridge would be too great a tax upon the time and patience of the *voyageur*, the method most in vogue is to run your hunting knife round his throat and ancles and down his breast, when taking a leg in each hand, and pressing your thumbs into his back, you pop him out of his skin as you would a pea from its pod. Then make a spread-eagle of him on a forked twig, the other extremity of which is thrust in the ground, and after wrapping a rasher of bacon around his neck and under his wings, as ladies wear a scarf, you incline him to the fire, turning the spit in the ground, and you will have a result such as Soyer might be proud of. When your other avocations will not afford time even for the skinning process, an alternative mode is to make a paste of ashes and water, and roll up your bird therein with feathers and all the appurtenances thereof, and thrust the performance in the fire. In due time on breaking the cemented shell, (which is not unlike a sugared almond,) the feathers, skin, &c., adhere to it, and you have the pure kernel of poultry within.

With this imperfect allusion to some of the peculiarities of the pursuit of knowledge under difficulties, I proceed to my subject; and first I would mention that a gentleman in every way well qualified for the task, (Mr. Turner,) has, I understand, spent some time upon the Ottawa for the express purpose of giving to the public

authentic information about that interesting region—and a description of its great feature, the lum' er trade. He has been aided by the Government and has had access to official documents ; his work, therefore, when published cannot fail to be a valuable addition to the literature of the country. My own knowledge of the Ottawa is, I regret to say, inferior to my opportunities being derived from frequent trips in summer and winter upon the main stream—while in charge of the Government works for the improvement of the timber navigation—to a distance of about 300 miles, and upon a few of the principal tributaries—some of which are 200 to 300 miles in length ; as well as from explorations of the settled portions of the country in relation to roads and bridges.

The present seems to me a favorable time for turning our eyes toward this *terra incognita*. Magnificent schemes of railway development are on foot ; no less than five chartered Companies are struggling for the honor or the profit of building Railways for the Ottawa. Capitalists with no end or beginning of money are scuffling over stock books for the control of the direction, or are sympathising with municipalities in order to relieve them of their bonds ; last of all, the province, suffering from a plethora of the public purse, is beginning to canal the Ottawa in the middle, in order that it may be compelled to work out at both ends, and thus effectually secure the reduction of the inflammatory symptoms in the Treasury, just as a physician gives you ipecacuanha in order to starve you into a cure.

The Ottawa River from its confluence with the St. Lawrence to its source, like the latter, consists of a series of wide expanses, or lakes, connected by rapids of greater or less length. It has about twenty first class tributaries besides a greater number of inferior ones ; each of these tributaries has its numerous branches, and these last their forks ; and, as the sources of the greater number of the tributaries, branches and forks are upon nearly the same elevation with that of the parent stream, (which

is about seven hundred feet above tide water) you can form some idea of the countless number and variety of the cataracts, *chûtes* and rapids—falling from fork to branch, from branch to tributary, and from this last to the main river, through varied geological formations and amidst every variety of scenery—which characterize the broad valley of the Ottawa. The main stream is supposed to run about six hundred miles, and its longest branches about half this length. Though shorter than many American rivers—few can vie with it in average breadth, or in the volume and purity of its dark but transparent waters. Unlike ordinary rivers, the higher you ascend it the wider it becomes; this description applies to it for two hundred and eighty miles. Two hundred miles above its mouth it contains an Island over twenty miles long and from five to ten miles in breadth; and fifty miles farther, another of about the same dimensions; beyond this it runs for about twenty-five miles at the base of a chain of mountains, with a breadth exceeding a mile, and a depth of over one hundred fathoms. At its mouth the Ottawa forms the Island on which this City stands and completely encircles us so that, although we are upon the St. Lawrence, not a drop of its blue water washes our shore from Point Claire to Bout de l'Isle, a distance of forty miles. Not a fourth part of the waters of the Ottawa enters the St. Lawrence above us, yet this is sufficient to drive the latter to the south shore—whilst the remainder, passing behind us, forms a very large Island in what is strangely called the Little River.

Departing from the St. Lawrence, by Lake St. Louis, we pass into the Ottawa by the rapids of St. Anne, alluded to in Moore's Canadian Boat Song, and after passing a few picturesque islands and a veritable ruin, that of the Chateau Brilliant or old Fort Senneville, a relic of the Indian wars, we immediately encounter the beautiful Lake of Two Mountains, where the once powerful and warlike Iroquois have buried the hatchet with their Algonquin foes, both tribes now occupying a

single village—divided only by a street,—and worshipping the Great Spirit under a common roof. The passage between Lake St. Louis and that of the Two Mountains is effected by a lock at St. Anne, of the same dimensions as those upon the St. Lawrence Canals, that is, forty-five feet in width. This lock has a depth in it of six feet at low water, but, most probably for the purpose of guarding against the grounding of any vessel in the lock, where there is no room to spare, the Board of Works have taken the precaution to leave shoals both above and below it, on which there is a depth of only two and a half feet at lowest water. Upon these shoals there is ample room and verge enough for all lazily disposed craft to rest, or scrape the barnacles off their bottoms. At the head of the Lake of Two Mountains there are but few miles of river proper before we are brought up, at Carillon, by the Rapids of the Longue Sault, some twelve miles in length. These are surmounted by three distinct canals, an effort of the Imperial Government,—the two lower of which have locks of thirty-three feet in width, but the upper one, of only twenty-four. This useful provision serves to prevent the passage of any boat which might be too large to get through the forty-six locks of the Rideau Canal, between Kingston and Bytown, all of which are thirty-three feet in width. From the head of the Longue Sault Rapids at Grenville, to Bytown, the Ottawa is without lakes and is navigable for boats with about five feet draught at lowest water. This portion of the river is forbidding to the tourist in consequence of local phenomena. Six large tributaries from the north and two from the south pour their freshets into this reach, and swell the volume of the main stream to a height of twenty feet or more before it can be discharged by the rapids of the Longue Sault. The consequence is that the interval lands are subject to inundations which, although fortunately not of duration long enough to destroy the forest trees, effectually prevent settlement or cultivation.

Arriving at Bytown, the traveller is at once struck with the total change of scene. Waterfalls, cascades, rapids and whirlpools, bold cliffs overlooking square miles of variegated forest, and picturesque islands revealing here and there a placid pool, or shiny thread of intermediate water, charm and rivet the beholder; whilst works of art of no mean order, happily as well as usefully situated, give life and vigor to the scene. The most interesting because the most unique of the passing scenes is the descent of timber in the latter part of May through the slides, which are artificial rapids under due control. The rude and insecure manner in which the sticks of timber are retained in a crib, although sufficient to carry them in safety through the navigable rapids, forbids the attempt to pass them down the *chûtes* or higher falls. At these places, therefore, the perpendicular falls are converted into inclined planes, in which broad wooden troughs are placed, sufficient to admit a crib of timber twenty-four feet wide and carrying water enough to float it down, so that the lumberman is subjected to no more detention or expense here than at a navigable rapid. Before the construction of slides the rafts were broken up into their original elements, and stick by stick were consigned to the tender mercies of the *chûte*. A certain percentage was left sticking in the clefts of the rock; what came through was more or less damaged by abrasion and was caught in a boom below the fall and then re-raftered. This process was repeated at every point where there was not a crib navigation; and you can form some idea of the value of the slides from the fact that lumbermen were detained two and three weeks, and lost ten per cent. of their timber, at points where the detention now is not as many days, and the loss, nothing. Two years were required to bring rafts to market which now reach it in one, while many which could not get into Quebec in time for the Fall fleet now reach it so as to load the Spring Ships.

Bytown is the head of navigation on the Ottawa: there are two lakes higher up upon each of which a steamer is

plying, but these boats are confined to the levels in which they were launched. The first of these lakes approaches within six miles of Bytown and is about eighty feet above the level of the Ottawa at the latter place. It extends upwards about thirty miles when it is terminated by the Chats Rapids,—a crescent-like dam of primitive rock stretching across the Ottawa nearly three miles in extent—over which the river breaks at high water in more than thirty independent *chûtes* of every conceivable form; some divided by large rocks, others arched over by the leaning forest trees under which the white foam of the rapid plays in lively contrast to the dark green foliage above, the whole presenting a scene of picturesque beauty to which the oldest *voyageurs* are not insensible. The Chats falls and rapids, three miles in length, unite the Chaudière and Chats lakes, the latter fifty feet above the former. It is upon these two lakes that the steamers before mentioned are plying; the connection between them, over the Chats portage, is maintained by a railroad which is one of the curiosities of the Ottawa. The principle of construction was probably derived from an early edition of the Encyclopedia Britannica, viz., that a railway should be straight and level. The high water level of the upper lake was made the starting point, and, inasmuch as the difference of level between the two is fifty feet, the terminus at, or rather over the lower lake was correspondingly exalted. This slight inconvenience is overcome by a winding apparatus for hoisting the pork and flour from the lower steamer into the cars, whilst for the accommodation of the live freight, pigs and passengers, a convenient staircase is provided. The route of the railway where not in swamp is generally upon a solid foundation of granite rock, the profile of which is similar to that of a camel's back. As earth of any kind is a rarity and timber a drug—in order to fill up the valleys a vegetable embankment is resorted to, consisting of hemlock logs built up after the manner of an Ohio corn-crib, or that of a country residence for pigs. The motive power employed

is—horses, the track—single, the weight of rail—considerably under the Grand Trunk standard, and the speed—decidedly safe. Whatever its engineering merits, this pioneer railway is a great boon to the traffic, and a hemlock monument of the enterprise of the Ottawa, for it has cost as much as an equal number of miles of the Caughnawaga road.

The steamers which support this Railway are substantial and commodious vessels, built of iron, and make three trips per week. The upper steamer ascends the Ottawa as high as Portage du Fort, six miles above the head of the Chats Lake. Passengers, leaving Bytown early in the morning, cross the Suspension Bridge and, after driving over seven miles of excellent road, breakfast on board the first steamer at Alymer, and arrive at the Chats before noon:—transferred to the Railway, and thence to the upper steamer, on board of which dinner is served, they reach Portage du Fort sometime before night.

Although it has not yet been found necessary, in order to supply the demands of commerce, to run the steamers on the Chats and Chaudière Lakes twice a day, or even once a day—or to lay down a second line of rails over the Chats Portage, the Province has determined to construct a grand canal on the scale of the St. Lawrence navigation, and £50,000 has been appropriated to commence with. No provision having been made for connecting the Chaudière lake with Bytown—another six or seven miles of canal and sixty feet of lockage must be constructed before any of the expenditure can be made available; and not only the Grenville, but the Carillon and Chute à Blonde Eau Canals must be enlarged before the full benefit can be reaped. The object of this expenditure can only be to give an outlet to the commerce of the Chats lake—a sheet of water something less than thirty miles in extent—upon which one boat cannot find employment half her time. The whole population of the Ottawa above the Chats is under 20,000;—there are no agricultural exports to bring out—and all the imports

are now borne by a tri-weekly steamer. A Railway is under contract from Brockville to Arnprior—a port on the Chats lake, and another is chartered from Bytown to the same point. If these roads are made the steamers cannot be sustained on their present route—but must succumb to the ignoble fate of quondam favorites, and tow rafts. Suppose that the navigation of the Ottawa is improved by canals so that boats may pass up from Bytown to the Chats lake—at a cost to the Province of some £400,000, what public benefit commensurate with such an outlay can be counted upon? The Railways will take up all that is to be taken up—and what is there to bring down? One article only—sawn lumber; square timber will never use the canals so long as the slides exist. If the Chats lake can be reached by boats, undoubtedly the owners of water power on the Mississippi, Madawaska and Bonnechère rivers—as well as at Portage du Fort, and perhaps higher up, would erect saw mills and ship their lumber. In this the river would have the competition of the Railways whenever the mills were nearer to the latter than the Ottawa. In winter, spring and autumn the canal would be “no where” as the jockeys say, and the railways must then do the whole business.

There are saw mills on the Quio, (a tributary entering a little below the Chats,) the deals from which run through the slides at Bytown; and new mills are in progress at the Chats, below the proposed canal, the manufacture of which must reach a market through these same slides. If the slides can pass deals at all, they certainly can do it more speedily and economically than any locks, and the question suggests itself, What use is there for a canal at all?

But if a canal be justifiable upon any ground,—why not begin at the beginning? After the deals have passed the proposed Chats Canal, they must run the Bytown slides: why not begin the Canal at Bytown and extend upwards to Aylmer? for then all the deals manufactured

by the Chats water power could go to market in boats. Fitzroy Harbor would then be a "harbor," and the County of Lanark could reach this point as conveniently as that of Amprior; thus this one canal would be an outlet for the most important part of the district above Bytown.

The saw mills would of course be placed as near the Ottawa as possible, but as the timber on the banks of the latter has been removed many years since, the logs must be obtained on the tributaries many miles distant from the mills, and be brought down by water. Now if a saw-log can be brought down the tributary, *à fortiori*, as mathematicians say, it can be continued on down the main stream. Hundreds of thousands of these logs we know have been taken from the Ottawa to Quebec. The logs, therefore, may be brought to points on navigable water below Bytown at a nominal expense, where they can be sawed and shipped; and I submit, respectfully, that Mahomet should come to the mountain—the saw log be brought to the head of navigation, instead of the head of navigation being moved up to the saw-log. Doubtless, it would be an advantage to the Upper Ottawa to have the logs sawed at home, but if this principle is followed out we must not only canal the Ottawa but also canal every tributary of the Ottawa. The Railway, however, will cause the erection of saw mills, and, as a mere financial question, it would be far wiser for the Province to undertake to pay the extra cost of transportation by railway to a navigable point, of all lumber which would be shipped from the Upper Ottawa, than build the canals; for, if a toll is put on the canal to make it productive, the railway will be the cheaper route.

But it may be presumed that it is the intention of the Province to open the Ottawa throughout, from tide water to Lake Huron,—and that, as a highway for Western trade, the artificial navigation of the Ottawa may be defended. If the Ottawa were rendered navigable for craft which navigate the Western Lakes, there is no

doubt that it would secure a share of that great trade,—but even in that case the great amount of lockage, and its attendant risks, the isolation of the route, and the shortness of the navigable season in high latitudes and elevated waters, would neutralize the saving in distance. A cargo detained by accident on the St. Lawrence route has the choice of many markets—but imprisoned by accidents to locks or dams in the Upper Ottawa, it is valueless. There are, however, physical obstacles, to the navigation of the Ottawa for lake draught, such as rocky shoals, and its improvement on any other scale will end in failure as complete, but far more disastrous to us, than that of the Rideau. The Rideau Canal, with a local trade and the chance for the through traffic, does not pay expenses,—although nearly twenty years in operation. We now refuse to take it off the hands of the Imperial Government as a gift, unless accompanied by a handsome bonus in the shape of more convertible property—lands. The lateral canals of the State of New York do not yield a nett revenue. The Genesee Valley Canal, although traversing one of the finest agricultural districts of the United States, is a dead failure. It is only where there is a heavy traffic and where long lines of communications are opened up without trans-shipment, that Canals can be expected to pay a dividend or compete with railways. But to show that an Ottawa route by water communication to the West, is not only uncalled for, but indefensible, it is sufficient to allude to our St. Lawrence Canals which do not pay two per cent. on a cost of a million and a third;—what then is to be expected from a rival route which must cost four or five millions? If the Grenville Canal were enlarged and the water deepened at the St. Anne's lock, the Ottawa would receive an immediate and substantial benefit, and something would be undertaken with a prospect of completion. But it requires no prophet to foresee the result of our madcap expenditure at the Chats.

Under the good old log-rolling system which prevailed in the Upper Canada Legislature before the Union, such works as the Welland and St. Lawrence Canals could only obtain votes upon the principle of perfect reciprocity. While the Eastern and Western sections were pulling for the St. Lawrence and the Welland, the Midland district pressed upon them the importance of the improvement of the Trent, and the opening of the navigation from the Bay of Quinté through the back lakes behind Peterboro to Lake Huron. The River Trent falls 365 feet between Rice Lake and Ontario ; and having succeeded in getting an appropriation the Commissioners commenced, as we are now doing at the Chats, halfway up the hill, and built a handsome cut stone lock with gates and chains complete. Those gates have never been opened. Nothing larger than a bark canoe or wooden pirogue has hove in sight since the coping stones were laid. Between this lock and Ontario there are rapids with a total fall of 115 feet, and between it and Rice Lake, falls and rapids amounting to about 245 feet. It was presumed no doubt, that by hanging this lock up upon the side of the hill, the mortar would be dry before it would be required, and that this judicious commencement would force the completion of the chain of communication by securing the early removal of the slight intervening obstacles. But time brought adversity, and with it reflection ; it was found preposterous to persevere in the scheme of the Trent navigation, and that of the Inland waters—all has been abandoned after drowning a great many acres of fine land and making a few mill sites. So we will do upon the Ottawa ; we will make a few mill sites and improve the value of some others. We will drown some lands, worth just enough for an arbitration, and after a while we will sell off our unfinished locks for saw-mill foundations, and turn over our waste weirs to the shingle weavers.

A singular contradiction to the intended scale for the Ottawa navigation is found in the headway proposed by

the Grand Trunk Railway, where it crosses the only navigable outlet of the Ottawa at St. Anne. It is understood that the Commissioners of Public Works have approved of a plan of permanent bridging at this point, which only leaves about thirty-five feet in height between the bridge and the water. This is insufficient for the barges and steamers which *now* pass there, but if an archway of thirty-five feet be high enough to let out the Ottawa trade, it is certainly absurd to construct locks 200 feet in length for such a height of craft. Looking forward to the manufactures which may be expected to spring up upon the water power between Carillon and Grenville, at Bytown and intermediate points, such a permanent evil as that of a low bridge at Ste. Anne ought not to be inflicted upon the Ottawa. While on this subject, I would say that the proposed headway for the bridge over the St. Lawrence at this City, which I understand to have received the official sanction, is an extraordinary and an unnecessary encroachment on the navigation interests of the largest river in North America.

Not the least extravagant and ill-considered part of the scheme is the selection of the St. Lawrence Canal scale of locks, which will involve the rebuilding of the excellent locks at Carillon and Châte à Blond Eau, which are the same size as those upon the Rideau, and abundantly large for the Ottawa trade.

Resuming our journey up the Ottawa, we pass out of the Chats Lake and enter the river at "Les Chenaux"—rapids which, though insignificant in power, proved too much for the pioneer steamer of the Chats Lake—the never to be forgotten *George Buchanan*. That swift and powerful steamer—as the advertisements read—by skilful seamanship, and a pressure of steam which, had not the cylinder been well ventilated, might have proved disastrous, did succeed in mounting the angry rapid during the season of low water, but a smart shower, by raising the river, was sufficient to damp her ardour, bring her alongside the island and transfer passengers and freight

into flat bottomed boats,—to the slow but certain influence of a “white ash” breeze. Few who have ever had the good fortune to make a trip on the “George Buchanan,” when the subsiding waters for the first time of the season encouraged her daring skipper to brave the terrible *chute* can have forgotten the excitement of the scene. As she neared the dreaded channel, the passengers gathered in clusters on the forecastle—the fireman selected his choicest fuel—the engineer screwed up his slackening bolts and greased his rickety bearings—the captain stood by his bell. By judicious steering and hard paddling the lower current was surmounted, and the little craft glided into the eddy which led up to the very vortex of the rapid; suddenly the engine ceased its revolutions—an ominous silence reigned throughout the boat, as taking advantage of the eddy which bore her slowly up to the scene of her laurels or her shame, the boiler gathered steam for the approaching contest. The engineer rolls up his sleeves—the fireman pokes the fire—the captain eyes his enemy—and when the friendly eddy is exhausted nervously rings the bell for “full steam.” The engineer throws off the eccentric and seizes a lever in each hand—for full steam cannot be depended upon from the wabbling shaft or crazy eccentric:—as the cylinders are charged, a cloud of steam fills the waist of the boat, looming through which a spectral figure is seen frantically working the steam port valves as if life depended on the result. If the feat is performed and the little boat has secured a safe position above the rapids—the captain comes down from his perch—the fireman pops up through his hatch, and the engineer rushes out from his misty den, when, looking back with grim satisfaction on the vanquished waters, mutual congratulations are exchanged on the forecastle.

But far be it from me, at least, to disparage the *George Buchanan*: and all the recollections of an Ottawa rapid are neither pleasing nor humorous.

There is no flock, however watched or tended
 But one dead lamb is there ;
 There is no fireside, howsoe'er defended,
 But has one vacant chair ;
 The air is filled with farewells to the dying,
 And mournings for the dead,

—and so it is with the Ottawa—there is scarcely a rapid the white swells of which have not proved a winding sheet for the bold *voyageur*, or reckless lumberman ; there is scarcely a portage, or cleared point, jutting out into the river where you do not meet with wooden crosses, on which are rudely carved the initials of some unfortunate victim of the resistless waters. And it was owing, under Providence, to the circumstance of the *George Buchanan's* being unable to ascend the Chenaux, that I escaped, when—in running that rapid during a heavy snow storm late in a November afternoon, my canoe was sunk, my bowsman drowned, and the rest of our party—rescued from a rock, upon which we should have frozen in a few hours, by a boat sent from the little steamer which had anchored under the islands—were made the welcome and thankful guests of her kind hearted captain. The loss of life by drowning on the Ottawa is often frightful. In a prosperous year about ten thousand men are afloat on the loose timber, or in frail canoes, and as many as eighty lives have been lost in a single spring. The strongest swimmer has in broken water no more chance than a child. Some of the eddies in high water become whirl-pools, tearing a bark canoe into shreds and engulfing every soul in it.

From the “Chenaux,” or “Snows,” as the lumbermen call the rapid, the river is navigable as far as Portage du Fort, a distance of six miles. Here the highlands close in upon both sides, and many beautiful islands are encountered, one of which is remarkable as having every tree upon it blasted by lightning, an effect ascribed to the presence of magnetic ore which has been found in considerable quantities on the adjacent shore. Portage du Fort is the present head of steam navigation on the

Ottawa. A few miles above this point the river, for a distance of about twenty-five miles, is divided by the Calumet Island, into two channels. In one of these, the northern channel, called the "Calumet Chenail," the fall is concentrated so that it is navigable for the greater portion of its length, while the southern or Rocher Fendu Chenail is interrupted by scattered rapids. From the head of the Calumet Chûtes to Portage du Fort, the river has a descent of over one hundred feet; a portage road seven miles in length evades all the obstructions, and the *voyageur* is again embarked in his canoe—in which he may continue about forty miles before he is arrested by rapids.

The Ottawa River from Portage du Fort to the head of the Calumet Falls is exceedingly beautiful. The Rocher Fendu Lake—where the two channels which form the Calumet Islands reunite—surrounded by lofty banks and enriched by numerous thickly wooded islands—which offer just sufficient obstruction to produce a ripple in each narrow pass, and, farther on, a beautifully marbled surface which ladies would pronounce a veritable *moiré*—has been compared by enthusiasts to Avoca :—

"The vale in whose bosom the bright waters meet."

To the quiet picturesque beauty of this scene the wild grandeur of the Calumet affords an admirable contrast. Here the Ottawa leads off the dance with a furious leap, dashing against the granite rocks until the dark water is converted into a caldron of milk-white foam, fearful yet fascinating to look upon,—then, as if ashamed of its impetuosity, it descends by a succession of aqueous terraces, in deep and stately volume, and winds up with a reeling rapid at the foot. Until the last two or three years the Calumet was the route of the Upper Ottawa lumbermen and the *voyageur*, but recently an overland route has been established by an energetic forwarder, to Pembroke, the principal point on the Allumette Lake, which reduces the distance to about one-half of that of the circuitous route by the river. This route leaves the Ottawa upon the south shore opposite Portage du Fort, and

by means of a plank road communicates with Muskrat Lake, on which something intended for a steamer is placed, which descending this lake and its outlet approaches within a few miles of Pembroke.

Pembroke is a thriving settlement at the lower end of Upper Allumette Lake, about eighty miles above Bytown by land route but nearly one hundred by the river. A portion of the Allumette Lake is discharged by a narrow channel on the north which thus forms the Allumette Island. The *voyageurs* embark in their canoes at the head of the Grand Calumet Falls, and shortly after passing the upper end of the Island of that name, enter Coulonge Lake—a beautiful sheet of water partially encircled, in the back ground, by an amphitheatre of hills. Here is Fort Coulonge, at the mouth of the tributary of that name, which is the first post of the Hudson Bay Company on the Ottawa above Lachine. Leaving the Coulonge Lake we ascend the river, with bold bluffs and a beautiful grove of Norway pines on our left, and soon reach the lower point of the Allumette Island, where the lumber men for Pembroke and the Pittowawa turn to the left and portaging Pacquet rapids, pass through the lower Allumette Lake—carry their canoes over the Allumette rapids, and thus reach Pembroke. The *voyageur* and lumbermen for the “Deep River,” however, continue on northward of Allumette Island, and dragging up the Islettes rapids make their first portage at Culbute—forty miles from the Grand Calumet—where the canoes are lifted over a natural wall of rock, when they are again loaded for another forty miles of uninterrupted navigation. Passing up the Culbute Chenail and sheltered by the numerous islands with which the Upper Allumette Lake is studded, the canoes escape detention from the wind and sea of the Pembroke route, and reach Fort William, the second post of the Hudson Bay Company. Fort William is at the foot of the “Deep River,” a portion of the Ottawa so called, because rafts with 100 fathoms of chain have been unable to find anchorage in it. This remarkable reach of the

Ottawa resembles the Saguenay. About a mile in width, with high but sloping and well-wooded banks on the south, and a bold, naked chain of rocks rising 600 to 800 feet over the water on the north shore, it is so straight that a cannon ball, if projected with sufficient force, would follow the ice for the whole distance of five-and-twenty miles. One remarkable cliff, the Oiseaux rock, rises a bare, perpendicular and apparently overhanging wall, nearly eight hundred feet in height, returning a magnificent echo to the canoe song of the passing *voyageurs*. Upon the outermost point of the highest peak stands a solitary dwarf pine, which, diminished by the great height, appears by the moon's misty light not unlike the short but substantial figure of an Esquimaux maiden; and tradition or imagination has attached to the spot a story of the Squaw's Leap; how that an Indian woman took advantage of the impetus afforded (by heavy bodies falling freely through a given space) the more speedily to rejoin the object of her affections on the happy hunting grounds of the bright Spirit Land.

The Deep River leads us to the Rapids of the Deux Joachims, where the Ottawa begins to assume a wild and barren character. Naked rocks, immense deposits of boulders, the small grey pine and the moose deer lichen—or *tripe de roche*—give indications of a country unfavourable to agriculture. The Joachim rapids have about twenty feet descent, and have been made navigable for timber by Government works which are the highest up of any upon the Ottawa; a little blasting has been done about twenty miles above this point, at the Rocher Capitaine, where there is a fall of about forty feet. I have no personal acquaintance with the Ottawa above Rocher Capitaine, but it has been surveyed by Mr. Logan as high as Lake Temiscamang, upon the main stream, and as far as Lake Nipissing, upon the Huron Route; and to this survey we are indebted for all the reliable information we have of the Ottawa above the Deep River.

About fifty miles above the navigable reach of the Deep

River, a tributary enters the Ottawa from the south, called the Matteawan, at the mouth of which there is a post of the Hudson Bay Company. This is the point where the *voyageurs* for Superior, Red River, and the Rocky Mountains leave the Ottawa. Between the Matteawan and the Deep River the Ottawa flows in a narrow rocky bed, with strong currents and frequent rapids, having a total fall of about 120 feet, and without sufficient valley or margin for the improvement of the navigation; whilst the sudden and heavy freshets to which it is exposed, when the neighbouring valleys are emptied of their winter accumulations of snow, would render the use of the main stream by means of locks and dams exceedingly precarious, as well as ruinously expensive.

The canoes for Superior ascend the whole length of the Matteawan (about forty miles) to its sources, which are thirty-five feet above the level of Lake Nipissing, and 170 feet above the Ottawa at the mouth of the Matteawan. A portage of three-fourths of a mile transfers them from the waters which pass Bytown to those which flow over the Falls of Niagara, and crossing Lake Nipissing they enter the French river, which, with a length of fifty-five miles and a fall of eighty-four feet, drops them into Lake Huron, —the distance of this route, between the Ottawa and Lake Huron, being about 120 miles; making the whole distance from Montreal to the mouth of French River on Lake Huron, about four hundred and fifty miles, or longer than the railway route from Montreal *via* Kingston, Toronto and Lake Simcoe to Nottawasaga Bay. The total rise and fall upon the Ottawa route between Lachine and Lake Huron is about 750 feet—or upwards of 200 feet greater than that by the St. Lawrence and Welland Canals.

Referring back to our description of the Ottawa above Bytown we see that between that point and the Deep River, the Ottawa may be said to be divided into four navigable reaches separated by rapids requiring canals of different lengths. These may be called the

Chaudière, with a lockage of.....	60 feet.
Chats, do do	50 feet.
Coulonge, do do	110 feet.
Allumette, do do	20 feet.

This lockage is greater than that of the six St. Lawrence Canals between Montreal and Kingston, the cost of which, when completed, will be about a million and a half of pounds. The Ottawa is a river exposed to greater changes of level than the St. Lawrence, and nearly all the required excavation will be solid rock, chiefly granite instead of the soft limesone of the latter. The cost of extending the navigation of the Ottawa from Bytown to Pembroke, considering the difficulties of access, the cost of supplies, the inevitable importation of food, and the probable future rate of wages, as compared with the highly favourable circumstances under which the St. Lawrence Canals were constructed, must considerably exceed a million of money, whereas the eighty-five miles of railway could be built, even at official prices, for a much less sum. If the Chats Lake be the desired point of access, it can be reached from the head of navigation at Bytown by a railway, for at least as small a sum as the Canal would cost, and what comparison can there be with the facilities to be afforded by a railway, working not only in summer, but in winter, the very time when the lumber trade most requires facilities of transport.

Continuing up to the Ottawa from the mouth of the Matteawan, the river preserves its rugged character for about twelve miles, when the lake-like features again appear. Twelve miles above the Matteawan, after ascending three rapids with thirty feet fall, we enter the Seven-League lake which is separated by the Long Sault rapid, (falling forty-eight ft.) from Lake Temiskeamang, a navigable sheet of water sixty-seven miles in length, varying from six miles to one-fourth of a mile in width. Beyond this lake the Ottawa is unsurveyed. The river comes from the eastward and is said by the Indians to take its rise about 250 miles beyond Lake Temiskeamang,

with the Saguenay and St. Maurice, from a connected chain of lakes occupying the "height of land," the waters of which flow into all of those rivers as well as into Hudson's Bay. Two large lakes called the Grand Lake and the Lake of the Fifteen Portages, between the sources of the Ottawa and Lake Temisquamang, have been examined by gentlemen attached to the Hudson's Bay Company, and are represented upon Bouchette's map.

Upon the Lower Ottawa the portages are improved and teams are employed to haul the loads brought up in the canoes, but in the upper districts all the labour is performed by men. The flour and pork for these latter points are put up in half-barrels and carried upon the hips, sustained by a broad band called a "tump-line," which passes across the forehead, thus leaving both hands free to aid the staggering and wearied *voyageur* in clambering up the rocky steeps with which most portages abound.

Having fortunately got to the end (or rather the beginning) of the River, I proceed to speak of the chief feature of the country, the Lumber trade. This trade you are aware is one of the great staples of Canada:—the value of our exports of timber and lumber is second only to that of our breadstuffs, and in consideration of the large amount of tonnage allured by the former to Quebec, this trade may be said to exercise a greater influence over our commerce than any other. I do not propose to weary you with statistics, but rather to describe the mode by which a trade of such importance is carried on, to give you a slight episode of shanty life, or something of the adventures of a stick of timber.

The first step necessary for a lumberman is to secure his limits, which is done by an application for a license to cut timber on Crown lands at a certain stumpage. The next is a more common but less easy one in other matters, viz:—"raising the wind." If you have a little property, you will find a class of gentlemen known among lumbermen as the big *bourgeois*, (which is the

synonyme of *boss*,) who will advance you, at least to the value of your property, what are called supplies, in order that you may indulge in your propensities for speculation. Your supplier gives you provisions and clothing for your men, axes, ropes, augers, anchors and cables, and a little cash, for which he charges a sort of premium of insurance over ordinary profits. At the same time you are privileged to run into debt as much elsewhere as you can, provided always that no other person receives a prior mortgage on your timber. When your timber reaches Quebec (if you survive that stage) it is consigned to your supplier who sells it for you, for which trouble he only charges the usual commission of five per cent. Your men stick like leaches to the raft, until they are paid off. Your supplier then strikes the balance, which he either hands to you or demands from you, according to the price of timber and your own management. If you have understood your business and attended to it, and if white pine is "up," that is, worth about 7½d. per foot, or if your supplier will hold on to it for you when it is "down," and does not sell it to himself, despite all the other drawbacks, you may return from Quebec with a broad cloth suit, a gold watch, new hat and a brass mounted portmanteau. If otherwise, as you will find the place rather hot, you will prefer a linen wrapper, and decline being encumbered with much baggage. If you are fortunate enough to have acquired experience, and a capital of £1,000 or so, and are wise enough to make no more timber than you can get to market without the aid of suppliers, you are on the high road to fortune, and your success is certain. But the rock on which many a lumberman has split, or technically speaking, the "jam" on which he has been "picked up," is, a rule of three estimate of his profits. If he has been fortunate enough to clear £500 from one raft made with borrowed money, he undertakes two or three the next year, in the hope of doubling or trebling his profits. He thus doubles his liabilities, and sooner or later the supplier has him.

Having secured the limits and established the credit, the next step is to despatch a canoe with half a dozen men and some scythes to cut the wild hay on the Beaver meadows, and secure it during the low water season,—to be afterwards hauled, when the meadows are frozen, as winter provender for the teams employed in drawing the timber. No timber limits are without water—for it is by water alone that the timber can reach its market, and wherever there is or has been water, there you are sure to find Beaver meadows.

Beaver meadows are small prairies overflowed by every freshet, composed of deep beds of vegetable matter and detritus, over which there is no other vegetation than a coarse grass which horned cattle tolerate but which few horses approve of. They are evidently formed by ancient Beaver dams, the ponds above which have in time become silted up, inasmuch as they form cesspools arresting all the materials brought down by water in hilly districts. The Beaver thus crowded out of one pond forms a new one in a new locality, and thus the frequency of these meadows—one or more of which is found upon almost every stream which is not too large for a Beaver's engineering resources.

One cannot fail to be struck with admiration and astonishment on visiting the haunts of the beaver, nor can we wonder that the red men should place him at the head of animal creation, or make a Manitou of him, when Egypt, the mother of the Arts, worshipped such stupid and disgusting Deities. Whether you call it instinct, or whether it is to be called reason, one thing is certain, that if half of humanity were as intelligent, as provident, as laborious and as harmless as the beaver, ours would be a very different world from what it is.

The beaver is the original lumberman and the first of hydraulic engineers. Simple and unostentatious, his food is the bark of trees and his dwelling—a mud cabin the door of which is always open but under water—conditions which secure retirement and are favourable to

cool contemplation. The single object of his existence being to secure bark enough for himself and family, one would suppose there would not be much difficulty in that;—but as neither beaver nor any other animals, except man, are addicted to works of supererogation, we may be sure that the former in all his laborious arrangements—and those too which alter the face of nature to such an important degree—does no more than is absolutely necessary for him to do. Cast in an inhospitable climate, nearly the whole of his labor is for the purpose of laying in his necessary winter supplies, and water is the only medium by which he can procure and preserve these. Too highly civilized for a nomadic life he builds permanently, and does not quit his habitation until driven from it, like other respectable emigrants, by stern necessity. We cannot better illustrate the habits of this interesting animal than by accompanying a beaver family, on some fine evening in May, in search of a new home. The papa beaver, with his sons and sons-in-law, wife, daughters and daughters-in-law, and it may be grand children, sallies forth “prospecting” the country for a good location—*i. e.* a stream of easy navigation, and having an abundant supply of their favorite food, the silver birch and poplar, growing as near the river as possible. Having selected these “limits,” the next step is to place their dwelling so as to command the greatest amount of food. For this purpose they go as far below the supplies as the character of the stream will permit. A pond of deep still water being an indispensable adjunct to their dwelling, this is obtained by the construction of a dam, and few engineers could select a site to produce the required result so efficiently and economically. The dam and dwelling are forthwith commenced, the materials employed in both being sticks, roots, mud and stones, the two former being dragged by the teeth, the latter carried between the four paws and the chin. If the dam is extensive, whole trees are gnawed down, the largest of which are of the diameter of an ordinary stove pipe, the

stump being left standing about eighteen inches above the ground, and pointed like a crayon. Those trees which stand upon the bank of the stream they contrive to fall into the water as cleverly as the most experienced woodman: those which are more distant, are cut up by their teeth into pieces which can be dragged to the water. These trees and branches are floated down to the site of the dam, where they are dragged ashore and placed so that the tops shall be borne down by the current, and thus arrest the descending *detritus* and form a strong and tight dam. Critical parts are built up "by hand," the sticks and mud when placed receiving a smart blow from the beaver's tail, just as a bricklayer settles his work with the handle of his trowel. The habitation or hut of the beaver is almost bomb-proof; rising like a dome from the ground on the margin of the pond, and sometimes six or eight feet in thickness at the crown. The only entrance is from a level of three or four feet under the water of the pond. These precautions are necessary, because, like all enterprising animals, the beaver is not without enemies. The wolverine, who is as fond of beaver tail as an old nor'wester, would walk into his hut, if he could only get there,—but having the same distaste for water as the cat, he must forego the luxury. It is not, however, for safety that the beaver adopts the submarine communication with his dwelling, although it is for that he restricts himself to it. The same necessity which compels him to build a dam, and thus create a pond of water, obliges him to maintain communication with that pond when the ice is three feet thick upon its surface. Living upon the bark of trees, he is obliged to provide a comparatively great bulk for his winter's consumption; and he must secure it at the season when the new bark is formed and before it commences to dry; he must also store it up where it will not become frozen or dried up. He could not reasonably be expected to build a frost-proof house large enough to contain his family supply, but if he did, it would wither,

and lose its nutriment ; therefore, he preserves it in water. But the most remarkable evidence of his instinct, sagacity, or reason, is one which I have not seen mentioned by naturalists. His pond we have seen must be deep, so that it will not freeze to the bottom, and so that he can communicate with his food and his dam, in case of any accidents to the latter requiring repairs : but how does he keep his food—which has been floated down to his pond—from floating, when in it, and thus becoming frozen in with the ice ? I said that in gnawing down a tree the top of the stump was left pointed like a crayon :—the fallen tree has the same form—for the beaver cuts like a woodman, wide at the surface and meeting in an angle at the centre, with this distinction, the four legged animal does his work more uniformly, cutting equally all around the log—while the two legged one cuts only from two opposite sides. Thus every stick of provender cut by the animal is pointed at both ends, and when brought opposite his dwelling he thrusts the pointed ends into the mud bottom of his pond sufficiently firm to prevent their being floated out, at the same time placing them in a position in which the water has the least lift upon them ; while he carefully apportions his different lengths of timber to the different depths of water in his pond, so that the upper point of none of them shall approach near enough to the surface to be caught by the winter ice.

When the family are in comfortable circumstances, the winter supply nicely cut and stored away, the dam tight, and no indications of a wolverine in the neighbourhood, the patriarch of the hut takes out the youthful greenhorns to give them lessons in topographical engineering ; and in order to try the strength of their tails encourages them to indulge in amateur damming. The beaver works always by night, and to “work like a beaver” is a significant term for a man who not only works earnestly and understandingly—but one who works late and early—a species of “mud-lark” not afraid of soiling his hands.

From what has been said it will be readily seen that the maintenance of the dam is a matter of vital importance to the beaver. Some say that the pilot beaver sleeps with his tail in the water in order to be warned of the first mishap to the dam; but as there is no foundation for such a cool assertion it may be set down as a very improbable tale. The Indians avail themselves of this well known solicitude to catch them: having broken the dam, the risk is immediately perceived by the lowering of the water in the hut—and the beaver, sallying forth to repair the breach, are slaughtered in the trenches.

As the supply of food in the vicinity of the dam becomes diminished the beaver is obliged to go higher up the stream, and more distant from its banks, to procure his winter stores; and this necessity gives rise to fresh displays of his lumbering and engineering resources. In consequence of the distance, and the limited duration of the high water period favourable to transport, the wood is collected into a sort of raft, which, a lumberman asserts, is manned by the beaver and steered by their tails, in the same manner as Norway rats are known to cross streams of water. When the raft grounds, forthwith a temporary dam is thrown across the stream below the "jam," by which the waters are raised, and the raft floated off, and brought down to the dam, which is then torn suddenly away, and the small raft thereby flashed over the adjoining shallows.

Numerous and interesting are the characteristics of this denizen of the Ottawa; but if we pursue the subject any farther we shall be as long in getting out of the woods as the stick of timber whose history we have undertaken to give.

The beaver hay being secured and stacked at such an elevation as will prevent its being floated off by the autumnal rise of water, it is left there until the frost makes a smooth firm road upon which it can be hauled to the shanties. The hay cutters then proceed to the timber grove to make ready for the choppers, hewers and scorers, who

follow later in the autumn, bringing with them sufficient supplies to last until the snow and ice give access, by the only possible road, to the scene of operations. Most lumbermen deposit a stock of provisions during the winter to provide for the commencement of the following year's operations ;—these are left locked up in the shanties, subject only to the risk of a fire in the woods, or the occasional investigations of the black bear, who descends by the chimney, eats all he can lay paws on, and like other people often finds it easier to get into a scrape than to get out of one, for on the arrival of the avengers he is despatched, and made to supply the place of the provisions he has so feloniously appropriated.

The "limits" being extensive—generally one hundred square miles,—experienced scouts, mostly Indians or *bois brulés* (half breeds) are employed to seek out the groves. These men, of whom Cooper's "Leather Stocking" is a type, start out with their axes, guns, snow shoes and some pork and biscuit,—camp wherever night overtakes them, and explore the length and breadth of the limit,—or, the unconceded territory if in search of new ones,—examine the different streams and report upon their capabilities for floating out the timber, the facilities for hauling, and what stream is best to haul into. The country being unsurveyed, they, with the aid of native plumbago, rapidly delineate on a piece of birchen bark the relative positions of the different streams, lakes, portages and mountains, and groves of red or white pine—with a degree of accuracy, and due regard to proportion and distance, which in such self-taught draughtsmen is really marvellous.

When the grove is selected, the shanty is commenced ; this is built of logs, nearly square, the fire being on a raised hearth, formed of clay enclosed in a single frame of logs, and placed in the middle ; a longitudinal opening in the roof, over the fire, forms what serves for a chimney ; a double tier of berths all round the interior gives sleeping accommodation ; a wooden crane renewed when

burnt through, swings over the fire and suspends the family pot, tea and bake kettle. The fire, like that of a smelting furnace, is never allowed to go out, and the tea kettle sings perpetually over it. Without any apparent concert—by a sort of instinct—one after another of the occupants of the surrounding bunkers awakes from his slumbers, turns out, throws a log on the fire, takes a few whiffs of his pipe, eats about a pound of bread and pork, drinks something less than a quart of tea, and turns in again. Occasionally some troubled sleeper arises to join the fireman, when a midnight confab is carried on, sometimes for hours, without remonstrance from the double tier of snorers. The morning toilet is simple and expeditious, consisting in drawing on the boots or mooccasins—some long stretches, broad yawns, and a shake which a mastiff might envy; after which a few whiffs from the pipe as a *coup d'appetit*, and our heroes are ready for breakfast.

The shanties are conducted upon strictly temperance principles, a virtue which is the offspring of necessity: all the available means of transport to regions so difficult of access being required for the necessaries of life,—amongst which whiskey cannot be ranked—the philosophic children of the wood know that it is of no use to provide a store of grog unless they enjoyed the five stomachs of a camel; they therefore patriotically determine to do all their drinking in Quebec and Bytown, and *en route* to their winter homes; and certainly many of them do contrive that their forced winter deprivation shall not have the effect of reducing their annual contribution to the excise below that of the rest of the population. And if there be any deficiency on this score, it is more than made up by their consumption of tea. Shanty tea is as unlike the delicate infusion over which ladies are said to imbibe such nice discrimination of character, as the oil of peppermint is to the essence; indeed it would be strange if throats which had been lubricated with Canadian brandy in summer, and cooled by winter exposure to a mountain atmosphere thirty degrees below zero,

could tolerate the effeminate trash which we drink. Instead of an infusion, it is, like patent medecines, a double distilled, highly concentrated, compound extract of the Chinese shrub. It is, in fact, a *tea soup*, and has been described by one of themselves as "strong enough to float an axe." Like castor oil, it is "cold drawn," and then boiled—the process being to fill the kettle with cold water, cram as much tea on the top as the cover can force in, and then place it on the fire; as it is poured out, fresh additions of tea and cold water are added, as to a cupola, until it becomes necessary to cool off in order to remove the "slag." The tin basins out of which it is drunk are well greased by previous use for fried pork and pea soup, so that the tea does not adhere to the sides, a lubrication which probably prevents any corrosion. The taste of this tea is alkaline, and it has a decided coppery flavor, a strong imitation of that of the "native" oyster. An interesting metaphysical question presents itself in connection with this subject: strong tea is generally presumed to be injurious to the nervous system; indeed I have met ladies who have declared that they had lost their nerves from hard drinking—of tea of course—in consequence of which their daily exercise was in a rocking chair. Again it is known that where salt pork without vegetables is the principal food, that dreadful disease the scurvy is generated. Yet on the Ottawa there are thousands of men who drink their pound of tea per week, and some of them double this quantity, and eat salt pork four times per day; and if you have any misgivings about the nerves of one of those fellows, just take hold of him and try to double up his back. My own theory is, that the tea acts as a sort of alcoholic cut to the fat pork, which latter in turn counteracts the enervating effect of the "acid," by absorbing its deleterious properties.

Every thing being prepared, the work of felling the trees is commenced. White pine is found in groves, many of the trees of which are unsound, although none

but a connoisseur would detect this failing; the lumbermen, however, know the impostors by certain suspicious knots, as readily as a detective discovers a member of the swell mob, and are careful not to the waste their strength on such gay deceivers. The best white pine is obtained on undulating ground, from isolated trees intermixed with other timber. Red pine, on the contrary, grows in unmixed groves, on level plains of great extent; and I know of no more majestic or impressive spectacle in nature than one of those interminable groves of what is often, but improperly, called "Norway" pine. A level sandy plain, clean as a well kept park, stretches out before, behind and around you, out of which thousands of smooth straight reddish brown columns shoot up, forty to fifty feet in height, before a leaf or branch is seen—then, spreading out their magnificent evergreen capitals, they completely roof in one of the grandest of nature's temples. Between their well braced pedestals you may gallop your horse in every direction, or drive a fancy sleigh or pony phaeton without interruption from underbrush, morass, or the trunks of fallen trees. Fire which has destroyed more white pine than the axe of the lumberman, can get no footing in the red pine plains; here there is no underbrush, no fallen trunks, no deciduous hardwood, not even moss, to feed the devouring element. In ten thousand trees you will not see a diseased trunk, a decayed branch, or an up-rooted pine. In winter the scene is perfect—the milk-white floor, and the dark green ceiling upheld by thousands of copper colored columns—receding in beautiful perspective until lost in an imperfect and variegated horizon—afford a spectacle of woodland magnificence which even the Ottawa cannot surpass.

The lumberman lays out a main road from the stream into which he hauls, through the heart of his grove, and if this is scattered, branch roads are required. A cheaper class of men, generally the 'greenhorns,' are employed as road cutters. Three men and a cook form a 'gang;'—two cut down the tree, *line* and *score* it,

that is, split off the outer slabs so as to make it four-sided—and the third, the hewer, who is an artist in his way, smooths it with the broad-axe true and even as if planed.

In squaring large trees much of the finest timber is blocked off by the scorers and lost, except to the bears, who come along the ensuing summer and give the blocks a skirl in the air, whereupon the bark cracks off by the fall and the unfortunate worms who have loosened it are converted into bears meat. These prompt handmaids of decay have a 'harder time of it' in the forest than in the ground. If they discover an expiring tree they have hardly made themselves comfortable before the Woodpecker is heard making frequent calls, which, however unwelcome, are persisted in with all the importunity of an unmitigated bore. If they take refuge under a score block Bruin plays skittles with their habitation—and they are done brown.

As a track cannot be made to each tree which has been cut, the sticks of timber are drawn to the main road; this is called "straightening out,"—and as horses are too restive for such work it is done by oxen. These patient useful brutes will wind between the trees up to their shoulders in snow, almost twisting their tails and necks off in obedience to the yells of their drivers:—the whole scene forcibly recalling to mind Longfellow's magnificent lines—

Long ago,
 In the deer-haunted forests of Maine,
 When upon mountain and plain,
 Lay the snow,
 They fell—those lordly pines—
 Those grand majestic pines.
 Mid shouts and cheers, the jaded steers
 Panting beneath the goad,
 Dragged down the weary winding road
 Those captive kings, so straight and tall,
 To be shorn of their streaming hair,
 And naked and bare—
 To feel the stress and the strain
 Of the wind and the reeling main,
 Whose roar
 Would remind them forever more
 Of their native forests they should not see again!

The timber is drawn out upon the ice the melting of which with that of the surrounding snow, in March and April, swells the volume of the stream sufficiently to float it into the larger branches and tributaries and thence into the Ottawa, provided the tide be taken at the flood. On the breaking up of the ice great activity is displayed, and additional force is required for the start and the "drive." If the stream in which the timber is hauled out is not navigable for cribs, "driving" is resorted to—the loose sticks with the 'floats' and 'traverses' for rafting it are allowed to float down, followed by the lumbermen in canoes and along shore—whose duty it is to bring up the stragglers which may be loitering in an eddy, grounded on a shoal, or have been caught by an overhanging branch. When crib navigation is reached a boom is rapidly thrown across the stream, by which all the timber is stopped and formed into "cribs," containing about twenty pieces each. These are formed by placing two round logs, called 'floats,' about twenty-four feet apart, and bringing the squared timber between them; across the whole, four or five rather large sized poles called "traverses" are laid and pinned at each end to the floats. The square timbers are thus enclosed and prevented from spreading, without being depreciated by auger holes or tree-nails. They are not, however, prevented from moving backward or forward and thus escaping. To secure this, four heavy sticks called loading timbers—generally those which are too crooked to fit well between the floats—are dragged on top of the traverses and by their weight sink the floating timbers lower in the water; the friction thus created against the under side of the traverses (arising from the floatation of the timbers which are in the water) effectually prevents the latter from moving backward or forward, while the loading timbers are fairly shipped high and dry and have no tendency to move. In this simple manner, without any injury being done to the manufactured article, are formed the "cribs," one of which will carry all the provisions and many men in safety down any navigable rapid or crib slide.

On many of the tributaries large lakes many miles in length and width must be passed; where these occur all the timber must be formed into a raft containing generally about fifty cribs. The cribs are lashed together by means of 'withs;' these are formed by taking young birchen trees about the size of whip stalks and fastening their butts firmly, by means of wedges, into an auger hole bored into a stump or fallen tree, then commencing at the points and twisting them (just as butchers make a screw propeller of an ox's tail when urging him into the slaughter house) until the whole of the fibre is separated and the twig becomes as pliant as a rope. These withs possess great strength—are easily replaced—and save the cost and transport of ropes or chains. The raft being ready, all hands, with provisions, cook and cookery, are embarked—the anchor and cable are shipped, and if the wind is fair, sail is set. If the wind is foul, patience and pork are required; if it be calm, there is always some current through every lake and this will bring the raft through; but if a head or side wind springs up when fairly out in the lake, the anchor must be thrown, else the raft would be blown ashore, or into some bay where it would be imprisoned for weeks. When the lake is crossed perhaps the character of its outlet is such that the raft must be broken up into single sticks, and "the drive" be again resorted to, until other points are reached where the boom, the floats and traverses, withs, sails, and anchors are successively required. The Ottawa, from Lake Temiskeamang to its mouth, is a crib navigation, but in this distance it is necessary to dissolve the raft into cribs about a dozen times in order to run the different rapids and slides.

If the spring is cold and backward the snows melt gradually, and the water steals away without filling the streams sufficiently to bring out the timber. The whole year's labor is thus lost from the timber "sticking" as it is called, unless heavy rains should come to the rescue;

but even these may not occur until *after* the timber has been abandoned, and their effect may be over before it can again be reached. Additional force is required to bring out the timber—over and above those engaged in making it—and if this is not on the ground when the streams open the golden opportunity is lost; and if brought on too early the pork and tea must suffer. The price in Quebec increases in proportion to the quantity which “sticks” and is unable to reach the market. The consequence is there is very little sympathy among lumbermen, although necessity compels them often to “drive” together. It is the interest of each that all other timber but his own should be left behind. In “driving,” the greenhorns, as at a Court Martial, are first put forward; from sheer politeness, it is to be presumed, they are allowed to “put through” the booms first,—their timber consequently leads the van, it goes down, fills all the eddies, occupies all the shoals, and the next timber, belonging to the old birds, having no place to loiter in keeps the channel through, and though last to start comes out the first.

One of the disasters to which lumbermen are subjected in driving their timber, and one which induces them to go to great expense in forming a crib navigation where it can be obtained, is what is called a “jam.” [I suppose because it is made with currents and is very sticky.] When the “driving” cannot be controlled, or if the water falls unexpectedly, certain shoals begin to “pick up” the timber, and stick after stick as it comes down runs under those already grounded, and with the current for a power, acts as a lever in raising them above the water; in this manner the lifting and wedging continues until many thousand pieces of timber are woven into a crow’s nest, and raised perhaps thirty or forty feet above the water. The “jam” is frequently sustained by a single stick, resting against a ledge of rock, which when cut away will free the whole mass. “Cutting away a jam” is one of the most daring feats a lumberman can

perform. Like a forlorn hope it is left to volunteers. The noble fellows who risk their lives to save their employers from loss or ruin, bare their feet, strip to the waist, tighten their girdles, and with head uncovered and axe in hand leap upon the quivering timbers. A rope, the end of which is held by their anxious but admiring comrades on the shore, is fastened round the waist. Every blow of the axe is watched with intense anxiety, and when the timber begins to yield—without waiting to cut it through—the few favorable instants which intervene while the crackling and crashing mass is preparing to start are seized for escape. Flinging his axe into the water and leaping from stick to stick of the moving timber he reaches the land amid the cheers of his comrades—or, borne down by the moving forest his mangled body in sorrowing silence is hauled ashore:—his last burden has been borne—his last portage has been made—the “tump-line” will never again compress his swollen and wearied temples—for he is drifting away in the gloomy haze of that endless lake where none but departing canoes are seen.

The transport of supplies to the shanties is the heaviest charge upon the lumberman. Flour, before consumed, costs him about \$10 per barrel. Pork, \$25 to \$30. Oats, 5s. to 6s. Hay, \$30 to \$40 per ton. Beaver hay costs about as much as good hay in agricultural districts, but is only worth half as much; and as some horses will not eat it, lumbermen are obliged to team up the cultivated hay at a charge for transport about equal to two or three times its first cost. In order to reduce these charges some enterprising lumbermen have opened winter roads to the back Townships of Counties fronting on Lake Ontario. The pork and flour consumed above Pembroke are now carried up from Bytown, but the day cannot be far distant when these articles will be brought in from the shores of Lake Huron or Simcoe.

Another great drawback to the advantageous prosecution of the trade is the want of roads and bridges. In a

country so thinly inhabited, where there are so many unsold and unsurveyed public lands—and one which is so cut up with large rivers, lakes, mountains, and swamps, it is impossible either for lumbering or municipal enterprise to construct the necessary roads or bridges. The snow and ice give to the lumberman the only roads and bridges to his distant limits; but these leave him just at the period when he is in the greatest need of them. The teams hired to haul his timber come from Glogarry and the Lower Ottawa—and as the distance is great, if the snow disappears it takes them weeks to return home; and if the ice breaks up they must swim their horses across the stream at the risk of losing them. On the first appearance of a break up in March there is a regular stampede amongst the teamsters—off they go, perhaps leaving a great portion of the timber in the bush, to be burned by fire before the next year's drive.

The lumberman cannot bridge these streams—all their capital and enterprise being required for improving the character of the rivers for the passage of their timber. Vast sums have been expended by individuals and firms, in blasting rocks, and building dams, booms, slides, and piers. From a parliamentary return, it appears that no less than £150,000 have been expended by lumbermen, almost all within the last ten years, in these improvements.

On the other hand, the Government derived a revenue from the Ottawa timber dues of £38,000 in 1852, and they have expended about £50,000 in slides and other improvements for the timber, which are almost the only paying public works in Canada—the gross revenue in 1852, being £9,682. Thus the revenue of 1852 has been nearly equal to the whole expenditure upon the Ottawa, on account of the timber. It is much to be regretted, that such good claims as the Ottawa possess for a share of the Provincial expenditure, should have been pressed with so little judgment, and granted by Parliament with such an incorrect appreciation of what it really needs. Canals are cer-

tainly not required for a district which has neither roads nor bridges, villages, manufactories, coal mines, wheat, flour, provisions, &c., for export—in fact, for a district without traffic—if we except those supplies which cannot reach the shanties unless at that season of the year when canals are useless.

There is a good proportion of arable land on the south side of the Ottawa above the Chats. The settlement of this region by immigration is much slower than that part of Canada west of Kingston, although from the demand for every description of agricultural produce caused by the lumber trade there is no better market for the farmer. A slow process of settlement is going on from the ranks of the lumberers; every year a few of the provident among this hardy race, having learned the way of the woods, select some promising lot discovered in their wanderings, take unto themselves wives, and permanently pitch their tents there. This neglect of the Ottawa by settlers is the result of the neglect of it by our Legislature, which has passed laws to tax all private lands, through the agency of the municipalities, for the general improvement—excepting their own. Parliament is the great proprietor on the Upper Ottawa, and Parliament therefore should contribute proportionally, or hand over its estate to commissioners to be sold for the relief of the country as it is now done in Ireland. The municipalities on the Upper Ottawa have taxed themselves, for railway facilities, to three times the extent in proportion to their means of any other municipalities in the country; in fact they have taxed themselves to an extent which none but men desperate from hope deferred would ever think of doing. The hopes of those who have undertaken to aid the municipalities in constructing these roads are based upon one item of commerce, the transport of sawed lumber, and also the carriage of the supplies which are now imported and which will hereafter be required for the manufacture of this article. But the immediate line of the railway will alone be able to manufacture the lumber; the want of

good roads as feeders to the railway will cause the latter to be a disappointment to the municipalities and to the stockholders. The municipalities have taxed themselves too heavily for the main road—the railway—to be able to build also the side roads.

The great want of the Ottawa is **POPULATION**. The Rideau Canal has not been able to remedy this, and the Ottawa Canal will as signally fail in doing so. The railways will in time remedy it, but even these to be efficient must be treated as other highways. If you want to increase the value of property in a street, to make it most useful, you open it through, you make a thoroughfare of it. The Ottawa even with railways will still be a *cul de sac*. When a man goes two hundred miles up the Ottawa, particularly if an intending settler or capitalist seeking investment, he does not like to retrace his steps, for at Pembroke he is only about 150 miles in a direct line from Lake Simcoe, and at Arnprior he is only about 100 miles from Belleville. The tendency of the age is to *go-ahead*; no man likes "to take the back track," and I have always failed in inducing strangers to go up to the Ottawa because they said to me, "there is no way of getting on."

The Ottawa possesses within herself all the means necessary for her own development, if we are only just enough and generous enough to give her her own. The public lands are a financial basis broad enough to work out the development of the Ottawa, and it is not asking too much that a portion of them should be set apart for such a thoroughly domestic purpose, when to those which have, all has been given. Public guarantee for railways, plank and macadamized roads, bridges, and really useful and much needed although still unproductive canals—all have gone to the St. Lawrence.

The Congress of the United States has made large grants of land to the Illinois Central and other roads—to routes much less in need of public aid than the Ottawa. A grant of public lands would secure a highway through the Ottawa

and would be a necessary inducement to the construction of a railway. The local trade of such a railway would be confined to the bringing out of sawn lumber until the country became settled, which it would in a measure become by the process of construction; but the means being at once secured of opening the road through to Ports on Lake Huron, or in connection with the railways around Lake Simcoe, it would have a *through* traffic which would sustain it until it became productive.

In conclusion,—no one can look upon the geographical position of the Ottawa without becoming convinced that unless there be some positive disqualification, it is a district which ought not and cannot much longer remain a wilderness. Those who have had such glimpses of it as a trip up some of its beautiful tributaries afford, can certify that when opened it will be second to no other part of Canada in the healthy character of its climate, the fertility of its innumerable and well watered valleys, the transparent purity of its trout filled lakes and gravelly brooks; or in the magnificent panorama which is presented by mountain, flood, and plain—decked out with ever-green and hardwood furring the sloping banks of her golden lakes, and affording under the influence of the autumnal frost one of the most gorgeous spectacles under the sun. Nor can the day be far distant when those valleys will be filled with their teeming thousands, and the sheep and cattle on a thousand hills shall everywhere indicate peace and progress—the happy homes of a people whose mission it is to wage war only upon the rugged soil and the gloomy forest, to cause the now silent valleys to shout and sing, and to make the wilderness blossom like the rose.

