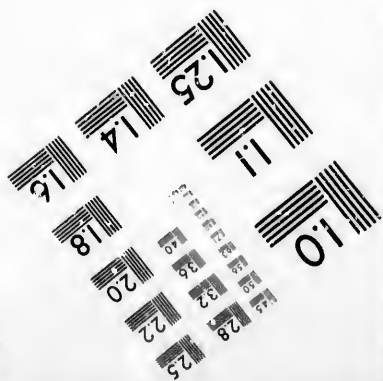
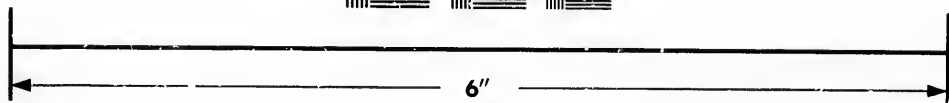
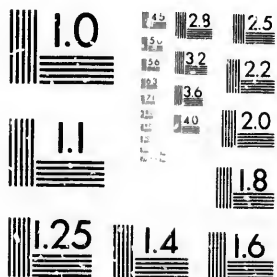


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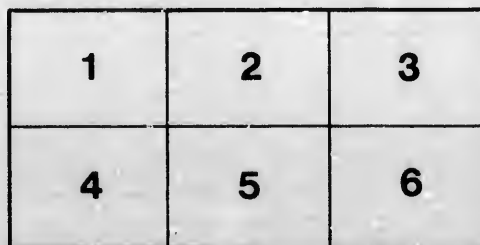
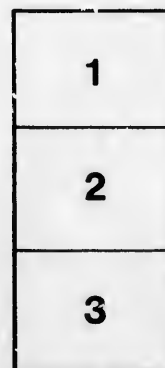
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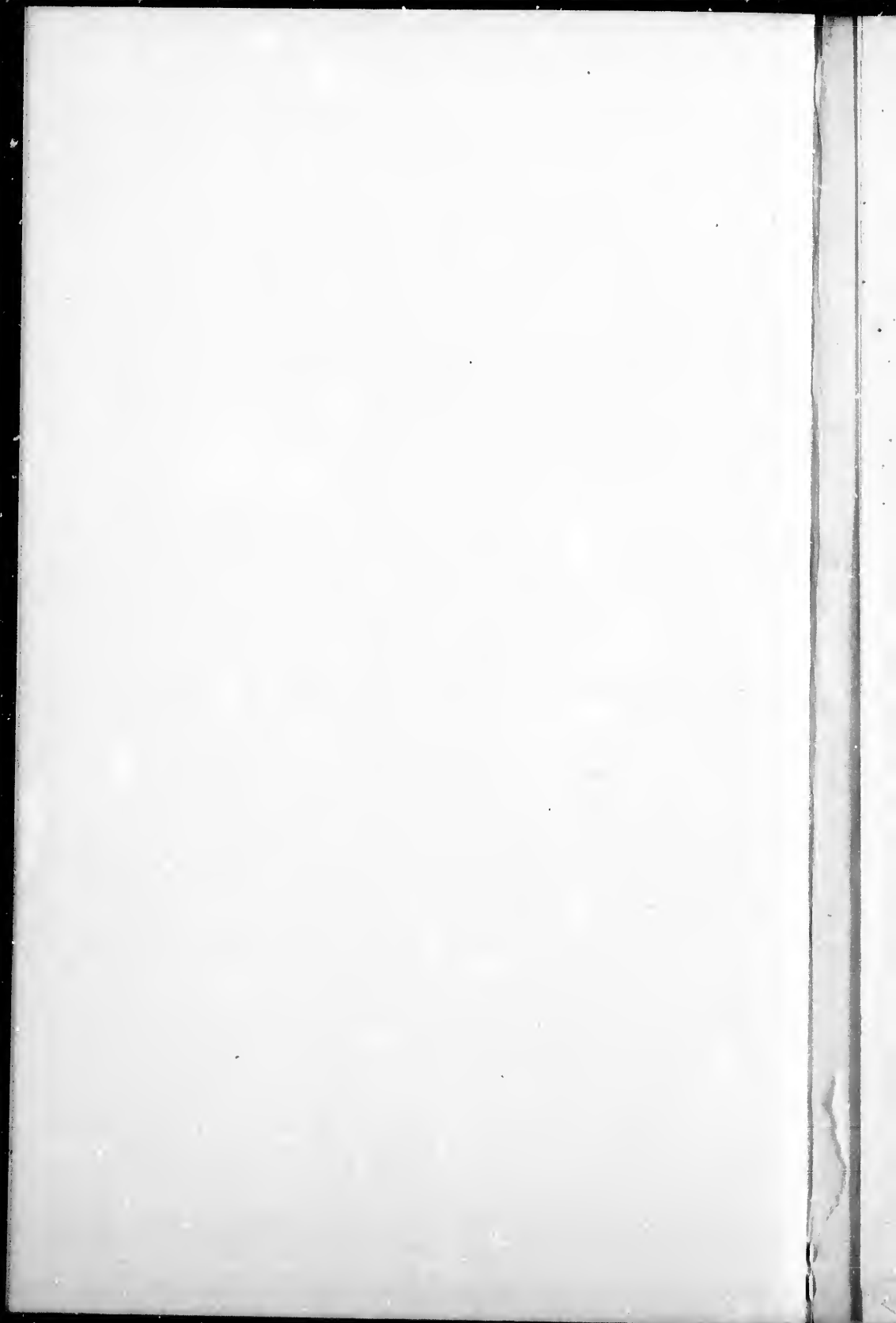
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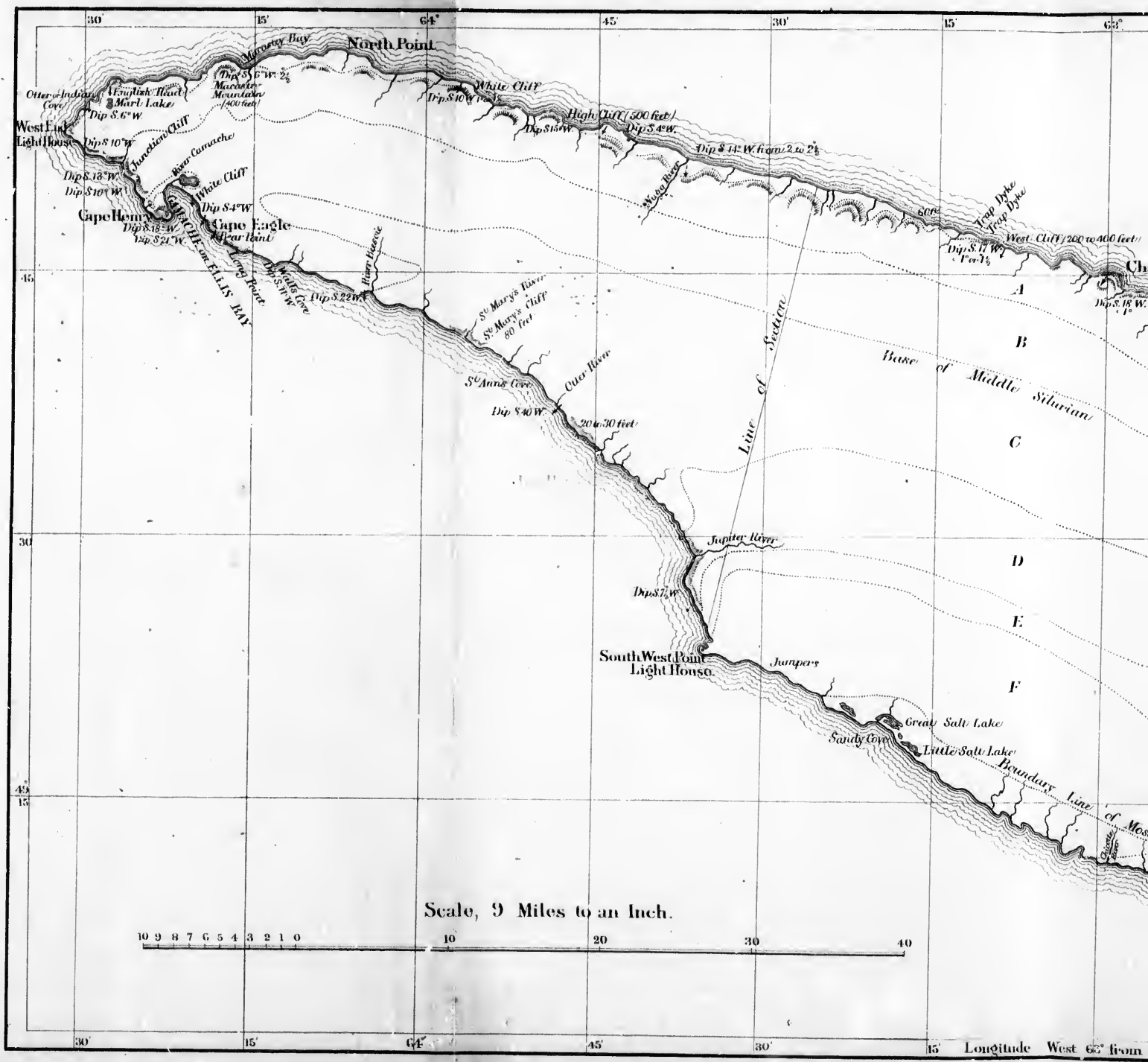
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GEOLOGICAL SURVEY OF CANADA.

Sir W<sup>m</sup> E. Logan F.R.S. Director.

PLAN  
OF THE  
ISLAND OF ANTICOSTI.

Taken from BAYFIELD'S Charts.

To illustrate the Exploration

OF

J. Richardson.

1856.





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# GEOLOGICAL SURVEY OF CANADA.

Sir W<sup>m</sup> E. Logan F.R.S. Director.

## PLAN

OF THE

### ISLAND OF ANTICOSTI.

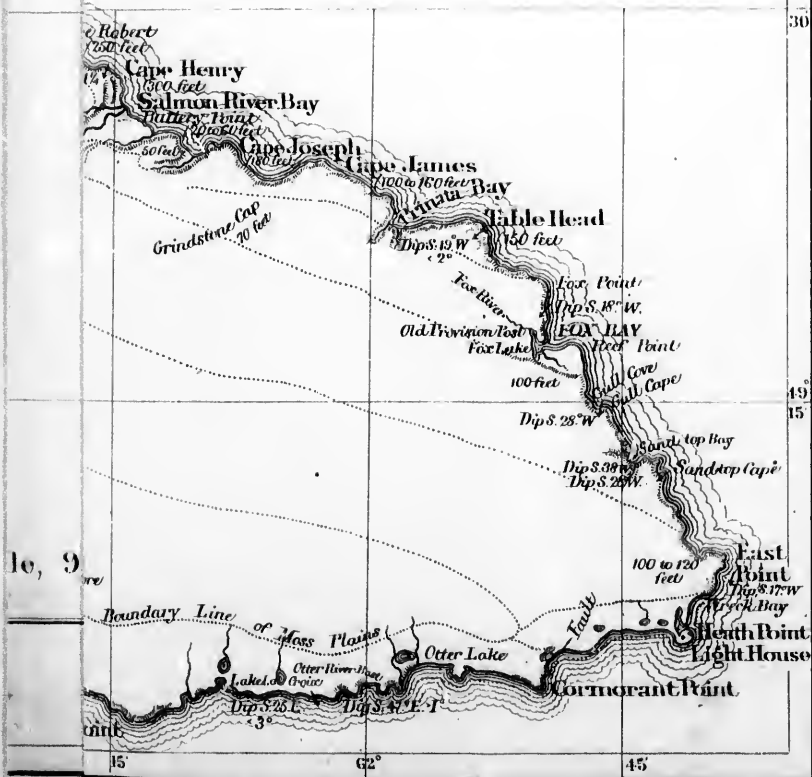
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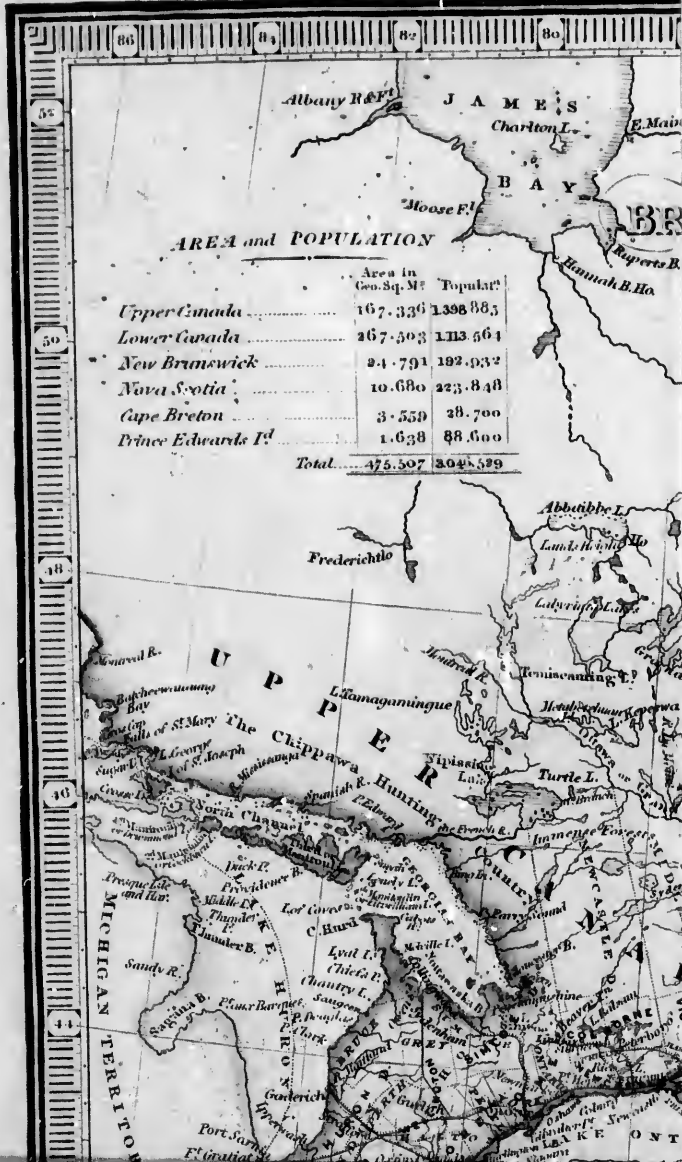
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THE  
ISLAND OF ANTICOSTI:

ITS

GEOGRAPHICAL POSITION, EXTENT, RESOURCES,

&c. &c.

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LONDON:

PRINTED BY C. WHITING, BEAUFORT HOUSE, STRAND.

1867.





West Longitude from Greenwich

Railways





## THE ISLAND OF ANTICOSTI.

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THE Island of Anticosti is situated in the River and Gulf of St. Lawrence, about five hundred miles below Quebec, and consequently that much nearer England. It is nearly one hundred and forty miles long, and its greatest breadth is thirty-five miles, gradually becoming narrower as it extends east and west. It contains more than three thousand square miles, or about two million two hundred thousand acres, of which, according to Sir William Logan, LL.D., F.R.S., F.G.S., &c. &c., upwards of one million acres is composed of soil of the very best quality for agricultural purposes. The language used is: "It is precisely on such rocks, in such a condition, and with such an altitude, that the best soils of the Western Peninsula of Canada West are placed, as well as of the Genesee country in the State of New York. I have seen nothing in the actual soil, as it exists, to induce me to suppose that, in so far as soil is considered, Anticosti will be anything inferior to those regions."

The island contains extensive quarries of excellent stone for building purposes, deposits of marble of very superior quality, besides stone fit for lithographic purposes.

The fisheries in its rivers and surrounding its coast



are extremely valuable, and in the interior it contains extensive forests of most valuable timber. It also has large deposits of peat of excellent quality, exceeding one hundred and thirty thousand acres in extent. Peat is now fast coming into general use as an article of fuel, both in the United States and Canada, where recent experiments have proved it to be superior to either wood or coal for many purposes, and far more economical than either, as the following extracts from a pamphlet, published in December last, in Montreal, by Mr. James Hodges, an eminent civil engineer, will show. Mr. Hodges has, for the last three years, devoted his whole time and abilities to the maturing of an improved method of manufacturing peat into fuel. The following is the preface, together with such extracts from his pamphlet as will sustain what has been said as to the importance and value of peat as an article of fuel:—

PREFACE.—“Some three years since the writer became impressed with the idea, that, by the use of a floating manufactory, the immense peat ponds or bogs of Canada might be utilised and made to supply the place of coal, so much needed in the country, and being in possession of a bog of this character, he resolved to try the experiment.

“The first year was spent in constructing and perfecting an excavator, which would cut or dig out the Peat under water, and convey it to the machinery for manufacture, without the use of manual labour, at the same time leaving the place excavated in such a state as to allow the floating manufactory to move about in it.

“The second year or season was spent in endeavours to make a machine which would squeeze out some fifty per cent. of the water in the Peat, before it was pulped, and in constructing machinery for pulping and distributing the material upon the drying ground. The squeezing machinery, after a great expenditure of time

and money, was abandoned as impracticable on a large scale, but the pulping and distributing machinery were completed.

“The third season was passed in trying experiments as to the best method of harvesting or air-drying the Peat, and although the exceedingly wet weather during the months of August and September last was very discouraging, it has led to good results, and to the conclusion that the work can be done even in moist seasons as the last has been.

“Having become satisfied that the fuel made, such as it was, could be manufactured at a small cost, he applied to the Grand Trunk Railway authorities for permission to try it on their engines, being convinced that if it would do the work of wood, in the proportion of a ton of fuel to a cord of wood, the expenditure of time and capital during the three years would not be at all lost.

“The experiments were made with the fuel without selection, just as it came from the harvest field, the only care taken being in the weighing of it out into the tender. During the whole of the time, and for a distance of upwards of a thousand miles, the writer rode upon the tender, and witnessed the several experiments. For a great portion of the time the fuel was filled into baskets, as used, so that the quantity burnt between the various stations could be ascertained, and the heaviest parts of the road known.

“Upon the Arthabaska and Three Rivers road, where the trains ran regularly with the fuel, it was weighed to the men in the same way that wood is given out, and they were left to burn it as they thought proper.

“That the results of the experiments are not of a more uniform character must be attributed to a variety of circumstances, such as the difference in the weight of the trains. They are, however, accurately given, and if they do nothing more, they prove very satisfactorily that, even burnt without experience, a ton of Peat fuel is fully equal to a cord of wood, and there is no doubt that when Mr. Eaton, the Locomotive Manager of the Grand Trunk Railway, has completed the arrangements

he has in contemplation for the more perfect combustion of the fuel, he will prove that one ton will do much more work than a ton of the best coal, without any of the injurious effects produced by that article upon the firebox and tubes of the locomotive.

“Chemical analysis shows that Peat, weight for weight, contains only three-fifths of the heating properties of coal, and it is therefore the opinion of many that it is little more than half as valuable for raising steam.

“Now this is all very well in the closet, but as practice shows that even with the best constructed furnace thirteen per cent. only of the heat-giving properties of coal are utilised, there is still a pretty good margin for Peat, and a possibility by being able to economise a greater per-centage of the heat-giving properties it contains, to make it do double the work of coal.”

“Early in the month of October, 1865, the writer, for the sake of experiment, dug a canal nearly a mile in length, nineteen feet wide, five feet deep, pulped the Peat excavated, and deposited it alongside of the canal where it formed an embankment thirty-six feet wide and two feet six inches deep. This bank subsided considerably, until the frost set in and penetrated during the winter to a depth of fifteen inches. Below this depth the pulped material was uninjured, and on the following summer, when dug out and cut into the shape of bricks, it dried, became hard and solid, making excellent fuel, while the whole of the upper or frozen portion was little better than unpulped Peat. The embankment was firm and elastic to tread upon, and all that could be desired as a formation for railway purposes; but it never became hard, neither was it, during the hot days of July, dry to a greater depth than half an inch. This embankment remains as perfect as when first formed, and to an engineer is well worth a visit of inspection.

“It is not absolutely necessary that the fuel, when

well harvested, should be put under cover. It may be stacked, as it is in Ireland, in large heaps, the weather having but little effect upon it; but like wood, coal, or coke, exposure to the atmosphere for any length of time is injurious, and the cost of placing it under cover is more than repaid by the improved quality of the fuel.

“Peat fuel, containing from twenty-five to thirty per cent. of water, may be burned in a locomotive with a blast, and arrangement of firebox precisely the same as for wood, and used in the same way, with this difference only, that with wood the firebox is always kept full to the top, while with damp Peat not more than six inches covering of the grate is necessary. In ascending long inclines, or with an overloaded engine, it may be necessary, perhaps, to increase the quantity to nine inches, but under no circumstances has the writer ever seen a twelve-inch covering to the fire-bars requisite.

“When it is considered that in burning a ton of green Peat, containing only fifteen per cent. of moisture in excess of ordinary air-dried Peat, thirty-three gallons of water have to be dried out of it or evaporated during the combustion, and, in addition, that the weight of solid matter in the ton of fuel is reduced fifteen per cent. by the water it contains, the difference of work performed by dry Peat over that of wet is not so great as might be expected. This, however, may be accounted for by the little experience we have hitherto had with the fuel, and also from the fact that locomotives have not been adapted to its use.

“The amount of blast required for green Peat is not so great as that required for wood, but it burns well in a furnace arranged for consuming wood.

“For dry Peat, very little blast is required, and when burning in engines adapted for wood, the fuel has to be applied in such small quantities that it is scarcely possible to keep the fire-bars covered, without raising more steam than is required. It therefore seems

apparent, that, although an approximate maximum of work may have been got out of green Peat, the experiments with dry fuel need repeating many times to give any adequate idea of what it will do in properly constructed furnaces, and with a suitable amount of blast.

“ An experiment was made with well-dried Peat fuel upon engine No. 158, five feet driving wheels, sixteen inch cylinders, and twenty-six inch stroke, drawing twelve loaded cars.

Distance run per ton of 2240 lbs. of fuel, 40·33 miles.

Fuel used per mile . . . . . 55·54 lbs.

Greatest pressure of steam . . . . . 140 ”

Least ” ” . . . . . 100 ”

“ During the experiment, fuel was put on in small quantities, no smoke issued from the stack, a steady brilliant white fire was kept up and steam generated with great rapidity. The damper was kept closed and air admitted through a slot in the furnace door. Not an atom of ash or cinder was left in the smoke-box, ashpan, or upon the wire gauze of spark-catcher. The grate inside was one of Lester's Patent, having a well in the centre with horizontal openings to admit draft. The bottom of the fire-box was scarcely ever entirely covered with the fuel, the steam being generated too rapidly to allow of a large quantity of fuel being put into the furnace.

“ Experiment with green Peat fuel, containing twenty-five per cent. of water, upon engine No. 65, six feet driving wheels, fifteen inch cylinders, twenty-one inch stroke, drawing an express train of *nine* passenger cars, all *heavily* laden, from Montreal, going west, October 3, 1866 :

Distance run, . . . . . 101 miles.

Fuel used, . . . . . 8000 lbs.

” ” per mile, . . . . . 79 ”

Average speed, including stoppages, }  
per hour } 23 miles.

Greatest pressure of steam, . . . . . 123 lbs.

Least ” ” . . . . . 90 ”

" This experiment was one to show whether, with an engine out of order and very much over-burdened, steam could be made with green Peat, in sufficient quantities to meet an unceasing demand during the whole time of running.

" The grate was one of Mr. Eaton's Patent, with horizontal openings, and the furnace door had a slot to admit air.

" In ascending grades, the pressure of the steam gauge invariably increased. The damper was nearly closed at all times, the slot in the door open nine by two inches, and with never more than from six to nine inches of fuel in the fire-box. Abundance of steam was raised, and, for a distance of many miles, the pressure of steam did not vary.

" On the return trip next day, with a similar weight of fuel :

The total distance run was . . . . .	112 miles.
Fuel used per mile . . . . .	71 lbs.
Average speed, including stoppages . . . . .	22 miles.
Greatest pressure of steam . . . . .	125 lbs.
Least " " . . . . .	85 "

" Train consisted of six passenger cars.

" Experiment with engine No. 65, in good working order, and with Peat fuel containing about 20 per cent. of water :

" Express train consisting of six passenger cars.

Total distance run . . . . .	177 miles.
" consumption of fuel . . . . .	7936 lbs.
Consumption per mile . . . . .	45 "
Maximum consumption between stations	60 "
Minimum " " " "	30 "
Average speed, including stoppages " .	25½ miles.
Greatest pressure of steam . . . . .	125 lbs.
Least " " . . . . .	86 "
Distance run per ton of fuel . . . . .	50½ miles.
Value of fuel . . . . .	dolls. 3.50 per ton.
Cost per mile run for fuel . . . . .	7 cents.

" During the experiment, the damper was kept partly open, and the slot in furnace door of an area about

nine inches by two inches. Fuel was fed in sufficient quantities to hide the bottom of the fire-box, and throughout the trip there was not the slightest deficiency of steam.

“ On the return trip the consumption of fuel was less, the train being lighter.

“ Upon the Three Rivers and Arthabaska branch of the Grand Trunk Railway, which crosses the Bulstrode Peat Works, the engines with wood-burning fire-boxes, and without any alteration or adaptation whatever, have been burning green Peat fuel for some weeks, with results quite equal to those arrived at on the experimental trips. The average distance run per ton of fuel being 50.37 miles. The weight of fuel used per mile 44 lbs.

“ Mr. McDougall, of the Caledonia Iron Works, Montreal, who supplies the Grand Trunk Railway with car wheels, states that for giving toughness to the metal, and uniformity of chill, qualities so essential to railway car wheels, the fuel is unsurpassed.

“ The superiority of the fuel is beyond question, and the present movement which is being made throughout the whole of the United States for producing it in sufficient quantities to supply the demand is corroborative evidence of that fact; the only question, in a country where labour is scarce, being how to obtain it in large quantities at reasonable cost.

“ Let the process of manufacture be what it may, it is always necessary, as a preliminary, that the bog should be cleared of trees and live moss, and also that a drying ground be provided. These works being perfected, the machine described may be almost called automatic, digging the Peat, conveying it to the machinery, removing the sticks and extraneous matter, pulping and spreading it out on the ground to dry, at the rate of from 300 to 400 tons in ten hours, with the aid of six men only.

“ No one who has witnessed the working of the machine at the Bulstrode Peat Works, and has seen in



its trail, as far as the eye can reach, the myriads of bricks spread out to dry alongside the navigable canal it has cut in its progress, can fail to be struck with the simplicity and completeness of the process, or to be convinced that not only is the minimum cost of production reached, but that the quantity produced is limited simply by the extent of the bog.

" A machine, working ten hours, excavates and pulps sufficient Peat to give of air-dried fuel fifty tons, while, in so doing, it makes a navigable canal one hundred and fifty feet long, nineteen feet wide, and five feet six inches deep.

To prepare the pulp beds, &c., and clear canal track, employs . . . . .	6 men.
Working the scow . . . . .	6 "
Cutting and marking out . . . . .	2 "
Separating and footing bricks, 4 men and 14 boys, equal to . . . . .	11 "
Refooting bricks, 8 boys, or . . . . .	4 "
Loading into barges and conveying to store . . . . .	9 "

—  
Making a total per day of 38 "

Or, with wages at 1 doll. per day, gives . 38 dolls.

The whole of the work above mentioned is done by the piece, or task work; it is proper to add for superintendence and contingencies, say twenty per cent. . . . 8 "

—  
Total . . . . . 46 "

The cost for labour of a ton of air-dried fuel on the ground being 92 cents, a sum not greatly in excess of what is often paid for cutting, splitting, and piling a cord of wood, after it is delivered at the house door.

The cost of a scow with engine and machinery complete is . . . . .	8,000 dolls.
Barges and other plant . . . . .	2,000 "

—  
Making a total of . 10,000 "  
as the amount requisite for the whole of the machinery,



engine, and workshops necessary for the manufacture of fifty tons of Peat fuel per day of ten hours, and which may be worked day and night throughout the season.

“A ton of Peat fuel occupies a space of about seventy cubic feet, a railway car carrying ten tons.

“A cord of wood weighs 4000 lbs., and occupies a space of 128 cubic feet, a railway car carrying only six cords, so that although wood is scarcely ever conveyed on railways as an article of traffic, on account of its bulk, Peat fuel can be conveyed to as great advantage as any other merchandise.

“Since the foregoing was written, an experiment has been made, with the view of determining whether, with a diminution of the blast, the same quantity of steam could be generated as obtained on former occasions, with the blast usually employed for wood.

“For this purpose the nozzle of the blast-pipe was increased one-half of an inch, or from  $2\frac{1}{4}$  to  $2\frac{3}{4}$  inches diameter, making an additional area of fifty per cent. The same engine, No. 65, was employed as on former occasions. Mr. Eaton accompanied the train, for the purpose of putting the fuel to the severest test possible; the engine, when strained to the utmost of its power, in ascending heavy grades, or in quick running on a level road, produced abundance of steam and kept blowing off the whole time. By this diminution of the blast, additional power was gained, and the consumption of fuel smaller than on any previous occasion.

“Other experiments are to be carried out, to ascertain what further improvements can be effected.

“In conclusion, the writer feels it incumbent on him to state, that if his efforts in utilising the Peat bogs of Canada should prove as beneficial in their results to the manufacturing and industrial interests of the Province as he has every reason to anticipate, much of the credit must be attributed to the valuable advice and encouragement he has at all times received from his friends, Sir William E. Logan, LL.D., F.R.S., F.G.S., &c., T. Sterry Hunt, Esq., M.A., F.R.S.,

LL.D., &c., Walter Shanly, Esq., C.E., M.P.P., B. Chamberlin, Esq., M.A., B.C.L., and to Richard Eaton, Esq., Superintendent of Motive Power, Grand Trunk Railway, whose experiments to determine the proper system for the combustion of the Peat fuel have been attended with the most marked and satisfactory results."

*Extract from the "Montreal Gazette" of December 1, 1866.  
The following editorial appeared :*

"We were shown yesterday a small piece of bar iron from the Puddling and Rolling Mill of Messrs. Morland, Watson & Co., from the first blooms ever made in this country with Peat fuel alone, and, we believe, the first on this continent. The specimen shown to us was of the very highest quality, and equal to the very best Swedish iron. It was bent, when cold, by a vice, and doubled close up at right angles, with an edge without a crack or flaw appearing, the outer edge remaining smooth and sharp. A severer test of the tenacity of the iron could not have been applied; a result so satisfactory could scarcely have been hoped. We are told that no iron manufactured from coal in this country would stand such a test. The fact is one of great importance for Canada, in view of its large supplies of peat and iron. We may add that the time taken in the manufacture was not greater than that usually taken when coal is used. There was no special adaptation of appliances. The furnace was an ordinary coal one, and the men were accustomed to the use of coal. This one further trial of, we may say for us in Canada, new fuel affords another triumph of which Mr. Hodges may be justly proud. And it may solve one question of protection, which the Legislature denied to Messrs. Morland, Watson & Co., if it enable them, with a fuel cheaper than coal, to produce a more valuable quality of iron than they could before produce—a quality equal to the best Swedish.

"A report of the trial, referred to in the above notice, was made by Mr. Campbell, manager of the Puddling and Rolling Mills, to his employers, Messrs. Morland, Watson & Co.

"The Peat fuel was tested in an ordinary puddling coal furnace, and no alteration or adaptation was made, although this might have been done, and a large saving of fuel effected.

"The pig iron used was Dalmenington brand A, a strong iron, soft and very tough.

"The quantity of Peat fuel consumed was nearly double the weight of coal used on ordinary occasions.

"In my opinion, and with the present furnaces, by mixing peat with Pictou coal, we could produce iron equal to the best charcoal iron, and at no more expense than the present cost of our iron, the quality of which is equal to the best refined English iron.

"With the furnaces as at present constructed we could not use peat alone, the combustion of the gas given out not being sufficiently perfect to produce the heat required for puddling to advantage, resulting in waste of fuel, and additional labour to the men.

"If we could get the extra price for the quality of iron turned out, there would be no doubt about the result; but I fear this could not be obtained, as almost any description of iron seems to suit this market, so long as it can be sold cheap.

"I send you samples of the iron made at the trial, which I consider equal in quality to BEST CHARCOAL IRON, and superior almost to any description of iron imported.

"An experiment made on the Grand Trunk Railway, November 14, 1866, is also thought worthy of insertion, as giving in detail the results effected with enlarged blast nozzles of the engine, to which reference is made on pages 15 and 19.

"Work performed by engine No. 158, burning Peat fuel, with a mixed train of 18 cars, from Montreal to Prescott Junction, 112 miles, Prescott Junction being 260 feet higher than Montreal :

The train consisted of . . . 16 freight cars.  
 . . . . . 1 passenger car.  
 . . . . . 1 van.

—  
 Total . . . 18 cars.

Weight of freight . . . . . 320,000 lbs.  
 Do. of cars . . . . . 345,000 „

Total weight of train, cars, and freight 665,000 lbs.

Distance run . . . . . 112 miles.

Lost time made up in running  
 between Vaudreuil and Ma-  
 tilda, 75 miles . . . . . 110 minutes.

Total weight of Peat fuel con-  
 sumed  $3\frac{1}{2}$  tons . . . . . 7450 lbs.

Value of fuel at  $3\frac{1}{2}$  dolls. per ton 11 dolls. 65c.

Fuel consumed per mile run . . 66 $\frac{1}{2}$  lbs.

Cost of fuel . . . . . 10 cents.

Number of car miles run . . . 2016 miles.

Fuel consumed per car mile run . 3.69 lbs.

“Cost of drawing a car containing over 10 tons of freight a distance of one mile, a little over half a cent.

“The engine was in the same condition as when used for burning wood, with the exception of the blast nozzles, which were *enlarged from  $2\frac{3}{8}$  inches to  $2\frac{3}{4}$  inches diameter, or 34 per cent.*

“William Moore, the engine driver, before going this journey, had never seen Peat fuel *burnt*.

“A sample of Peat fuel, taken indiscriminately from the tender, during the trial on the 3rd October, referred to on page 6, was carefully wrapped in paper, weighed, and hung up in a warm room.

When placed there, October 8th, it  
 weighed . . . . . 1 lb. 11 oz.  
 On the 7th December . . . . . 1 „ 4 „

Loss by evaporation . . . 0 lb. 7 oz.

Or equal to nearly 26 per cent.

“The Grand Trunk Railway experiments have all

proved so satisfactory as to result in a contract extending over five years or seasons, during the first of which the company are to take 100 tons per day, and during the four succeeding seasons 300 tons per day.

“Arrangements are in active progress for the manufacture of this quantity, as well as for sufficient to meet the requirements of the Montreal market.”

According to the best authorities in the United States, an acre of peat, three feet in depth, will contain from three thousand three hundred to three thousand six hundred tons; six feet in depth, from six thousand six hundred to seven thousand two hundred; ten feet, from eleven to twelve thousand tons. Assuming the peat deposits of Anticosti to average six feet in depth, which will be found to be far below the mark, and estimating the material, in its crude state, to be worth one penny per ton, the result would be six thousand six hundred pence, equal to five hundred and fifty shillings, or *twenty-seven pounds* ten shillings per acre; and computing the extent of the peat-beds at one hundred and twenty-five thousand acres, the value of the peat alone would amount to no less than *three millions four hundred and thirty-seven thousand five hundred pounds sterling*.

According to Mr. Hodges, an acre of peat of six feet in depth will produce one thousand tons of *prepared fuel* ready for use, and estimating this as being worth six-pence per ton on the spot, very nearly the same result as to value will be arrived at.

Now, when it is borne in mind that a cord of wood will weigh nearly double as much as a ton of Peat fuel, that it will occupy at least one-third more space, and yet is often transported by water several hundred miles to the markets of Montreal, Québec, and even Toronto,

where at this moment it commands from six to seven dollars per cord, it is obvious that a ton of Peat fuel, which can be manufactured at a cost not exceeding the expense of chopping and sawing a cord of wood, may be transported to the same or any other markets with far greater profit to the producer; nor is it unreasonable to anticipate that Peat may yet come to be advantageously used by ocean steamers as a substitute for coal. Meanwhile, however, at a comparatively insignificant expenditure, two excellent harbours, capable of accommodating the largest class of sea-going ships and steamers, can be established upon the island—one at Ellis Bay, near the upper, the other at Fox Bay, near the lower end. While beside these there are several other places along the coast, affording shelter for schooners and vessels of light draught. The establishment of depôts of coal at the two harbours above named, close to which they *must* pass, both going and coming, and at either of which they could stop without going a mile out of their way, would be an advantage to ocean steamers, the importance of which it would be difficult to over-estimate, for it would be within bounds to assume that the quantity of coal required to carry a steamer to Anticosti would be at least two hundred tons *less* than to take her to Montreal, thereby leaving space for the stowage of two hundred tons more freight on each ship than she can now carry, and, considering the price paid for freight to Montreal, 3*l.* per ton, each vessel would thus be able to earn 600*l.* more on each outward trip than she can at present, which, at seven trips to Montreal each season, would still add upwards of 4000*l.* to the earnings of each ship within the year; and to a line such as that of the Montreal Ocean Steamship Company, with its nine or ten steamers, the advantages to be derived



from the establishment of safe stopping places at Anticosti would be something enormous. As to the supply of coal, it could either be taken from this country, or brought from New Brunswick within a single day's sail, if, indeed, upon an exploration of the interior, coal is not found to exist upon the island itself. Then as to the fisheries surrounding the island, and in its rivers, they are among the richest in the world.

Whales of every size abound on all sides, as much as eight tons of oil having been obtained from a single one of these monsters. Cod, too, of the best quality is so abundant that a single boat, with two fishermen, has been known to take no less than eighteen hundred of them in one day. While as to seals, they are so numerous that on one occasion an ordinary schooner, with the usual crew, which rarely exceeds eight in number, actually cleared 14,000 $\frac{1}{2}$  within one month by this fishery alone. Mackerel are found in such dense shoals close to the shores of Anticosti, that they may be caught in countless numbers. Herrings also are equally plentiful, and the same may be said of lobsters and other shell-fish; while salmon in the various rivers are so numerous that a resident of the island declares that, with the assistance of a couple of Indians, he has taken as many as one thousand two hundred salmon-trout and two hundred large salmon out of Observation River in a single day.

By the construction of a colonization road from Ellis Bay to Fox Bay, passing through the interior of the island (the distance from one point to the other being about one hundred and twenty miles), an immense tract of valuable agricultural land would, at once, be rendered easily accessible. Townships might be laid out on both sides of this road, and by the exercise of

ordinary judgment and capacity, a flourishing and important settlement might be established in the course of two or three years.

When we remember that the passage from Liverpool to Anticosti may be made in six or seven days, that thousands of emigrants sweep past its shores every year, for places either in the remote interior of Canada or the United States, in many instances fifteen hundred and even two thousand miles further from their native land, and with all the *most dangerous, expensive, and tedious* part of their pilgrimage *still before them, after they have passed Anticosti*, surely it is not unreasonable to assert that it would be no very difficult undertaking to redeem this most important and extensive island from its present condition of primitive wilderness into a populous, productive, and prosperous province. Indeed, it is nearly one-third larger than the neighbouring province of Prince Edward's Island, which has its governor (appointed by the Crown), its parliament, and all the machinery of a constitutional government, with a population of one hundred thousand inhabitants.

In the foregoing brief observations, the writer has endeavoured to condense such statements as he deems sufficient to show the great importance and value of the island; but for fuller, more detailed, and more interesting information he recommends a perusal of the subjoined extracts from a cleverly written and most interesting paper, by A. R. Roche, Esq., entitled, "Notes on the Resources and Capabilities of the Island of Anticosti," which will be found in the "Transactions of the Literary and Historical Society of Quebec," for 1853.

Mr. Roche, who is now in London, was at that time in the civil service of the Government of Canada.



Also extracts from the report of Mr. Richardson, of the Geological Survey of Canada, to Sir William Logan, in 1854.

The object of the undersigned is to induce the purchase of the island by capitalists in this country, with a view to its settlement and the development of its resources. He can give an absolute title, *in fee*, for the whole island, but would prefer to retain an interest equal to one-fourth (*undivided*), disposing of the other three-fourths to parties with whom he would be prepared to co-operate in the adoption and carrying out of such plans as might, after consultation and careful consideration, be deemed best calculated to secure the attainment of the objects aimed at.

ARTHUR RANKIN, Member for  
the County of Essex, in the Parliament of Canada.  
London, 18th of February, 1867.

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*Notes on the Resources and Capabilities of the Island of Anticosti.* By A. R. ROCHE, Esq.

[Read before the Literary and Historical Society of Quebec,  
4th October, 1853.]

“THE island of Anticosti lies W. N. W. by E. S. E., between the 49th and 50th parallels of North latitude and the 61st and 65th degrees of West longitude, about four hundred and twenty miles below Quebec, three parts of it being in the gulf, through which it stretches out towards the south-west coast of Newfoundland, and the remaining part in the river, the waters at the entrance of which it divides into two channels. It contains upwards of two millions of acres, being upwards of one-fourth larger than Prince Edward’s Island, which is a province of itself, with its Lieut.-Governor, its legislature, and a population of eighty thousand souls. It is about one hundred and forty miles long and thirty-five broad in its widest part, which is at the South-west Point, nearly in the centre, whence it gradually narrows

to both ends, the one terminating in Heath Point, with Fox Bay lying a few miles round the point upon its northern shore, and the other end terminating in West Point, with Ellis Bay a few miles short of it, looking towards the south. Thus there is a harbour upon each side and at each extremity of the island; but Ellis Bay is better situated for the general shipping of the St. Lawrence, has greater depth of water, and is much more spacious than the other, being about two miles wide and four deep, with good anchorage. The excellent position of the island in regard to ships, commerce, &c., becomes at once apparent when we consider that every vessel must take either of the channels formed by Anticosti upon entering or leaving the river, whether having passed from the Atlantic, or intending to pass to that ocean, through the straits of Belleisle, through the more frequented passage between Newfoundland and Cape Breton, or through the Gut of Canso, or whether running between Quebec and those portions of Canada and of the Lower Provinces lying upon the Gulf of St. Lawrence. In taking either of the channels formed by Anticosti, vessels pass close to the island, in consequence of the moderate breadth of the northern one, and of the strong south-east current which always runs along the southern channel, to avoid which, and the risk of being driven upon the truly dangerous coast of the south shore of the gulf and river, where, for several hundred miles, there is no harbour or place of shelter for any craft larger than a schooner, and where, for long distances, there is not one foot of beach outside the perpendicular cliffs to land upon, vessels generally stand out till they make the West Point of Anticosti, close to which is situated the convenient harbour of Ellis Bay, occupying a spot nearly mid-distance between the northern and southern banks of the St. Lawrence, and of easy access from both channels of the river. Considering that about two thousand vessels from Europe alone will have made this point in the course of the present season, some slight idea may be conceived of the capabilities of position attached to the island, and

in particular to Ellis Bay. The inner anchorage of this bay has a depth of from three to four fathoms at low water, with excellent holding ground (gravel and mud), is of as large capacity as the harbour of Montreal, and has been found, by experience, to afford perfect shelter, in all winds, to vessels of upwards of 1000 tons; while the outer portion of the anchorage could be materially improved at a trifling expense, so as to be able to contain in safety, during all winds, almost any number of vessels of the larger size. Docks, with a patent slip, &c., could also be easily constructed there, which would be admirably situated for the repair of vessels stranded or receiving other damage throughout the lower St. Lawrence, most of them becoming broken up by the action of the sea, and, in some cases, dismantled by wreckers, before they can obtain assistance from Quebec, or the intelligence of their condition can be conveyed there, which port, strange to say, is the only place from the Atlantic to Montreal (a distance of upwards of eight hundred miles) where vessels can be properly overhauled or be supplied with the commonest stores, such as anchors, chains, sails, &c. For steam-tugs, employed for the relief of vessels in distress, Ellis Bay might also be made an excellent station. With the facilities there for procuring shelter for our shipping in a portion of the St. Lawrence, where a spacious and deep harbour is more wanted than in any other part of the river or gulf, it is astonishing that no attention has yet been directed to that spot. This neglect, however, cannot long continue. It could be made not only a fine commercial harbour, but also an excellent naval station, in the most convenient and central spot for commanding, with a few steam-vessels or gunboats, the two entrances of the river, and for sending out cruisers up the latter, or to any part of the gulf. And it is not impossible that the want of such an armament in our waters may be felt before the termination of the present difficulties in Europe. For the good order of these engaged in our fisheries (whether foreigners or our own fishermen), which, under the reciprocity treaty, will be much re-

sorted to by the Americans, some of the most valuable of the fisheries being in the vicinity of Anticosti, the presence there of such a force would be very useful. Its influence as a check upon 'wreckers' (who swarm in the St. Lawrence more than is generally supposed) might also be enlarged upon. For these objects of commerce, of defence, and of police, the fine harbour of Gaspé Basin (situated twenty-five miles from the gulf) is too much out of the way, besides which a fair wind for taking a ship out of it, and of its outlet, Gaspé Bay, becomes a head wind as soon as it becomes necessary to tack to come up the St. Lawrence. For the same objects, the harbours of Mingan and Seven Islands, upon the north shore of the river, are as much out of the way, and are too long closed by the ice. As for the improvements of Ellis Bay, it appears that they need be very slight to make it one of the finest harbours in British America; merely the erection of piers upon the flat limestone reefs running out from Cape Henry and Cape Eagle, which form the entrance, these reefs being uncovered at low water, and already affording a considerable shelter to the outer anchorage of the bay. In magnitude and coast, these improvements could not be compared to what has been recently accomplished in the harbours of the Bahamas and Bermuda by labour and science combined. Besides the advantages which have been glanced at as belonging to Ellis Bay, some of the best soil, and some natural meadows, producing excellent grasses, six feet high, are found upon its shores, where the resident in charge of the provision post grows every description of vegetables. It is also stated that, within a few miles of the bay, wild hay could be cut sufficient to feed a thousand head of cattle during the winter. Nor is this spot barren in scenery; for, upon approaching it, a most pleasing view is obtained of the spacious bay, having in all parts a fine beach, which at each side is bounded by wooded cliffs, those on the east side showing table-land and other heights beyond, and at the head of the bay the beach gently rises and expands into a slightly rolling country, containing forest and meadow

land, the whole being relieved in the distance by two hills of moderate height, covered with trees. Near the centre of the bay, a few yards from the beach, stand the buildings, the garden, and fields of the resident, close to a picturesque trout-stream. When Anticosti shall be properly known and occupied, this spot will probably become the resort of many of those who now seek health or recreation at the less bracing and less interesting watering-places upon the main shores of the river; and of the salubrity of the climate there can be no doubt, for all who have resided there describe it as being the most healthy place in the world. The first seigneur (to whom it was granted in 1680 for services rendered to the Crown of France) used to reside every summer upon the island; and it is supposed that he was buried there. At this spot there are many substantial elements for the growing up of a large and flourishing town, some of which are alluded to in other parts of this communication.

“For large schooners there is excellent shelter at Fox Bay, at the north-east end of the island, and also at the South-west Point, where it is quite practicable to make a harbour of refuge for the largest ships, which would be of great use to homeward-bound vessels in the autumn, whenever south-east winds set in, to run into and anchor, instead of being driven back for several hundred miles, and having to encounter again, under the worst circumstances, the most dangerous part of the whole navigation between the Atlantic and Quebec. There are also several good roadsteads, such as Bear Bay, situated on the north side of the island, sheltered from most winds, with good holding-ground; and there is shelter for schooners at the entrances of many of the rivers, some of which are navigable for small boats, or canoes, a considerable distance. Observation River, lying five miles west of South-west Point, has sometimes six feet of water at the entrance; and there is hardly a mile of coast on any part of the island without its stream of fresh and delicious water, many of them proceeding from lakes, one of which, at the head

of Observation River, is supposed to be nearly twenty miles long and several broad. Some of the rivers have very high banks, with very beautiful falls, and excellent mill sites, and these falls have a good supply of water during the whole summer. The island on the south side generally rises from about twenty to sixty feet above the beach (but at the entrance of Observation River it is between 200 and 300 feet high), and is nearly level to the centre, where a range of moderate-sized hills appear to run its entire length, and upon the north side to terminate in steep cliffs. It is mostly covered with a thick forest of trees, stunted near the shore (like those upon a great part of the coasts of England and of other countries), but which become gradually larger as they approach the interior, and are less exposed to the influence of the wind and sea. This is very remarkable upon some of the bays, where, at the exposed points, they are very small, and gradually increase in size from each side to the centre, those nearest the sea being sometimes quite white in appearance, from the salt which is thrown, and crystallises upon them. The trees are spruce, fir, red and white birch, ash, quantities of very fine tamarack, and, upon the north side of the island, some good-sized pine. With the tamarack and pine growing there, and the immense quantities of valuable timber drifted upon the island from Quebec and other places after every easterly gale, many ships might be built every year. Like the valuable meadows for cattle and sheep, which have recently been discovered in Minnesota, in the 'Far West,' there are here many very fine natural meadows, producing rich grasses five and six feet high; and in some parts there are alternate ranges of wood and open plain. On the south side of the island there are several Peat bogs of some extent, and some salt marshes, caused by the overflowing of the sea at certain periods, which must tend to fertilise rather than to impoverish the land; and near the South-west Point there are some large salt ponds, which, were labour plentiful there, might be turned to account in the manufacture of salt—



a manufacture which would become of some value to a great part of our North American fisheries, which, as well as the whole of Canada, are now supplied with salt from England or the United States; and, for curing fish and provisions, bay salt, formed from the sea and from salt ponds, is the most valuable. In consequence of there not having been a sufficient supply of salt upon the island, an immense quantity of fish caught at Anticosti last year had to be thrown away; and, during the present season, the fishermen at Arichat, Cape Breton, were forced to sell mackerel at from sixpence to tenpence a hundred, or to see them rot upon the beach, through not having enough salt to cure them with. This latter circumstance occurred at a time when mackerel was selling at Boston for nineteen dollars a barrel. Some of the Bahama islands are retained merely on account of the salt ponds which they contain; and at Ceylon a large revenue is derived from the salt works carried on in that island. The importance of the trade in this useful article may also be understood from the fact that two-thirds of the vessels lately captured by England from Russia were laden with salt. For the manufacture of this article, and for other pursuits, almost any amount of cheap labour could be procured from Metis, and other populous places, situated upon the south shore of the St. Lawrence; but if industrial pursuits were opened out there, and land offered for sale, settlers would soon be attracted to the island. Several persons who have been engaged there for many years in fishing and hunting, or in charge of the lighthouses and provision posts, have already expressed to the writer their desire to purchase land upon it, and to combine agriculture with their present occupations; but, without any permanent interest in the soil, they have little inducement to use much exertion in clearing and cultivating it, or in attempting to improve the island in any way. It is from personal inquiry of many of these parties, as well as of others who have resided there for many years at former periods, and from an examination of every authority

relating to the island, that the writer is enabled to bring forward so many facts in support of the views which he has adopted in regard to its resources and capabilities.

“Rearing of cattle and sheep at Anticosti, for the supply of those engaged in the fisheries, of shipping, and of the dear markets of Quebec, would, no doubt, pay very handsomely. While the natural grasses are as rich as any upon this continent, it appears that cattle can be left out to graze there longer than they can be at Quebec—a circumstance which has just been communicated to the writer by the present lessee of the island, who has at this moment several head of fine cattle of the Ayrshire breed at the South-west Point: But if the natural grasses should not be found sufficient for numerous herds of cattle, the famous tussac grass of the Falkland Islands, which delights in a salt atmosphere, and which has been carried to the Orkney Islands and been found to flourish there, might be introduced. At the former it grows upon Peat similar to that which exists at Anticosti. The seed of this grass has already become an article of profitable export from the Falkland Islands; and the grass is found upon many parts of the coast of South America, where wild cattle abound. When we consider that remote and inclement Iceland raises her flocks and herds, her sheep numbering 500,000, her horses 60,000, and her horned cattle 40,000, and exports the finest fleeces, also dairy and other produce, we have every reason to hope that Anticosti, situated in the midst of the fisheries, which employ many thousand men, of a vast traffic, carried on by upwards of two thousand ships, and within easy approach of many valuable markets, may be made as profitable a grazing country as any portion of British North America.

“Resting upon a substratum of limestone, the soil of Anticosti should be a warm one, and if cleared to any extent, and thereby exposed to the sun, and drained where it may require drainage, it would no doubt become a productive one. For the purpose either of drainage or of irrigation, as the one or the other may be desirable, every facility is offered by the numerous



rivers and rapid streams existing in all parts of the island. The composition of the cliffs alone, some of which, according to Captain Bayfield, R.N., contain sand, clay, and limestone, indicates that there must be good soil of considerable extent in many parts of the island, which only requires clearing and cultivation to yield very fairly; for, with these substances, and the fine mould of the vegetable deposits, which have been accumulating in the woods for ages, what better farming lands could be desired? In Prince Edward's Island, where the soil requires to be enriched, immense quantities of limestone are imported for that purpose from Nova Scotia. Mr. M'Ewan, who resided upon Anticosti for fourteen months, in the employ of the Hudson's Bay Company (which company, however, as well as the late North West Company, had no right to hunt and fish there), mentions that the cliffs rest upon a foundation of limestone, that the second stratum is often composed of the cream-coloured clay, and sometimes of sand and gravel, and that the clay often reaches the top or surface, but at times is covered with a thickness of peat; the land in the latter case running into extensive plains. This peat, which produces excellent natural grasses, and also the finest vegetables, where they have been tried upon it, may be turned to many useful purposes. In Ireland a large 'Peat Company' is in active operation, having a factory at Kilberry, where they supply their furnaces entirely with peat or turf, and also manufacture from it the following articles: tar, oil, paraffin, naphtha, sulphate of ammonia, charcoal, and gas. A substance from which so many articles, possessing powerful heating properties, can be produced, it is to be hoped will some day be made to supply one great want of the present age—cheap and compact fuel for steam engines. Enough, however, has been shown to prove that, instead of its presence at certain spots at Anticosti being considered as any drawback, the peat, which is found there, may be regarded as a valuable resource of the island; for what is now being accom-

plished with it in Ireland may at some future period be attempted with it at the former.

“Of vegetables, Mr. Pope could have disposed of any quantity to ships bound to Quebec, which are often becalmed off South-west Point after a month or six weeks' voyage, with a prospect of being nearly another month in reaching their destination. The supplying ships under these circumstances, especially when conveying cabin passengers and emigrants, may become a very profitable occupation to the settler. Vegetables, meat, fish, soft-bread, &c., could be easily taken off to vessels in boats, as they are at Portsmouth, Yarmouth, and a number of other ports in England, under circumstances far less favourable, by bum-boats, the owners of which realise immense profits.

“While the accounts of all parties generally agree as to the timber and the nature of the soil, they represent the climate to be milder than that of Quebec. Mr. Wright, a surveyor, who wintered there in 1765, during what he then considered a very severe season, shows, by his observations taken there, that the thermometer only fell as low as 15 degrees below zero, and both Mr. Corbet and Mr. Pope informed the writer, that the winter before last there were only six weeks of sea-ice in the neighbourhood of the island. This mildness of climate, when compared to that of Quebec and of the opposite shores of the St. Lawrence, is easily accounted for by its insular position; the island being surrounded upon all sides by a wide expanse of salt water, the modifying effects of which upon climate in all parts of the world, even where the width of sea may be less than a mile, is well known to all who have ever considered the many influences which will bear upon climate, irrespective of latitude.

“It is now time to notice those resources belonging to Anticosti, which, being wholly independent of soil and climate, may be turned to immediate account. These resources principally consist of its sea and river fisheries, which, although comparatively neglected by

Canada, may be classed among the most valuable fisheries of British North America.

“In the recent report, published by the New Brunswick Government upon the fisheries of that province, mention is made of the valuable whale and cod fisheries existing upon the coasts of Anticosti; and it is stated that the Jersey houses fit out vessels to carry on the former upon both sides of the island, and up the St. Lawrence as far as Bic, some of the whales (‘hump backs’) being seventy feet long, and yielding eight tons of oil; while the fishermen of Gaspé frequently resort to the east end of the island, and take cod in great abundance. In his work entitled ‘Newfoundland in 1842,’ Sir Richard Bonnycastle states, that ‘the whale fishery is pursued along the coast of Labrador, in and through the Straits of Belleisle’ [close to Anticosti], ‘and that whales of all sizes are taken, from the smallest finner to the largest *mysticetus*, or great common oil whale of the Northern Ocean, which occasionally visits these regions.’ It thus appears by these authorities, that on every side of Anticosti valuable whales abound; the pursuit of which, and of seals and cod, it is not improbable, could be carried on in winter as well as in summer, were the attempt to be properly made; but, without a trial, the undertaking may ever remain unjustly condemned as impossible. Should such an attempt be successful, it would not be the first instance of that being accomplished upon trial, which theory, timidity, and prejudice had long declared to be impracticable. Here, again, the experience of our northern fishermen, and of the Esquimaux, who fearlessly encounter all difficulties and dangers of the ice and of the weather, and who fish in winter and summer, might be successfully brought to bear.

“Of cod, Mr. Corbet, in his statement made to the writer, remarks, that ‘one boat, with two good fishermen, could take off South-west Point, or at Fox Bay, eighteen hundred of these fish in one day;’ while Mr. Morrison states that cod, halibut, and a variety of other fish could be caught all round the island in incalculable

quantities, and that no finer cod is caught on any part of the coast of America, or on the banks of Newfoundland, than is to be met with there. To this may be added the testimony of Captain Fair, R.N., of H.M. ship *Champion*, who states that he met a few shallops from the Magdalen Islands, at the east end of Anticosti, where they found cod in great abundance and of excellent quality.

“Of hardly less value than the former is the seal fishery, which could certainly be carried on in winter as well as in summer, many seals being seen on the ice during the former season and in the spring, and thousands of them being observed during the summer and autumn, at the entrances of all the bays and rivers, where they remain almost entirely unmolested. To show the value of this fishery in the gulf, the New Brunswick official report, already cited, brings forward an instance of a schooner engaged in it from Sydney, Cape Breton, having cleared 14,000*l.* within three weeks of her having left that port. Yet at Anticosti, where seals abound more than in most parts of the gulf, this fishery is at present almost entirely neglected; the Americans and others, who resort to its neighbourhood, being principally engrossed with the still more profitable cod and mackerel fisheries. For the storing and preservation of seal, whale, and cod oil the temperate degree of heat at Anticosti during the summer is particularly favourable.

“At the present moment the mackerel fishery is the most lucrative one in the St. Lawrence, and is the most extensively pursued; mackerel now selling at Boston for nineteen dollars a barrel, and at Halifax and Quebec for a few dollars less than that sum. No part of the gulf abounds with this fish more than the neighbourhood of Anticosti. Many schooners visit the coasts of the latter from the United States, the Lower Provinces, and a few from Gaspé, to carry on this fishery, in which they are very successful; and Mr. Corbet states that the mackerel he has seen in July and August come in shoals so thick and so close to the shore that as many as

one hundred barrels could be taken in one haul of the net. A few hours' work will thus sometimes pay the whole expenses of a schooner during the season.

"Herrings, as fine as any in the world, are as plentiful about the island as mackerel; but, from the wretched manner in which they are cured, they obtain a much less price in the market, and are, therefore, comparatively neglected by the fishermen. To make this fishery as valuable as the former, a few of the Dutch North Sea fishermen should be engaged, who would introduce their mode of curing the fish, which has long obtained for 'Dutch herrings' the highest price in every market in Europe. By adopting that mode, the Scotch fishermen are beginning to compete successfully with the former.

"At the entrances of all the rivers and creeks immense quantities of lobsters are thrown up by the sea; the collection of which, and the preserving them on the spot for distant markets, or sending them fresh in vessels containing wells to our home markets, might render this fishery a very profitable one. Eels are also very numerous and very fine, and are often collected by parties of Indians, who come over for the purpose from Mingan, and who obtain a high price for them from the Americans. Some of the halibut which are found off the coast attain the weight of three or four hundred pounds.

"The caplin, which are now merely used as bait for cod, are so abundant around the island that they are sometimes thrown up by the sea and cover the shore to the depth of two feet. Were they properly cured and exported, they would find good markets in Europe, or oil of an excellent quality could be made from them by the simple process of boiling.

"The number of schooners which resort to the shores of Anticosti from the United States, the Lower Provinces, and the Magdalen Islands, in pursuit of the cod and mackerel is so great that there are sometimes as many as one hundred vessels fishing between the East Point and Fox Bay at one time, all of which are gene-

rally very successful. If these fisheries can be so profitable to expensively fitted out schooners (of from 40 to 150 tons), some of which come a distance of fifteen hundred miles, and have to bring every supply, including provisions and salt, with them, how much more profitable would they become to parties residing upon the island, who would have their supplies upon the spot, and who could carry on their operations in boats? How important also to the latter would become the trade which might be created with the former—the supplying them with provisions, often with fishing gear, and with every description of marine stores; and how soon would such a trade lead to more extensive transactions, in regard to the purchase of fish upon the spot, and the disposal of it in the best markets, and to a further trade in West India, South American, and Mediterranean produce, obtained in exchange for fish, and being in great demand in Canada? It might also lead to the gradual rise, at different points of the island, of good-sized villages, and ultimately of towns. Many large towns in various parts of the world, which are now places of great wealth, have risen from elements quite as slight as these.

“Shore-whaling has been very successful at New Zealand, and may be made so at Anticosti, around which whales are so numerous that they are sometimes found stranded upon the beach. While the men engaged in the pursuit would be able to devote the whole of their time, from the first opening to the latest period of the season, to the capture of the whale (towing each one ashore as soon as caught), their families could be employed in cutting up the blubber, extracting and storing the oil, preparing the whalebone, &c.; so that no useful portion of the animal would be lost, and the capture of the greatest number of whales would be ensured. The parties on shore could likewise be employed in making casks and other articles used in the ‘try-houses’ for boiling the blubber. Under the usual system many opportunities of a capture are lost, in proceeding to and returning from the fishery, and much time is wasted in



the extracting, stowing, and disposal of the oil, while much that would be valuable, were it preserved, is thrown overboard, and a good deal of oil is lost by leakage. In regard to the fisheries generally, the advantage of being able to cure the fish upon shore, in proper houses, instead of curing them carelessly on board, must be apparent to every one. What adds to the value of Anticosti as a fishing station are the numerous creeks and rivers, affording perfect shelter for boats and schooners, with a fine beach to land upon, which are found on both sides of the island.

“Of the river and lake fisheries of Anticosti Mr. Corbet, who leases them, as well as the right of hunting the whole island, but who keeps up a very small establishment, and consequently makes use of his privilege to a very slight extent says: ‘I have frequently, along with two Indians, taken in the month of July, in one day, twelve hundred salmon-trout, and upwards of two hundred salmon, out of Observation River, near the South-west Point, the majority of the salmon-trout weighing four pounds, and the salmon from twelve to fifteen pounds;’ and Mr. Morrison states, that the first day he went up Salmon River he caught, in a very short time, with a small net, from two hundred to three hundred fine salmon; and that, too, by confining his fishing to only two or three of the numerous holes to which salmon resort in that river. Even in winter Mr. Corbet has caught quantities of fine trout, by cutting a hole in the ice, and fishing with a hook. This gentleman owns a schooner, in which he sends the produce of the fisheries, and of the chase, obtained by him, to the Québec market, where it commands a high price. The master of this schooner is one of many parties who are desirous of purchasing land, and settling entirely upon the island, with which he has been connected for fifteen years.

“Though all the rivers of Anticosti abound with the finest salmon, few of them are fished to any extent, in consequence of there being but a small number of persons residing upon the island, and those who come



there not being prepared, and not having the right to fish in the rivers; which, with sufficient attention and judicious management, might be made almost as valuable as the best salmon rivers in Scotland, for each of which a rent is obtained of from five to fifteen thousand pounds sterling per annum.

“The porpoise fishery, which is successfully conducted at Tadousac, at the entrance of the Saguenay, each porpoise caught being worth 25*l.*, in the leather and oil which it is made to yield, might also be carried on at Anticosti at a considerable profit, the latter being as well situated for the purpose as the former.

“The hunting upon the island is of considerable value, though of far less importance than its fisheries. The animals consist of black bears, martens, otters, and the silver-grey, the red, the black, and sometimes the white fox; all of which are very numerous, and for the skins of which Mr. Corbet realises excellent prices in the Quebec market, those of the silver-grey and the black fox fetching from 15*l.* to 20*l.* each. But Quebec being principally a mart for other and dearer markets, much higher prices would be obtained for the Anticosti furs could they be sent to the latter markets direct; and this would be easily effected, were the settlements and establishments contemplated in this article made upon the island, which would create objects there of sufficient importance to attract vessels from various parts to its shores. The bears upon the island are quite harmless, and, living upon the rich berries and wild fruits, such as currants and gooseberries, which abound everywhere in the summer and autumn, are very good eating during those seasons. Deer were formerly met with, but have not been recently seen there. Fortunately, the island, like the country immediately north of Quebec (though they abound still further north), is entirely free from wolves. There are mice, but neither rats nor frogs; nor are there snakes or reptiles of any description.

“Great quantities of ducks, geese, partridges, and other fowl resort to the lakes upon the island, some of which are of a species peculiar to England; and a duck,

called the *muniack*, remains about the shore all the winter. It is probable that the eider-duck, which frequents the main shore further north, will be found there; in which case eider-down might be made a profitable export from the island.

“With so many other resources, it is of little consequence whether or not Anticosti shall be found to possess valuable minerals. There is no account of its ever having been visited by a geologist; but iron ore of great richness and quartz are frequently met with on the island, and recently some substances have been discovered resembling mineral paints. Plumbago may also exist there, as it has been found among limestone of a similar character to that of the island upon several parts of this continent; and Mr. M'Ewan mentions having found freestone there, some of it as fine as water of Ayr-stone, and some as coarse as grindstone. The fossiliferous limestone, which exists in great quantities upon the shores in thick horizontal strata, is of so fine a grain and colour, and so hard, that it is most deservedly classed under the head of marble. Were this marble quarried to any extent, large profits could be made by disposing of it to builders in the chief towns of the province, whose wealthy inhabitants are beginning to vie with each other in the beauty of their residences and the style of their living. To Quebec and Montreal it could easily be conveyed as ballast. Being very durable, as well as very beautiful, there is little doubt that, were it brought to those cities in any quantities, it would be selected for many public buildings. Both Lieutenant Baddeley, R.E., who touched at several parts of the island in 1831, and Sir Richard Bonnycastle, R.E., who landed at the entrance of Jupiter river in 1841, speak of the value of this marble. The former says, ‘its structure is crystalline, and its consequent lustre upon fracture is high; it is sufficiently hard to receive a good polish, and is sufficiently solid and massive to turn out some excellent ashlar, so that, whether it be desired for the construction of a house, or for its interior embellishment, it is equally applicable.’ Sir Richard Bonnycastle states, ‘the limestone cuts well,

and looks very beautiful, being, in fact, a sort of marble;' and adds, 'I procured some large and valuable encrinital remains, yellow blende, and some fine white marble, and have no doubt that a rich treat would be afforded to the collector who had leisure sufficient in this vicinage.' A specimen of a stone, suitable to the purposes of lithography, found upon the island some years ago, was placed in the museum of this society, and many specimens of iron ore, quartz, marble, and curious fossils have been obtained there upon various occasions. Anticosti having been evidently formed at the same period as the rest of North America, and not having been created by the alluvial deposits of the St. Lawrence, as, from its position, some might suppose, there is no reason, upon its being explored by a geologist, why some of those minerals and ores should not be found there, which are known to exist upon this continent. It is only very recently that coal, silver, and copper have been discovered upon the western coast of Newfoundland, among a limestone formation similar to that of Anticosti.

"But what the writer conceives to give more value to Anticosti than its capabilities of soil and climate, or its many other resources, whether belonging to the sea, to the rivers, or to the land, is its position at the entrance of the St. Lawrence, in the direct and only channel of an immense traffic, which, within a very short period, is certain to become vastly increased, not only by the throwing open to the Americans of the navigation of the St. Lawrence, under the reciprocity treaty, recently concluded, but also by the extension of the trade of the province to all parts of the world. Whether viewed with regard to this future trade, or to the existing maritime trade of the province, which is confined to England, the United States, the Lower Provinces, and the West Indies; to the establishment of an *entrepôt* in the direct channel of that trade, and of a coaling station for the three lines of steamships about to run between England and Quebec; or viewed as affording the most favourable points for establishing fishing stations, and of settlements and villages for supplying

the fishermen belonging to the island, as well as those who will be attracted to its coast fisheries from a distance, and who will be desirous to rent certain portions of the shore, for the purpose of drying their fish there; the position of Anticosti is a most admirable one, and if the island were composed of nothing but rock, without soil sufficient to produce a blade of grass, its position alone would render it capable of being made of more value than the most favoured island in point of soil and climate, not possessing the advantages of that position. In regard either to an entrepôt or a dépôt for coals, Ellis Bay offers a most convenient site for every vessel, whether taking the north or the south channel at the entrance of the river; and having a depth of 21 feet at low water in its most sheltered part (secure in all winds), and having no bar, the fine steamers employed in running between England and Quebec, which only draw from 13 to 17 feet water, could enter and lay there at all times. Dépôts for coals might also be established at the South-west Point, where there is a depth of 4 and 5 fathoms of water close to the shore; and at Bear Bay, on the north-east side of the island, which is an excellent roadstead, with good anchorage. The latter points are nearly five hundred miles nearer to England than Quebec is; which is about the distance steamers have to make when getting short of coals upon the voyage from Europe; and several instances have already occurred of their having to run a considerable distance out of their way to procure coals at a cost of two or three days' delay, when, could they have obtained them at Anticosti, they need not have lost more than a few hours. For these dépôts coals could be easily brought from Pictou and Cape Breton, or be purchased from ships carrying them from England as part of their cargoes to Quebec. Thus the furnishing coal for the steamers touching at Anticosti would, of itself, create a considerable traffic with the island. These steamers could also take some of the produce of the fisheries, &c., obtained there.

“By establishing an entrepôt on the island, for the purpose of carrying on some of the traffic between

Canada and Europe in the early spring, when for several weeks an intercourse between it and Quebec could be frequently kept up in small vessels, before ships from sea can traverse the same space, and later in the autumn after every ship from the latter has left for Europe, six weeks or two months would be virtually added to the period of open navigation at Quebec. While such an intercourse by colonial schooners or small steamers (for which there is shelter almost everywhere) could be maintained at those seasons, ships from sea could arrive earlier at and depart later from Anticosti than they can arrive at or depart from Quebec, and those ships that might choose to discharge and obtain their cargoes at other periods at Anticosti could easily make three voyages instead of two. By doing so, they would avoid the worst part of the present voyage (from Cape Rosier to Quebec); would secure six weeks or two months more of open navigation, and, in the three voyages, would save two thousand five hundred miles. Vessels also, which, coming out late in the autumn, are sometimes obliged, after reaching the gulf, to run back to ports in the Lower Provinces, and winter there, having to continue their voyage on to Quebec in the spring, would avoid the loss of about six months, by being able to unload and obtain a cargo at Anticosti. Although the Baltic can be navigated by the largest ships, yet the trade of that sea is generally carried on by small vessels, in consequence of the dangers which exist there to the former; and, so in the gulf and river St. Lawrence, there are an immense number of small craft employed in all parts, and at the earliest and latest periods, among which we seldom hear of a wreck occurring, while, year after year, numerous Quebec traders (of from 500 to 2000 tons burthen) are cast ashore in the river this side of Anticosti, before reaching it, or after having passed it in safety, and an immense amount of property is destroyed. The comparative immunity from disaster of the former is to be attributed to the intimate knowledge of the navigation of the gulf and river possessed by masters of colonial vessels, constantly employed in the same waters, in addition to their vessels being adapted for

taking shelter in the numerous rivers and creeks, which exist along the coasts both of the river and gulf, where, for long distances, large vessels can obtain no safe anchorage. Only last summer a Liverpool vessel for Quebec was driven from her anchors at Bic, which is considered to be about the best anchorage in the river, and was stranded upon Rimouski. It cannot, therefore, but be allowed that it might be advantageous to employ, to some extent, small colonial craft within the river for such commodities as they could conveniently carry. Among the exports from the Province, they could easily take deals and boards, staves, pot and pearl ashes, flour and grain of all descriptions, pork, fish, and furs, &c., and, with the exception of machinery and railroad iron, all articles of import landed at Anticosti could be as easily brought by them to Quebec. This would partly upset the present system, and perhaps be unpopular with the merchants of Quebec; but many ship-owners and ship-masters, with several of whom the writer has conversed upon the subject, would be highly in favour of it, and would never send a ship to Quebec whenever she could obtain a cargo at Anticosti. And if underwriters and shippers, here and in England, could be shown that goods conveyed in this manner would not be liable to one-tenth the risks to which they are now exposed, that not one-tenth of the present number of wrecks would occur, and that, at a moderate cost, harbours fit for the largest trade could be made at Ellis Bay and the Southwest Point, they also would gladly lend their aid to carry out such an arrangement. As for the proprietors of the island, they, no doubt, would most readily give their assistance to that which would make their property worth in the market twenty times its present value there. Thus, by combining the interests and the means of many (who as yet have no knowledge that their interests may be made identical) towards establishing such a system of commercial intercourse as that which has been pointed out, the undertaking might be accomplished, notwithstanding any difficulties which other parties might oppose to it. It would not depend upon whether the latter would favour it or not, but whether



those, having an interest in carrying it out, could, by organisation, by economy of management, and by steadiness of purpose, place and maintain a sufficient quantity of well-selected articles upon the island, and be able to dispose of them at about the same rate as that at which they would be sold in the markets to which they might properly belong. For the intercolonial trade of the St. Lawrence the island might be made a convenient centre, from whence the whole of it could be easily carried on.

“ Besides the main trade of the province, conducted from Quebec, the trade of the flourishing settlements up the Saguenay towards Lake St. John, which are rapidly extending, may be made to contribute to the importance of Anticosti; the whole of those settlements being then supplied by the latter, as well as many of the extensive and populous settlements along the main shores of the lower St. Lawrence. At a future period a further trade by the Saguenay may be looked for, coming across from the St. Maurice, from the Upper Ottawa and from Lake Huron, through a magnificent country, which will rapidly become occupied, whose commerce will seek the nearest outlet to Europe; and, whenever a railroad shall be constructed, to connect the Saguenay with Lake Huron, much of the trade of the ‘Far West’ will come the same route. Ultimately such a road will become a branch of the great railway, which is at no distant period to cross this continent to the Pacific. Instead of assisting to divert the trade of Canada to channels passing through the United States, by which we lose the value of one-half the traffic before it reaches the ocean, and our ships lose the whole of the freight to Europe, it would be much more beneficial to the province if our leading merchants would encourage the use of routes passing through our own territory to the Atlantic.

“ Anticosti may also grow into importance as an emporium for a portion of that commerce which Canada is now in a position to open out with all parts of the world; for, to large vessels coming long voyages from the East Indies, China, &c., it would be of some consequence to avoid the delay, and the dangers, of coming



up the St. Lawrence. The island may then almost become such a mart as the ancient Taprobana (the Ceylon of the present day) was in regard to the trade between China, India, the Persian Gulf, Arabia, and Africa when 'she received and dismissed the fleets of the East and of the West;' her position alone enabling her to extract more wealth from that trade than was derived from it by the countries to which it properly belonged.

"Since the foregoing was written, the writer has visited the island which he has endeavoured to represent as it appeared to him, after an examination and a comparison of every authority bearing upon it, and an inquiry into its present condition, of nearly every person now residing or who has lately resided there. He will now, therefore, add the result of his own observations, made upon the spot.

"Having taken passage at Quebec about the middle of July in the steamer *Wilmington*, which was sent to Anticosti with the object of assisting a ship, wrecked last November about twelve miles from Ellis Bay (which had remained there ever since, almost uninjured by the ice or storms of an unusually severe winter), he visited that bay as well as the South-west Point three times, and was upon the south side of the island for about three weeks. He also twice visited Gaspé Basin. At Ellis Bay the steamer ran in for shelter upon each occasion, and upon the last remained there for three days. She anchored about two miles up the harbour in  $3\frac{1}{2}$  fathoms at low water, about a mile distant from the shore upon either side, and a mile and a half from the head of the bay, which appeared to be, from point to point (Cape Henry to Cape Eagle), from eight to nine miles round. Upon looking out from this position towards the sea, every appearance of the most complete security was presented, the limestone reefs from the two points stretching out south-east and south-west towards each other, the one a mile, the other three-quarters of a mile in length, and forming complete breakwaters, quite uncovered at low water, and which, being covered to only a very slight depth at any time, stop the force of the sea even at high water, as was indicated by the surf

which they then caused, as the waves broke upon them, and which clearly directs ships to the channel between them, of six hundred fathoms wide. This channel, too, is much protected by the water shoaling immediately outside to six fathoms, which, although deep enough to admit the largest vessels, tends to break the force of the sea. This was experienced upon one occasion, when, in a heavy southerly gale, the steamer ran in from a tremendous sea outside, in which she pitched nearly bowsprit under, and anchored in water almost as smooth as a mill-pond. To all on board the almost sudden cessation of violent motion appeared as extraordinary as it proved agreeable. The same afternoon a large American schooner ran into the bay for shelter, and anchored nearly a mile outside the *Wilmington*, in perfect safety, where she remained till the gale abated the following morning. During the several periods the steamer lay in this harbour, heavy winds were experienced from every quarter, yet she rode through all as calmly as if she had been moored in front of Quebec, and, in the spot where she was anchored, nothing less than such a hurricane as would cast vessels adrift and sink them either in the harbour of Quebec or in the Liverpool docks could affect a vessel there. Mr. Gamache, who has resided for twenty-five years at the provision post at this bay, informed the writer that the harbour was perfectly secure in all winds, and at all periods, that, besides other vessels, the *Sir Richard Jackson*, of about 600 tons burthen, had twice lain there for several months each time, and that her captain had said it was as safe a harbour as any he had ever entered. Mr. Gamache has himself built two vessels there of considerable size. A gentleman on board the *Wilmington*, a member of Lloyds, who had come out from England, and had chartered the steamer to proceed to the wreck at the island, and who had been three times round the world as captain of an East India Company's ship, declared that he considered the harbour 'a most excellent one;' so much so, that he should on his return to England make it specially known at Lloyds. But, as some persons, who have never been in Ellis Bay, or have not been

there when there were heavy seas outside, imagine that it must be exposed to southerly winds, the following extract is given from the log of the *Wilmington*, which should convince them of their conclusion in this respect being an erroneous one: 'Monday, 2nd August, 1854. It looking very wild and bleak to south-west, with heavy rain and quick flashing lightning and thunder, proceeded direct to Ellis Bay. It then blowing strong from south-south-east with rain and sea rolling in with a thick fog, kept the lead going, and went along the coast in sight of breakers, seeing them when we could not see the land. Made out Cape Eagle by 9 A.M., rounded its armed (protecting) reef, sounded up the bay, and came to with both anchors by 9.40 A.M.—3 P.M., wind south, blowing strong and about right up the bay. We ride smoothly and safe. Coming in between the reefs there is a swell, which might make a stranger fear the safety of his ship, but as you run up the bay, it becomes less, and at anchorage smooth riding and good holding ground.' This, and the fact of a sailing vessel having run in for shelter the same afternoon, when the wind had increased in violence, not only show the safety of the harbour during the worst winds (and as the steamer made for it upon this occasion, Captain Rudolph and his officers exclaimed that its security would be well tested in such weather), but they also prove how easy it is of access under the worst circumstances; a strong southerly wind blowing directly in, a heavy sea outside, and a thick fog. Though the latter apparently continued out at sea, when once in the bay there was only a slight haze perceived. The thickest fog, however, encountered during the cruize was in coming up the river, from Metis to Green Island. At Anticosti, although there were occasional fogs, it was often clear enough to see across to the south shore, a distance of forty miles. Much might be added here in favour of Ellis Bay as a harbour, but the fact of such vessels as the *Sir Richard Jackson* having been repeatedly there in all weathers, without any of them having been cast ashore, or having dragged their anchors; should be sufficient. No instance has ever oc-

curred of a craft of any description having dragged her anchors, or been injured there in any way; and Captain Rudolph stated that the *Wilmington* would have ridden just as safely with a single anchor as with two. As the underwriter on board, belonging to Lloyds, remarked, there are many places in England, and other countries, carrying on a large maritime commerce, which have not so spacious, so deep, or so safe a harbour as Ellis Bay.

“The appearance of the shores of this bay has been already pretty accurately described. They are generally thickly wooded with spruce trees, of a better growth than those near the sea upon other parts of the island, and on the higher ground in the distance a good many hard wood trees were seen of a still larger size. A conspicuous and picturesque clump of birch trees stood out from the spruce close to the shore, one of which the writer measured at five feet from the ground, where he found it to be five feet in circumference, its height appearing to the eye to be almost sixty feet. The five substantial buildings of the resident are very prettily placed near one of the three or four fine trout streams which flow into the bay, where he has several acres cleared and divided by excellent fences, and where he had growing, and looking remarkably healthy, every description of vegetables and some fine timothy grass. The potatoes there were looking more advanced than they were at Quebec when the steamer left the latter place a few days previously. The soil, though not very deep, appeared to be very good, consisting of a dark loam, with sand and gravel below; and there is little doubt that it could easily be made to produce some of the hardier grains, to ripen which, or even wheat, there must be quite sufficient heat, the thermometer upon one or two occasions during the *Wilmington's* stay there being as high as  $81^{\circ}$  in the shade and  $105^{\circ}$  in the sun, and at no time going lower than between  $50^{\circ}$  and  $60^{\circ}$  during the three weeks the steamer continued in the neighbourhood of the island. Round the bay many beautiful wild flowers were seen, also the sarsaparilla plant and the sweet pea; and on the beach the writer picked up a piece of sponge which had been detached from the bottom by the action

of the sea. The salmon-trout in the river, near the resident's house, were so numerous that they might almost have been caught by the hand as they moved in shoals from one part to another upon being disturbed by the sailors, who attempted to take them with buckets. Quantities were obtained and found to be delicious eating. A number of very fine salmon were also purchased of the resident, whose assistant happened to enter the bay with fifty he had just caught in the Becscie River in the course of about an hour; and several large lobsters were taken in the bay and sent on board. But what appeared of extraordinary interest to those in the steamer was the sight every day, when the tide was out, of some three or four hundred seals sleeping or playing round the bay, generally entirely out of but near the water, and some of them occasionally swimming close to the vessel, whose round heads looked very much like those of a human being. One of them, the resident mentioned, he had killed, a short time previously, upon the step of his door. The bay must therefore be a favourite resort of theirs. A great many whales, at least fifty, were also seen between the island and Gaspé, and several between the former and Bic, each of which must have been worth from 200*l.* to 400*l.*; yet only one vessel was met with, or heard of, in pursuit of them—a large schooner from Gaspé. Both the whale and seal fisheries could be carried on much more conveniently from Ellis Bay than from the former, or from any other place within the gulf. With this sheltered spot everybody on board the steamer was much pleased, from the excellency of its harbour, the inviting appearance of the country around it, and the objects of interest which were met there; and even the sailors expressed a desire to take up their abode upon its shores. One sailor, who had belonged to a vessel wrecked upon the island last November, and who had wintered there, became so charmed with the place that he had already become a permanent resident, employing himself in fishing and hunting; and the captain and the whole crew of a ship that went ashore in a fog about eight miles from Ellis Bay, when the steamer was in the harbour, informed the

writer that if they could obtain land there they would send to Hull, whence they had sailed, for their families, and settle on the island in a body.

“At the South-west Point, where the steamer could have run close up to the shore, and been moored to the flat limestone rocks, which form complete natural wharves, the five or six buildings, including a very large stage and store-house for fish, were so disposed near the magnificent lighthouse, which towers above all, as to present quite the appearance of a village. Upon landing, this appearance was rather heightened than diminished, as a number of fine fields, neatly divided by straight fences, in which were growing very luxuriantly many vegetables and grasses, came in view, and a horse and four fine cows, all in excellent condition, were seen feeding upon a common close by. Added to these indications of civilised life were a number of fowls in all directions among the houses, and several fat pigs venturing further back to rob the bears of the rich berries and wild fruits which abounded there. Near to the landing-place two persons were employed in cutting up a huge shark, which had just been caught, having, no doubt, been enticed out of his usual latitude by the shoals of fish which proceed from the Atlantic towards the island. The same day immense quantities of mackerel were seen close under the point upon which the lighthouse stands.

“The captain of the *Wilmington*, who has a good knowledge of the construction of harbours of refuge, and who proved himself to be a thorough seaman upon several trying occasions, declared that, at an expense of 2000*l.*, he could build a breakwater upon the reefs running out from the point, which would render the bay a secure shelter in all winds for the largest vessels. A harbour could also, probably, be made at Salt Lake Bay, about eight miles further to the east.

“A specimen of the marble brought from the island obtained the first prize at the recent Provincial Exhibition held at Quebec.

“With regard to the capabilities of the island, there might be a colonization company, a fishing company,



and a commercial company; the first purchasing the whole island, and selling or leasing to the others those portions of the coast at which the operations of the latter could be most conveniently carried on."

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*Extract from the Report of MR. JAMES RICHARDSON.*

CHARACTER OF THE COUNTRY AND COAST.

"THE south side of the island, in its general aspect, is low; the most elevated points close on this coast are at the mouth of Jupiter River, where cliffs rise on the east side to the height of from eighty to a hundred feet; and on the west side to a hundred and fifty feet. On no other part of the south coast were they observed to rise more than from thirty to sixty feet, but the general height above the sea is from ten to twenty feet.

"From South-west Point to the west end, the hills inland are more elevated than they are to the eastward; in general they rise gradually and more continuously from the shore, attaining the height of from a hundred and fifty to two hundred and fifty feet, at about the distance of from one to three miles. From this, however, are to be excepted certain localities on the coast, where plains are met with having a superficial area of from a hundred to a thousand acres underlaid by Peat, partly bare of vegetation, but over considerable spaces, supporting a heavy growth of wild grass from four to five feet high.

"From a position a few miles east of South-west Point to Wreck Bay, which is at the east end of the island, between Heath Point and East Point, the elevation of the coast above high water is from seven to fifteen feet, with the exception of the neighbourhood of South Point and Cormorant Point, which rise to the height of from twenty to thirty feet on the shore; but very little rise takes place inland for from one to three miles, and this flat surface is bounded to the north by a gradual slope, rising to the height of from one hundred to two hundred feet, probably becoming more elevated still



further inland. The low country is a succession of Peat plains, occasionally bare, but often covered with wild grass, the whole being varied with strips and clumps of trees, as well as dotted with small lakes, on which ducks, geese, and other wild fowl breed in considerable numbers.

“The whole of the north side of the island is a succession of ridge-like elevations of from 200 to 500 feet above the sea, separated by depressions. From English Head, three miles east from the west end to West Cliff, a distance of fifty-eight miles in a straight line, each successive ridge and valley occupies a breadth of from four to six miles; the ridges form a somewhat rounded end, facing the sea on the north; their rise is first well marked at from a quarter of a mile to a mile from the shore, and in about a mile more inland they attain their greatest elevation; continuing this elevation to the south and widening, they narrow the intermediate valley, until, as far as known, the country becomes in appearance of a gently undulating character. The run of the valleys with some exceptions is from S.  $10^{\circ}$  W. to S.  $30^{\circ}$  W.

“Macastey Ridge or Mountain, eleven miles east from the west end, rises upwards of four hundred feet at about a mile inland. High Cliff, eighteen miles further east, is probably 500 feet, one quarter of a mile from the shore; these are in some respects the most conspicuous ridges. High Cliff is a bold headland, while Macastey Mountain is separated by a broader valley than usual from its neighbour to the east, and is higher than any other to the west. Macastey Mountain is a conspicuous object when viewed even from the south side of the island, in the neighbourhood of Ellis or Gamache Bay; sailing up this natural harbour, it is observed in front a little to the right about five or six miles distant.

“The succession of ridge and valley, from English Head all the way to West Cliff, is regular and characteristic, and produces a pleasing and beautiful effect. From West Cliff to Observation Bay, a distance of about twenty miles, there is a similar succession, but on

this part the ridges rise to their full elevation nearer to the shore. West Cliff rises immediately over the sea to an elevation of between 200 and 400 feet. Charleton Point has an elevation of 100 feet over the sea, and a quarter of a mile inland rises to between 300 and 400 feet; from Charleton Point to Observation Bay the coast is somewhat lower, Observation Bay forming an indentation on the coast of a mile and a quarter deep, and five miles across; from the head of this bay a well marked valley bears S. 10° W.

“ From Observation Bay to Gull Cape, a distance of fifty-three miles, the cliffs become more prominent on the coast, rising almost perpendicularly at the points to the height of from 100 to 300 feet; and the indentations are more numerous, producing more sharply defined valleys.

“ Between Bear Head and Cape Robert, a distance of five miles and a half, the greatest indentation from a straight line is about a mile and a half; but this is subdivided into Easton Bay, Tower Bay, and White Bay, the last being the largest.

“ Salmon River Bay, east from Cape Henry, is five miles wide, and its greatest depth is one mile. Salmon River runs through a well-marked valley, of which the general bearing up stream is S. 65° W. for nearly six miles, where a transverse valley, in the bearing N. 77° W. and S. 77° E. (about parallel with the coast), meets it, and gives it two streams running from opposite directions. From the middle of the valley the land gradually rises on each side to the height of from 400 to 450 feet, and the bed of the valley must rise pretty fast; for though the current of the stream is without leaps, it is rather rapid.

“ Prinsta Bay, further east, is an indentation of about one mile in depth, with a width of a mile and a half; perpendicular cliffs surround this bay to the height of from 100 to 150 feet, except at the very head, where two creeks cut through the rock. On the west side of Prinsta Bay is Cape James, 150 feet in height; and on the east is Table Head. Table Head has a face of from 150 to 160 feet perpendicular, and gains almost at once

an additional height, from the summit of which there is a gradual descent on the opposite side, the surface forming on that side a rough outline to the valley through which Fox River passes to Fox Bay, which affords the second important harbour on the island. The upward course of the valley of the Fox River is N. 72° W.

“From Fox Point on the west side of the bay to Gull Cape, upwards of a mile on the east side, there is a distance of six miles in which the coast is low, Fox Point, the highest part of this, not being more than from thirty to forty feet above the sea.

“From Gull Cape to Wreck Bay, a distance of eleven miles, the cliffs are in general perpendicular, and from 100 to 130 feet high, gaining but little elevation inland, probably not over 100 feet, while the surface back from them gives, as far as observed, a slightly rolling country.

“Excepting the valley of Jupiter River, there are no well-defined valleys on the south side of the island.

“In respect of the soil of the island, the plains on the south side, as has been stated, are composed of Peat, but the general vegetation of the country is supported by a drift composed for the most part of a calcareous clay and a light grey or brown-coloured sand. The elements of the soil would lead to the conclusion of its being a good one.

“Pine was observed in the valley of the Salmon River, about four miles inland, where ten or twelve trees that were measured gave from twelve to twenty inches in diameter at the base, with heights varying from sixty to eighty feet. White and yellow birch are common in sizes from a few inches to two feet in diameter at the base, and from twenty to fifty feet high. Balsam-fir was seen, but it was small and not abundant. Tamarack was observed, but it was likewise small and scarce. One of our men, however, who is a hunter on the island, informed me he had seen groves of this timber north from Ellis or Gamache Bay, of which some of the trees were three feet in diameter, and over a hundred feet in height. Poplar was met with in

groves, close to the beach, on the north side of the island.

“Of fruit-bearing trees and shrubs, the mountain-ash, or rowan, was the largest; it was most abundant in the interior, but appeared to be of the largest size close on the beach, especially on the north side, where it attains the height of forty feet, with long extending and somewhat slender branches, covered with clusters of fruit. The high cranberry (*Viburnum opulus*) produces a large and juicy fruit, and is abundant. A species of goose-berry-bush of from two to three feet high is met with in the woods, but appears to thrive best close to the shingle, on the beach, where strips of two or three yards across and half a mile long were occasionally covered with it; the fruit is very good, and resembles in taste the garden berry; it is smooth and black coloured, and about the size of a common marble; the shrub appeared to be very prolific. Red and black currants are likewise abundant; there appear to be two kinds of each, in one of which the berry is smooth, resembling both in taste and appearance that of the garden, the other rough and prickly, with a bitter taste.

“Strawberries are found near the beach; in size and flavour they are but little inferior to the garden fruit; they are most abundant among the grass in the openings, and their season is from the middle of July to the end of August. Five or six other kinds of fruit-bearing plants were observed, some of which might be found of value. The low cranberry was seen in one or two places in some abundance, but I was informed that it was less abundant than in many other past seasons. The raspberry was rarely met with.

“The most surprising part of the natural vegetation was a species of pea which was found on the beach, and in open spaces in the woods; on the beach the plant, like the ordinary cultivated field-pea, often covered spaces from a quarter of an acre to an acre in extent; the stem and the leaf were large, and the pea sufficiently so to be gathered for use; the straw when required is cut and cured for feed for cattle and horses during the winter.

“ But little is yet known of the agricultural capabilities of the island ; the only attempts at cultivation that have been made are at Gamache Bay, South-west Point, and Heath Point. South-west Point and Heath Point are two of the most exposed places in the island ; and Gamache Bay, though a sheltered position, has a peat soil ; the whole three are thus unfavourable.

“ On the 22nd of July potatoes were well advanced and in healthy condition at Gamache Bay ; but a field under hay, consisting of timothy, clover, and natural grass, did not show a heavy crop. At South-west Point, Mr. Pope had about three acres of potatoes planted in rows three feet apart ; he informed me he expected a yield of 600 bushels, and at the time of my arrival on the 5th of August the plants were in full blossom, and covered the ground thoroughly ; judging from the appearance, they seemed the finest patch of potatoes I had ever seen. About half an acre of barley was at the time commencing to ripen ; it stood about four feet high, with strong stalk and well-filled ear. I observed oats in an adjoining patch ; these had been late sown, being intended for winter feed for cattle ; their appearance indicated a large yield.

“ I observed frost only once ; it was on the 18th of September, but not sufficiently severe to do injury to growing crops ; and I was informed by Mr. Julyan that the lowest temperature of the previous winter was only SEVEN DEGREES OF FAHRENHEIT below zero. On the coast, as might be expected, the atmosphere is damper, and the temperature from ten to fifteen degrees below that of the interior during June, July, August, and September, and probably May and October.

#### HARBOURS.

“ Gamache or Ellis Bay and Fox Bay are the only two harbours on the island that are comparatively safe in all winds ; the former is eight and a half miles from West-end Lighthouse, on the south side ; the latter is fifteen miles from Heath Point Lighthouse, on the north side. From Cape Eagle to Cape Henry, across the mouth of Gamache Bay, the distance is two miles,

with a breadth of deep water of three-quarters of a mile, extending up the bay a mile and a half, while the depth of the indentation is two miles and a half. Fox Bay is smaller, and has less depth of water than Gamache Bay. The distance across its mouth is a mile and a half, with half a mile of deep water in the centre, extending up the bay nine-tenths of a mile; the whole depth of the indentation being one mile and two-tenths. These two harbours occur in the same geological formation, while the rock presents a very regular and comparatively level surface, over which a road could be easily constructed from one harbour to the other, the distance being 120 miles; by such means the whole island would be brought to within a moderate distance of a road having a natural harbour at each end.

#### RIVERS AND LAKES.

“The streams that are met with along the coast are, considering the breadth of the island, very numerous. There is scarcely a mile that is not supplied with its clear stream of water, and every six or nine miles show one of a size sufficiently large, and with a flow sufficiently constant, to keep machinery going. Waterfalls near the coast often present excellent sites for the purpose. The water of these streams is always more or less calcareous. On the south side the largest rivers are the Becscie, the Otter, the Jupiter (which is the largest on the island), the Pavillon, and Chaloupe; on the north, the Fox and Salmon Rivers are the largest.

“On the south shore numerous ponds and small lakes were seen just inside the shingle beach; towards the east end of the island they occur in the low swampy flat that there runs along the shore. None were met with farther back, and none were observed on the north side of the island except a few small ponds close to the beach.

“Great Salt Lake, Little Salt Lake, Chaloupe Lake, and Lake Lacroix, on the south side, and Fox Lake on the north side are in reality lagoons of salt water, the tide flowing in and out and mingling with the fresh water of the rivers.



"Most of the streams and lakes swarm with the finest brook trout and salmon trout, and large shoals of mackerel were almost daily observed all around the island. But in my tour I saw no appearance of schooners employed in fishing, with the exception of one at South Point. The only operations I heard of connected with the trade were carried on at the mouth of a few of the larger streams on the south side and at that of Salmon River on the north by men under Mr. Corbet, the lessee of the island, and they were entirely confined to the taking of salmon and salmon trout. Seals were extremely abundant, and but for a few Indians who came over from Mingan in July and August, and take a few of them on the north side of the island, they would be wholly undisturbed. In the bays and more sheltered places round the island these creatures are met with by thousands. It was not uncommon to stumble across one asleep on the beach, when generally it was despatched with a blow or two of our hammers.

"Several species of whale were observed to be abundant towards the west end of the island. This must be a favourite resort, as they were either seen or heard at irregular intervals day and night. One of them about sixty feet in length, and about fifteen feet above the water's edge, was found grounded on the reef in Prinista Bay when we passed on the 3rd of September.

#### WILD ANIMALS.

"The wild animals met with on the island, as far as I am aware, are the common black bear, the red, the black, and the silver fox, and the marten. Bears are said to be very numerous, and hunters talk of their being met with by dozens at a time; but on my excursion I only observed one at Ellis Bay, two near Cormorant Point, and one in the neighbourhood of Observation Cape. I came upon the last one on a narrow strip of beach at the foot of a high and nearly vertical cliff. Seen from a distance I took the animal for a burnt log, and it was only when within fifty yards of him that I perceived my mistake. He appeared to be too busily engaged in



making his morning meal, on the remains of a seal, to pay any attention to me; for although, with a view of giving him notice to quit, I struck my hammer upon a boulder that was near, and made other noises which I conceived might alarm him, he never raised his head to show that he was aware of my presence, but fed on until he had finished the carcase, obliging me, having no rifle, to remain a looker-on for half an hour. When nothing of the seal remained but the bones, the bear climbed in a leisurely way up the face of the naked cliff, which could not be many degrees out of the perpendicular, throwing down as he passed considerable blocks of rock, and disappeared over the summit, which was not less than a hundred feet above the sea.

“Foxes and martens are very abundant; the marten was frequently heard during the night in the neighbourhood of our camp, and foxes were seen on several occasions. Of the silver-grey fox, the skin of which frequently sells for from twenty-five to thirty pounds currency, from four to twelve have been obtained by the hunters every winter. Mr. Corbet, the lessee of the island, employs several men during that season to hunt these animals for their fur, and I understand he makes some profit by the trade.

“I heard of no animals of any other description, with the exception of wild fowl, and I saw no frogs nor reptiles of any description, and I was informed by the hunters that there were none.

#### ECONOMIC MATERIALS.

“*Building Stones.*—In the immediate neighbourhood of South-west Point, coarse granular limestone for building purposes is displayed in abundance among the strata belonging to Division F. It occurs in beds of from six to eighteen inches in thickness, is easily dressed, and yields good blocks of a yellowish-white colour. The lighthouse at the point is built of it, and so is that at Heath Point, both of which, notwithstanding the coarse and rather open texture of the stone, have stood for upwards of seventeen years, I believe, without showing signs of decay.

"The sandstone of Cape James and Table Head would afford a fine material for building purposes; it has a good warm colour, being a greenish grey, approaching to drab, rather lighter than the sandstone of Craig Leith Quarry, near Edinburgh; it has a free grain, and would therefore dress easily, while the angular fragments on the beach show that it would retain its sharp edges. Blocks of every required size might be obtained with thicknesses up to five and a half feet. One solid mass of it, which had fallen from Cape James, lay on the beach, measuring forty by sixty feet, with a thickness of five feet, and must have contained upwards of 12,000 cubic feet of good workable stone. In the two cliffs which have been mentioned, the bed occupies seven miles of the coast, and its proximity to the sea offers a very easy means of transport to the towns and cities of the St. Lawrence.

"*Grindstones.*—The same sandstone would very probably yield very good grindstones; although slightly calcareous, it is even grained, and there is a sufficient amount of clear sharp grit in it to render it available, while there would be no difficulty in getting any sizes of grindstones that might be required.

"*Brick Clay.*—Clay fit for common red brick exists in some abundance; it was observed of a bluish-grey colour, and about ten feet in thickness, half a mile up the Otter River, on the south side; and I was informed of its existence up the Becscie River. About five miles of coast in the vicinity of St. Mary's River consists of clay cliffs of from sixty to seventy feet in height, and no doubt much of it might be made available for bricks; some of it, however, is of a calcareous character, and contains many pebbles of limestone, fitting it probably for agricultural rather than manufacturing purposes.

"*Freshwater Shell-marl.*—This material appears to exist in considerable abundance on the island; the bottoms of all the ponds or small lakes that were examined, with the exception of such as were surrounded by Peat, were more or less covered with it. Marl Lake is one of these; it has a superficies of about ninety acres, and although the depth of the deposit was not carefully

sounded, its thickness appeared to be considerable. The brook which empties the lake into Indian Cove, at the west end, carries down a large quantity of the marl as a sediment to the sea, where it becomes spread out for a considerable space over the rocks of the vicinity.

“About three miles west from South-west Point, marl was observed to occupy a position on the bank of a brook, and to extend for a quarter of a mile inland, presenting a thickness of about a foot covered with Peat.

“In a lake half a mile further inland, it covered the bottom over an area of 200 acres; and on the east side of South Point it was observed reposing on rock close to the shore, covered over by from four to ten feet of Peat.

“*Peat.*—Along the low lands of the south coast of the island, from Heath Point to within eight or nine miles of South-west Point, a continuous Peat plain extends for upwards of eighty miles, with an average breadth of two miles, giving a superficies of upwards of 160 square miles, with a thickness of Peat as observed on the coast of from three to ten feet. On the average this plain may be fifteen feet above high-water mark, and, by channels cut through it, could be easily drained and faced for working. As far as my knowledge goes, this is the largest Peat field in Canada, and the general quality of the material is excellent.

“There are many isolated patches also between South-west Point and the west end, varying in size from 100 to 1000 acres, which would yield a considerable quantity of the material.

“It was stated to me that Peat existed also in some abundance in the interior of the island, but this I am disposed to doubt; for while all the streams flowing from the Peat plain, on the south side, gave, as is usual, a brown-coloured water, those in other parts were pure and colourless, leading to the opinion that the interior was peculiarly free from Peat swamps.

“Among the materials of the island which may be considered of an economic nature, though not of a mineral character, sea-weed and drift-timber may be enumerated.

“*Sea-weed.*—In all the bays, coves, and sheltered places around the whole island, with the exception of those between the east end and South-west Point, there is a great accumulation of sea-weed along the high-water mark; in such places patches of it are met with of from a hundred yards to half a mile in length, and from two to six yards in width; the depth usually varied from one to four feet, and in some instances was six feet. The beneficial effect of sea-weed as a manure is too well known to require mentioning; but to what distance it would bear carriage for such an application is more than I am able to state. On the island, Mr. Pope, of South-west Point, makes use of it as a fertiliser for his fields, mixing it with the Peat which forms the soil.

“*Drift-timber.*—The quantity of squared timber and saw-logs which are scattered along the south shore of the island is very surprising; the abundance appears to be greater towards the east end than the west; but, according to the calculation which I have made, if the whole of the logs were placed end to end they would form a line equal to the whole length of the island, or 140 miles; this would give about one million of cubic feet. Some of the squared timber may have been derived from wrecks, but the great number of saw-logs, which are not shipped as cargo, induces me to suppose that the main source of this timber is drift.

“The strata of Anticosti, being nearly horizontal, cannot fail to give to the surface of the country a shape in some degree conforming to them. The surface will be nearly a level plain with only such modifications as are derived from the deeper wearing in a longitudinal direction of some of the softer beds, producing escarpments of no great elevation, with gentle slopes from their summits in a direction facing the sun that will scarcely be perceptible to the eye. The easily disintegrating character of the rocks forming the subsoil can scarcely fail to have permitted a great admixture of their ruins with whatever drift may have been brought to constitute a soil; and it is reasonable to suppose that

the mineral character of these argillaceous limestones must have given to those ruins a fertile character. It is precisely on such rocks, in such a condition, and with such an altitude, that the best soils of the western peninsula of Canada West are placed, as well as of the Genesee country in the State of New York. I have seen nothing in the actual soil as it exists to induce me to suppose that, in so far as soil is considered, Anticosti will be anything inferior to those regions; and considerations of climate only can induce the opinion that it would in any way be inferior to them in agricultural capabilities.

“The three months that I was on the island were altogether too short a time to enable me to form any opinion upon the climate of Anticosti; but, taking into view the known fact that large bodies of water are more difficult to cool and more difficult to heat than large surfaces of land, I should be inclined to suppose that Anticosti would not be so cold in winter nor so hot in summer as districts that are more inland and more south.

“But such is the condition of the island at present that not a yard of the soil has been turned up by a permanent settler; and it is the case that about a million of acres of good land, at the very entrance from the ocean to the province, are left to lie waste, while great expenses are incurred to carry settlers to the most distant parts of the west. Taken in connexion with the fisheries and the improvement of the navigation of the St. Lawrence, it appears to me that the establishment of an agricultural population in the island would not only be a profit to the settlers themselves, but a great advantage to the province at large.”

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