

ACROSS NEWFOUNDLAND

WITH

THE GOVERNOR:

A Visit to Our Mining Region ;

AND,

This Newfoundland of Ours.

**BEING A SERIES OF PAPERS ON THE NATURAL
RESOURCES AND FUTURE PROSPECTS
OF THE COLONY.**

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ST. JOHN'S, NEWFOUNDLAND.

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PREFACE.

The Letters in this small volume, descriptive of a trip across the Island, in company with His Excellency, Sir JOHN H. GLOVER, and also of a visit to the Mining Region, appeared originally in the columns of the *Toronto Globe*, and are now, at the urgent request of many friends, reprinted in a more permanent form. My hope is that they may help to diffuse some correct information regarding a country of which little is yet known in other lands; and may tend to give to the people of Newfoundland a firmer confidence in the future of this fine Island.

The lecture on "THIS NEWFOUNDLAND OF OURS" was published last year, and a large edition was exhausted in a few days. It is so often inquired for, that I have been induced to include it in this publication.

M. H.

LETTER FIRST.

Since his arrival in Newfoundland Sir John Hawley Glover, G. C. M. G., Governor of this colony, has spent a portion of each year in visiting the various districts and settlements, in order to make himself acquainted with the character, modes of life, and wants of the people, and the capabilities of the country over which he rules. The deep interest which he takes in the prosperity and progress of the colony has led him to undertake these journeys, which generally entail no small personal sacrifice in a country such as this, where the means of locomotion are so limited and imperfect. The warm-hearted people of Newfoundland fully appreciate the efforts of their energetic Governor to advance their interests, and wherever he goes receive him with the most cordial welcomes. The best results attend this kindly, sympathetic intercourse. The poorest fisherman understands that the representative of Royalty takes an interest in his welfare, and wishes to improve his condition, and has visited his humble homestead with a view of ascertaining how this can be best accomplished. All are stirred up to more energetic action and patriotic effort when they listen to the words of an experienced, practical leader, whose sharp glance takes in the vast capabilities of their country, and who has a firm belief that it is entering on a career of progress which will place it high among its sister Provinces. It is in this way that a Governor can accomplish an incalculable amount of good—by kindling patriotic feeling, promoting a right spirit among the people, and pointing out the path of progress. Sir John Glover's popularity here is deservedly great. Not satisfied with the enjoyment of inglorious ease within the walls of Government House, he voyages and travels in order to see with his own eyes what is the condition of the people and the country. The consequence is that public improvements of various kinds are pushed forward energetically; a railway

survey has been carried out; one hundred and eighty miles of telegraphic extension have just been completed, connecting the east and west coasts, together with the mining region, with the capital; and the project of a graving dock in St. John's has been started under favorable auspices through the efforts of the Governor. Many other minor improvements might be named, but these will suffice to show the spirit in which Sir John Glover acts while presiding over the destinies of Newfoundland. He is not satisfied with visiting the portions of the Island already settled, but he loves to plunge into the untrodden wilderness and explore the uninhabited wilds. Two years ago he undertook a very laborious journey through a portion of the interior, which extended to White Bay and Bonne Bay. This year he projected an excursion across the Island from the head of Hall's Bay towards the west coast, through one of the finest and most interesting portions of Newfoundland, of which comparatively little is known. His quick eye had fixed on this route as affording great facilities for a road through the country from east to west, which would open up fine tracts of fertile land, favorable for farming and lumbering, and containing in all probability mineral treasures. His object was, by personal inspection, to ascertain the character of the country along this route. Having had the honor and pleasure of accompanying His Excellency during the excursion, I propose to furnish some account of what we saw on the journey.

THE JOURNEY BEGUN—THE EASTERN COAST OF NEWFOUNDLAND.

The first stage of our journey was from St. John's to Betts Cove, a distance of nearly two hundred miles by sea. In the staunch little steamer *Hercules* we reached Betts Cove in thirty hours. The voyage along the eastern coast of the Island is exceedingly enjoyable, provided the weather be fine and the malady peculiar to the sea does not show its hideous visage. We were highly favoured in regard to weather. The Atlantic was in one of its blindest moods, dimpling and laughing under the rays of a bright sun, and as gentle and playful as if it had never dashed a gallant ship to pieces or swallowed a shrieking mariner. Overhead was a glorious blue sky, in which floated great masses of fleecy clouds. "Even in their very motion there was rest," so gently did these beautiful forms move across the azure dome, presenting an ever-shifting panorama

of loveliness. As we glided along the lofty sea-wall, with its bold headlands and grim rocks frowning defiance at the ocean, we could see the waves gently laving the base of the giant cliffs, and playfully leaping over the jutting rocks along the shore. The sea breeze came over the waters, delicious and bracing to those who had just escaped from the heavy atmosphere of the city, creating that peculiar buoyancy of spirits and that sense of boundless freedom which is felt at times in perfection, when afloat on the bosom of the ocean, "with the blue above and the blue below," and all the awe and mystery of the vast world of waters lifting the soul towards the Infinite. The eastern shores of Newfoundland present no soft pictures of verdant loveliness—no pebbly beaches on which the waves break gently—no upland slopes clad in forest emerald. All is the massive grandeur of dark, perpendicular cliffs, at times sculptured into shapes of stern beauty or awe-inspiring forms,—in other places, jagged and torn by the gnawing tooth of time, and of rude and forbidding aspect. Such is the precipitous sea-wall, built, as it were, to repel the wild billows of one of the stormiest seas in the world. But the voyager has only to leave the coast and sail up one of those magnificent bays which stretch their great arms far inland, and he will find scenes of the rarest and softest beauty along their wooded shores and in their island-studded bosoms. As we steamed northward we had glimpses of Conception, Trinity and Bonavista Bays as we crossed the entrance of each; but as the *Hercules* was bound for Betts Cove direct we made no calls by the way. The main objects of interest along the shore are the lofty capes which project their extremities seaward from the line of coast and mark the entrances of the bays. I may remark in passing, that this lofty iron-bound coast is very well lighted, and can be approached with perfect safety at night, under the guidance of the friendly lighthouses erected at the points where navigation is difficult and dangerous. After a very pleasant run we found ourselves entering the Great Bay of Notre Dame, fifty miles wide at its mouth, encircled on all sides by ranges of lofty hills, whose peaks, mellowed by distance, look grandly beautiful. These are the hills which are now yielding to human industry such wonderful mineral treasures. Our famous copper mines are on the shores of this great bay, which are now, beyond all question, destined to become one of the world's great mining centres. Looking

over the bright waters of the bay, and admiring the grand sweep of its shores, rising in the distance into lofty summits, and following with the eye its numerous broad arms running far into the interior, its splendid archipelago of islands, with their heavily wooded slopes, I found my imagination stretching away into the future when a new Cornwall will be developed here, and vast hives of industry will overspread these hills, and the fertile lands around will be filled with a prosperous population, and the woods and wilderness will be transformed into the happy homes of men. Meantime we have crossed the bay, and found the little cleft in the great sea-wall which is the entrance to Betts Cove, and the *Hercules* is safely moored at one of its excellent wharves. We left St. John's at noon on September 20th, 1878, and arrived at Betts Cove on the following day, at 6 o'clock, p. m.

FROM BETTS COVE TO LITTLE BAY.

Having given an account of Betts Cove in my letters on the Mining Region, it is unnecessary to make further reference to it here. Our stay on this occasion was very brief. We were joined here by Dr. Eales, who was to be the third member of our travelling party, and whose society during the trip I enjoyed very much. His unfailing good humour, ready resource in every emergency, high spirits, thorough enjoyment of life in the woods, and genuine kindness, all combine to make him a most agreeable travelling companion. He had travelled extensively, having been for many years in the navy. Like Sir John Glover, whose friend and countryman he is, he "roughed it" in Africa, and is well acquainted with men and things in the "Dark Continent." I thought myself peculiarly happy, in making a trip across Newfoundland, to have as companions not only two experienced travellers who were trained to accurate observation, but men whose intelligence and social qualities were of a high order. I shall not soon forget the geniality, hearty kindness, and pleasant humour of Sir John, which made the whole trip one of real enjoyment. Mr. Ellershausen came with us, on leaving Betts Cove, as far as Little Bay, in order to show us the wonders of the new mine there, which I have described elsewhere. We were bound to the head of Hall's Bay, one of the arms of Notre Dame Bay, from which point our overland journey was to commence. Two hours' steaming brought us to Little Bay. The miners had extemporized a handsome arch at the land-

ing place, and decorated it with flags, and received His Excellency with hearty cheers. We landed at the harbour of Little Bay, where we found two vessels loading copper ore. Six weeks previously not a human being was to be seen near the spot. The stillness of the woods was unbroken by any human sounds. Now five hundred and twenty stalwart miners were quarrying the ore of "Copper Cliff." A tramway nearly a mile in length connected the mine with the harbor; houses, stores, and a wharf were built; 3,000 tons of ore were shipped, and 6,000 tons of rock had been removed. Much of the surface development of the ore had been removed, and underground tunnels were already commenced. All this—incredible as it may seem—was the work of six weeks. Our party walked along the strongly-built tramway and spent an hour examining the mine and wondering over the great blocks of ore brought down from the cliffs. Then we walked through the woods to Indian Bight, where the miners reside, and again embarked on board the *Hercules* for Hall's Bay.

HALL'S BAY.

The scenery of Hall's Bay is very fine. At the entrance, which is three or four miles wide, high cliffs meet the eye, but these soon give place to low, rounded hills, covered with a dense forest growth to the water's edge. This fine arm runs from Notre Dame Bay, inland, no less than twenty miles. Right opposite, on the western side of Newfoundland, Humber Sound, an arm of the Bay of Islands, also stretches far inland, as though trying to join hands with Hall's Bay on the other side of the island. Between the heads of these two bays only one hundred miles of land intervene, and along the greater part of this route there is water communication by rivers and lakes. Our projected journey was to be along this route and right across the island. It is entirely uninhabited, with the exception of two families who have settled on Deer Lake, some thirty miles from Humber Sound. When we leave Hall's Bay we at once strike out into the wilderness.

THE LAND AND FOREST TIMBER.

Around the head of Hall's Bay are some fine tracts of cultivable land, especially on West Brook and also on South Brook, where two or three families have been settled for many years, and have cleared small patches of land, which yield excellent crops. These settlers, however, depend main-

ly on the fine salmon fishery of the river, and pay little attention to farming. Under improper management the salmon fishery has of late greatly declined. There is room for a very considerable number of farms on the unoccupied lands around Hall's Bay, the produce of which would find a ready sale at high prices among the mining population around. A very promising mine has been opened about five miles from the head of Hall's Bay, and Little Bay is but fifteen miles distant. The price of unoccupied land is but half a dollar per acre. The timber around the bay is very fine and of immense extent. A saw mill, at present owned by Mr. Udle, of Harbor Grace, has been erected on an island near the head of the Bay. Here we disembarked, and found comfortable quarters and the utmost kindness and hospitality in the house of Mr. Peters, the manager of the saw-mill. As the *Hercules* steamed down the bay, leaving us with our belongings on the wharf of the saw-mill, we felt that the bridge was cut down behind us, and that now, leaving civilization behind, we must face the untrodden wilderness.

LETTER SECOND.

STORM STAYED—HOW WE PASSED THE TIME.

The close of my last letter left our party at the head of Hall's Bay, ready for the plunge into the (to us) unknown wilderness. The commencement of our journey was not exactly propitious. A northeast gale set in, with heavy rain, which we labelled "An Equinoctial"; and as it was thus clear that it had come by express appointment, and had a right to be there and knock things about, we bore it with greater equanimity. I have noticed that all September gales are called "equinoctials," and being supposed to come in the order of nature, are spoken of respectfully and forgiven much. This one lasted thirty-six hours, and did credit to its race. We were comfortably housed, however, though the situation was bleak and exposed, and we did not mind the storm much. Our kind hostess, Mrs. Peters, was unwearied in her attentions, and most anxious to secure our well-being. Many a wayfarer she has received and comforted under her hospitable roof, in this lonely spot, where hers is the only human habitation for many miles,

with the exception of those of two Micmac families on the other side of the bay. Whether in entertaining strangers she has yet succeeded in sheltering "an angel unawares" I cannot say, but she was as gracious and kind on this occasion as if she thought that now, at last, she had a chance of doing so. I am afraid that now, since the copper fever has set in, and prospecters are on the prowl, angels will be scarcer than formerly around the shores of Notre Dame Bay. We agreed in pronouncing Mrs. Peters a fine specimen of a Newfoundland "house-mother." I speedily discovered that the Doctor, cunning fellow and old campaigner as he is, had won her affections through his admiration for the baby and the friendly relations he managed to establish with the other olive plants of the household. He was soon on the most familiar footing with Bob, and Minnie, and Tom; and, old bachelor though he be, it was evident that he had a genuine love of children—one of the best traits in a man's character. The little "toddler" of eighteen months quickly twined itself round his heart. In addition to the children we found another comforter, during these hours of enforced quietude, in a little volume which we picked up on the table—"Mark Twain's Roughing It"—which somehow had found its way here. Though I knew the volume pretty well before, here it was read aloud with fresh zest, and its jokes were greeted with peals of honest laughter. The purchase of "The Genuine Mexican Plug" proved to be especially entertaining. We did not "mind the storm a whistle" while Mark Twain held us enthralled. What a wonderful gift is that of genuine humour! How the true humorist can brighten the loneliest and dreariest hours, kindle our smiles, and beguile us of our cares! How poor and sad the world would be wanting wit and humour! Here on a lonely island in Hall's Bay, with the wind howling without and the rain dashing against the window panes, we were made oblivious of outward circumstances by the spell of the enchanter, and gladdened and improved by a little wholesome laughter. Blessings on the author of "The Jumping Frog" and "The Innocents Abroad." Still we had an eye to business, and spent part of the time organizing our expeditionary force and making all ready for the start. It was quite surprising to find what a multitude of details had to be arranged. Provisions for ten persons during twenty days had to be unpacked, rearranged in portable quantities in bags, divided between our boat and canoes

in such a way that any article wanted could be found at once, and so that when we reached a portage, the whole could be readily packed on men's backs for overland transit. This was no easy task, but under the quick eye of the Governor, who had frequently organized and provisioned expeditionary forces in Africa numbering thousands, the matter was admirably arranged. I could not but admire the tact and skill imparted by experience, and the knowledge of minute details which marks the practical organizer of labour. Nothing seemed to come wrong to our commander-in-chief, while in the doctor he had an able lieutenant.

OUR MUSTER ROLL.

By noon of September 24th, the nor'easter had stormed and wept itself into quietude, and we made ready for the start. As our journey was to be mainly by river and lake, we had provided ourselves with two canoes and a light boat. To work these we had six men—two for each. One of them was a Micmac Indian, Andrew Joe by name—a fine, broad-shouldered, tall, powerful fellow, whose life was passed in hunting and trapping, and who knew the interior intimately. We found him quick, intelligent, and active—familiar with all the details of life in the woods, and equal to every emergency. He had the light springy step of the Indian, and his easy and rather graceful carriage. There are a few Micmac families living in Newfoundland—some at Bay d'Espoir, and three in Hall's Bay. Those who go into the interior deer-stalking or fishing find their services very valuable. They know every brook, pond, hill, and valley, and are most trustworthy. They must, however, be kept from the terrible "fire-water," the effect of which on them is to madden and destroy self-control. Two of our men were from New Brunswick and Nova Scotia. They had been employed lumbering for some years on the Humber, Grand Lake, and other places, and were well acquainted with the country and able to give us a most intelligent account of what they had seen. They had got a very high opinion of Newfoundland as a country for farming and lumbering, and believed that if it were opened up by roads great numbers of New Brunswickers and Nova Scotians would settle in the good lands, especially the younger sons of farmers, who now find it difficult to secure good farms in their native country. These young men, whose names were Grant and Barter, we found very intelligent and obliging, and excellent hands in the management of canoes. Three of

our men were Newfoundlanders—Samuel Short, of Ward's Harbor, (of whose pluck, intelligence, powers of endurance, and good temper I can speak in the highest terms, as he was commander of the boat in which I made the trip,) and two brothers named Wellman, from Sunday Cove Island, stout, industrious fellows. For going through hard work and bearing hardship and exposure unflinchingly the Newfoundlanders cannot be surpassed. In this journey they had some hard work occasionally, but there never was a murmur, and all worked cheerfully and well. I must not, however, forget to mention a stout young Newfoundlander, "Sam" by name, who acted as the Governor's personal attendant, and as cook contributed largely to our comforts and made himself generally useful. Sam, too, did credit to his country. Our party thus numbered ten.

UP INDIAN BROOK TO THE FALLS.

At half-past two on the afternoon of the 24th September our flotilla got under way, the Governor's canoe taking the lead. We crossed the bay, which is here narrow, and entered Indian Brook, a stream which falls into Hall's Bay from the west. We were to ascend this river nearly to its source, a distance of over forty miles. The water was low after an unusual continuance of dry weather, so that it soon became evident we should have to pole our boats and canoes up the stream—a tedious and laborious process, especially as we were pretty heavily loaded with provisions, tents, and other necessaries. In a few minutes we lost sight of the salt water, and found ourselves gliding along on the bosom of a clear stream, through a sylvan scene of great beauty, tall trees lining the banks and stretching their great arms over the little river. The atmosphere felt warm and balmy after the rigours of the northeaster; the sweet resinous odour of the woods filled the air; the leaves of the trees had assumed the autumn tints and were glowing in golden glories under the bright rays of the evening sun. Every bend of the winding stream revealed new beauties. There was not a breath of wind to stir the leaves, and the silence was strange and almost oppressive. How the spirits rose in gladness in a scene so sweet, and to me new and charming. The lower reaches of Indian Brook are very fine, and judging by the growth of timber along the banks, where trees grow to the height of fifty or sixty feet, the soil must be very good. After we had rowed about three miles and a half we heard the booming sound of a water-fall, and look-

ing ahead we saw the two canoes drawn up on the bank below the falls. The shades of evening were closing in, and it was decided to make this our first encampment, and thus be ready for an early start, and a good stretch up the river on the morrow. The falls here are about twelve feet in height, and when the river is high, as we saw it on our return down stream, look very imposing, as the water dashes through a narrow opening in the ledge of rock, and leaps at one bound into the roaring, seething cauldron below. The portage here is easy, being only about one hundred yards on one side of the falls over which the boats and canoes have to be carried.

OUR FIRST CAMP—PLEASURES OF LIFE IN THE WOODS.

It was with no small interest that I watched the preparations for our first camping out in the woods, which to me was an entirely new experience. Our men were all experts in the operations, and every man knew exactly what to do, though Andrew Joe always took the lead and quietly issued his orders. A level spot of ground, close to the falls, and well sheltered by trees, was selected and quickly cleared of brushwood. Our two tents, one being for the men, were brought from the canoes, the poles were set up, the canvas thrown over them, the pegs driven into the ground, and in a few minutes our movable habitation was erected. The next step was to cover the floor of the tent with small spruce or fir boughs chopped from the tops of the branches. Only an Indian can do this properly, and the duty was always performed by Andrew Joe, who spread the boughs quite artistically, very much as shingles are put on a roof. Over the boughs is then spread a tarpaulin or waterproof cloth, and a delightfully soft and fragrant couch, perfectly free from damp, is completed. A more comfortable bed need not be desired. Meantime the axes are ringing, and we hear the crash of falling trees. The tents have been pitched opposite each other, the front of each being open, and soon, in the space between, a fire is blazing, on which log after log is piled till it attains huge dimensions. The supply of the very best fuel, birch and spruce, is unlimited, and there is no need of economy. The flames leap high in the air and cast a cheerful glow on the dark forest around. A finer sight cannot be imagined than a glowing, crackling fire at night, illuminating the great pine trees, the dark green firs, and throwing a golden glory on the yellow leaves of the birch. Meantime the cooks are at work. The ket-

bles are steaming; the soup is sending forth its fragrant odours; on frying pan and gridiron the steaks and slices of bacon and pork are hissing. Hungry men, all round, are sniffing the delightful odours with pleasant anticipations, and becoming every moment more ravenous. I understood then the policy of the old Romans who used to throw open their kitchen doors when dinner was being cooked, that the odours might reach the nostrils of the assembled guests with appetizing results; but the Romans, gourmards though they were, had no such table as this of ours spread in the wilderness. The Governor and Doctor had been plying their rods in the stream with wonderful success, and we have a liberal supply of magnificent trout for supper, in addition to other luxuries. Meantime, Sam has spread the cloth just inside the tent, and we seat ourselves around on our clothes-bags or on boxes, with appetites like those of hyenas or alligators. How poor and contemptible now seem all former meals and banquets, accompanied by the wretched conventionalities of an effete civilization, when compared with this glorious feast in the fragrant woods, eaten by the light of a blazing log fire, on a table of boughs, without any formalities, and with flying jokes and wholesome laughter to aid the process of digestion. We begin to pity the poor victims of fashion, who could never taste pleasures like these, and to look on our past lives as wasted and misspent, amid miserable conventionalities, without knowing the delightful freedom and charm of life in the woods. For the first time we begin to discern the hollowness of our modern civilization, and to suspect that the patriarchs, who dwelt in tents, must have had a good time of it. We wash down our meal with huge mugs of fragrant tea, and then lean back on our soft couch with nothing more to wish for, and possessed of the sublime consciousness of having done our duty. The Doctor remarks, as he puffs his cigarette, that "now he feels good all over." Then comes the delightful hour for social enjoyment, friendly chat and ringing laughter. Each one produces his best stories and most interesting experiences around the mighty fire, which seems to have burned a great hole in the encompassing darkness. In the opposite tent the men are enjoying themselves just as well as their masters, as, stretched at full length, they inhale the fumes of that

"Sublime tobacco that from east to west,
Cheers the tar's labors and the Turkman's rest."

By-and-bye the laughter ceases, conversation languishes, a delightful drowsiness steals over the senses. Blankets are spread out, a fresh pile of logs heaped on the fire, and a sleep calm as that of infancy descends and steepens the senses in forgetfulness. Once or twice during the night I awake, and looking up I discern the dusky form of Andrew Joe as he heaps more fuel on the fire, and through the tree tops I get a sleepy glimpse of the moon sailing along in her silvery brightness, and quite contented I resume my slumbers. Such was my first experience of a night in the woods. No wonder that I at once take kindly to this sylvan existence. The Governor predicts that I shall never more be able to settle down into the humdrum of domestic life after tasting the sweets of gipseying, and that in future my partner in life will be rendered wretched by my frequent desertions in order to camp out at nights. The doctor considers this to be the natural state of man, and that our lives are spoiled by living in houses. Reflecting on the matter, it seems clear to me that there is a little of the nomad left in all of us, probably inherited from our ancestors; and that tent life in the sweet-scented woods brings this latent element to the front.

In point of fact I can scarcely realise that I am in Newfoundland. As yet I am but three or four miles from the salt water and the grim rocks, and I find myself amid beautiful scenery—some of the trees being sixty and even seventy feet in height, indicating the depth and richness of the soil from which they sprang. The valley through which the little river flows seems to be of considerable width, and as it is about forty-four miles in length, must contain much excellent land, but not one acre of it is utilized. Lumbering has been carried on here for years, and I see great pine logs floating downward; but the quantity of timber cut is hardly missed. On the very spot where we encamped there is a level space where an excellent farm of three hundred or four hundred acres might be enclosed, and could easily be cleared. I ask Andrew Joe about the country, and he says "good, good," and spreading his arms horizontally in opposite directions adds, "All fine level to Little Bay and to the sea." I see large birch, spruce, fir, and pine trees everywhere. Nor is this all—the chlorite slate are developed here, indicating the probability of copper; and I learn that two mining licenses have been taken out for this locality by certain individuals who know a thing or two about

copper. Besides, there are two other valleys near, watered by brooks which fall into Hall's Bay; and I am informed that the land and timber on these streams are as good as on Indian Brook. With a mining population rapidly increasing in the neighborhood, these good tracts of land cannot long remain unoccupied.

LETTER THIRD.

PLEASURES OF A SYLVAN EXISTENCE—THE COSTUME FOR THE WOODS.

Wednesday, September 25th.—The music of the falls of Indian Brook, close to which we were encamped, lulled us to sleep last night, and the boom of the falling water was the first sound that greeted us this morning as we opened our eyes with the dawn. It was a lovely morning—

“With breath all incense and with cheek all bloom.”

A balmy breeze was blowing from the west, and there was not a cloud in the sky. All around seemed fresh and fair. The clear rushing stream, the foliage of the trees now assuming the golden tints of autumn, the sweet breath of morning laden with the delicious scent of the woods, all combine to gladden and exhilarate the spirits. The perfect ventilation of the open tent secures deep and refreshing sleep and alertness in springing from our bed of boughs in the morning. I see the big jays looking down upon us from the tops of the tall trees in unbounded astonishment. Evidently they have never before seen their human fellow-mortals camping out, and they are carefully studying what manner of strange creatures we are. Possibly too they are speculating as to whether there will be any good pickings when we are gone. Robinson Crusoe is made to say of the brute creation, in his solitary isle, “Their tameness is shocking to me,” as it indicated that they were utterly unacquainted with man. The birds here are in the same unsophisticated condition—so tame that one can approach within a yard or two of them. They clearly know nothing of the wicked ways of men. Camp life soon teaches self help. Every man is his own chambermaid. The first duty in the morning is to roll up the bedding and pack it in your water-

proof bag preparatory to starting. Dressing is a simple matter when you have slept in your clothes with a blanket rolled around. I felt this arrangement a little queer at first, but after a time I arrived at the conclusion that undressing at night is one of those conventionalities with which civilization has encumbered us, and which might be readily dispensed with. It is quite delightful to uncoil yourself from your blanket, or "shed your cocoon," and with tin basin, soap, and towel in hand, rush away to the river side for your morning wash. Only the jays are looking on, and there are plenty of clear pools where you can have a plunge. On returning from my first performance of this kind, I found the cooking of breakfast far advanced; the fresh trout from the brook and the bacon on the frying pan sending up delicious odours, and sharpening the already wolfish appetite.

Andrew Joe, my Indian friend, who takes a kindly interest in me as being a novice in this kind of life, after watching my performance at breakfast, remarks, "He coming to his wood appetite." A few minutes are sufficient after breakfast to launch our canoes and pack our baggage. Then we

"Fold our tents like the Arabs
And as silently steal away,"

gliding quickly up the stream. I have now fairly donned my travelling costume, which is comfortable and decidedly picturesque, consisting of a blue guernsey frock, an article of clothing I can recommend for the woods, as it fits closely and is at once light and warm; and a pair of sealskin boots, in which you might wade through water all day without feeling your feet damp. I thought it well to have a sou'wester and waterproof coat for a wet day. With the abandonment of the shirt collar I got rid of the last shred and encumbrance of fashion. Before leaving home I tried on my new costume, and on a private exhibition of myself, was greeted with shrieks of laughter. Here in the woods my equipment was pronounced perfect, and I was envied and admired, especially in my sou'wester, which gave me the appearance of the ancient mariner out on the rampage.

POLING UP STREAM.

Canoeing, under favorable circumstances, is delightful—the very poetry of motion—so easily and gracefully do you feel yourself gliding over the surface of the water. The Governor's canoe is of Canadian build, and is pronounced a

perfect model. My place is in the gig—a light boat adapted for river navigation. We had not got far from our first camp, when we encountered shallows caused by the widening of the river, the water of which was now very low. When the river spreads out widely the depth is inconsiderable, and in some places even a canoe can barely float, and often scrapes on the rocks in the bottom. Our men now laid aside the paddles and oars and took to their poles, with which they forced the canoes and boat up stream. These poles are of spruce, light and tough, and sharpened at the ends, or sometimes shod with iron, a spike projecting from the extremity. They are sufficiently long to reach the bottom and afford a “purchase” to the men in forcing the canoes forward. One man stands or sits in the bow at one side, another on the opposite side in the stern; the former selects the channel, guards against rocks, and guides the canoe, propelling at the same time vigorously; while the latter watches his movements, and uses his pole as a lever, in concert with him. To pole a boat or canoe up a shallow stream like Indian Brook, in which rapids and chutes are numerous, large boulders projecting their shoulders within a few inches of the surface and sometimes above it, requires stout arms and skill acquired by experience. In fact it is about as hard work as a man can undertake. A quick eye, constant vigilance, much dexterity, and the power of rapid decision in an emergency, are all necessary. In going up a rapid, where the water is tossed into waves like the sea in a storm, by rushing over submerged rocks, and where the channel is tortuous and the current strong, the greatest care is needed, and powerful men require to put forth all their strength. Not unfrequently the boat sticks fast in the middle of a rapid, and the force of the current turns her broadside on and threatens to capsize her; but in a moment the men leap into the stream, at times up to their waists in water, hold her steady, turning her bows to the current, and with straining efforts succeed in forcing her over the impediments. In approaching one of these rapids you feel at first rather uncomfortable as you survey the boiling cauldron with its rocks and whirlpools; and holding your breath hard, you begin to prepare for the worst; but the stout fellows dash in, pick out the right channel with marvellous accuracy, and with many a “now then,” “keep her head up,” “all together,” they drive her through, and the danger is past. Newfoundlanders call the rapids “rattles,”

and a peculiarly troublesome one is "a rowdy rattle." When the stream is collected into a narrow channel, and rushes along one bank with great rapidity, it forms a "chute," and it is often hard work to pole a boat against such a current. Trunks of trees that have fallen in often project their branches into the river and present troublesome obstacles. When the canoes got a little distance ahead, the appearance presented was that of two men walking on stilts through the water, the poles rising and falling with great regularity. Or one might fancy them amphibious creatures moving along on crutches. At times we came to what the men called a "stiddy" or "study"—a long stretch of deep still water which seemed almost like a little lake. These "stiddies" afford the men a welcome breathing time, but they are "like angels visits—short and far between." Our men worked admirably. No accident happened. We stopped an hour for dinner, and when the evening shadows were gathering around us, and it was time to look out for a camping ground, we found that we had poled up stream seventeen miles, which was pronounced an excellent day's work. Nearly half the time the men had been wading in the stream, but they seemed to mind it no more than if they were amphibious creatures. After such a day's work, they showed no signs of exhaustion, and set to work laying out the camp and felling trees for fuel almost as freshly as in the morning. A genuine Newfoundlander seems almost incapable of fatigue.

THE LAND AND TIMBER—BURNT FORESTS.

What was the character of the country through which we had passed? Our chief object in undertaking the journey was to ascertain the capabilities of this district, and we carefully noted all particulars. The valley through which Indian Brook flows is enclosed by a low ridge on each side, wooded densely to the summit. The width of the valley varies from half a mile to a mile and a half. The whole is thickly overgrown with heavy forest timber, consisting of yellow and white birch, white and black spruce, fir (called "var" in Newfoundland), white pine, and juniper or tamarack. But, alas! the beauty of the scene had been destroyed by fire. Four years previously a terrible fire swept through the whole of this fine valley, of nearly forty miles in length, and also much further west, destroying an immense quantity of fine timber, and leaving the once beautiful scene a desolated waste. Nearly all the day we were

passing through a burnt forest, presenting a dismal sight, in the bleached or charred skeletons of noble trees, stretching out their bare and blackened arms to the sky, as if in stern protest against the evil which had been wrought. Here and there were patches that had escaped the flames—little oases—*islands* in the river especially, which the fire had not reached; but the rest was blighted. As yet, however, the timber is uninjured. We were told that pine took no harm for ten years after being burned, the effect of the fire being to harden the surface and render it impervious to water. The burnt pine, and birch, and spruce are now being cut down by lumberers and floated down the stream, but as yet the quantity cut is hardly missed. I saw pine logs in the water which must have been between two and three feet in diameter. We estimated some pines standing near the stream as we passed along at from sixty to seventy feet in height. The birch, too, which are very numerous, are of very large size—some forty to sixty feet high. These, in their present dried condition, are excellent timber, and when cut down, burn most brilliantly, making a fire far pleasanter than one of coal. The yellow birch is said to be equal in durability to English oak. It is saddening to think of the enormous quantity of valuable timber destroyed in this single valley, most of which, I fear, is destined to rot on the spot. Could it be conveyed to the capital, what glorious birch fires we should have. And then to look at those noble pine trees, which required one hundred and fifty years to bring them to maturity—such being the slow growth of pine—and to see them dead, stripped of their bark and foliage; how saddening! Happily the fire could do no injury to the soil, and along this valley there is a large extent of excellent arable land. In many places we noted a fine deep vegetable soil along the banks, and in fact the timber growth is a sufficient index to the character of the soil. The roots of the trees do not seem to have penetrated into the subsoil, so that the stumps would be easily removed, or would probably rot out in two or three years. The land could thus be cleared much more readily than in most parts of New Brunswick or Canada. We observed many fine tracts of perfectly level country near the river, especially where the valley widened, affording attractive locations for settlers. We also observed at several points along the banks, cliffs of plastic clay thirty feet in height, and at one or two places about a quarter of a mile in length.

We tested the clay and found it of very fine quality, fit for modelling or for making the finer qualities of brick. How far these beds of clay extend back from the river I cannot say, but the probability is that they are of considerable extent. Chlorite slate was seen at some points, which in this country is indicative of copper. Dr. Eales brought away specimens of the plastic clay, with the view of having its economic value tested. He is himself a modeller and carver, and amused us by making comic figures of the clay, which he found admirably adapted for the purpose. It would be a mistake to suppose that the whole of the land along Indian Brook is fit for cultivation. We noticed some places laid bare by the fire which were thickly covered with large boulders, and some parts are swampy. Allowing for these, however, the good land along the river would support in comfort a considerable farming population. Were there a road constructed, there cannot be a doubt that settlement would follow, and blooming farms would spring up along the banks of the brook. The produce of such farms would find an excellent market at the mines now opening all round Notre Dame Bay. Cattle and sheep might be raised, and would bring high prices in the same quarter. Miners who had saved a little money would, after a time, think of investing it in a farm, where they might soon secure a modest independence. The younger branches of a fisherman's family, instead of following the paternal occupation, would be led to engage in agricultural pursuits, with advantage to themselves and to those who preferred sea farming. Much of the burnt timber might still be utilized. But the first step is the opening up of the district by a road, and laying off the good land in sections. Should minerals be discovered along the valley, which is quite probable, of course this would lead to rapid development.

OUR SECOND CAMP.

Our second camp was twenty miles from Hall's Bay, close to a lumberer's camp, where we found two or three men snugly located, and engaged in cutting pine for the saw-mill at the mouth of the river. They described the wood as perfectly sound and of good quality. In a few weeks they expected the river to rise when the autumn rains set in, and then they would drive their logs down stream. Our tents were speedily pitched, our couches spread and a roaring fire of the finest dry birch wood, of which there was an unlimited allowance, soon spread warmth and cheerfulness all

round. The men divested themselves of their wet clothes, put on dry stockings (a vital point in travelling through the woods), lines were stretched around our huge pillar of fire in the wilderness; and soon a wonderful array of wet clothing was getting the benefit of the heat in order to be ready for wear on the morrow. But most interesting of all—supper for ten hungry men was cooking before their eyes, which pretty nearly doubles the enjoyment of a meal, at least in the woods, for what with the odours of soup, meat, and tea mingling with the pleasant scene of burning birch, and the influence of the imagination, you first enjoy the supper in anticipation and afterwards in reality. Our commander-in-chief held that men must be well fed and well cared for in order to work well, and he carried out the principle on this expedition. Our men had an unlimited allowance of the best food well cooked, and were never overworked. Before the journey ended they had become quite attached to their commander. One of them informed me privately that, in his opinion, “the Guv’ner was a fine man, and that he would wade up to the neck in water for him.” This was, no doubt, his strongest way of putting his regard. Supper was now announced to be ready. Each man, with his pannikin in hand, is seen seated or squatted. Conversation ceases—we have more serious work on hand. How the thick slices of pork, from which at home we would turn away, now vanish.

“The hungry Jew in wilderness
Rejoicing o’er his manna”

was not a “circumstance” to our supper on Indian Brook at Camp No. 2.

LETTER FOURTH.

MOSQUITOES OF NEWFOUNDLAND—HOW THEY OPERATE.

September 26th.—Another beautiful morning to greet us as we rub our eyes after a dreamless sleep. We are most fortunate in regard to weather. Though it is late in September we enjoy a summer warmth, and we are not much troubled with the mosquitoes. Their day is nearly over, although on a warm damp evening they seem to recover their vigor, and give us a vivid idea of what we should

have suffered had we been a month earlier, and suggest forcibly that, of the plagues of Egypt, that of the flies was probably the worst. After getting a number of bites on the hands and neck, I began to conclude that the principle of "the survival of the fittest" has been in operation, and that the most vigorous and venomous have lived longest. Still, the days during which we are annoyed by these pests, which must have been created for some wise purpose, though we can scarcely expect to know it in this imperfect state, are very few. Dr. Eales tells us he was in the southwest arm of Green Bay in July, when the sufferings of people from the mosquitoes were terrible. No one could go about unless protected by a veil on hands and head, or smeared all over with a mixture of tar and oil, which drives them off. One man braved them in an unprotected condition, but in a short time his face was a bloated, gory mass, in which all traces of the original had disappeared. His horrified comrades besought him to spare their feelings and "take the veil." Around our camp this morning I notice jays, woodpeckers tapping the hollow trees for their breakfast, and "robins" or "blackbirds"—the last named is the American robin (*T. migratorious Linn*). There are, however, few birds in the woods in this region, although in the island two hundred different species have been observed. After an early breakfast we continue our canoe voyage up the stream. We expect to reach Indian Pond, the first of the chain of lakes we are approaching, in two hours. These lakes, with their connecting rivers, stretch almost across the island from the point we are nearing.

DESTRUCTION OF THE WOODS BY FIRE.

Our course to-day is still through burnt woods. The waste of national wealth by these destructive fires is enormous, and yet no one seems to mind it, and no measures are taken to prevent an evil which, to a large extent, is preventable. Wherever one goes the desolation wrought by these fires is visible. In the Gander country there are three hundred square miles of forest, much of it consisting of pine, blighted by fire, and in other regions the same tale is told. I do not know that we suffer more from this cause than other countries, as I see it stated that the average annual loss through the forest fires in the Ottawa Valley alone is estimated at \$5,000,000. And yet, in a great majority of cases, these fires originate in causes that could be readily controlled. It is quite surprising, considering the irrepara-

ble losses from these fires, that here and in Canada there are not competent inspectors of forests appointed, whose duty it would be to report on the timber in the districts assigned them, and enforce the laws for the prevention of forest fires. In Europe, where there are no such stretches of unbroken forests as on this side of the Atlantic, every forest of any extent has its regular staff of officers and rangers, whose duty it is to watch over its safety, and open spaces and broad belts of cleared land are kept on purpose to prevent fires from spreading. Such precautions, I believe, are unknown in this western world, where there is such a quantity of moss—which in summer is highly inflammable—and other *debris* on the ground, among the trees, as furnish dangerous materials for starting a conflagration, and where reckless or ignorant settlers and hunters are numerous.

CONSERVATION OF OUR FORESTS.

In Newfoundland we have very large tracts of good forest timber still uninjured by fire, and these should be carefully guarded. Such districts are found in the valleys of the Exploits, Humber and Gander Rivers, in the valleys of their tributaries, and in all the minor valleys, more or less, such as the one we are now traversing. This is a source of national wealth yet almost untouched. This colony, unlike all the neighboring Provinces, derives no revenue from its forests, which are now cut down by unauthorized persons who are uncontrolled by any legal restrictions. The forest lands are not surveyed as yet, and but for the reports of the Geological survey we should scarcely know of their existence. We have yet to learn the value of these treasures. Canadians understand these matters better. The timber trade of Canada is immense. The value of the Canadian timber imported into Great Britain alone, in 1877, was £5,500,000. Canada supplies the United Kingdom with one fourth of its timber imports. The kinds of wood grown in and exported from Canada are largely the same as in our forests, namely, pine, spruce, ash, juniper, and birch; and, in addition, elm and oak, which do not grow here. The Canadian wood most in demand in England is pine, the first quality of which is now extensively employed in the finishing work of the higher class of dwelling houses, and commands a high price among engineers and metal founders, as it is easy to obtain a remarkably smooth surface, and the wood can be worked to the highest degree of finish and to the finest edge. The best quality of pine in Canada is now becoming

scarce. It is stated by a competent authority that the pine now sent to the Quebec market does not furnish more than twenty per cent. of first quality. It must be remembered that it is not size but texture of wood which determines the quality of pine. Small logs, if of good quality, bring better prices than larger logs, if of inferior quality. It would be impossible to say what proportion of our pine is of the first quality; but I am aware that from the valley of the Humber there was shipped at one time, pine which brought the very highest price in the Boston market. I fear, however, that the reckless system followed has exhausted the supply of the better qualities on the Humber. But in the untouched forests of the Gander, as well as on the Exploits, where lumbering is carried on to a limited extent, it can hardly be doubted that there is much pine of the best quality, while of the second and third grades the quantity is very great. In the United States the supply of timber is rapidly becoming exhausted. The Secretary of the Interior stated, in a recent report, that from all the information he could obtain there was not enough timber in the whole of the States to last thirty years. In view of such facts we should guard our forests vigilantly, and by placing them under wise regulations, obtain an addition to our revenue, and turn them to the best account as lumbering regions. Our spruce is of the best quality and largest size, and large quantities of it enter into consumption in England. The maritime Provinces, the Gulf Ports, and the Lower St. Lawrence ship considerable quantities of spruce and birch, and there is no reason why we should not have a share of the trade. Norway is at present the principal source of the European supply of spruce, but Norwegian spruce is of small size, sometimes the boards being as narrow as five inches. The supply of timber from the Baltic provinces is falling off, the consumption being in excess of the annual growth of the forests. Canada is now the most important source of supply for timber of all kinds, but especially pine. The most productive area in Canada is the Ottawa Valley. The area drained by the Ottawa and its tributaries covers about eight thousand square miles; and the number of men employed in the lumber trade of the Ottawa Valley alone is estimated at twenty-five thousand. All European Governments are awakening to the necessity of protecting the forests, not only for the sake of the timber, but also on account of the injury done by stripping the hills and river banks of

their wood. With such facts before us, we should bestir ourselves here while there is time. There is work for our Legislature, for years to come, in devising such measures as will promote lumbering, and make it a source of revenue, taking care, at the same time, that a sufficient quantity of timber is reserved for a supply of building material and fuel for settlers, and also promoting the replanting of lands which are unfit for cultivation, when denuded of timber. The first step should be a survey of our lumber lands, for the purpose of ascertaining their quality and extent and laying them off in sections. The worst possible method is that hitherto pursued—letting the timber burn or rot on the ground without any attempt to utilise it, and tacitly permitting the unauthorised cutting down of our best timber by individuals who too often follow a reckless and wasteful system, and contribute nothing to the revenue, although helping themselves out of the wealth of the colony.

INDIAN POND—LAND AND TIMBER.

At ten o'clock forenoon we reached the point where Indian Brook flows out of Indian Pond. Here we were startled and delighted to see the first telegraph pole we had yet encountered, and we hailed it rapturously as the sure precursor of advancing civilization. We found that the new telegraph line in course of construction between St. John's and the mining region, *via* St. George's Bay and Bay of Islands, and which has since been opened, crossed the river at this point. Here, too, the new line of road from the southwest arm of Green Bay to Bay of Islands, which Mr. Charles Harvey, civil engineer, was now engaged in surveying, crossed the stream, as we could see by the poles erected. We now entered Indian Pond, which, from its size, would elsewhere be dignified with the name of lake, as it is four and a half miles in length and three quarters of a mile at its point of greatest breadth. It is thus considerably larger than the upper lake of Killarney, which though of world-wide fame, is but three miles in length and three quarters of a mile in breadth—the lower Killarney Lake being five miles in length. The scenery of Indian Pond is very pretty, the hills rising on each side with a gentle slope, and enclosing the bright waters of the lake, which is serpentine in form, and might be considered as really three small lakes united by channels. First we found ourselves in a circular basin, and crossing it, entered a narrow channel, overhung with woods which soon expanded into another

lake, nearly a mile in breadth. This, in its turn, narrowed into a stream which led to the third or upper lake. The beauty of this fine sheet of water is greatly marred by the destruction of the encompassing woods by fire, though some had escaped its scorching breath, and looked green and lovely. The eastern end of Indian Pond is in latitude 49 deg. 28 min. 41 sec., and about twenty-two miles from Hall's Bay, in a straight line. From the pond to the head of the southwest arm the valley contains some tracts of excellent land well adapted for agricultural and grazing purposes; the ridges are well wooded, and the soil, in many places, a rich loam, producing timber fit for shipbuilding or coopers' work. Even the marshes, which occur at intervals, are but a foot deep, and could be drained and made into excellent meadows. At Shoal Pond, which is seven miles from southwest arm, there is a tract of good land on its north shore, the soil being black loam on a red clay, and the pines growing on it from fifteen to thirty inches in diameter. Chloritic slate, containing iron pyrites and copper specks, occurs along this valley, indicating a copper region. Taking the valley of Indian Brook and that from the southwest arm, which converge at Indian Pond, and adding to these the valleys which lead to Little Bay and to the other three arms of Green Bay, we have in the whole of this area a large extent of excellent land, as fit for settlement as any in Lower Canada, on which many hundreds of families might find homes and a comfortable subsistence, while their surplus farm produce would help to support the mining population all around, and the lumber would find a ready market at the mines.

PROSPECT OF A FOOT TRAMP.

Around Indian Pond, especially on the southside, for six miles, the soil is good—a sandy mould, grey in colour and sometimes red, some of it being stony. The north side is not so fertile, but has patches of fine soil. Along the pond are indications of copper and plenty of iron pyrites. After leaving the pond we again entered Indian Brook, which flows through the lake, and we continued to pole and paddle up this stream for several miles, until it became so shallow that we found it impossible to proceed further with loaded canoes and a boat. A long continuance of dry weather had left the stream very low, and we were now in its upper reaches. Accordingly, we camped rather early in a grove of tall trees, among which were many splendid pines,

about seven miles by land from Birchy Pond, and about ten by the river. We landed all our goods and chattels, which were to be carried on the men's backs overland to Birchy Pond, while the empty canoes and boat were to be poled or towed up stream ten miles to a portage a mile in extent, over which they were to be carried to Birchy Pond. We had now before us a tramp of seven or eight miles on foot, which would afford a pleasant change, and enable us to examine the country better. The men had the prospect of a heavy day's work on the morrow, carrying heavy burdens eight miles along a rough track, and they needed a good rest. The telegraph line ran right behind our camp, at a short distance, and along the path "blazed" for it we were to walk to Birchy Lake.

OUR THIRD CAMP—THE TELEGRAPH LINE.

Camp No. 3 was in a pleasant location, and soon the smoke of our great pillar of fire was floating away over the lofty tops of the pines, and tongues of fire shooting up from the crackling logs. During the cooking of our evening meal I strolled along the new telegraph line. The posts are excellent material, and firmly planted in the ground, and the wire all that could be desired; but the path cut through these heavy woods is but from twenty to twenty-five feet in width. Trees from fifty to seventy feet in height are thus within twelve feet of the wire, and in case of heavy gales of wind some are sure to fall, and either break the wire or conduct the electricity off by leaning on it. We formed the opinion that frequent breakages would render it necessary to widen the line to one hundred feet, and to cut down every tree that would, if blown down, strike the wire. The trees are merely cut about two or three feet from the ground, and along the rough track thus made those in charge of the line have to make their way. Tilts are built at intervals for their shelter, and a small stock of provisions stored. It is impossible to overrate the importance of this line, and Government deserves the best thanks of the community for constructing it. It will pioneer the way for settlement, and if followed by the construction of the road which has been surveyed, a line of settlers will speedily stretch along it from the eastern to the western shore. The pangs of hunger interrupted these economic reflections, and drove me back to camp, seeking what I might devour. What my Indian friend calls my "wood appetite" seems now to have touched the zenith, and becomes positively

alarming in its developments. Nothing comes amiss; all is manna in the wilderness when seasoned by the sauce of hunger. Quantity is the chief consideration; quality of food is a matter of secondary importance.

LETTER FIFTH.

THE BABES IN THE WOODS, AND HOW THEY FARED.

The night of September 26th around our camp fire of dried birch and fir, which projected a great bar of light into the canopy of darkness overhead, was pleasant as any of its predecessors. The mirth and fun, if neither "fast nor furious," were genuine, as we "swopped yarns," reclining in free and easy attitudes on our fir couch, and basking in the ruddy glow of our magnificent fire, the fine effect of which, amid the varied foliage of the forest trees, with the stars visible overhead, I never wearied of admiring. After such a glorious supper as ours, amid such surroundings, if there be anything good or humorous in a man, it comes to the surface. There is a streak of the wild Arab in every man, which is overlaid by education and social conventionalities and theologies, and life in the woods seems to revive the dormant element. Do we inherit it from our patriarchal ancestors, or, going further back, from our poor relations, the monkeys? Somehow this gypsy life does not seem to me at all odd or incongruous; all its details are natural and pleasant, and I feel as if I must have lived it a long time ago—perhaps in a previous state of existence—and had only now got back to the primeval and proper condition of being. From our present standpoint, ordinary life seems a dull, plodding affair, and I begin to wonder how I endured it so long. I observe my Micmac friend, Andrew Joe, frequently stretching himself at full length, in an upright position, with his back to the fire, and rubbing along the course of his spine, with great apparent satisfaction. It strikes me there must be something in this practice of "the noble red man" which is perhaps the outcome of centuries of experience in the woods, and I resolve to try it. I can now

recommend it as comforting and refreshing in a high degree, when practised in front of a big fire of birch in the woods. When wet, Andrew lies down in front of the fire till the region around the stomach is steaming, then he turns his back to the heat. The men evidently reverence him and listen to him deferentially, from his superior knowledge of the country and of all matters connected with hunting, fishing, and canoeing. He is a good-humoured, sharp, intelligent fellow, and even the New Brunswicker and Nova Scotian listen to him respectfully. As for the Newfoundlanders, they regard him as a superior being. He has a wonderfully accurate knowledge of the island, and has been guide to many a deer stalker during the last dozen years. Of all these he mentions with greatest respect Mr. Sheffield, an Englishman, who came here hunting several years in succession. He was a wonderful shot—according to Andrew—could take off the head of a black duck when on the wing with a rifle bullet, and never failed in this performance. Captain Charuley, the great deer-stalker from Nova Scotia, stood next to him in Andrew's estimation. He was "a fine gentleman, and such a one for deer." For Lord Dunraven, too, he had much respect as a true sportsman and a kindly gentleman.

WE REACH THE WATERSHED.

Next morning we were up betimes. After breakfast every thing was packed in bags; the men shouldered the loads and trotted off along the telegraph line towards Birchy Pond, a distance of about eight miles. It was marvellous to see the ease with which these stout fellows jogged along a very rough path with these heavy loads on their back. Andrew's was estimated at 100 lbs. weight, but he considered this not much more than half a load. He said "At first carrying loads in woods, you sore and tired—after a month twice as much easy." Dr. E—— took his rifle and went off on his own account in hopes of getting a deer. The Governor and I brought up the rear soberly, walking along the telegraph line among the stumps of the trees and admiring the fine timber and soil, and wondering when the scream of the locomotive would be awakening the echoes along this beautiful valley, and the smoke of farm house and cottage would be ascending into the atmosphere. I had the curiosity to measure a noble pine, which had been cut down to make way for the telegraph wire, and lay on the ground to rot. I found it sixty-eight feet four inches, and

as it had been cut three feet above ground it stood originally seventy-one feet four inches in height. Spruce trees fifty and sixty feet high were common here. By-and-bye we emerged from the woods and crossed a swampy piece of ground where the walking was very heavy; then we came to open "barrens" where there are few trees, and these of small growth; the soil thin, and in some places covered with boulders. This part is said to be excellent for deer-stalking at certain seasons. Two high hills on the left are visible for a long distance. The valley averages half a mile to three quarters in width. After a pretty fatiguing walk, we reached, at 2 p.m., the portage between Indian Brook and Birchy Pond, which is about a mile in width. This is the water-shed, or, in the vernacular, "the height of land," but it is only one hundred feet above the level of the sea. It is forty-four miles from Hall's Bay. From this the rivers all flow towards the west. Indian Brook comes through a depression in the hills to the north, having its origin in a pond at some distance beyond this range. Thus we have reached the greatest height of land between the eastern and western coasts, and find it only one hundred feet. In point of fact, a level plain runs from shore to shore, across the island, as this trifling eminence is of small account. By the hand of nature a great highway has been levelled, and in opening communication between east and west this is evidently the route for a road or railway.

BIRCHY LAKE—THE WOODS IN AUTUMN.

On reaching the highest elevation on the portage we sat down to enjoy the charming beauty of the scene, which, in many respects, could hardly be surpassed. Let those who fancy Newfoundland a repulsive, befogged wilderness only stand where we now stood and look around, and their delusions about the island being a howling desert will soon be dissipated. The burnt woods were at length left behind, and the leafy amphitheatre formed by the surrounding hills was glowing in the gorgeous tints of autumn. Over the tree tops we see the brightly gleaming waters of Birchy Lake, stretching as far as the eye can reach to the west. A range of hills, thickly wooded, forms the southern boundary of the valley. Three peaks boldly lift their summits above the others, and present a very striking and picturesque appearance, adding greatly to the impressive beauty of the scene. The nearest is Necklace Hill, so named because while the summit is green a landslide apparently has occur-

red underneath the crown of the hill, leaving a zone all around of bare white rock, to which at the base a green zone succeeds. The white circle below the summit has suggested the name, Necklace. This hill is five hundred feet in height. At about a mile distant Mount Sykes, one thousand and fifteen feet high, lifts its head, and Mount Steepmore, twelve hundred and eighty feet in height, four or five miles further west, is a very striking object, as it presents a bold square front to the lake, the summit having the appearance of a truncated cone. The beauty and variety of the autumn tints of the foliage are charming to the eye—yellow, green, scarlet, crimson, and many different shades of each of these colours, appearing the more vivid by contrast with the dark green of the tapering fir trees and the gloomy pines, which are plentifully intermingled with the more brilliant colors of the birch, ash, poplar, and aspen; while the maple, here and there, has assumed a blood-red hue. What variety and depth of colouring—what harmonies and contrasts, far beyond the painter's art—what warmth and richness in some of the tints! Before the chilling blasts of November come to wither the leaves and mingle them with the dust, nature glorifies these woods with a splendour and beauty such as they could not boast of in the bloom of summer. Around Birchy Lake, as may be supposed, birch trees predominate, their rich orange tint contrasting finely with the deep green of the spruces, while the mountain ash has a soberer yellow hue, and the poplar has donned crimson robes. Instead of being lost in the universal emerald of summer, each tree now stands out in its individuality: and yet, though the variety of shades is endless, there is still a oneness of effect. The colours, too, come out in large masses, not in individual detached leaves, so that everything tawdry or little in its effect is prevented. The view from the spot where we stood, above Birchy Lake, was really lovely; and were this region in England it would compete, in attracting tourists, with the Lake country or Wales. The forenoon had been cloudy, but now the sun shone down out of a clear blue sky with splendid effect. Sunlight is like the breath of life to the pomp of autumn—wanting it, there is little splendour—with it, the glory is revealed. It is like varnish bringing out the hidden veins in a piece of rich wood. In the full light of the sun, all the gorgeous colouring flashed out, making a bright and gorgeous picture. And yet as I gazed I was conscious of a feel-

ing of sadness, as I reflected that all this glory indicated decay and heralded winter with its icy blasts:—

“Oh, Autumn! why so soon
 D part the hues that make thy forests glad;
 Thy gentle wind, and thy fair sunny noon,
 And leave thee wild and sad.”

EXTENT OF THE LAKES.

In another country Birchy Lake would be known and celebrated as a beautiful sheet of water, having considerable dimensions; here, few know even its name, as it lies in its solitary loveliness far inland. “For man’s neglect I loved it more.” In length it is equal to Windermere, being twelve miles. It is usually said there are three Birchy Lakes, as at two points it contracts to a narrow channel, which each conduct to a wide expansion. The first of these lake expansions is four and a half miles in length, and a mile at its greatest breadth, having a pretty little island near its eastern end. A narrow water-passage, having a small rapid and expanding at length into a pool, leads to the second Birchy Lake, also four and a half miles in length, but only half a mile in breadth; and this again narrows to a small channel which opens into the third lake, three miles long and half a mile in breadth. On the southern side of the second of these lakes the ground is seamed with deer paths, the narrow neck of water being a favourite place for the cariboo to cross when moving south in the month of October. The “barrens” in this quarter are famous grounds for deer hunting.

GLADSTONEAN ACHIEVEMENTS WITH THE AXE.

Our fourth camp was on the northeastern end of the first Birchy Lake. After leaving our belongings here the men went back for the boat and canoes. These they poled and hauled (empty) next day up the stream to a spot within a mile of our camp, and then carried them overland. This was a pretty heavy job. Andrew Joe carried one of the canoes on his shoulders. He crossed the paddles inside, then turned the bottom up, and, putting his head between the supporting paddles, trotted off with it in this picturesque fashion on his broad shoulders. As we had to wait here the arrival of the canoes, I turned backwoodsman to pass the time, and took to felling trees. After a few trials I succeeded wonderfully, and soon learned how to bring down a tree in any required direction, by making first a great gash on

the side opposite to the spot where you wish it to fall, and then a few strokes on the other side brings it crashing down. There is a wonderful charm in felling trees; and I began to understand Mr. Gladstone's performance in this line, at his rural residence, as a recreation. After smiting away with a sharp American axe till the perspiration is streaming, and your whole frame in a glow, and every muscle on the stretch, it is fine to see the tree, with its great branches, begin to quiver under your blows; which then redouble, till it sways, bows its grand head, and, with a great thud, comes to the ground. "Ah! my fine fellow," you pantingly exclaim, "I have done for you." It would seem, from a very ancient record, when earth was young and more encumbered with trees than at present, to be a good axeman was a distinction and established a claim on the gratitude of mankind. There is a passage in one of the psalms which is thus quaintly versified in Rouse's version, the one to which Scottish Presbyterians still fondly cling:—

"A man was famous and was had
In estimation,
According as he lifted up
His axe thick trees upon.

I took a deeper interest in the fire that night from the fact that with my axe I had added something to the pile of fuel; and I pondered deeply how I could manage to continue this Gladstonean recreation of felling timber after my return to civilized life. It struck me, however, that if I were seen going off to the woods with an axe on my shoulder, "a leatheru girdle about my loins," and encased in a guernsey frock, there might be some danger of a writ *de lunatico inquirendo*; and with a sigh over the bonds imposed on us in this Philistine, positivist, electric-light era, I gave up the idea. And yet the pleasures of our artificial civilization, compared with those of an open-air existence such as this, are

"As moonlight unto sunlight,
Or as water unto wine."

The afternoon of the 28th got into low spirits towards evening, and finally took a fit of copious weeping and violent sobbing. In our snug tent we did not mind the pelt-ing of the rain and the roaring of the wind. We found our position, however, at the end of Birchy Lake rather an exposed one, and we shifted camp to a fine sheltered spot near

the western end of the first Birchy Lake, among spruces and junipers sixty feet in height. Here we spent a quiet Sunday, ready for a start on the lake on Monday morning. We were now in our fifth camp.

LETTER SIXTH.

SCENERY OF BIRCHY LAKE.

Our sail up Birchy Lake, on Monday morning, September 30th, was one of the most delightful we enjoyed during the whole trip. The rainstorm had exhausted itself during the night; the morning sun poured down all its splendours, glorifying the whole leafy solitude with its rays, and bringing out the finely harmonised tints of the woods, especially the rich golden colors in their setting of sombre green, and lighting up the waters of the gracefully winding lake with dimpling smiles. A lovelier scene I have rarely looked upon in all my wanderings through this beautiful world than that presented along the shores of Birchy Lake on this fine autumn morning. The graceful sweep of the encompassing hills, wooded thickly to their summit, and glowing in autumn's brilliant hues, now receding and leaving a wide valley, and then, at the next turn of the lake, closing in till the opposite ridges have but a narrow stream between, overhung with the great arms of the trees; the grand fleecy clouds floating through skies blue as those of Italy, and mirrored in the calm bosom of the lake; the windings of the river-like waters revealing new and startling beauties at every bend, and embracing numerous islets which their channels have created— all combined to form a scene of rare loveliness, which in other lands would attract hosts of visitors, but here in the centre of Newfoundland has yet been gazed upon by few admiring eyes. Perhaps the sense of absolute solitude, the thought that there is not a human being beside ourselves nearer than seventy miles may have added to the charm of the scene. The banks of the lake at intervals spread out into a wide level plain, and the soil appeared in many places to be very good. How much of it is cultivable would require a more careful examination than we could bestow to determine. In the worship of the beau-

tiful one is apt to forget all about such sublunary things as farms, crops, and cattle.

OUR FIRST DEER AND ITS MIRACULOUS ESCAPE.

Gliding along, the canoes leading the way, we soon left Mount Sykes and Crow Hill behind, and we were approaching Steepmore Mountain, when suddenly the foremost of the two canoes made signals of some discovery on shore. Straining our eyes in the direction indicated, we made out the graceful form of a deer, stepping leisurely along the sandy margin of the lake, and evidently looking for a favourable place to swim across. All was now eager excitement. The instincts of the hunter awoke in every breast, and, for a time, overpowered all other feelings. Possibly, too, pleasant visions of venison steak may have floated across our prophetic souls, and the odours of imaginary venison soups may have been wafted to our fancies, as we watched a fine fat two-year-old stag pacing the strand, all unconscious of the approach of man, with free and graceful step. He was to windward of us, and his keen scent and hearing gave him no warning. The deer is far from being sharp-sighted, and when the hunter stands perfectly still, will sometimes approach within a few yards of him to examine the strange object more closely. But once he scents his foe he is off like a whirlwind. The two canoes now separated—one cautiously paddling after the deer along the shore, the other steering for the opposite side of the lake, so as to be ready for the stag should he plunge into the water and swim across. It was a moment of anxious suspense as we watched the canoe slowly creeping up to the deer, and fondly hoped to see him dropping on the sand. To Dr. Eyles was entrusted the fearfully responsible duty of bringing him down, and all eyes were upon the marksman. Bang went the rifle, awakening the echoes in the surrounding hills. For a moment the deer stopped and looked round in surprise, the sound being such as he had never heard before. "He's hit—he'll drop;" "Not a bit of it." A second shot rang out, and then the deer took to the water in a moment, and with a few vigorous bounds reached the woods. Our venisonian visions vanished in a moment; and sorely mortified, we pursued our voyage. I am afraid we had at first some hard thoughts regarding the doctor, and that he went down to zero as a sportsman in our opinion, for in this merciless world there is no pity or pardon for failure. But when we began to reflect that it was no easy matter to hit a deer when aiming from a cranky

canoe, and that the flutter caused by firing at his first deer, under the eyes of the whole expeditionary force, with so many great expectations waiting the result, was quite enough to render the doctor's nerves less steady than usual, we freely forgave him. Next day he redeemed his character as a marksman by shooting a fine hare, nearly decapitating it on the bank with a rifle bullet. The best and bravest fail at times. And, after all, was it not better that this fine young stag should escape and enjoy his honeymoon, which was close at hand, than that we, "two-legged animals without feathers," should murder the noble animal, and gormandize on his remains? Very probably he was "engaged," and had the doctor's bullet struck him down some fair young hind would have been left a broken-hearted widow. I am afraid these philosophic thoughts failed to reconcile the doctor to his failure, and I could see in the face of Andrew Joe disappointment broadly written.

FREEMASONS' POINT.

Pursuing the windings of the lake, we were invited by Andrew Joe, who knows every object, having hunted and trapped for years in this region, to land at a point on which stood a noble pine tree, sixty or seventy feet in height, in order to examine a record which had been carved on it. We found the symbols of Freemasonry—the compasses and square, sun and moon, etc.—beautifully cut in the wood, together with the following names and dates:—"R. B. Harvey, T. Walker, W. and J. Charnley, J. Cope, Sept. 17th, 1853," then followed in a column the dates, 1854, 1855, 1856, 1857, 1858, 1859, apparently indicating that the parties, or some of them, had visited the spot annually, and carved each date in succession in this lonely spot. Captain Charnley is known in Newfoundland as a mighty hunter, who for many years spent each autumn in chasing the deer in the region we were now traversing, and whose deadly rifle brought down many a stately stag. His residence was in Halifax, but he died several years since. It was interesting to meet here with a record going back a quarter of a century. I was told, however, of an older date on a tree on the shore of Indian Pond. Dr. Eales examined it on the homeward route, and, on the stump of a pine, found deeply cut the initials of some unknown traveller, and the date, 1728. The point on which we now landed is known as "Freemasons' Point." It was curious to find traces of the universal brotherhood even in the interior of Newfound-

land. Probably by this time the handwriting of the widespread fraternity may be traced on some of the trees around Lake Tanganika. Around Freemasons' Point there is a considerable extent of excellent land, on which we noticed some white birch of very large size. The soil being composed mainly of decayed vegetable matter, the roots of the trees are not embedded to any great depth, and seldom penetrate the subsoil, so that clearing such land would be a comparatively easy task. There appeared to be few if any boulders here.

SANDY LAKE.

At length we reached the western end of Birchy Lake, and found its outlet to be a pretty broad and deep stream flowing to the west, the banks being densely wooded to the water's edge. Down the river we floated pleasantly, the scenery being still fine and the weather charming. After rowing a few miles the stream expanded into yet another lake, about a mile in length and half a mile in breadth, called Seal Pond. Crossing this, we again found ourselves afloat on the river, here considerably increased in volume by various affluents; and after a pleasant run of an hour the bright waters of Sandy Lake became visible through the openings in the woods. This is a beautiful sheet of water, and of considerable size, being six or eight miles in length and having an area of seventeen square miles. Its surface is but forty-five feet above the sea level. It is so named from the fact that its southern and western shores are covered with yellow sand. The eastern shore is strewn with large gnessoid boulders. We landed on a point where the river empties itself into the lake. All around was a bed of beautiful yellow sand, very pleasant to walk upon after the experiences of rough tramping through the woods. From this spot the whole lake can be taken in at a glance, with the hill ranges in the distance stretching away northward towards the head of White Bay. I strolled along the sand, while dinner was being prepared, and came on the fresh tracks of three wolves, and further on the tracks of a deer, which, from the size, must have been those of a full-grown stag. There could be little doubt that these wolves and the deer had, ere I saw their tracks, which were two or three days old, lain down peacefully together, the deer being inside the wolves. Once these savage brutes get on the trail of a deer they never abandon the pursuit till they have picked its

bones. The devastation they work among the herds of our deer in the course of a year must be enormous. Compared with this the number slain by the hunters and settlers is but as a drop in the bucket. Could the wolves be destroyed or lessened in numbers our deer might multiply indefinitely. They are caribou, the same species as those of the north of Europe, but of much larger size. As I was meditating on the probable fate of the deer, whose footprints were here left on the sands of time, the Governor's shrill whistle was heard. It was the signal for dinner, the delicious odours of which I could sniff at a great distance, owing to the purity of the atmosphere, but still more from the wolfish appetite engendered in the woods. Byron speaks of "the tocsin of the soul, the dinner bell." The whistle which summoned us to dinner had never to be repeated. It was responded to with an immediate "adsum." This dinner was a great success. It was miscellaneous in character—an amalgamation of soup, tinned meats (blessed be the man who invented these—he deserves to be canonized, and all travellers in the woods will say "amen" to this), fried bacon, slices of fat pork cut very thick, with tea of forty horse power to wash all down. After all, nothing helps the enjoyment of fine scenery so much as a good dinner. While the spiritual part is revelling in beauty, the claims of the corporeal part are met and satisfied. We are a compound of matter and spirit, clay and divinity, and the body will not bear being "sat upon" too much by the mind. That open-air dinner on Sandy Lake, with glorious scenery around to supply the higher nature with impalpable food, was worth a hundred dull feasts, such as the modern dinner party inflicts upon us.

TELEGRAPH STATION—GOOD NEWS FROM HOME.

A fine westerly breeze was blowing, and the lake, not being very deep, soon presented a pretty rough surface. Andrew Joe, from whose decision there was no appeal, declared that the canoes would not safely cross Sandy Lake if loaded. We accordingly decided to walk the distance, following the rough track cut for the telegraph line, in order to lighten the canoes. We had rather a trying time, at first wading through swampy ground at the south-eastern end of the lake, and leaping over small brooks, occasionally finding ourselves almost up to the knees and mired; then came barrens, and finally woods, having some splendid pine and other trees. We estimated the distance walked to be five

or six miles. At length, about a mile from the western end of the lake, we were stopped by a river far too deep to be waded; but our men had foreseen the difficulty, and sent the boat to take us the remainder of the journey. It was a welcome sight, as we stepped ashore, to see a neat frame house, erected in a small clearing, which we were told was the telegraph station. From here the line was open to St. John's *via* Bay of Islands. A lot of telegrams was awaiting the Governor, and soon we were in possession of the most important items of news from the civilized world, which we had left ten days before, and our arrival was notified to friends in the capital. After all, we were constrained to admit that civilization has its advantages, much in love as we were with the romantic, rowdy life of the woods. We pitched our camp on a beautiful spot near the telegraph station on the southern bank of Main Brook, a broad stream forming the outlet of Sandy Lake, and connecting it with Grand Lake, which was now only twelve miles distant. The sunset this evening was magnificent. We could sweep the whole of this fine sheet of water at a glance, with its islands, coves, and harbours, and its encircling hills, whose summits were fading in the dim distance. Gorgeously colored clouds of all shades gathered round the setting sun as he seemed to pause over a world he had blessed, and which appeared to feel his love and return his smile. Then, encompassed by flame curtains, he disappeared.

GASTRONOMIC REFLECTIONS.

The important hour for supper was at hand. We celebrated our arrival at Sandy Lake by indulging in a special luxury. The Governor and the Doctor had brought down some shell and pye ducks with their guns, and from these was manufactured a brown soup (various ingredients being added) which would have made a London alderman smack his lips with delight. The Doctor remarked, after the second plateful, that "it stirred into energetic action the molecules of the stomach, and produced an agreeable titillation in the monads of the brain, causing you to feel good all over, and exercising a wholesome physical and moral influence over the whole man." The sleep which followed that repast was so sound that, if any of us had an accusing conscience, the cases had to be adjourned to a more convenient season for adjustment, there being no chance of a hearing that night. With Sancho Panza I say, "blessed be the man who invented sleep."

LETTER SEVENTH.

THE INTERIOR—POSSIBILITIES FOR NEWFOUNDLAND.

On Tuesday, the 1st of October, we were as usual, up with the dawn. The morning was lovely—not a breath of wind stirring the bosom of the lake, and the sky without a cloud. It is clear that the climate of the interior and of the western side of Newfoundland is far superior to that of the eastern seaboard. Fogs are unknown; easterly winds, with their blighting, chilling influence, are not nearly so prevalent as on the east coast, and when they occur are greatly modified. From all I could learn vegetation is fully a month ahead in the interior and on the western shore as compared with the storm-beaten east. And yet the whole population is clustered along the eastern and southern coast, in order to reap the harvest of the sea; while the land harvest, far more valuable, which might be gathered in, is unthought of, and the fine valleys, noble forests, and broad plains of the interior and of the west are absolute solitudes. I begin to doubt whether the fisheries, lucrative though they be, are an unmixed blessing, as they keep the people clinging to barren rocks and drawing a precarious subsistence from the sea; whereas, had they penetrated the interior, the good lands would have been cleared, smiling farms and homesteads would by this time be stretching from shore to shore along the great river courses, and villages and towns would have sprung up where now only dense forests wave. It is of no use, however, quarrelling with the past, or throwing contempt on it; the great matter is to make the future an improvement on the past. Nature had her own way of arranging matters. Through many sore stumblings and blunderings our race fights its way upwards; and many a forlorn hope must fall and fill up the ditch, in order that their successors may march to victory over their dead bodies. This is what we dignify with the name of "progress," and we must accept it as one of the facts of the universe, and be thankful for it, saying, with the old German proverb, "Whatsoever is agreeable to thee, O graceful universe, shall also be agreeable to me." Why should not a

people who commenced with catching and drying codfish, in the course of their natural evolution, become prosperous agriculturists, cattle raisers, lumberers, while one section is drafted off to the copper, lead, and coal mines, some of these growing into copper lords, wealthy capitalists, and bloated millionaires! Nature has given the people of Newfoundland splendid opportunities to become any or all of these; and if they continue poor fishers of cod, the fault is their own. Deep in these old rocks nature has buried the rich ores, and she is now saying, "Come drill and blast out these my treasures, and drag them to the sunlight for human uses, and become rich, and educate your sons and daughters, and help onward the march of humanity. Here are fertile valleys—smite down the forests with your strong arms, clear the soil, and grow, in this health-giving climate, all that the heart of man need crave for." I think the time is near when our people will respond to this call, and enter in and possess the noble inheritance Providence has secured for them. Mining will pioneer the way, and is doing so on a moderate scale at this moment. Wealth will flow in; the rapidly increasing population must be fed; the deer and the wolves must give place to the farmer; and the burnt and blighted forests will be made to "blossom like the rose." But mankind are, as a rule, lazy and conservative, and disposed to tread in the old paths; and it is the part of wise and progressive rulers to stir them up, remove obstacles out of the way, point out where work is to be done, and lead the host to victory.

FOREST DEVASTATION—NEED OF PRESERVATIVE MEASURES.

During this trip which I am describing, nothing struck me more forcibly than the sad and rapid waste of our national wealth which is going on in our forests by fire, and the destruction wrought by reckless, irresponsible persons, who are now causing irreparable mischief, the effects of which will be felt and mourned for generations to come. All around Sandy Lake, where we were encamped at this time, are fine forests of pine, birch, spruce, and fir; and as yet they are unscorched by fire. But the wandering lumberers are invading these solitudes from the west coast, and around this lake and Grand Lake they are cutting down and carrying off the pine timber, there being no law to prohibit them or regulate their operations—and no return made by them to our finances. On an average, two out of three trees which they cut down are rejected by them, for some

slight defects, and left to rot on the ground. Within twelve miles of where we were at this time 1,200,000 feet of lumber were cut down last year, and the logs floated down Main Brook into Grand Lake, on whose banks similar operations have been going on. A storm scattered the logs, and when we were there they were floating in Junction Brook, and many would probably be lost. In no other country would such lawless proceedings be tolerated; but the arm of the law is not long enough to reach this region. It is not yet too late for us to take warning by what is going on in Canada and the United States, and endeavour to save our forest wealth, not only as a source of supply of timber, but because the denudation of the country of its forests is productive of injurious effects upon the climate. I referred in a former letter to the forest devastation going on in the United States, which will, in a very few years, exhaust the supply and bring ruin on the wood industries of that country. Mr. James Little, of Montreal, one of the highest authorities on this subject, has lately shown that at this moment only the States of Maine, Michigan, Wisconsin, and Minnesota, are able to furnish lumber supplies beyond their own requirements. Maine is now almost stripped of her pine forests, and lumberers are forced to the head waters of every river in the State in search of spruce, and are stocking their mills with sapling poles of six and seven inches in diameter; and this slaughtering of young trees is carried on to such an extent, to supply the neighboring States and for shipment abroad, that in a few years the people of that State will have neither white pine nor spruce for their home consumption. The northern sections of Michigan, Wisconsin, and Minnesota are the only localities of the whole twenty-six States that are able to furnish supplies of white pine beyond the wants of their own respective States, and the demand on them is so heavy, for all sections of the country, that it will not be possible for them to respond to it for more than five or six years. The main streams are all stripped, and the lumbermen are now operating at the head waters of their tributaries. On the lower peninsula of Michigan the mill owners have exhausted their timber within team-hauling distance, and are building railways to reach more distant places. Mr. Little declares that at the present rate of consumption and reckless waste in lumbering, the supply of timber in the United States will not last ten years, so that they are threatened, not merely with a scar-

city, but an absolute dearth of the most essential kinds of wood used in a vast number of industries. Should the United States be thrown on Canada for a supply of timber, Mr. Little declares there is not, from Manitoba to the Gulf of Saint Lawrence, as much pine, spruce, hemlock, whitewood and other commercial woods as would supply the United States for three years, and that the whole accessible pine localities of Canada have already been run over for boardwood timber, suitable to supply the English demand. With these facts before us, it is high time for Newfoundland to adopt some effective measures for husbanding its forest wealth, and preserving it from destruction by fire and from reckless lumbering operations. Replanting the denuded forest lands that are unfit for cultivation, might be initiated with a hope of good results. When I saw a fine pine tree of seventy or eighty feet prostrate on the ground, and doomed to rot there, I could not but reflect that nature had taken a century or a century and a half to build up that forest giant which human stupidity now left to perish ignobly in a few years without any effort to turn it to useful account. How precious are these forest growths which we often destroy so wantonly, may be gathered from the facts of history. The countries around the Mediterranean before the destruction of their forests were the most fertile and populous on the face of the earth; now they are comparatively depopulated, sterile wastes. Tripoli had once a delightful climate and a population of six millions; now, owing to the denudation of its forests, it is unhealthy and sparsely populated. Spain, Portugal, and Italy have suffered greatly from the same cause, and the people have learned that the restoration of the trees and the growth of the population must go on together. The chemist Liebig said that "the decay of the ancient empires of Greece and Rome was due more or less to the neglect of their people to take care of their land and its fertilizers and climate regulators—the forests." Asia Minor, Egypt, and the mountainous parts of Austria have lost their fertility and natural rainfall wherever the trees have been cut off. With such examples before us let us be timely wise.

MAIN BROOK.

We rested at Sandy Lake during the forenoon, and after dinner embarked on Main Brook, a fine broad stream, which flows into Grand Lake, the distance being twelve miles. We were now in a state of pleasurable excitement, as our

next camp was to be on the banks of Grand Lake, that magnificent expanse of water, fifty-four miles in length and having an island in its bosom twenty-two miles long, of which we had heard so much, but which very few Newfoundlanders had ever seen. I could not but admire, at starting, the glorious combination presented in the scenery around of forest, lake, sky, and mountains. What a contrast to the rugged scenery on the eastern shore, to which our eyes had been so long accustomed. Our sail down Main Brook on this glowing afternoon was perfectly delightful, the eye having a perpetual and varied feast in the scenery. The soil of this tract, twelve miles in length, through which the river flows, judging by the appearance of the banks, must be excellent and well adapted for settlement. There are a few rapids and shutes, which are easily got over, and at intervals long stretches of still water, or "steadies," in which no current is discernible. This river is in reality a branch of the Humber; the other, or main branch, taking origin about twenty miles inland from Bonne Bay, on the western coast, first flowing northeasterly till within ten miles of the head of White Bay, where it bends round, and runs southwesterly to Deer Lake. The other branch heads with Indian Brook, flows southwesterly through a succession of small lakes into Sandy Lake; thence by the stream on which we were now afloat into Grand Lake, whose outlet Junction Brook, in a circuitous curve, effects a junction with the main branch of the Humber about six miles above Deer Lake. When we were within three miles of Grand Lake, we were startled by a series of ringing cheers, evidently from human throats, breaking these ancient silences. We could see the Governor in the leading canoe taking off his hat and bowing in acknowledgment of the salutations of some invisible beings sheltered by the dense woods. In a few minutes the mystery was solved—we had come upon the surveying party under Mr. Chas. Harvey. They had heard of our approach, and now came out of their camp to receive with due honours His Excellency the Governor. A fine, bronzed, stalwart set of men they looked—seventeen in number. They had been out since June, engaged in the hardest work, cutting a road across the island, smiting down the giants of the forest, wading rivers and marshes, carrying with them tents and provisions, enduring the assaults of the mosquitoes, and facing all kinds of weather; but they looked the picture of robust health, with that fine bronze

colour which can be obtained only in the woods. Their clothing was rather delapidated, and showed infinite variety and great ingenuity in patching, while their head gear presented an appearance truly ludicrous in the weather-beaten delapidated fragments of hats and caps which covered their "domes of thought." They had evidently made a great effort to look respectable—their most neatly patched corduroys and moleskins being brought to the front, and the least broken hat-rims being mounted jauntily above the nose. They had just finished the survey as far as Sandy Lake from Bay of Islands, and were entering on the last section which was to connect with the one first surveyed from the southwest arm of Green Bay to the head of Indian Pond, and thus complete the road across the island. Of course this was merely the preliminary survey. We stopped a short time, exchanged news, inspected their camp, and then resumed our voyage.

LETTER EIGHTH.

WILD FOWL, HARES, ETC.—A SPORTING COUNTRY.

As we approached Grand Lake, the river widened considerably, till near the mouth it was sixty or eighty yards in breadth, and very deep. The scenery as we passed along was beautiful. We had left the rapids behind, and the river flowed so gently between overhanging woods that the current was almost imperceptible. We had glimpses of several small ponds, with brooks flowing out of them, which are the home of multitudes of ducks, geese, and other wild fowl. The finest species of wild duck is that named "black duck," which is reckoned the best table bird in the island, the flavor being pronounced delicious by epicures. This region must be excellent sporting ground. We saw flocks of ducks and managed to bring down a few, but we never paused or went out of our way to get a shot. We felt ourselves to be explorers, not sportsmen; and only took what game chance threw in our way. A young arctic hare was shot, and furnished next day a supply of delicious soup at our mid-day meal. A fine stretch of perfectly level land runs from Sandy Lake to Grand Lake, having deep soil and a rich

vegetation. Several of the marshes are covered with rich grasses, and, if drained, would make excellent meadows. The depth of many of them, we were told, is but a foot or two, so that they could be readily drained if the country were once settled.

THE GRAND LAKE—FINE SCENERY—FOREGLEAMS AND ANTICIPATIONS.

The shades of the evening were closing in as we got our first glimpse of Grand Lake, and a very beautiful and impressive sight it was. Near its mouth the river takes a sudden bend, and reveals at once the full expanse of the blue waters of the lake, in which it loses itself. Our expectations were wound up to the highest pitch as we approached this noble sheet of water, of which we had heard so much but which so few had visited. To compare small things with great, we had been looking out for it, and anticipating a sight of it, with something of the same feelings which Speke experienced when he mounted the last height and saw the magnificent Victoria Nyanza stretching away in the dim distance, far as the eye could reach. Where the river enters it, Grand Lake is about six or seven miles in breadth, and with the encompassing hills gently sloping down to the water, densely wooded, and flashing under the rays of the setting sun in all the golden glories of autumn, and its bright waters gently heaving under the evening breeze, the sight was enchanting. Near the shore, the bottom is yellow sand; and the reflection on the rippling surface produces an endless succession of golden squares and circles, dazingly beautiful in appearance. I stood on the shores enjoying the fine sight as long as daylight lasted, and watching the effect of the darkening shadows on the waters, which, as the breeze died away, became like molten silver. I tried to picture to myself this great watery expanse, stretching from where I stood for fifty-four miles, away towards St. George's Bay, and grasping in its two arms a lofty island twenty-two miles in length, exceeding in extent the famous Lake of Geneva by nine miles. Here it had lain embosomed in its surrounding hills, its silences unbroken save by the shouts of the Red men whose wigwams were once seen on its shores, or the wild unearthly note of the great northern diver fishing in its waters. In all these woods and hills, stretching away in one direction to Red Indian Lake and in another to White Bay, there was not a single track except the paths beaten by the deer in their annual migra-

tions; and in the whole region around there was not a human being but the few composing our party. I sat down on the trunk of a pine tree that had been washed up by the waves, and gave myself up to the spirit of the hour and the influence of the scene. The shades of night had now darkened the hill tops, and only a stray breath of wind played on the surface of the lake. The stillness had in it something oppressive, almost painful. No warblers to fill the woods with their evening song; not even the hum of an insect to disturb the stillness. In vain you hold your breath, and listen intently for the faintest sound. The silence was absolute, and had a peculiar and depressing influence on the feelings. To relieve this sombre mood I tried to picture the "good time coming," when the great valley stretching from shore to shore will be filled with a busy, prosperous population; when the forests will be cleared away, and smiling cornfields and meadows will overspread the scene; when along the iron road will be gliding the chariots of fire, drawn by the untiring steeds; when these beautiful blue waves will be a pathway for the steamboat, with its tranquil motion; and when "young men and maidens, old men and children" will mingle their voices here in songs of gladness. It seemed to me, as I gazed in the darkening twilight at lake and hill-tops, woods and sky, as if the utter stillness was prophetic of human approach—as if our little band was to be the pioneer of the great wave of civilization, the boom of which I seemed to hear along the newly-laid telegraph wire, which now pierced the forests. The dead and dreary stillness became vocal to my ear, and whispered that man, the lord of creation, the mighty king and conqueror, was coming to make all things new—to build the great city, to erect the monuments of human culture, to make this new world blossom like the old, to make "the wilderness and the solitary place glad." And as I listened, now that the mantle of darkness had wrapped the scene around, the air seemed all alive with his name, the trees whispered it in trembling expectancy to one another; the breeze took it up and spread it over the hills and along the valleys, and proclaimed aloud that man, the rightful heir of all, was coming; that his distant footfalls were heard; and the trees seemed to "clap their hands" in welcome, the hills to listen for his approach, the forests to bend their tremulous tops in expectancy, and all nature to offer eagerly the precious things with which for countless centuries she

had been storing her bountiful bosom for "the heir of all the ages."

HARE SOUP IN PANNIKINS—PARADISE RESTORED.

I was awakened from these prophetic meditations by the sound of the axe and the crash of falling timber, as our men were preparing fuel for the evening fire; but these sounds seemed also to accord with my train of thought, and to announce that the all conquering wave of human progress was coming. We camped that night in a dry sheltered nook on the shore of the lake. Next day we thought ourselves entitled to a little rest and recreation. The instincts of the hunter asserted themselves, and the Governor and Dr. Eales were tempted to go off in pursuit of the flocks of wild ducks in some of the neighboring brooks and ponds. They returned to dinner pretty successful, and very hungry. Our cookery to-day was a great triumph of art, and was carried out under special instructions. The grand feature in it was hare soup, in which also was a dash of wild duck, thrown in "to make the mixture slab and good." Behold us then, seated at our tent door, like Abraham of old; before us the placid expanse of the lake, on our knees pannikins smoking with this delicious woodland soup, in which a tender young hare had rendered up its juices in happy combination with those of some pie and shell ducks; and fancy what it must have been to dine under those circumstances, with the appetites of hunters, breathing the sweet atmosphere of the woods, and with the blue vault of heaven for a canopy. Nothing to compare with this could be found within the pale of civilization. Dr. E. pronounced the soup "superb" in flavor; and waving his hand gently over the epigastric region, he declared that "it completely met and satisfied every aspiration," and gave him "a faint conception of Paradise Restored."

PLANS FOR THE FUTURE.

His Excellency now decided on spending the remainder of the time at our disposal in a thorough exploration of this fine lake, instead of pushing on to the sea coast. Should we explore it to the south-western end, a distance of fifty-four miles, we should be within fifteen miles of Bay St. George, on the western coast; and as the Governor had already visited Bay of Islands and St. George's Bay, he considered that the time during which he could be absent from the seat of Government would be most profitably spent in

ascertaining the condition and capabilities of the country around the lake, regarding which information was but imperfect. Besides, indications of coal had been repeatedly reported by previous visitors to this region; and the Governor was specially anxious to ascertain whether there were any grounds for believing that a coal field existed in the neighborhood of Grand Lake, as, in case of workable seams of coal being discovered, the construction of a railway through this region would be doubly important.

EXPLORATION FOR COAL—DISCOVERY OF A SEAM.

Accordingly on the morning of the 3rd of October, Dr. Eales and I set out to explore for coal up a brook which falls into the lake at its northeast angle, about four miles from the place where we were encamped. Various rumors were afloat about coal having been found in this brook, and in consequence it was named Coal Brook. Just at the mouth of the brook we came on the fresh tracks of a deer, and the Doctor was unable to resist the temptation, and, rifle in hand, he started in pursuit of the deer, leaving me, in company with one of our men, to search for coal. We followed the bed of the brook, and found it slow and laborious work to make any progress. Wading at times, almost up to the knees in water, leaping from rock to rock, amid slippery boulders, and at times compelled by fallen trunks of trees to leave the stream and scramble through the woods, we painfully forced our way upwards. At first there was not the slightest sign of coal, but about three quarters of a mile from the mouth of the brook the formations changed—boulders and ledges of soft micaceous sandstone were encountered in the bed of the stream, which is very rapid, and on the banks low cliffs of shale and soft sandstone, alternating with indurated clay. It was evident we were now in the coal measures: and we scrambled along slowly, carefully examining every nook and cranny in the banks whenever an exposure of the strata occurred, and using our small handpicks constantly. At length I picked up a small fragment of genuine coal, and our eager watchfulness redoubled. We had gone about a mile and a half up stream when, at a bend in the river, I saw some black substance cropping out on the left hand bank, and a few strokes of the pick served to show that I was the discoverer of a small seam of coal ten or twelve inches in thickness. I was almost as much enraptured as if I had found a gold mine. Soon we filled our knapsacks and pocket handkerchiefs with bright coal

of excellent quality, and started on our return journey. We preferred, however, forcing our way through the tangled woods to returning by the rocky bed of the stream. We kindled a fire on the sandy beach, and when the Governor joined us at the appointed hour, for further explorations, we had a blazing coal fire to greet him. The coal burned brightly and freely, leaving but little ashes, and appeared to be a good household coal. With all the pride of discoverers we watched our glowing fire, and began to fancy that we had "struck it rich," and might, like the great Micawber, "fall back on coal." A little reflection, however, moderated our feelings. The seam was far too small to be workable with profit, and the market for it too far away; and so we wisely concluded not to take out a mining license, but to leave it to some future speculator to work the coal beds here and become a millionaire. To become rich all at once might lead us into "divers temptations." Besides, were we not on the public service, and bound to have no private ends to serve?

MR. JUKES' OPINION OF GRAND LAKE COAL FIELD.

I do not know whether any one had previously discovered this particular seam of coal, but it is certain that coal was found, more than once before this time, on the same brook. Nearly forty years ago Mr. J. B. Jukes, then a young man, afterwards one of the most eminent geologists of Britain, and for years at the head of the Irish Geological survey, spent a short time in Newfoundland, and among other places he visited Grand Lake, and ascended the brook I have described in search of coal. A mile from the mouth of the brook, he tells us in his interesting book on Newfoundland, he found "a bed of coal *six inches* thick, consisting principally of good cannel coal." The one I found was half a mile farther up the stream, and nearly twice as thick. I suspect Jukes' seam has since been completely covered up by the falling in of the banks, as we did not observe it in coming up the stream. Mr. Jukes' says, "We went some distance further up the brook" (from the seam he found), "but could find no more beds, though Sulleon picked up a lump of good coal, six inches thick, and apparently part of a larger mass, and as the current of the brook is very rapid, and its bed rocky, it must necessarily have come from above. What I had seen, however, was sufficient to prove that all these clays and sandstones, extending through the flat country, and the head of the pond, belonged to a coal formation,

containing no doubt good beds of workable coal." "All these beds dipped at an angle of 30° to the southeast. Large pieces of coal were found in the bed of the brook (which is rapid and rocky) above this point, showing that more beds exist, and an Indian, of St. George's Harbor, assured me he had seen a bed three feet thick, in the brook below this point, about three years ago. This was probably true, as I saw many banks in the same brook where such beds might have appeared, but which were then covered with wood and rubbish which had fallen from above. It thus appears that the rocks containing beds of coal are those observed to dip towards the wide level tract mentioned before as extending northeast of the Grand Pond, and that as they approach that tract the beds become more horizontal and regular. It is therefore highly probable that coal may be found over the whole or greater portion of it." He further says that the series of beds here is precisely similar to that on the southside of St. George's Bay, where he found a coal seam two feet and a half in thickness; and that the general dip is easterly, and that the angle of inclination becomes less as we recede from the granite and primary rocks.

PROBABLE EXTENT OF THE COAL FIELD.

This is very weighty and important testimony, coming from such high authority. Strange to say, nothing has been done during the forty years which have elapsed since Jukes' visit to test the value of this coal field, which, beyond all doubt, extends to a very considerable distance from the northeastern end of Grand Lake. From the River Humber, on the one side, to Sandy Lake on the other, along the banks of Main Brook, the river which we had descended, and around the head of the lake, runs the wide level tract referred to by Jukes, containing these coal measures, and in the whole or greater portion of which he considers it "highly probable that coal will be found." This is what gives significance to the small seam which we had the good fortune to discover. The character of the formations all around warrants a careful examination of the region. It is not improbable that a valuable coal field will yet be opened up here. Hence the vast importance of a railway to traverse this fine region, wanting which its resources must remain dormant. In my next letter I shall produce the evidence of Mr. Murray in regard to the Grand Lake coal field. Mr. Murray has spent fourteen years in working out the geology of the island, and therefore knows the country

thoroughly, and has done more than any other man to make known its great resources. He is the highest authority on the subject.

LETTER NINTH.

MR. MURRAY ON GRAND LAKE COAL FIELD.

Mr. Murray, the director of our geological survey, has made a very careful examination of the coal formations in Newfoundland, and has from time to time in his reports described the places where they occur, defined their limits, and strenuously urged a scientific examination and the use of the boring-rod, with the view of inducing enterprising capitalists to invest in coal mining. This, however, like many of the other admirable suggestions, for the development of our resources, which he has repeatedly urged in his reports, has hitherto been neglected. I trust we have now reached a phase in our progress when the value of his reports will be more generally admitted and their suggestions carried into effect. He says in his report for 1865:—"The coal formation is probably the most recent group of rocks exhibited in Newfoundland (excepting always the superficial deposits of very modern date, which are largely made up of its ruins), and there may have been a time in the earth's history when it spread over the greater part of the land which now forms the island; but a vast denudation has swept away much of the original accumulation and left the remainder in detached patches, filling up the hollows and valleys among the harder and more endurable rocks of older date, on which it was at first unconformably deposited. One of the most important of these detached troughs, or basins of coal measures, is in the Bay St. George, where the formation occupies nearly all the lower and more level tract of country between the mountains and the shores of the bay, and another lies, in a somewhat elongated basin, from between the more northern ends of the Grand and Deer Lakes and White Bay; the eastern outcrop running through Sandy Lake, while the western side probably comes out in the valley of the Humber River, near the eastern flank of the Long Range of mountains." The latter basin of coal measures is

the one in which we were now exploring, and which, according to Mr. Murray, is one of considerable dimensions, extending from Grand and Deer Lakes to White Bay. He says the base of this coal formation is found "on the east side of the Grand Lake, opposite the northern end of the great island, from whence it skirts the shores of the lake in a narrow belt, to the immediate vicinity of Old Harry Mountain, where it runs under the water for a short distance, re-appearing on the points between Old Harry Brook and Hind's Point, and again striking into the interior at a short distance to the northward of the latter point it bears for the base of the Conical Hill, crossing Coal Brook, and pointing towards the lower end of Sandy Pond." He further mentions being unable to find Jukes' seam on Coal Brook, probably in consequence of its being covered over with *debris*, and also the fact that fragments of coal were washed up frequently on the northern shore of Grand Lake, indicating the existence of a seam of coal near the mouth of Main Brook. I verified this myself by collecting on a point jutting out into the lake a quantity of small fragments of coal of excellent quality, which had been washed ashore by westerly winds. These must be pieces broken off from a coal seam which runs underneath the waters of the lake. It could not be a difficult matter to determine the thickness of this seam by boring, as its position is pretty clearly indicated. Mr. Murray sums up thus:—"From what I have been able to observe, if the workable beds of Cape Breton exist at all in the central trough of Newfoundland, the country where they may be expected to be found will be in the region between the Humber River and Sandy Pond, where there is ample room to bring in a sufficient accumulation of strata." In a later report—that for 1873—he says, "I am still of opinion that the region referred to (in the foregoing extract) is situated more favorably than any other in this respect, although the recent discovery of a seam seventeen inches in thickness on the Coal Brook leads me to suppose it by no means improbable that larger and more productive seams may be discovered, by trial with the boring-rod, near the banks of the Main Brook, or near the northern shores of the Grand Lake." It will be seen from the foregoing extract that Mr. Murray is disposed to entertain very hopeful expectations regarding this coal field around the lake. I may mention, too, that His Excellency the Governor, whose experience in similar regions has been extensive, is

very sanguine regarding the developments of this coal field, and has formed a high estimate of the agricultural and mineral resources generally of the country through which we had passed, and especially around the lake. He was indefatigable in his efforts to gain all possible information regarding its capabilities and facilities for settlement, and I was often struck with the direct and sagacious way in which he reached the object in view, and with the clear and practical character of his aims. I may mention that the road, recently surveyed by Mr. Charles Harvey, passes through the very centre of the coal field described by Mr. Murray; so that, should a railway be constructed, as is highly probable, any workable seams of coal that may be discovered, could be readily turned to account. I am not aware, however, that the reported discovery of a seventeen inches seam of coal on Coal Brook, mentioned by Mr. Murray in the foregoing extracts, has been verified. The one I stumbled on of ten or twelve inches, is, as far as I know, the only one yet found. There is little doubt, however, that a careful search would result in a re-discovery of the three feet seam described by the Indians, which the falling in of the banks has hid from view.

A CROOK IN OUR LOT—INSINUATING LIVE STOCK.

The weather was warm, and on some evenings close and sultry, while we were carrying on operations on the north-eastern end of Grand Lake, and the mosquitoes took advantage of it to make a final and desperate charge, conscious perhaps that their day was nearly over. Compared with what we should have experienced at an earlier date, their present assault was mild; yet the irritation of the skin caused by their bites was very disagreeable, and produced no small amount of "Scotch fiddling." An old experienced mosquito, took an unfair advantage of me, when my hands were engaged in measuring a pine tree, and inflicted a severe bite on my nose, which speedily became the subject of innumerable jokes, and it was even hinted that there must be *something* at the bottom of it in the shape of a private "pocket-pistol;" otherwise, the nasal promontary could not have assumed such unnatural proportions. Still, worse, however,—another of these insinuating insects bit me savagely on the lip, but fortunately the nasal swelling had subsided before the labial one set in, otherwise I should have been compelled to "take the veil." In combating mosquitoes the most provoking thing is that however many of the foe

may be slain, this has no deterring effect on the remainder, but rather seems to encourage them to rush on with renewed energy, any number of volunteers on the forlorn hope being ready at a moment's notice.

DEER LAKE, ITS SOIL AND PRODUCTS.

Finding that our time would not permit us to explore the country around Deer Lake, the Governor despatched two of our men across the portage, nine miles in extent, between Grand Lake and Deer Lake, with orders to purchase specimens of the vegetables raised there by the only two settlers who had ventured so far inland. They returned, bringing with them some splendid vegetables grown on a small farm which had been cleared by Mr. Nichol, a native of Cape Breton. He came with the men to pay his respects to the Governor, and from him we obtained some very interesting information regarding the country, as he is a very intelligent and industrious settler. He was loud in his praises of the land on the northern side of Deer Lake, which he described as superior to any he had seen in Nova Scotia or Cape Breton. The extent of the good land he estimated at thirty-three miles in length, and with a breadth varying from two to five miles, all of it perfectly level. The soil is a deep sandy loam; and for the growth of root-crops could not be surpassed. He had grown potatoes which weighed each three pounds; parsnips and carrots twenty-two inches in length; and beans and peas one-third larger than the same kinds grown in Nova Scotia. He had raised a small quantity of wheat as an experiment, and found it quite equal to Canadian wheat; clover and buckwheat also grew luxuriantly, and he found the soil specially favorable to the growth of flax. He had not an opportunity of trying fruit trees, but from the character of the soil and the sheltered position of the district, he was of opinion that apples would thrive here. There were along the river rich "interval" lands which would make splendid meadows, and on some of which he had cut natural grasses for hay. The timber is large, consisting of pine, spruce, birch, and fir. In proof of his statements he brought with him specimens of his vegetables, which we thought finer than anything of the kind we had seen grown in Newfoundland. His potatoes were of the kinds called Boston Rose, Early Rose, Pink Eyes, Island Blues, and a new variety which he had raised from the apple, and which I named Purple Nichols. His potatoes were never diseased, and for size and quality could

not be surpassed. He also produced fine specimens of turnips, parsnips, broad beans, scarlet runners, California garden pea, and flax. He considered the district referred to as admirable for settlement, and was of opinion that if a road were constructed through, it would speedily be occupied by settlers from Cape Breton, New Brunswick, and Nova Scotia. He further said that unless a road were built he and the other settler did not intend to remain, as they were thirty-four miles from Bay of Islands, could not convey their surplus produce to market unless at a heavy expense, and were shut out from all the advantages of civilization—no school for their children, and no church nearer than Bay of Islands. Owing to these discouragements, and to the fact that they had no title to the land they occupied, they had cleared only a few patches, and spent part of their time trapping and hunting. They always secured a supply of venison in the fall of the year. The new road surveyed by Mr. Harvey, he stated, ran right through this fertile district and if built would open up the whole for settlement. Should a railway be constructed, produce could be sent to the mining district on the eastern coast. For several days after, we revelled in Mr. Nichol's vegetables, which we found to be excellent. Here then, in addition to what we had passed through, is an extensive district, admirably adapted for settlement, and capable of sustaining a large population in comfort. At present it contains two families, who will hardly remain in their present lonely, isolated condition. It would be impossible to conceive of an easier country through which to run a road. We commemorated Mr. Nichol's visit by a famous supper of pork, cabbage, potatoes, and turnips, with a few "trimmings" to serve as top dressing.

EXPLORATIONS ON THE NORTHERN SHORE OF GRAND LAKE.

We moved our camp on October 4th to a spot on the opposite shore of the lake, within a mile of the portage, and now prepared for a voyage of discovery up Grand Lake. Our canoes were too small for service on a lake where a gale of wind would speedily raise waves equal to those of a sea in a storm, and still more dangerous. We were fortunately able to secure a whaleboat which had been used by the telegraph company when constructing their line. Not having the opportunity of chartering or insuring this craft, we "took the loan" of it; as we were well aware that we had only to ask and have, had we been in a position to communicate with Mr. A. M. MacKay, the able and respect-

ed representative of the Anglo-American Telegraph Company in Newfoundland. Our new craft had a sail and four oars, and though heavy in rowing, could stand a gale of wind. We towed one of the canoes with us for explorations in smooth water, and having beached the other, and stowed on board the whaleboat provisions for several days, we embarked on our voyage up the lake. Our Indian, Andrew Joe, had excited us no little by relating a tradition about a large seam of coal on the northwestern shore of the lake, which he had heard from his father and grandfather. This was said to be about six miles from our starting point, and we determined to keep a bright look out for the coal.

COAL HUNTING.

Rowing close to the shore, we carefully examined the formations, which at first were sandstone and shale, precisely the same as on the opposite side, where the coal was found. This excited our hopes still more, and ten pair of eager eyes were searching every crevice and cliff as we moved along; each person wishing to be the first to cry out "Eureka." We landed repeatedly for a closer examination, when anything having a hopeful appearance presented itself, or any stratum was seen likely to hold the "black diamonds." The day was lovely and the scenery enchanting. I am familiar with the lake country of England, and, excepting at Windermere and Ulswater, there is nothing there to surpass the beauty of Grand Lake, as I saw it, on this fine October morning. The noble amphitheatre of encircling woods, glowing under a bright sun, in the varied tints of autumn, and with graceful-curve sweeping down to the water's edge; the ever-shifting panorama of clouds floating in a deep blue sky; the pellucid water of the lake; the hills on the opposite shore, with Conical Hill and Old Harry, fifteen hundred and sixty feet high, towering over the others; the shores with their jutting points and numerous bights and inlets—all combined to make up a scene of rarest beauty—enough to tempt men less practical and conscientious than we from coal hunting to the pursuit of the æsthetic.

LETTER TENTH.

CONFIGURATION AND EXTENT OF GRAND LAKE.

Grand Lake, on which we were now afloat, is fifty-six miles in length, and has an area of one hundred and ninety-two square miles. It is but fifty feet above the sea level. Many brooks empty into it, but it has only one outlet—Junction Brook—which joins the Humber. The southwestern extremity bears about northeast from the head of St. George's Bay, from which it is distant about fifteen miles. From this end, the lake, for the first seven miles, bears east-southeast, and is about two miles wide. Then it trends round to east northeast, dividing into two arms, each about one mile wide. These two arms enclose an island twenty-two miles long and four or five miles wide in its middle portion. The shores of this island are very steep, and equally lofty with the surrounding country at its southwestern end; but they become much lower at its northeastern extremity, which we were now approaching. From the island the lake runs in a northeastern direction, and widens, as I stated in a former letter, to a breadth of five or six miles. On its northwestern side the land slopes away northward into a very level and densely wooded tract which stretches away toward White Bay. It is said there is often a tide in this lake after a storm, and doubtless this is caused by the banking up of the water at one end from the pressure of the wind. Our Indian, Andrew Joe, informed us that while the northeastern end, nearly to the island, froze completely over every winter, the tradition among his people was that the southwestern end had never been known to freeze over so as to enable persons to cross on the ice. This is very likely to be true, as at the northeastern end the shores are flat, and the water shallow, whereas at the other end the shores are lofty and precipitous, and the water deep, and confined to narrow channels. It is believed that the bottom of the lake, at its southwestern extremity, is three hundred or four hundred feet below the level of the sea. The question presents itself, how have these clefts been formed? The best solution of the problem is, I think, that which refers the scooping out of these lakes and ponds to the action of ice during the glacial period.

CONTINUATION OF THE HUNT FOR COAL.

All day we kept coasting along the northwestern shore of the lake, examining carefully every cliff and bed in hopes of discovering the coal seam of Indian tradition. Hour after hour passed, as we slowly rowed along, without result; but at length from the Governor's canoe, which was ahead, we heard shouts of victory. When we reached the spot where they had landed we saw the Governor and his men eagerly at work on the face of a shelving cliff, with handpicks and hammers, His Excellency working with a will, and tearing out of one of the beds a black substance that had all the appearance of coal. The whole party scrambled over boulders and up the face of the cliff, like wild goats, striving who should be the first to uncover a coal seam. Soon large fragments of the black, glittering substance were collected and placed in the boat. The spot was directly opposite Old Harry Mountain, and in a region of soft sandstone and shale. On trial, however, it did not prove to be the genuine "black diamonds," but a shaly substance, too hard and slaty to ignite readily, though evidently of the nature of coal. I should say that the place where it was discovered by the Governor deserves a careful examination. It is quite possible these surface deposits may cover something of a better quality underneath. After rowing a few miles further we found ourselves in a granitic region, and, despairing of any more coal discoveries, we crossed to the southern shore of the lake, with a view to find a snug camping ground. Our tents were speedily pitched, and thoroughly tired with our long exploration from early morning, we eagerly anticipated supper and rest. It was now the 5th of October, and the nights were getting rather cold. The fire built up to-night glowed like Nebuchadnezzar's fiery furnace, and threw up its tongues of flame till the tall pines were illuminated to their loftiest summits, and the birches, in their golden colors, presented the appearance of the "bush burning and not consumed." As I lay rolled in a warm blanket on a soft bed of boughs, watching through the tree-tops the moon sailing aloft in her modest beauty, ere "sleep that knits up the ravelled sleeve of care" descended, I said to myself, "O ye wretched Sybarites, who are now going to beds of down, by gas or lamp light, little do ye know the delights of healthful slumbers in the sweet-scented woods, where the air is pure as the breath of Paradise, and sleep, 'great nature's second course, chief nourisher in life's feast,' descends geut-

ly and wraps every sense in forgetfulness. Little do you dream, oh pampered children of luxury, what it is to sink into unconsciousness in an atmosphere fresh with the aroma of the wilderness, and to awake in the morning with the perfumed breezes in your face, and the colours of russet, of orange and gold, streaking the eastern sky, amid the stillness of the great woods which awaken, if anything will do so, feelings of reverence and worship." "Nature's soft nurse" took me in charge ere I could complete this series of reflections, and cut short the current of thought. I suppose, in my case, it must have been the quiet of the scene, the total absence of all those exciting sights and sounds and duties which had long kept my brain in a state of tension at times hard to bear, which now rendered my enjoyment of these solitudes so delightful. I was conscious of a flow of fresh currents of life and strength, from many sources, into the exhausted mind and enfeebled body. I shall always remember those calm nights passed in the woods, with their sweet, suggestive memories of silence and repose—their lullaby, the low murmur of the breeze amid the pine tops—their slumbers so full of true repose. I think every hard-wrought brain worker should be turned loose into the woods for six weeks annually, whether as angler, sportsman or sentimental tourist in search of the beautiful. He would return with elastic step, clear, healthful brain, and rich, bronzed complexion, full of fresh thoughts redolent of the woods and flowers, and re-invigorated for his work. Alas! in the hard "struggle for life," how few can secure such recreation.

THE ISLAND.

The sun rose brightly next morning, and by eight o'clock we were off up the lake. Soon our course brought us to the eastern end of the great island, whose shores rise lofty and precipitous, but densely wooded to the water's edge. The extreme end of the island slopes down into a low promontory; and opposite to it, a point juts out from the main land called "Grand Pond Point." The view of the island, as we approached it, was strikingly beautiful; and it was with feelings of eager curiosity and interest we gazed on this almost unknown land, for few whitemen had here preceded us. The lake here separates into two arms, which enclose this great island. We decided on following the southern arm, partly because it was unexplored, Mr. Murray, our geological surveyor, when here, having passed through the

northern arm. We now felt ourselves to be in "No Man's Land"—all was new and strange. The water in this channel is about a mile in average width; the hills on each side rise to a height of five hundred or six hundred feet, and for the most part, are wooded to the edge of the water. Our sail through this channel was charming. There was scarcely a ripple on the water, and it was an inexhaustible delight to glide along, marking the ever-varying features of the shore; the fantastic grouping of the trees; the music of the waterfalls high up among the hills; the great boulders along the margin of the lake, which had been for ages laved by its bright waters. I do not think that on the island there is much land fit for cultivation, but probably the elevated plateau on the summit would furnish good grazing ground. There is on it, however, a large quantity of valuable timber,

DEER KILLING.

About three or four miles above Grand Pond Point two spits of land run out, one from the island, the other from the main land, leaving a narrow passage, which is a favorite crossing place for deer when coming from their feeding grounds in the interior of the island. On the main land opposite there is a depression in the hills, leading to a long stretch of open "barrens," which has been long known to hunters as a favorite resort of the cariboo. Here then, if anywhere, we had a chance of stocking our larder with some good venison, and we were not disappointed this time. The quick eye of the Micmac Indian was searching the shore carefully as we approached the spot; and soon we heard his low whistle indicating that a deer was in sight. Our boat slowly drew in towards the shore. Andrew Joe, rifle in hand, crept carefully among the bushes so as to get within range of the spot where the deer, now seen swimming across the lake, might be expected to land. "Silence deep as death" was now enjoined, as the slightest noise would alarm the deer and drive him back to the island. Eagerly we watched his head, the only part visible, as he swam slowly across. Several times he paused, as if he had some presentiment of his doom, and then our hopes sank to zero. But he resumed his course, and at length, with palpitating hearts, we saw him slowly emerge from the water, and the beautiful creature stood in all his noble proportions on the yellow sand, shaking himself after his bath. He was a splendid young stag, and as I saw him walking, all unaware of the doom that awaited him, up to within range of

the Red man's deadly rifle, I experienced a pang of pity which made me hope that some lucky accident might yet lead to his escape. But all unconscious he walked into the jaws of death. How true it is often, regarding both men and deer, that

“’Tis a stern and awful thing to think
How often mortality stands on the brink
Of its grave without any misgiving !”

There was a flash, and the deadly bolt struck him behind the shoulder. The stag bounded into the air, fell on his knees, as if imploring mercy, ran a few yards into the water, and fell dead. When we reached him with the boat he was as dead as one of the Pharaohs. His soft, innocent eyes were turned up, and from their half open lids seemed to look at his murderers reproachfully. Andrew Joe did not appear to suffer any pangs of remorse as we towed him ashore. In ten minutes he was skinned and quartered—or as Andrew put it, he was in such a condition “that his own mother would not have known him.” That night we had a supper fit for an emperor. All our previous banquets were thrown into the shade by the venison steaks and venison soup. The memory of that feast will long remain green in the memory of those who shared it. Those juicy steaks cut from the haunch, the delicate white fat an inch and a half in thickness, and that superb soup which, when swallowed, seemed to radiate through your whole being, completely dispersed all my sentimentality about slaughtering the beautiful creature, and I saw the fitness of things as illustrated in the operation of the law of the “survival of the fittest.” The hunter instinct awoke now in all its force, and two of our party resolved to remain at this spot to hunt the cariboo. His Excellency and I however scorned to be diverted from our higher enterprise by mere sport, and taking a good supply of venison with us we started for further explorations up the lake. When we returned we found that our hunters had been most fortunate, having at the same spot shot a magnificent full-grown stag, with antlers of huge dimensions and beautiful shape, which in Europe would sell for ten guineas. They had also slain a fine plump young doe, the flesh of which was much finer in flavour and even tenderer than that of the young stag. It was estimated by Andrew that the large stag would weigh 500 lbs., and the other two together 550 lbs.; so that we had now far more venison than we could possibly consume. The men had an

unlimited allowance, and the quantity we all managed to envelop was astounding. What frying and stewing! What boiling and soup-making! It would be difficult to find a better hunting-ground than that on which we were. In this spot our men saw in all sixteen deer, and could have killed more, but forbore to slaughter them for mere sport.

LETTER ELEVENTH.

AURIFEROUS QUARTZ.

The last day of our advance westward in exploring Grand Lake had now arrived. It was the 7th of October. On the previous afternoon we had made a good run with a fair wind along the southern shore of the great island enclosed in the arms of the lake, occasionally crossing the channel, about a mile in width, to examine anything of interest that presented itself on the mainland. The shades of evening closed around us, and we camped in a pleasant locality far up this channel. Opposite our camp on this island we could discern the flashing of a waterfall as the rays of the setting sun fell on the foaming torrent leaping over a rocky ledge. Close to our camp I discovered a small brook, up which I forced my way, all alone, before it became quite dark. There is a wonderful charm in exploring a region entirely new; and here was one where probably the foot of white or red man had never been before. The little stream was so thickly covered with overhanging woods at its mouth as to be hardly discernible; but on following it for some distance, climbing over falling trunks of trees, wading pools, hopping from boulder to boulder, and at times creeping through tangled woods along the banks, I found that this insignificant torrent had, in the course of ages, cut out a deep chasm and laid bare the various formations. I came at length to a quartz ledge, and, after hammering for a while, I broke off pieces which contained specks of copper. It struck me, however, from the appearance of the quartz, that it might possibly contain some particle of a more precious metal, and I brought back with me some samples which, on my return home, I got tested by Mr. Barclay, the able analytic chemist of Betts Cove mine. He found in one piece "a small quantity of gold, but not sufficient to be of

any practical value," and in another piece "a trace of gold." I think this fact, that on the shore of Grand Lake quartz has been found holding even a minute quantity of gold, is not without some interest. I do not know, of course, what is the extent of the quartz ledge here, but it is not impossible that far richer specimens might yet be found along these shores. On the morning of the 7th October we were astir at break of day. The Governor, with two men, crossed the channel to examine the waterfall on the island; and presently we could see him scrambling eagerly over the boulders and scaling the cliff. He described the scene as very beautiful and the view from the higher ground of lake, wood, and waterfall as splendid. I spent the interval in a further examination of the brook in which I had found the quartz, but without any more interesting results.

CALLING A HALT.

After breakfast we started on our last voyage up the lake. The weather was beautiful, and the water perfectly calm. Mile after mile we rowed along, meeting everywhere a lofty, precipitous shore on both sides of the channel, generally wooded to the water's edge, but sometimes presenting a naked cliff, five hundred or six hundred feet in height, at the foot of which the water was very deep. We were now not far from the western end of the island, where the two arms of the lake meet with a gradual curve, and the lake terminates in a sort of creek some four or five miles in length. The appearance of both shores, on the island and mainland, became more and more monotonous the further we advanced, and though the slope was generally sufficient for the growth of trees, the last twenty feet were usually quite bare, plunging like a sloping wall into the water. It was impossible almost to find a landing place, and on such shores there was nothing to discover. The rocks appeared to be gneissoid. Nothing was to be gained by following up the lake to its extremity, over the few miles that yet lay ahead of us; and as the time fixed for our return was at hand, the Governor at length ordered a halt. We took a long look at the impressive scene—at the deep ravine formed by the arm of the lake through which we had been sailing—at the lofty island, all glowing with the tints of autumn—at the leafy solitudes, stretching away for unknown distances along the slopes of the mainland. Then the word was given, the boat's head was turned eastward, and we were homeward bound.

HOMEWARD BOUND—A SQUALL ON GRAND LAKE.

Having arrived at the place where our party of deer hunters had been left, we found, as I mentioned in last letter, that they had been successful in shooting a splendid full-grown stag and a plump doe. They could easily have killed more, if so disposed, on the open "barrens" on the summit of the hill, where the deer congregate after crossing from the island on the southern migration; but they were virtuous enough to abstain from slaughtering noble animals and leaving their flesh to the wolves. We now loaded our boats with the trophies of the chase—three carcasses of venison, the skins of the slain, and above all the magnificent antlers of the stag; and we found that we were now pretty deeply laden. The large antlers were lashed in the bow of the canoe, and presented a very pretty appearance as the light vessel skimmed gracefully over the surface of the water. I could not but admire the self-denial of the Governor in putting aside the strong temptations of deer stalking, and steadily pursuing the one object of exploration, in order to ascertain the character and capabilities of this unknown region. We were now in one of the finest localities in the island for deer, and we had hit the most favourable time for stalking, the annual migration having commenced. Small herds were constantly crossing from the island to the mainland, and congregating on the feeding grounds above the lake. His Excellency is a keen sportsman and a deadly shot with the rifle; and it must have cost him a severe pang to turn his back on the deer and pursue the work of exploration. We had now left the island behind us and got fairly out into the wide expansion of the lake. The weather had been looking suspicious for some time; and dark clouds began to gather on the hilltops, which soon discharged themselves in heavy showers. Gusts of wind swept the surface of the lake, and speedily raised no inconsiderable commotion around us. At length one peculiarly sullen-looking cloud spread itself to windward, and Andrew Joe announced that we were "going to have a big blow." After a few preliminary puffs the squall came down on us in full force, and it was surprising to see how speedily waves, like those of a sea in a gale, rose and tossed us about. The Governor was equal to the emergency, and at once took the steering oar and directed all operations. He had braved many a storm and guided many a gallant ship in battling with the billows, and we could not have had a more skil-

ful pilot. Steering a peculiarly clumsy boat, behind which a canoe was towed, with a heavy oar, in a squall, and having but one small sail and four oarsman, is no child's play; but the Governor was quite at home in the work, and evidently enjoyed it. Happily the gale, though a stiff one, did not last long, and after it came a calm and a burst of sunshine. We reached safely our old camping ground at the eastern end of the lake, and spent a short time in a further search for coal. On a point jutting out into the lake opposite Seal Island I managed to pick up a small quantity of pieces of coal which had been washed up by the waves, evidently showing that there must be a seam of coal at the bottom, from which these fragments were broken. The quality of the coal was found to be excellent.

RAPID RUN TO HALL'S BAY.

I must now pass rapidly over the incidents of our return journey, which was by the same route as that already traversed. We took our last look at Grand Lake and its noble surroundings on the afternoon of October 9th. Our boat and canoes, especially the former, were heavily laden with venison; but as we feasted on it constantly the consumption of ten men made it grow "small by degrees and beautifully less." Still we had far more than we could consume, and reserving a fine haunch for conveyance to St. John's, and a sufficient amount for the journey, we gave a large carcass to the telegraph operator at Sandy Lake. We were detained at the western end of Sandy Lake over a day and a half by a heavy northeast gale, accompanied with rain, which rendered it impossible for canoes to cross the lake. The gale moderated on Friday evening, October 11th, and at 6.30 p.m. we embarked. We had a charming sail by moonlight across Sandy Lake, then along Birchy Lake, and at one o'clock in the morning of October 12th we camped on the portage. Aided by six stout fellows from the road party, who were near the spot, we transported everything across the portage between eight and ten o'clock in the morning, and got afloat on Indian Brook, now swollen by recent rains, bound for our starting point, Hall's Bay. Aided by the force of the current, we rushed along at the rate of five miles an hour, and reached the house of Mr. Peters at six o'clock the same evening. Thus in twenty-four hours we ran from the western end of Sandy Lake to Hall's Bay, stopping at the portage for rest and refreshment eight hours and a half. This is believed to be the quickest run ever

made over this route, and shows how easy the transit across the island could be made along this track. Next forenoon the steamship *Hercules* called for us, and after a fine passage we landed at St. John's on the 15th of October, having spent on the trip a month, wanting five days. Altogether the excursion was a most agreeable one, and was rendered doubly so by the unvarying kindness and courtesy of His Excellency the Governor. When next I go out exploring the wilds of Newfoundland, I trust it will be under his leadership.

CONCLUSION—RESULTS OF THE EXCURSION.

I have now, in closing, to sum up the results of the exploration in a few words. Our excursion, it will be seen, extended nearly across the island, as the western end of Grand Lake is but fifteen miles from the head of St. George's Bay, on the west coast. A road one hundred miles in length would unite Bay of Islands, on the west coast, with Notre Dame Bay, the great mining region, on the east coast. Such a road could have its eastern terminus either at Hall's Bay, or, following the surveyed route, at the southwest arm of Green Bay. The latter seems, on the whole, the preferable route, and is over ten miles shorter. When we take into account that there is, as we have seen, a large extent of good arable land all along this route, having on it at present much fine timber, and that the agricultural capabilities of the country around Deer Lake especially are of the most inviting character for settlement—when the eastern section presents unmistakable indications of being a mineral region, while a promising coal field would be crossed by this road in the neighborhood of Grand Lake—it seems to me that there are the strongest possible reasons for the immediate construction of a railway through this fine district. Such a line of railway, being at first only designed for local traffic, need not be constructed on an expensive scale, and, in the event of mines being opened along the route, it would be used for the transport of coal and minerals, and would thus, in all probability, become a very remunerative line. Mining operations around Notre Dame Bay would receive a favorable impulse from the construction of such a line. At present all the necessaries of life have to be imported by sea from long distances for the support of the mining population, and labour is thus greatly enhanced in cost. Were there an agricultural population settled along this route, and in communication by railway with the mines, the

mutual benefits would be immense. A never-failing market for all kinds of agricultural produce, for cattle, poultry, &c., as well as for timber of all kinds, would be presented at the mines; and the expense of living among the mining population would be greatly lessened, and the comforts of the people increased. Large quantities of coal for smelting purposes, as well as for domestic use, would be required at the mines; while St. John's and other places could be supplied with coal, as the capital can be reached by a steamer in twenty-four hours from Notre Dame Bay. The grand *desideratum*, at present is to give an impulse to agricultural industry, and to draft the surplus of our fishing population, whose subsistence is very precarious, to the cultivation of the land. Were this region pierced by a railway, there cannot be a doubt that the country along the route would be rapidly settled by an agricultural population. Supposing that only 10,000 of a population could be settled here—and this would be a very low calculation—what an impulse would thus be given to the industry and trade of the whole colony. The building of such a line would distribute no inconsiderable amount, in the shape of wages, among our working people, and thus help them to commence farming, if so inclined. Gradually, all the available lands in the neighborhood of Notre Dame Bay would be settled, including the great valley of the Exploits. Agriculture and stock-raising, if once started, might expand indefinitely. There could be no finer region for feeding cattle and sheep than the one referred to. The exportation of live stock and dead meat from Canada and the United States to England is every year attaining larger proportions. Farmers in Newfoundland would have great advantages over those in Canada and the States, owing to the much shorter ocean passage between this Island and England, in conducting such a business. I am confident the day will come when, from these shores, this traffic will reach large dimensions. The growth of beet root for the manufacture of sugar is now being successfully introduced in Lower Canada and New Brunswick, and from the description of soil required for the growth of the sugar beet, I strongly suspect we have many districts in which it could be cultivated with advantage; and thus sugar sufficient for our whole population might yet be produced here. As our Government have now taken the initiatory step of having a road surveyed through the route referred to, it is evident they are alive to the advantages of thus uniting east and

west, and making the interior accessible. We will fervently hope that they will see the necessity of a railway rather than a waggon road through this district.

OPENING UP THE COUNTRY.

There is yet another view of the case. Supposing that a railway were built from Notre Dame Bay to Grand Lake, the waters of that fine lake would be available during eight or nine months of the year for a line of communication by steamboat to St. George's Bay; as the head of that bay is but fifteen miles from the western end of the lake, and the construction of a road over this distance would not be difficult, as there is an Indian portage all the way. Still more, a branch line of railway from Bay of Islands to St. George's Bay would be easy of construction; and thus the whole of St. George's Bay, where there is an extensive coal field, and where lead is abundant, and where large tracts of the best land in the island are to be found, would be opened up by the proposed railway and connected with our populous eastern shores. From Grand Lake another line of road could be opened along Hind's Brook and Pond to Red Indian Lake and the Exploits Valley, and thus some of the finest districts in the island would be made accessible. By the hand of nature a great plain has been spread out from east to west, thus marking unmistakably the proper route for a road across the island. On this plain the greatest height of land to be surmounted is but one hundred feet.

FINIS.

My task is now completed. I have aimed simply at describing, as accurately as I could, what I saw on this excursion; and I trust the narrative will not be altogether devoid of interest or barren of results. I have been merely a narrator; and the real credit of whatever good may flow from the exploration is due to His Excellency the Governor, who planned and carried out the whole, and who has already laid the people of Newfoundland under deep obligations by his energy and unwearied activity in promoting their best interests.

LETTERS

DESCRIPTIVE OF A VISIT TO OUR MINING REGION, IN AUGUST, 1878.

LETTER FIRST.

I have just returned from a brief visit to our mining region, and propose to furnish some account of what I saw, with the results of my observations. I may say, at the outset, that high as was the estimate I formed of the capabilities of this island as a mineral region from information furnished by others, personal observation has convinced me that "the half had not been told," and that there is the strongest ground for believing that the mineral wealth of Newfoundland is immense, and that the future will witness such a development of mining industry as will make it the Chili of North America. As yet mining enterprise is but in its infancy here, and only near the shores have any careful examinations been made, or any operations commenced; but already, as I shall presently show, the discoveries made warrant the largest expectations when once the interior is opened and thoroughly prospected. I venture the prediction, from what I have seen and heard, that this island will become the great source of supply for the copper market of England, and that here will spring up a race of "copper-lords," who will be able to control that market in the future. This is no flight of imagination, as I hope to be able to convince my readers before I have done, but a conclusion sustained by sober facts.

THE PURSUIT OF KNOWLEDGE UNDER DIFFICULTIES.

The mining region is situated around the shores of the great Bay of Notre Dame, on the northeast coast, and is nearly two hundred miles north of St. John's. It can only be reached by sea from the capital, our road system being as yet of small dimensions compared with the extent of the island. The mail steamer *Plover* makes fortnightly trips between St. John's and Tilt Cove, calling at the intermedi-

ate ports, and generally makes the run in two days or two days and a half, occupying the same time in returning. In order to save time, I took passage on the 8th of August, for Betts Cove, in the steam-tug *Hercules*, which ran direct, making but one call on the voyage. I reached my destination in thirty-two hours. But I regret to say the voyage is to me a complete blank. My intellectual and observational faculties were under an eclipse; my sense of the beautiful in form and color was temporarily suspended; my interest in men and things, in the grandeur of creation, in the music of ocean, in the rising sun gilding the heaving billows, in the moon as she poured out her floods of molten gold on the dimpling waves, was entirely blotted out. What was it to me that we were gliding past majestic cliffs, crossing the mouths of magnificent bays, whose green shores were dotted with the white cottages of fishermen, or coasting along islets sculptured into fantastic forms by the blows of the Atlantic billows, when all the while I was groaning under that most humiliating, ignominious malady which assails those landmen who "go down to the sea in ships." Nature had no charms for me, neither had "the human face divine," whether owned by man or woman. Strange that such a complete upsetting of one's mental and moral nature should be caused by a reversal of the peristaltic motion leading to a succession of "uptrains," and a total suspension of "downtrains!"

"Who need pique himself on intellect, whose use
Depends so much upon the gastric juice."

I regard sea-sickness as a fragment of the primeval curse which followed man's transgression, and still pursues our erring race. Under its malign influence faith, hope, and love are extinguished, for the time being. Life seems a horrid nightmare; all that is good looks bad, and all that is bad a thousand times worse. A succession of frightful or disgusting images rolls before the mental vision, long as the train of animals which filed into Noah's ark. I doubt if any man, under its influence, could honestly say that he believed in the Thirty-nine Articles, the Confession of Faith, or the Catechisms, larger and shorter. Scepticism gets the upper hand as the bile mounts upward. Doubtless, in the economy of the universe it is designed to serve some wise purpose. It may help to "keep us humble and mindful of death," and to beat down our inordinate vanity as the inventors of steamships; but, while torn and worried by it, we feel it to be an unmitigated evil, and "we groan, being

burdened." I have sometimes grimly watched its effects on different individuals. Some are sullen, silent, misanthropic; their sour aspect shows they have no faith in goodness, no delight in the beautiful. Others collapse utterly, and become limp and helpless. Some groan and moan out their misery; others suffer in silent agony, being completely flattened out, and but semi-conscious. Dante could hardly have experienced the wretchedness of sea-sickness, or in his *Inferno* he would have pictured a group of wretches for ever undergoing the tortures of this excruciating malady. It is wonderful that Satan did not think of trying its effect on Job when other inflictions failed of the desired effect. Burns apostrophises toothache as "the hell o' a' diseases," but he had never been at sea in a small steamer, with a northeaster heaving the billows of the North Atlantic, and bringing out all her capabilities of rolling, otherwise he would have apostrophised the sea malady instead of toothache.

BETTS COVE.

It was cheering news when, on the morning of August 10th, at nine o'clock, I was told that the steamer was entering Betts Cove, now renowned as the centre of mining operations. The entrance of the harbor is striking and picturesque. On each side of a narrow opening in a wall of rock, huge cliffs tower aloft to the height of three hundred and fifty feet, and on one side are almost perpendicular. The indentation has formed a harbor which, though small, is deep and safe, and has been made quite secure by a breakwater. The first thing that catches the eye is the fine wharves, nearly half a mile in extent, erected by the Betts Cove mining company, around both sides of the harbour. When we arrived, a large iron steamer, the *Rowland*, of 1,800 tons burthen, was lying at the wharf taking in copper ore for Swansea. On the opposite side a large brigantine was discharging her cargo; and a number of small craft were lying at anchor or moored to the wharf. On the left hand, on a shelf of rock, at a moderate elevation above the extremity of the wharf, smelting works are in course of erection, consisting of six large cupola furnaces, on the most approved principle, and having all the latest improvements. These are designed to smelt the poorer ores and bring them to a "regulus" of thirty or forty per cent. previous to exportation. Higher up the hill are other smelting works, which have been in operation for some time, and consist of

reverberatory furnaces. The tramway which connects the mine with the harbor, and is a mile in length, descends the face of the hill apparently at an angle of 45 degrees. Down this glide steadily the waggons filled with ore, while the empty waggons are drawn up, by the weight of the descending trains, to a level above, whence they are easily drawn to the mouth of the outcast shaft. This tramway is admirably constructed, and is a work of immense labor. It consists of a double track, with a footway between, along which sure-footed persons of steady nerve may walk safely, even when the waggons are running up and down. It is, however, a little trying to the nerves, as I know by experience, to find yourself at times, looking down into a chasm fifty or sixty feet deep, over which the track runs, being supported on upright poles; and should the rumble of an approaching waggon be heard at this spot, it will not add greatly to your composure. Custom, however, is everything; and the men run up and down this footway fearlessly. When loading vessels, three hundred tons of ore pass over this tramway daily.

On the wharf where I landed all was bustle and activity. Labourers were putting the ore on board in wheel-barrows, from the termination of the tramway. Others were discharging the cargoes of vessels and conveying goods to the stores, or piling up coal in the sheds for winter consumption. Teams of powerful horses were dragging up the steep road great trunks of trees, to be employed in timbering the mine, in those places where the roof requires support when the ore has been removed. The spacious store of the company seemed to be well filled with customers. It was pay-day, and a crowd of brawny miners surrounded the entrance of the office, waiting for their turn at the wicket. They were well clad, healthy looking and orderly. The sale of intoxicating drinks is prohibited in Betts Cove, under the sternest penalties, and the results are apparent in the good order which prevails, the absence of rows and street disturbances, and the comfortable aspect of the population. Till lately the services of a single constable were sufficient to keep in order a population numbering between 1,800 and 2,000. Two policemen have lately arrived from St. John's, but their duties are chiefly confined to the detection of illicit sellers of spirits in the little settlement near Betts Cove. During my stay of over a fortnight I did not see any one under the influence of liquor. The Sunday is as quiet and

as well observed as in the best regulated town I have ever visited; crimes of theft and violence are almost unknown. And yet here are gathered men from all quarters, and representing all nationalities—old California and Australian miners who have tramped the globe; steady, thrifty, intelligent Nova Scotians; Cornishmen whose mines have been closed, and who have crossed the Atlantic in search of work, Germans, French, and a few Italians. I should say considerably more than half of the population are Newfoundlanders, who, after a little experience, make excellent workmen. It is wonderful how the fame of Betts Cove mine has travelled far and wide, and attracted men from all quarters. Skilled miners can earn from two dollars to two and a half dollars a day; labourers get one dollar and ten cents a day. In addition to the prohibition of liquors another safeguard consists in the fact that any troublesome or disreputable persons can be quietly got rid of by refusing them employment. Steady, hard work is the order of the day at Betts Cove; and idlers or disorderly persons speedily find themselves in an ungenial atmosphere. Numerous cases have occurred in which workmen who has been dissipated elsewhere have been here transformed into sober, industrious citizens.

The village, which has clustered around the harbour, is built at the mouth of a narrow ravine, through which a small brook runs from a little lake about a half mile distant. Precipitous rocks rise on each side of the ravine, leaving but little space for sites of houses and a roadway. In consequence, the houses have been built wherever a site could be found—in a cleft of the rock, on some overhanging shelf or terrace, or along the margin of the little stream. Around the head of the harbour and along the side of the brook there is what may be called a regular street; but the rest of the houses are planted on rocky platforms, wherever sufficient space can be obtained, whether under the cliffs or on the lower crests of the hills. Some of them are reached by long flights of steps, but all are neat and seemingly comfortable. On a rising ground overlooking the harbor stands "the cottage," the residence of Mr. Ellershausen, the managing partner of the Betts Cove Mining Company, whose skilful energy and enterprise have produced such wonderful results, and in the short space of three years converted a rugged wilderness into a hive of industry. As an organizer of labour he has few superiors. He can direct difficult and complicated operations with that quiet mas-

tery and attention to minute details which mark him out as a genuine "captain of industry." Indomitable energy, the ability to "toil terribly" in conquering difficulties, boundless hope and courage were all needed to conduct to success such an enterprise. His sound judgment has been shown conspicuously in the selection of his officers, as he has been able to surround himself with a staff of whom any man might be proud—each highly trained in his own department, and all thorough gentlemen, and possessed of unbounded confidence in their "chief" and devotion to the work he has in hand. How gigantic that work has been may be judged of from the fact that three years ago a couple of fishermen's huts alone occupied Betts Cove, and that in that time, having men and materials to import from great distances, he has shipped about 75,000 tons of ore, the value of which could hardly have been under two million one hundred thousand dollars, and last year he paid in wages alone half a million of dollars. He has made Betts Cove a centre from which new mining enterprises in surrounding localities can be conducted with economy and efficiency, and has conferred on Newfoundland an immense benefit by showing what can be done in the development of its resources by the application of skill and capital. The condition of the settlement shows that the material and moral interests of the people are well cared for, and the high esteem and respect entertained by all the people for their able "chief" prove that his benevolent efforts are understood and appreciated.

LETTER SECOND.

THE COPPER FEVER.

In my last letter I gave some account of the general appearance of Betts Cove, and of the extent of the mining operations carried on there. The enthusiasm which pervades the community there in regard to copper mining reminds me of what I have read of the gold fever elsewhere, though the speculative mania is of a much milder type, for very obvious reasons. Unlike gold mining, in which individual efforts may go far, copper mining requires the expenditure of capital, and to individual labors seldom yields

satisfactory returns. Still, the possibility of finding a rich deposit, and leasing it to a company on a royalty, leads to very animated speculation far and wide. The whole coast around Notre Dame Bay is covered with mining licenses. Prospectors are at work in all directions. Wherever you go the talk is about copper—how this man or the other has “found a mine,” or, as it is commonly called “a mind;” how this and the other mine is yielding rich returns, or “giving out,” as the case may be. Numerous individuals are to be met with who are going round with specimens of ore in their pockets, and willing for a consideration to show you where a lode three or four feet thick exists. In Betts Cove, as might be expected, the talk is largely about copper, and in a few days one learns more about copper mining, smelting, and exporting than by reading whole volumes. Everything there reminds us that we are in the coppery region. Even the lower animals have caught the universal contagion, and take an interest in copper. There is a dog there who, when he finds a piece of copper ore which has been dropped accidentally, picks it up and carefully carries it home. He disappears occasionally and returns after an interval, tired and hungry; and it is believed he is prospecting for copper among the neighboring hills. The goats are numerous, and are also currently believed to have speculative tendencies, as they are seen climbing the almost perpendicular rocks which are bare of all herbage, and could present no attractions to goats unless in search of ore. I saw some pigs, but I did not observe any speculation in their eyes—they leave that to their weaker and more imaginative fellow mortals. It is impossible to live in such an atmosphere without becoming more or less copper-coloured in your thoughts and aspirations. The contagion is catching, and ere long you are talking copper with the crowd, and your very dreams at night have a bright yellow hue. To Betts Cove most of the prospectors who have found, or fancy they have found, a deposit of ore wend their way, in order to negotiate their claim with the powerful company who operate at this centre. No wonder that everything here wears the hue of copper. “Out of the abundance of the heart the mouth speaketh.” The prizes may be few, but they are tempting. The lucky finders of Betts Cove mine received last year \$12,000 as royalty on forty-five thousand tons of ore exported by the company who have leased the property. This is their share of the proceeds without any risk or ex-

penditure. "Other men labour, and they enter into their labours." The copper region is very extensive, and as yet only a small portion around the coast has been searched, and that slightly. That great discoveries of ore will be made in the future cannot be doubted. The surface of the interior is covered more or less by vegetation, and as a rule accident reveals the concealed treasures. Only within the last month, as I shall presently show, a new discovery of ore has been made at Little Bay which promises to throw all previous discoveries into the shade. In consequence of this, the copper fever has risen to an unprecedented height! Every adventurer who goes out chipping the rocks with his hammer, or kicking aside the moss and scrub, imagines he will be the fortunate finder of another Betts Cove or Little Bay, and will "return rejoicing bringing his sheaves with him." Numerous reports are rife about great "finds" having been made, but so many of these come to nothing that one soon learns to become critical and sceptical regarding such rumors, and discovers the necessity of walking by sight rather than by faith.

THE CHURCHES AND SCHOOLS.

About one half the population of Betts Cove reside close to the harbor, and the other near the mine, which is a mile inland. From the mine to the harbor the ore is conveyed on a tramway, but a good road has been constructed from the cove to the mouth of the mine. This road runs along the bottom of the narrow ravine, with towering rocks on each side, crosses the little brook by a bridge and then mounts the shoulder of the left-hand range, and winding round, at length reaches the level which leads to the mine. The ascent is pretty steep, as a height of over five hundred feet is reached in one mile of road. Along this road, and nearly midway between the harbour and the mine, three churches are erected. The first is Christ's Church, built by the company, a very pretty and commodious erection, well finished in every respect, and having every appliance for comfort. This is a Free Church in the true sense of the term, as it is open to ministers of all Protestant denominations. For some time, Episcopalians, Presbyterians, and Wesleyans worshipped in it, each having a service on Sundays, at a specified hour; but latterly the Wesleyans have erected a church for themselves, a little higher up the hill, the site and materials being generously given them by the company. At present Christ's Church is used alternately

by Episcopalians and Presbyterians, and the arrangement works well, the bulk of the people attending both services on Sundays, thus affording an illustration of what may be expected in millennial times, when "the lion and lamb shall lie down together," the latter not being "inside the lion." On a commanding site, on the very summit of the ridge, a Roman Catholic Church is in course of erection. Thus the spiritual wants of the place are amply provided for, and each of the denominations named has or will have a resident minister or priest. An excellent school is also maintained by the company, who pay the teacher, so that no fees are charged. I spent a short time in this school, and found that the children are well taught, and that the management is excellent.

THE JIGGING MILL, FOUNDRY, AND DIAMOND DRILL.

The next erection on the road to the mine is the company's stables, capable of accommodating sixty horses. It is a substantial building, and affords every comfort to the sleek, well-fed, and powerful animals who find a home here. Further on the sound of machinery is heard, and the "jigging mill" is reached. Here the dust and *debris*, formed in the course of mining the copper ore and breaking it into fragments in order to remove the rocky matter, are washed, in passing through a series of sieves, so that the particles holding copper, being the weightiest, are separated by a most ingenious process from the rest. In this way the fragments are gathered up, and nothing lost, and the finer copper particles are smelted. This "jigged ore," of the best quality, averages from ten to twelve per cent. of copper; inferior qualities from eight to ten per cent. Even the very slime formed in the course of washing the ore is utilized, and the richest of it yields four per cent. of copper. The poorer ores, together with the "jigged ore," are smelted before shipment and brought to a "regulus" of twenty to thirty per cent. How complete in all departments is the establishment at Betts Cove may be judged of by the fact that a foundry and machine shop have been erected near the mouth of the mine, where castings of all kinds are moulded, and the various waggons and tools required in mining are made and repaired. At these establishments all is activity and incessant bustle. Skilful mechanics are at work, and the aid of steam has been called in. When any new section is to be tested the diamond drill is employed, which cuts into the hardest rock at the rate of a foot and a half

an hour, bringing out a core of serpentine rock as smooth and beautiful as if cut by a sculptor's chisel.

THE MINE.

The houses of the miners are grouped around the mine, and appear to be comfortable dwellings. The "outcast shaft," up which all the ore is hoisted by a steam engine of sixty horse-power, is opened under Betts Head, and at a short distance below the summit. Here the outcrop of the deposit was first discovered and the first shaft sunk. Besides the outcast shaft there are five others, only some of which are in use for ventilation and other purposes. Compressed air is forced through pipes down these shafts by steam power, so as to keep a constant supply of fresh air in the workings. When the ore is brought up the outcast shaft, it is first deposited on "the copper floor," where the large pieces are broken by heavy hammers, the smaller fragments passed through a sieve, and the rocky portions, which are barren of ore, are separated and piled into the refuse heap. The ore is then filled into waggons and transported on the tramway to the vessels waiting to carry it to Swansea.

AN UNDERGROUND JOURNEY—THE DESCENT OF THE MINE.

A descent into Betts Cove mine is an event to be remembered in one's experience. I should not recommend anyone of weak nerves or delicate chest, or whose climbing powers are inconsiderable, to make the experiment. I went down the mine in company with Mr. Ellershausen, who knows every nook and corner of it as well as a housewife knows the rooms and closets of her house, and who is seemingly as much at home in those huge cavities and levels and sloppy passages as in his own drawing room. I shall not soon forget the "breather" he gave me as I followed him in his rapid course up and down ladders, along winding galleries, over planks where a false step would be instantly fatal, and by the edge of yawning chasms, where the faint light of our candles only "made the darkness visible." Before making the descent we were clad in miners' suits, and had each a lighted candle placed in our hands. The descent is easy for the first fifty or sixty feet, being down an inclined shaft, having a stairway with a moderate declivity. Then came a further descent, by almost perpendicular ladders, into the gloom, and we had reached the first "level." On pausing to look around we found ourselves at the bottom of a vast chamber, which had been formed by the removal

of the copper ore. Overhead we could dimly discern the vast arch of rock, sixty feet in height, like the dome of a cathedral. This immense cavity, sixty feet in depth, had been scooped out by the miners, in drilling and blasting a great bed of copper ore which originally filled it. It gave one an impressive idea of the immensity of the labour expended here, and yet this was but a fraction of the whole. Through an opening on one side we obtained a glimpse of miners at work at a lower level, driving a new gallery. Candles were stuck to the rocky walls, and here and there a torch flung its rays, lighting up the stalwart forms of the miners and the sides of the dark rocks. It was a striking picture. Some were piling the precious ore into waggons; some wielding pickaxe and crowbar; some with heavy hammers striking the drills and driving them deep into the rocks, preparing for the explosion that was to rend the solid mass. Massive pillars of ore are left standing at intervals for the support of the roof, and as the light falls on these the glitter of the yellow mineral gives a singular and striking effect to the scene, and helps to lighten the cavernous gloom. My companion explains everything as we wend our way along narrow passages, and points out how much ore has been left in the supporting pillars—I should say considerably more than a fourth of the whole. By-and-bye these pillars will be removed and replaced by wooden supports, so as to allow of the removal of the whole of the ore, but this is an expensive process, and one requiring great care. Having gone through the main galleries of the first level or story, we descended a second shaft to a lower level. Here the same process had been repeated; chambers opened right and left according to the strike of the deposit, or series of parallel deposits. Iron tramways were laid down, on which the ore was conveyed from the workings to the outcast shaft. Here, too, bands of miners were plying their labors, and tearing out the bowels of the hill. I began now to comprehend the plan of the mine, and to understand the method followed in these laborious excavations. A vertical shaft was first sunk and cross-cuts were then driven out from the shaft at right angles to the strike of the deposits, which are in beds or pockets. These being reached, levels are driven right and left into the deposits, which are carried on till the ore in each direction is exhausted. In order to reach the deeper deposits, the working field is divided into various horizons or stories, the distance between two of

which is from ten to twenty fathoms. At the point where each joins the shaft a hooking-on place is made. The levels, which serve as bases to two consecutive horizons or stories, are connected by workings. The lower level serves to bring in air from the downcast shaft, and the upper level takes it back to the up-cast shaft, with which it is placed in communication. Thus, as the mine deepens, the series of stories is extended, until no more ore is found. In the case of Betts Cove mine, to all appearance many years must elapse before the ore will be exhausted. In fact, no one can tell how far these enormous deposits extend. No signs of exhaustion are yet apparent. The lowest workings are four hundred feet below the surface, and four stories or levels have been formed. I did not care to go down to the deepest depths, as it would be but a repetition of the same scenes already passed through. In fact, with the heat and fatigue, I began now to long for the upper air. I had obtained a very fair idea of the nature of a copper mine, although I had gone through no more than a fourth of the workings. Four or five hours would be necessary to go through the whole. I was not sorry when, dripping with perspiration, I emerged from the mine and once more breathed the cool air. It is wonderful to think that all those huge cavities have been scooped out in the short space of three years. They look more like the work of half a century. The amount of labor expended here is simply enormous. To plan and execute such works, with such rapidity, required no small amount of energy and skill.

LETTER THIRD.

LIFE AT BETTS COVE.

Time passes right pleasantly at Betts Cove. I have seldom enjoyed any visit more than the brief one I paid to the region of copper. It is one of the busiest places imaginable. Everyone has his work and goes at it with a will. The utmost kindness and hospitality is shown to the visitor, but during the working hours of the day he must find his own subjects of interest and amusement; people whose whole mind is given to copper have no time for dawdling away with the passing stranger. But this makes the hour of reunion at the midday lunch all the pleasanter, and the late

dinner, after the toils of the day, when all care is laid aside, very delightful. Then the operations of the day are freely discussed, and plans for the morrow looked at; general conversation sets in, perhaps a little streaked with copper, but genial and pleasant; music lends its enchantment, and you forget that you are in an outlying corner of creation, surrounded by wild and rugged rocks. The officers of the mine are all young gentlemen of good education, and give a tone to the society of the place. During the winter season they give concerts, public readings, lectures, and occasionally engage in amateur theatricals, thus affording to the little community, when cut off from intercourse with the rest of the world, pure and elevating recreation. A visit to Betts Cove will richly repay the toil and trouble of reaching that out of the way locality. The air is pure and bracing. Early hours are observed. At six o'clock the labour bell summons all to toil, and to answer its call bed must be sought at an early hour. Everyone feels, at the close of the day, that by honest toil he has "earned a night's repose." No dissipations or midnight revelries disturb the repose of Betts Cove.

THE VISIT OF A BISHOP.

One day during my stay a beautiful little yacht glided into the harbour. It proved to be the *Lacrock*, having on board the Right Rev. Dr. JONES, the recently appointed Bishop of Newfoundland, with his chaplain, the Rev. Mr. MURRAY. He was engaged on a tour of visitation, and had been visiting the churches under his care on Labrador and the northern shores of this Island. His diocese is the largest in the world, embracing Newfoundland, an island larger than Ireland, Bermuda, and the peninsula of Labrador, with a coast line of one thousand miles. With such a charge, he would require to be a good sailor, as much of his time must be spent at sea, visiting his churches. Had St. Paul foreseen the possibility of a bishop being called upon to preside over such a diocese he would doubtless have enumerated among the qualifications of a bishop "not subject to sea sickness." I had the pleasure of hearing Bishop JONES preach two admirable sermons in the church at Betts Cove. He seems to me to be the very man required for Newfoundland at the present time. He is no narrow sectarian bigot, inflated with ideas of his own importance and despising others as outside the fold; but liberal in his views, friendly and genial towards all, and while, of course, warmly attached to his own Church, able to appreciate excellence in others.

He will be a lover of peace and a promotor of concord. From personal experience I can testify that he is "given to hospitality" on board the beautiful little *Lavrock*. But I must now return to copper.

THE SCENERY OF BETTS COVE.

Around Betts Cove the scenery is wild and rugged in the extreme, but not without a certain beauty and grandeur. When you ascend the highest hill and look around, the eye can at first discern scarce a particle of vegetation. All about are ridges of naked rocks carved into fantastic shapes, with small valleys between, and peak after peak having every variety of form. In the hollows between these ridges numerous lakelets nestle, their bright waters breaking the monotony and giving a certain beauty to the scene. In some of the little vales, too, groves of firs are discernible. The whole region must have been subjected at some geological era to great disturbances, which have left the surface broken and rugged. It looks as if a sea when running mountain high in a storm had been suddenly frozen, the ridges of the waves being now represented by the rocky outlines of the hills, which present a billowy aspect. But doubtless it was during those convulsions that these old Silurian rocks were charged with the precious mineral deposits which human industry is now extracting, and that by pressure of the up-heaving forces they were brought within reach of man. Nature has compensated for outward barrenness by the rich treasures she has hid within. I love to look on these ancient rocks, with the scars of centuries on their brow, seamed and torn by the gnawing tooth of time, but still stately and defiant. To their very summits they are now colored a rich brown, which adds a charm to their venerable appearance. Stern and rugged grandeur is the idea they suggest to my mind. Especially is this felt along the shore, where the great cliffs overhang the waves, fantastic in form, bold and sweeping in outline, grand in their stern beauty. From the top of Betts Head the view of Green Bay, as it opens up, with its islets and promontories, its bright waves dancing under the summer's sun, its hills fading away into the dim distance, is beautiful in the highest degree. More magnificent scenery than that of Nctre Dame Bay and its splendid arms could scarcely be found in all this beautiful world. There is one little bit of scenery a short distance from Betts Cove which I can recommend to a lover of the picturesque. It is found by following up

the ravine at whose mouth is the harbor till a pretty little pond is reached, which was named, during my visit, "Katie's Lake," in compliment to a fair young bride who had just arrived from Scotland, and who is to make Betts Cove her home. Here the glen widens, and the encompassing rocks, with their rich brown colouring and varied fantastic forms, have fashioned a little amphitheatre of rare beauty, where, with the glorious sky reflected in the pullucid waters, and the stillness unbroken even by the chirping of a bird, a quiet hour with a book or a friend can be enjoyed. I made frequent visits to Katie's Lake and to another lakelet a little further on, which for certain reasons, as I am informed, is to be known to posterity as "Harvey's Lake." The view from one of the peaks overlooking these lakelets away over a wilderness of billowy rocks on the one hand, and the grand Bay of Notre Dame on the other, is very striking, and has to me all the charms of perfect novelty.

HOW THE ORE WAS DEPOSITED.

Leaving the æsthetic view, I must now turn to the economic, for in such a place copper will break in notwithstanding poetic fancies. The question arises, how were these mineral deposits formed originally, and how came these old rocks to be charged with such valuable treasures. The question is a difficult and complicated one, but science has done something towards its solution. The ore found here is a yellow sulphuret of copper, but it has not been deposited in regular veins or lodes, as is usually the case, but in irregular bunches, called "pockets" by the miners, or in beds or masses, and the largest deposits are found where the foldings of the strata occur. The extent of these beds of copper may be imagined, from the fact mentioned in a former letter, that at Betts Cove one of them was found to be over sixty feet in depth and of very considerable breadth. In mining, these "pockets" are searched for, and when found the levels are driven in upon them, right and left, till all their contents are exhausted, and then new ones are sought. By the disturbances of equilibrium to which the crust of the earth was subjected at former periods fissures or cracks were formed in the rocks, whether these were igneous or sedimentary; and either at the moment of their formation, or subsequently, these openings were filled with special substances which came from the interior of the earth, either in a molten state or one of vapor or of solution. This is the origin of all mineral veins. In some cases the crack was

filled by the injection of the melted substances forming the central mass, just as lava flowing from a volcano fills up a hollow. In other cases no such injections occurred, but vapours were given off by the central mass which came up and formed deposits on cooling, covering the sides of the fissure with crystals. Then, after the depositions took place, atmospheric agents penetrated the mass, giving rise to various reactions and more or less complex solutions, which, in their turn, made deposits, forming crystals in the wet way. It must also be remembered that these chemical actions went on during enormous periods of time in which the vapours and solutions may have changed, resulting in effects of double decomposition under the combined action of time and immense pressure. Then, at times, the fracture, after being filled up, may have been reopened and the phenomena of filling up reproduced, thus resulting in greater complexity from the action of different minerals in the same vein. It is most probable that the yellow sulphuret of copper found so abundantly in this region was originally dissolved in water, and by chemical action, continued for ages, under enormous pressure, infiltrated the rocky substances in which it is now found, just as bones have been fossilised by the dissolution of every particle of the bone, rocky particles replacing them. No doubt, too, in the deposition and modification of mineral veins, electric action played an important part, producing on a large scale what we now see done in a small way by the process of electrotyping. This will give some idea of the way in which mineral veins have been formed. Though born of earth-throes, yet long ages may have been required to bring them to their present condition, through chemical and electric action carried on under enormous pressure, in the deep laboratories of the earth.

THE FUTURE OF OUR MINING INDUSTRY.

I have already expressed the opinion that copper-mining is destined to undergo an immense development here in the near future. I ground this opinion on undeniable facts. Already about 75,000 tons of ore have been taken out of the single deposit at Betts Cove without producing any symptoms of exhaustion. Tilt Cove is hardly second to it in richness. The Betts Cove Mining Co. are already opening three other mines—one at Hall's Bay, another at Southwest Arm, and a third at Little Bay, which far surpasses any discovery yet made. A wealthy London company have leased from Messrs. Browning and White a mine which has got

the queer name of "Naked Man," paying them a royalty of eight shillings sterling per ton on all ore exported. A Nova Scotia company is working two other locations on a moderate scale. So that already we have eight copper mines in operation. The development of the serpentine rocks, with which our copper ore is always associated, is immense—between three thousand and four thousand square miles in the whole island; but the grand centre is from Cape John around the shores of Notre Dame Bay. All the mines I have enumerated are here. Constant reports of new discoveries are pouring in, and speculation is rife. More and more the attention of capitalists will be drawn to this rich mineral region. The interior as well as the seaboard will be prospected; and there can hardly be a doubt, as a vast extent of country is all of the same mineral character, that great discoveries will be made in the future. Meantime, from their present headquarters, the Betts Cove Mining Company will conduct fresh operations, as occasion offers. They have great advantages over all others, having skilful engineers and miners, with all appliances for mining in abundance. The proximity of these mines to England, and the low rates at which ore can be conveyed to Swansea, are also favorable to the development of our mining industry. Should a railway be built across the island to the coal fields around St. George's Bay and Grand Lake, our own coal would become available for smelting purposes. We may then safely predict great things in connection with copper mining in Newfoundland.

Wonderful accounts were current at Betts Cove of their new mine opened by the company at Little Bay. Having been kindly offered by Mr. Ellershausen the opportunity of visiting it with him as a companion I gladly embraced it, and shall relate my experience in my next letter.

LETTER FOURTH.

EL DORADO—THE WONDERFUL COPPER MINE AT LITTLE BAY.

It was a glorious afternoon, on the 24th of August, when I embarked in the steamer *Hercules* for Little Bay, the seat of the new copper mine, of which I had been hearing such glowing accounts that they seemed half fabulous. On leaving Betts Cove we found ourselves at once afloat in the

grand bay of Notre Dame. There was hardly a ripple on the water. A bright blue sky without a cloud was overhead. The little waves danced merrily around the vessel under the bright rays of a summer's sun. As we sped onward the bay opened out, and we could distinguish Cape John at the one extremity of its mouth and Twillingate at the other, some forty-five miles apart. Tilt Cove, Nipper's Harbor, Rogue's Harbor were pointed out, and the entrance of Green Bay was passed. This fine bay, with its noble picturesque scenery, stretches far inland. It has no less than five arms designated, the northwest, the middle, the southwest, the western, and the southern arms of Green Bay. These are separated from each other by promontories which are believed to be the best mineral lands in the island, and destined to be the great mining centres of the future. It would be impossible to imagine a more magnificent scene than that which now spread before our eyes—ocean dimpling and laughing in the bright sunshine; the great rugged cliffs softened by distance, rearing their peaks against the sky; capes and islets of every form, standing out bright and distinct in the clear atmosphere. It was a sight to be remembered for life. Only on Loch Lomond or Windermere have I looked on finer scenery. Having crossed the mouth of Green Bay we approached Little Bay Head, and presently entered Little Bay, on whose shores was the new mine, opened only a fortnight previously. Grand perpendicular cliffs, from three hundred to four hundred feet in height, covered with the nests of sea fowl, are passed, the water being deep to their very base. We admire their fantastic forms, and try to twist their outlines into human or animal shapes as we continually change our point of view. Suddenly the aspect of the shore changes—low rounded hills covered with verdant woods slope gently down to the water's edge. The rich foliage of the trees gladdens the eye as the wide sweep of forest comes into view far and wide. The barren rocks have disappeared, and we are now in the midst of beautiful forest scenery on both sides of the bay. All eyes are now strained in the direction of the mine; and presently over the tops of the trees we can see the blue smoke ascending in the still atmosphere from the huts of the infant settlement, as yet but two weeks old. We have just entered Indian Bight and are approaching the shore, when suddenly a number of loud explosions are heard, and echo along the hill tops like thunder peals. All is now excitement on

board, as we know that these are caused by the blasting of the rocks at the hill top where the mine has been opened. All are now eager to leap ashore and see the new El Dorado.

COPPER CLIFF—QUARRYING THE ORE.

The steamer now approaches a beautiful sandy beach, and drops her anchor a few yards from the shore, which is lined by the sturdy forms of the miners, who have by this time finished their day's work, it being past six o'clock. We can discern among the trees spaces cleared, and eight or ten houses formed of rough boards already erected. In a few minutes we land amid cordial greetings, and are traversing the streets of the infant settlement, which are already rudely marked by blazed paths through the trees. The mine, however, is not here, but about half a mile distant on the summit of a low hill. After a brief pause we started for the mine, Mr. Ellershausen leading the way with rapid strides through swamp and bushes, till we reach a winding path, up which we climb, with no small difficulty, clutching the branches and roots of the trees, till panting and exhausted, we reach the summit, scramble through a little morass, and there before us is Little Bay mine. What a sight we gaze upon here! It is simply a great cliff of copper ore that we are looking at, some twenty-five or thirty feet in height, and of undetermined length and thickness; but the frontage, where work has been commenced, seems to be about twelve hundred or fourteen hundred feet in length, and we are told that the ore is found thirty or forty feet back from the brow of the cliff. On the face of this copper cliff the miners are at work quarrying literally the great blocks of copper. The bottom of the cliff is strewed with these glittering masses, small and great, and piles are being heaped up for shipment. I noticed one mass which had just been brought down by one of the explosions we heard as we approached, and it was estimated to be at least three tons in weight, and appeared to be full of ore. The quality, too, we are informed, is No. 1 ore. Nothing equal to such a huge surface development of copper ore has ever been previously found here, or I believe elsewhere. We scramble up the shelving cliff, examining the cavities left by the detached masses. Loud and varied are the exclamations of wonder, and great the excitement among our little group. Nearly every portion of the cliff seems to be charged with ore. Though only a fortnight has elapsed since the ground was first broken, a pretty large cargo of ore appears to be ready for shipment.

The extent of the deposit is not, of course, known, but the "costeening" already done has determined that it is immense, and eclipses entirely all previous discoveries. Those best qualified to judge believe that this deposit is of far greater value than all hitherto found, if compressed into a single mine. The ease and cheapness with which the ore is mined, or rather quarried, is also an important consideration. Of course the surface development will ere long be exhausted; and then the usual mining under ground will commence, but no such expenditure as at Betts Cove or Tilt Cove will be necessary.

A FINE HARBOR—FACILITIES FOR SHIPPING.

Nature has placed this great copper deposit along the brow of a low hill, from which there is a gentle decline of three quarters of a mile to a harbour five miles in length, completely land-locked, and having a great depth of water almost to the shore. There is no finer harbor in the island than that which lies so near to the mine, as though nature had been determined to do nothing by halves in connection with it. A tramway from the mine to the harbor was far advanced when I visited the spot, and in one month from the time when it was first opened a cargo of one thousand eight hundred tons would be shipped for Swansea, the value of which, even at the present low price of copper, could hardly be under £7 sterling per ton, as the ore gives on analysis an average of 14.27 per cent. of copper. When I was there some two hundred men were at work; now there are four hundred. The site for a settlement, where we landed at Indian Bight, is admirable. A fine valley, with rich soil and good timber, stretches far inland, presenting a striking contrast to the rugged rocks around Betts Cove and Tilt Cove. The mining population which will rapidly be gathered here will be able to obtain gardens and small farms. Timber, too, can be obtained in abundance all round. I did not see the harbor where the ore will be shipped, but I was told it is very favorable for a settlement, having good soil all around.

HOW THE NEW MINE WAS DISCOVERED.

Fortunately the Betts Cove Mining Company have obtained a lease of the property by agreeing to pay a royalty to the lucky owners. By them the mine will be worked with skill and energy. Three individuals are said to be the holders of the mining license, and with these the company

have entered into an arrangement. It is a remarkable fact that the license had only a month to run when the discovery was made. Numerous prospectors had visited Little Bay and chipped away at the rocks without finding the deposit, which was covered by trees and foliage. A poor fisherman was the discoverer at last, but the locality being under a mining license he could get no title to it, and for the small sum of £10 he revealed the secret to the license-holders. Rich capitalists will reap the benefit. "To him that hath shall be given."

DREAMS OF THE FUTURE.

The shades of night were gathering around as we embarked for Betts Cove. A glorious moon was pouring out her light on the waters, and the scene in crossing the bay was not less enchanting than by day. I am afraid, however, the beauties of nature received small share of attention from us. The wonders of the new mine filled our thoughts, and the talk on board was deeply tinged with copper. Undoubtedly this will be the great mine of the future, and for years will take the lead. A large population will collect here. The forest will be smitten down; the abodes of men will spring up; churches and schools will be erected; gardens will bloom; and where now silence and solitude reign the din from labour's anvil will resound, the laugh of children will be heard, and "the wilderness will rejoice and blossom like the rose." The natural advantages of Little Bay, or "Copper Cliff," as I proposed to call it, are so great that it is sure to grow rapidly. A single year will witness an amazing progress. As I sailed back in the moonlight and looked at the great rocks casting their shadows on the waters and at the primeval forests along the shores, I pictured to myself the "good time coming," when a vast mining and farming population will overspread these solitudes, and the smoke from the furnaces and workshops and mines will darken the air, and the hills will be re-echoing with the blows of the miners, and the harbors crowded with shipping; when railways will connect this region with the capital, and with the fine farming and mining lands of the West; and a vast mining interest, pouring wealth into the country, and furnishing remunerative employment to thousands, will have grown to vast dimensions here, and overshadowed our diminished fisheries on which we are now chiefly dependent. I indulged in such dreams till Betts Cove was reached and the journey ended.

LETTER FIFTH.

LITTLE BAY MINE REVISITED.

In my last letter I gave an account of my visit, on the 24th of August, to the wonderful mine at Little Bay, which, at that date, had been opened only one fortnight. On the 22nd of September I had an opportunity of paying it a second visit in company with His Excellency Sir JOHN H. GLOVER, Governor of Newfoundland, who was then on an excursion across the island, and touched at Little Bay for the purpose of examining the new mine, of which such wonderful accounts were current. I found the progress made in those three weeks simply astounding. The tramway from the mine to the harbour, three-quarters of a mile in length, was completed, and three thousand tons of ore had passed over it and been shipped. A large steamer had just completed her cargo of twelve hundred tons, and another was filling up with ore. Five hundred and thirty men were at work. The surface development of ore was considerably reduced, more than six thousand tons of rock having been quarried and blasted. An excellent wharf of respectable dimensions had been built, and all the requisite appliances for loading vessels were complete. The new settlement at Indian Bight, so prettily situated amid forest trees, had developed with the increased demand for house room, and could now boast of its "Water street" and "High street." The houses were rather of the extemporised order of architecture, and presented a great variety of patterns; but ere winter sets in they will, in many instances, be replaced by others of a more comfortable type. At the time of my visit the appearance of this little village, the oldest inhabitant of which could only boast of a five weeks' residence, was picturesque in the extreme, the streets having been cut roughly through the forests, and the tall trees still overhanging the roofs. Taking into account the work done, the quantity of ore shipped, the wonderful transformation effected in the short space of six weeks, it may be safely affirmed that the annals of mining present no parallel to the operations at Little Bay. The shipping season will close about the middle of December, and before that time it is expected

that ten thousand tons of ore will be shipped. The secret of this rapid development in mining lies in the fact that men and materials were supplied from Betts Cove, which is but fifteen miles distant, and that the whole operations were directed by the skill and energy of Mr. Ellershausen.

LITTLE BAY MINE ECLIPSED.

Events succeed each other with great rapidity in the fortunes of our mining district. I had the honor of accompanying His Excellency the Governor on his journey across the island, and when we returned, after the absence of three weeks from the time we called in at Little Bay, we were informed that another mine in the Southwest Arm of Green Bay had been opened which quite eclipsed even the glories of Little Bay. A person thoroughly acquainted with the matter, and whose statements are quite trustworthy, assured me that the Southwest Arm mine surpassed Little Bay as much as that mine excelled all the others in value. To begin with, the ore contains twenty-six per cent. of pure copper, and is thus equal to the ore shipped from the Cape of Good Hope, and more than double in value any ore hitherto found in Newfoundland. In regard to quantity, there is, as at Little Bay, a very large surface development, in the shape of an immense cliff of copper, and the process of "costeening" has revealed extensive deposits of a most promising description. The Betts Cove company have leased this property on a royalty of eight shillings per ton, and are now carrying on active operations. A tramway will soon be completed, a mile in length; a wharf built; and ere the season closes, two thousand tons of ore are expected to be shipped. This is the style in which mining is carried on here. Skill and capital combined make rapid work. From the great centre at Betts Cove skilful workmen and overseers, with all the necessary tools and appliances, are furnished at the shortest notice. This is the secret of the success achieved. Were the work to be attempted by a new company who had to bring men and materials from a distance, the development of the mine would not be as far advanced at the end of twelve months as it is now after the lapse of six weeks. This new mine is owned by six individuals in St. John's, who had previously tried mining on a small scale, without any success. It was only when it fell into the hands of the Betts Cove company that its capabilities were developed. The facilities for shipping the ore and for carrying on general operations are not, however,

nearly so favorable as at Little Bay. The incline from the harbour to the mine is very steep, and the whole locality rugged; but difficulties will be readily overcome where ore containing twenty-six per cent. of copper is to be obtained.

HOW THE ORE IS SMELTED.

The copper ore as it comes from the mine is very far from being pure, and from six to eight different operations are requisite to remove the extraneous substances with which it is mixed, and produce pure copper. Usually sulphur and iron, as well as arsenic and antimony, are mixed with the ore. The first process is to roast the ore in reverberatory furnaces, whereby the arsenic and sulphur are driven off, and the iron present becomes oxide of iron, which is removed by union with silica. The copper is now partly a sulphide and partly an oxide. Increased heat decomposes both, and the sulphur and oxide unite and escape as sulphurous acid gas, leaving the copper free.

PRODUCTION OF COPPER ORE.

The great copper-producing countries at present are Cornwall and Devon in England, Spain, Chili, Cuba, Japan, South Australia, and the Cape of Good Hope. The greater number of the English copper mines are now closed, owing to the low price of copper and the expense of working the deep Cornish and Devon mines. In competition with the easily-worked copper mines of this island, they are unable to hold their ground. Over all other copper-producing countries we have the great advantage of proximity to Swansea. It would be cheaper to convey ore to Swansea, from Newfoundland by sea than from Cornwall by rail. At present steamers carry the ore from Betts Cove to Swansea for eighteen shillings sterling per ton. Of course freights are unusually low at present, the average formerly being from twenty-two to twenty-four shillings per ton. The former value of the copper mines of Cornwall and Devon may be realised by a glance at the statistics, which show that in one hundred and twenty-six years, ending in 1855, the copper ore raised in these two countries reached 7,884,305 tons, the value of which was £50,964,388 sterling, the mean price per ton being £6 9s. 3d., and the average yield eight per cent. of fine copper. In 1855 the mines of Cornwall and Devon yielded 195,193 tons of ore, value £1,263,389. Since that date there has been a gradual decrease in the number and produce of those mines, owing to the fact that many of

them were being worked at a much greater depth, and therefore at vastly increased expense; while, at the same time, other countries, such as Spain, Chili, and Australia, were sending increased quantities of copper ore to Great Britain, the import duties having been entirely removed in 1863. I have not access to any later returns than those for 1871 and 1872. In the year 1871 the total production of the copper mines of the United Kingdom (chiefly in Cornwall and Devonshire) was but 97,129 tons, the value being £387,119; and in 1872 the quantity reached 91,983 tons, which were valued at £443,738. Since that date many more of the English mines have been closed, and there is reason to believe that the quantity of ore sent last year from Newfoundland, to Swansea, being about 50,000 tons, exceeded the production of the whole copper mines of the United Kingdom. Our exports of copper ore form no inconsiderable item in the total imports of that ore into Great Britain. According to the returns of 1872, the latest to which I have access, there were imported that year into the United Kingdom 43,656 tons copper ore, 28,779 tons of regulus, 731 tons of old copper for remanufacture, and 47,669 tons of unwrought and part wrought ore. The total value of these imports was £6,299,368. Doubtless there has been a large increase in the imports of copper ore into Great Britain since 1872; and this combined with the existing depression in all branches of trade and manufactures has sent down the price of copper ore at Swansea to a lower figure than it has ever reached previously. Of course a revival in trade will be followed by a rise in the price of copper.

USE OF COPPER.

It may be asked, how is the enormous quantity of copper ore raised in Great Britain and imported employed in the arts and industries? The answer is that, both alone and as an alloy, copper is most extensively employed in all civilized countries. The value of manufactured copper exported from Great Britain in 1872 was £3,248,830—a fact which explains her immense imports of the ore. Alone, copper is used for boilers, pans, etc., in sugar works, distilleries, breweries, etc., and for the manufacture of an immense variety of domestic and culinary utensils; for ship sheathing, for telegraph and other wires, and a great variety of well known purposes. As an alloy its use is far more extensive and varied—whether as brass (two parts of copper to one of zinc); mosaic gold (sixty-five parts copper, thirty-five zinc); bath

metal (seventy-eight copper, twenty-two zinc); pinchbeck (three copper and one zinc); ancient bronze (from four to fifteen of tin); gun-metal (ninety-one copper, nine tin); bell-metal (seventy-eight copper, twenty-two tin); gong-metal (eighty copper, twenty tin); statuary bronze, varying proportions of copper, tin, zinc, and lead; German silver—an alloy of copper, nickel, and zinc, in varying proportions, according to the colour and hardness required; and standard metal, an admixture of copper and manganese.

WHY COPPER ORE GOES TO SWANSEA.

It is a curious fact that nearly all the copper ore raised in England or brought there is melted in the district around Swansea; yet in that region there is scarcely a particle of copper ore to be found. The reason is that South Wales abounds in coals, while Cornwall and Devon have none; and so, while the steam engines of these mining countries are supplied with coal from Wales, Cornwall sends its copper ore to be smelted in the coal region. The Swansea district alone now smelts between two hundred thousand and three hundred thousand tons annually. About ten or a dozen great firms possess the whole of this trade. The smelters are not employed by the mine owners to smelt the ore; they purchase it on speculation, smelt it, and then find a market for the metallic copper. The sellers and the buyers form a sort of family party which meets once a fortnight at Swansea. The sale is not by auction, but by tender for each lot, or ticketing; and experience has enabled the smelters to approach wonderfully close in their tenders for each particular lot. One of the great firms has been known to spend nearly a half a million sterling in one year for copper ore, besides the machinery and the wages necessary for carrying on the smelting. It is evident from the extensive range of its employment in the arts and industries that there is no fear of any over-production of copper, so that our new industry stands on a firm foundation. With immense developments of ore above the surface and such facilities for mining it underground and conveying it to market at a cheap rate, we are in good condition for competing with other copper-producing countries.

CONCLUSION.

The present letter closes the series descriptive of my visit to our mining region. I submit that the facts that I have stated, warrant large expectations regarding our mining in-

dustries, and point to a future, not very distant, when these will have reached large dimensions, and possibly become the most important of all our interests, throwing into the shade our fisheries. The discoveries of so many rich deposits of ore in rapid succession, and after but a limited range of explorations, seems to me indicative of a mineral region of great value, in which grand developments may be looked for in the future. Our fisheries have not advanced in productiveness of late years, and seem to be more and more precarious. Our population is increasing, and we require an outlet for the surplus in some fresh industry. The employment of a proportion of our labouring population in mining will have the effect of improving the condition of those who continue fishermen, and imparting skill and enterprise to those who share in the new industry. I need not say that a great increase of wealth must attend productive mining enterprises, and as a result an improvement in the condition of our whole population will follow. The mining region is sure to increase rapidly in population; and as there are fine agricultural lands within reach of the mines, these will be settled and cultivated, and the produce raised will find a good market among the well-paid miners. The coal-fields of the interior, if connected with the mining region by a railway, would supply fuel for smelting, and thus, as in every other other country where minerals are found, mining industry will here give an immense impulse to progress.

Before closing I wish to mention that I had not an opportunity of visiting Tilt Cove mine. Owing to certain circumstances, operations there have of late been carried on upon a moderate scale; but the best judges declare that the deposits of ore there are immense, and superior even to those at Betts Cove. It is now to be worked energetically and on an extensive scale, so that I hope soon to be able to give a good account of Tilt Cove. The latest accounts state that the mine at Hall's Bay, also worked by the Betts Cove company, is developing well, and promising to become very productive; and that a new mine at Robert's Arm, owned by Captain Cleary, and leased to Mr. Ellershausen, gives promise of great productiveness.

THIS NEWFOUNDLAND OF OURS.

A LECTURE DELIVERED BY THE REV. M. HARVEY,
ON BEHALF OF THE ST. JOHN'S ATHENÆUM,
11TH FEBRUARY, 1878.

I have undertaken to speak to you, for a little, this evening, regarding "THIS NEWFOUNDLAND OF OURS." The subject, at all events, comes home to our own bosoms, and is thoroughly practical in its bearings. The land we live in—with nearly all of us, either the land of our birth or of our adoption—can never cease to be an object of paramount interest. It may not be very lovely or picturesque in its scenery; it may not possess a soil so fertile that it has "only to be tickled to laugh into a harvest;" great prosperity may not have crowned the labours of its people; and their place among the nations may not be very exalted, but still it is *ours*—the spot of earth on which God has placed us and said "go work," and we love it as fondly as if it were a part of classic Greece or Italy, or held within its bosom the vale of Cashmere, "with its roses the brightest that earth ever gave." I can quite understand how many who hear me regard this NEWFOUNDLAND OF OURS with something of the same tenderness that all good children feel towards the mother who bore them, and "looked on their childhood." Here they drew the first breath of life; here, perhaps, "love's young dream" first cast its halos around their youthful imaginations. With its scenes, all that is brightest and best in their lives is entwined. Toils, sorrows, joys, gains, losses—all have endeared to them this spot of earth; and its rugged rocks, to them, are encircled with a glory manifold. They have learned to love its very storms and ice-fields, its frosts and snows which give vigour to the frame, and send the healthful blood tingling through the veins; and a mystic beauty, born of the best instincts of the heart, spreads over

its valleys, and lights up the very waves that leap around their own sea-girt isle. Such a feeling is to be honoured; it is one of the deepest and purest in our nature; and he who has never experienced one throb of love for his country—poor though it may be,—is unworthy of the name of man. It is the same feeling which, in its highest form, has nerved the patriot's arm in freedom's battle, and struck the loftiest notes from the poet's lyre, and given pathos and power to the orator who has commanded the applause of listening senates, and swayed the hearts of myriads. Why should not the love of country beat as strongly in the heart of a Newfoundlander as in that of an ancient Greek or a modern Briton or American? He too has a country and though he cannot say

“One half its soil has walked the rest
In poets, heroes, martyrs, sages.”

Yet it is not unworthy of his love. It may not be able to boast of refinement, wealth and all the culture that wealth brings with it. No ancient institutions, hoary with age, are here; but here is a new land, with a bright and limitless future before it, on whose soil life will take fresh developments, and genius and enterprise new forms, starting with all the experience of the past to guide them, and all the mighty discoveries of modern science at command, and with natural resources which I hope to show you before I have done, are all that could be desired for securing a great and prosperous career.

I think we need not blush to own THIS NEWFOUNDLAND OF OURS. It is a goodly heritage—one we can bequeath, with the confident hope of future greatness, to those who are to come after us. To say nothing of its splendid geographical position, anchored near the shores of the New World, and reaching farther than any other American land towards the Old World, destined thus, as I believe, to furnish the shortest and safest route between both; to say nothing of its being already the great telegraphic station whence stretch the nerves which unite both hemispheres; not to dwell on the command of the Gulf of St. Lawrence which its situation secures, and putting out of view for a little its fisheries, agricultural capabilities and minerals—of all which you will hear presently—look for a moment at its present population as the nucleus from which may be developed an energetic, industrious, intelligent race, with plenty of iron in their blood, and able to shoulder their way in the struggles of the

coming time, and bear an honourable part in the physical and intellectual competition of future years. There is a great deal in race, in ancestry, in good blood. I, for one, believe in the importance of coming of a good stock. You are the epitome of a long line of ancestry; the concentrated essence of them all; the summing up of whole generations whose labours and moral and intellectual attainments have culminated in you, and made you what you are. Now it seems to me the people of Newfoundland are come of a good stock; and moreover, that the blood has been kept pure, and the race, so far, developed under favourable conditions. We justly boast that this is the most ancient of all the colonies over which Great Britain sways her sceptre; that this is the first portion of the western world on which the Anglo-Saxon set his foot; that here the nation which was destined to discover the North West Passage, and the sources of the Nile, and to plant American, Indian and Australian empires, first raised its flag and tried its first experiment in colonization. And the first colonists who settled here were not men who were forced to "leave their country for their country's good." Some of them were men born in the heroic days of England, men brave, enterprising, true sea-kings who could fearlessly lay their hand on ocean's mane; many of them Devonshire men, the county that produced Sir Walter Raleigh and his half-brother Sir Humphrey Gilbert, and Drake and Hawkins and many another old English worthy. To this was added, at a later date, some of Ireland's best blood; for the men who were brought out here by Lord Baltimore, Viscount Falkland and Sir David Kirke, from Ireland, were of the right stamp for colonists. I may state that a small dash of Scotch blood was added later still, to "make the mixture slab and good." Thus, on the soil of Newfoundland, the strong enduring Saxon, and the more lively, imaginative, versatile Celt have met, and the result is a wholesome amalgamation of races whence have sprung the stalwart men and comely matrons and maids now around our shores, and there certainly seems to be no fear of the race dying out, judging by the rate at which marryings and givings-in-marriage are going on. The race has taken kindly to the soil and thriven. Breathing an invigorating atmosphere, engaged largely in open air occupations, a hardy energetic race has grown up, in whom the red corpuscles of the blood preponderate, and who are well fitted for the world's rough work. The great naturalist Agassiz held that

a fish diet is most favorable for intellectual development,—a theory on which we can perhaps account for the success of Newfoundlanders abroad, in intellectual contests. And when education has done its work, who can tell how many of the descendants of our fishermen, with their strong brains and iron muscles which will enable them to “toil terribly,” will be found among the successful statesmen, lawyers, preachers, bankers, merchants, engineers and tradesmen, in the great cities of the coming age. The feebler denizens of the smoke-covered city will go down before these fish-eating Newfoundlanders, whose fathers buffeted the billows, and fought the crashing ice-floes, and drank in the health-giving sea breezes. According to Samson’s riddle, “out of the eater came forth meat, and out of the strong came forth sweetness.” At all events, we have this advantage over our continental neighbours,—that our isolation has kept the stock pure from undesirable admixtures. We have here the intermingling of *varieties* of race, not of *types*, and that is very important. In the United States we see going on a commingling of types of mankind, of all nationalities, white-men, blackmen, yellowmen, redmen, producing an amalgam which awakens some anxiety regarding the future of that great country. Here, however, the principle of “natural selection” and the “survival of the fittest” has been operating on a pure race, reared in one of the healthiest climates in the world: and I think that with due culture and the spread of education, a superior specimen of the *genus homo* ought to grow up here. If you tell me that our soil is barren, I reply, even granting that for a moment, which I am prepared to dispute, what is withheld from the land is put into the men. The best races the world has ever seen were those who grew up on a poor and rugged soil, who had to struggle with difficulties, and to whom nature was a stern nurse; but in the struggle, they gained energy, courage, self-reliance, all that constitutes true manhood. Take the noblest nations of the earth, past and present, they were not nurtured amid the flowers of the south, but in the cold and stern north, where they had to smite down the forest, and drain the swamp, and transform, by sweat of brow, the barren wilderness into the waving cornfield. From the hardy, much-enduring race that have grown up here, fighting cold and hunger often, drawing their scanty subsistence mainly from the boisterous seas around these shores, fearlessly pursuing their avocations amid storms and icefields,

will spring a people from which great things may be expected. They have conquered the sea, now they are to conquer the land, and set to work lumbering, grubbing, ploughing, sowing, draining, extracting the precious minerals with which these old rocks are charged,—seaming the country with railroads and common roads, and making smooth the rugged face of nature in an island, one sixth larger than Ireland, and possessing many advantages which are denied to the Green Isle. All that could be asked for, as the elements of national greatness, are here in profusion; and if this country does not rise into prosperity, in coming years, it must be either from the people proving untrue to themselves, or from some combination of unfavorable conditions of which we do not yet see the slightest foreshadowing.

Perhaps you will tell me that I am giving a loose rein to the imagination and indulging in speculations which are

“Such stuff as dreams are made of,
And their little life rounded with sleep”--

I do not think so, and I shall presently give you very substantial reasons for all I am advancing; but, in any case, building castles in the air is better than rearing dungeons in the smiling azure overhead. To despair of the land we live in; to think meanly or contemptuously of it; to hold that it is incapable of progress, is, I think, not only unwarranted by facts, but the worst kind of infidelity, leading to stagnation and death. If we may not believe all things about THIS NEWFOUNDLAND OF OURS, we may be permitted at least to hope all things; and let us remember that in matters temporal as well as spiritual, “we are saved by hope.” Possibly I may be a little prejudiced and oversanguine. Having spent a quarter of a century here—the best working part of my life—I am next door to being a native. I have learned to like this land of fog and codfish, with a llits drawbacks. I have grown to love its grim palaeozoic rocks, its storms and its sunshine; its grand battlements that frown defiance at the wild Atlantic; its magnificent bays stretching their arms far inland; its health-giving breezes and its kindly people. Nay, as years advance, I find a sort of sneaking attachment growing up in my breast towards the very goats that perambulate the streets of the capital without asking leave, to whom we have generously accorded the “freedom of the city.” I notice that, as years roll past, our city goats are becoming more and more literary—devouring whole acres of wall-literature; so that, in

the course of time, they may be applying for admission to the membership of the Athenæum, on the ground of their attainments in letters. Byron says "Dear is the helpless creature we defend against the world." For years and years, as most of you know, I have been doing my little best to defend THIS NEWFOUNDLAND OF OURS against a hostile world, and trying to make it known and respected abroad; for as you are all aware we are something worse than unknown, we are misknown sadly. While engaged in these efforts, possibly I have formed an exaggerated estimate of our country; but if an error, it is on the right side; and I must now go on to give you some reasons for the faith that is in me regarding the future of THIS NEWFOUNDLAND OF OURS.

I have said enough regarding the people, and now I turn to the country itself. Things are on a large scale on this side the Atlantic; and Newfoundland is no exception, being the tenth largest island in the world. According to an excellent little manual of the geography of Newfoundland, published lately by Mr. James Howley, assistant geological surveyor, and which every one should possess who wants to know what the country is, THIS NEWFOUNDLAND OF OURS is three hundred and seventeen miles in length, three hundred and sixteen miles in breadth, with an area of forty-two thousand square miles of land. So far as size goes, therefore, we have a very considerable estate; and, in the long run, size tells immensely, and becomes a measure of political power. Our island is one third larger than New Brunswick; more than twice the size of Nova Scotia; contains ten thousand square miles more than Ireland; twelve thousand square miles more than Scotland; is three times as large as Holland, and twice as large as Denmark. As to Prince Edward Island, if it were cut up, we could drown it in three of our largest lakes. Our Grand Lake has an area of one hundred and ninety-two square miles; the celebrated lake of Como, in Italy, has only ninety square miles; and the renowned Killarney only eight square miles. As far as size goes, Gander Lake, of which we knew nothing almost till our able geological surveyor, Mr. Murray, explored it, would make more than five Killarneys, though I fear it will be a good while till it attracts as many visitors as the Kerry lake, haunted by the memories of the lovely Kate Kearney. Gander Lake has an area of forty-four square miles, and Red Indian Lake, sixty-nine square miles. In the whole

world there is not an equal area of land with such an extent of coast line as Newfoundland, which, I think, cannot be less than two thousand miles in length. This is owing to the fact that the shores are indented with so many bays, arms and inlets of the sea, thus furnishing the most splendid facilities for commercial intercourse, and, at the same time, carrying the finny tribes far inland, within reach of the fisherman's hook and net. We have harbours innumerable, many of them ranking among the finest in the world. What a time nature must have taken in chiseling out our magnificent bays, some of them forty and fifty miles in depth, and having scenery which cannot be surpassed; and in scooping out those countless lakes and lakelets which cover about a third of the surface of the island, giving us enough and to spare of water. Vast processes of denudation, as the geologists call it, must have been going on for doubtless ages, shaping our valleys and bays, sculpturing our coastline, and the contour of our hills and mountain ranges. The final touch was given, no doubt, during the glacial period, when Newfoundland was in the condition in which Greenland now is,—covered with an enormous mass of ice, many thousands of feet in thickness, with huge glaciers at work, grinding its rocks into soil, shaping its riverbeds and valleys, tearing down its hills and scattering the fragments far and wide, and scooping out its lakes. Do you ask me how do I know that our island was ever under this mass of thick-ribbed ice? You can see the evidence with your own eyes by taking a walk in any direction into the country and observing the boulders, or big stones, which cover the surface wherever the land has not been cleared—some small, some of great size—but all rent from the parent rock by glacial action, carried considerable distances and flung about in promiscuous confusion. Only those old ice-rivers which we call glaciers, could leave such mementoes behind them. If you ask me how long this glacial action went on, I refer you to the geologist; but if I might indulge in a guess, I should say perhaps two hundred and fifty thousand years. If you ask again how long is it since the ice disappeared? I reply I don't know, and never hope to know in this life. But this much I do know, that there must have been "hard times" while it lasted—"a good deal of cold out," and fine opportunities for skating. During this "cold snap" of a quarter of a million of years, I rather think there were no Athenæum lectures,—no general elections—no

water rates or duns—no Supreme Court or lawyers. Bruis, the great triumph of Newfoundland cookery, had not been discovered, and the game of five-and-forty was still in the womb of time. When nature set her glaciers to work to hurl blocks of stone over the country, she was not thinking of the farmers who would have to clear the ground; but kindly grinding the hard rocks, she gave us splendid materials for road making. We are inclined to think she might have left us a little more of the carboniferous formation, instead of planeing it all away, except the strips on the western shore; for it often yields coal and gives a deep and fertile soil; but then she has “engineered” our noble bays, and brought up the sea to every one’s door, and taken great pains with our harbors and coves, and given us codfish and seals and partridges and deer and an unlimited supply of hertz, and forty-two thousand square miles of land—so that we must not complain. She has, too, thrown in a liberal deposit of Silurian rocks, kindly allowing us an immense share of the Quebec group, containing, I have no doubt, enough copper ore and other minerals to keep us prospecting and mining for centuries to come. Add to all this, our forest and agricultural lands, of which more anon; our encompassing seas with their inexhaustible treasures—these ocean farms of ours requiring no ploughing or sowing, only the reaping;—the materials for shipbuilding which have been prepared—the facilities for the construction of railroads and common roads which nature has furnished in the absence of any lofty range of mountains. Consider all this and say, shall we not pronounce “THIS NEWFOUNDLAND OF OURS” a goodly land—one to be cherished and raised to a high place among the young communities around us, now taking organic form, and as Milton said of England, “like an eagle mewing their mighty youth.”

The course of Newfoundland history may be divided into three periods—first the chaotic or anarchic period; second, the transitional, and third the period of maturity. I think we are still in the transitional period, though I trust approaching its last stage; and I doubt not that many whom I now address of the younger generation, will live to see their country come of age and enter on its mature condition. Long and weary was the chaotic period of Newfoundland history, extending from 1583, when Sir Humphrey Gilbert landed at St. John’s, and took possession of the country in the name of Queen Elizabeth, to 1728, when the first Gov-

error, Captain Henry Osborne, was appointed, and Newfoundland was raised to the rank of a British colony. I call this long period of one hundred and forty-five years *chaotic* or anarchic, because it was marked largely by misrule and oppression among the resident population, and by an unhappy policy on the part of England, which aimed at making the island merely a stage for curing fish, and steadily prohibited the occupation of the country by a settled population. It seems to us, at this distance of time, almost incredible that laws should have been enacted and maintained for more than a century which prohibited the occupation of land, or the erection of houses, except such as were absolutely necessary for carrying on a summer's fishery. Ships and fishing crews came out here early in the summer; the fish caught were salted and dried ashore; and when winter approached the fishermen were compelled by law to re-embark for England, carrying with them the products of their labour. The English shipowners and traders wished to retain the harbours and fishing coves for the use of their servants in curing the fish; and they regarded all settlers on the land as interlopers, hostile to their pursuits. Unhappily the British Government of the day fell in with their selfish views; and regarding the Newfoundland fisheries as a nursery for seamen, they secured the enactment of laws prohibiting settlement. Justice was administered by the notable Fishing Admirals, perhaps the most remarkable machinery for administering law adopted in any age or country. It was solemnly enacted that the master of the first ship entering a harbour was to be admiral therein for the fishing season, and be empowered to decide all complaints. We can fancy one of these rough old skippers with a marlinespike in one hand, a pipe in the other, and a bottle of rum at his elbow, presiding in his court of justice. It is not surprising to find, as the result of inquiries afterwards instituted, that the most frightful abuses were perpetrated, and the most tyrannical practices universal under such a system. It speaks volumes, too, for the pluck and energy of the people of those days, that in the teeth of those unjust oppressive laws, a resident population steadily increased, and obtained, foot by foot, a firm hold upon the soil, and finally got the obnoxious laws repealed, the Fishing Admirals "sponged off the slate," and secured the administration of justice in regular courts of law. But the battle was long and severe. It was not till 1728 that the first germ of local

self-government was obtained by the appointment of a Governor; and it is but eighty-six years since the Supreme Court of Judicature for the island was instituted; and it is but sixty-seven years since the erection of houses, without a special license from the Governor and the cultivation of land were legalised. Only fifty-two years have elapsed since the first roads were laid down. What Newfoundland would be to-day, had settlement been encouraged, and civilization fostered, as in the other provinces, instead of being thwarted and trampled down, it is vain now to conjecture. But let it be remembered that no living man can be held accountable for the wrongs and cruelties of the past; and if I refer to them, it is not to stir up resentments, but to point to them as warning beacons for the future; and as a ground of hope, now that their pressure is removed, for steady progress in the time to come. To me the wonder is that matters are now as favourable as we see them to be. Among those early settlers who fought and won the battle, under such disadvantages, there must have been many good and true men, of great vigour of character, and solid worth. Let us honour the memory of our conscript brothers who for us bore the burden and heat of the day.

Some of the transactions in those anarchic times look to us sufficiently ludicrous, though serious enough to those who went through them. Out of the wreck of the past has been preserved a petition bearing the date of 1776,—or about a century ago—from the “merchants, boatkeepers and principal inhabitants of St. John’s, Petty Harbour, and Torbay,” and addressed to “The Hon. the Commons of Great Britain in Parliament assembled.” This petition contains some curious items showing how things were looked at in those days. The petitioners prayed for an increase of bounty to the extent of six shillings a ton on all vessels engaged in the fisheries—a very desirable arrangement for them, no doubt. Also they ask for admission of their oil, sealskins and blubber into Britain free of duty—which was only reasonable. Further,—they plead that “if a master or person acting under him should at any time see it necessary to correct any servant under them, with moderation, for not doing his duty in a proper manner,” that the said servant be not allowed to summon his master before a justice of the peace, “which in the height of the fishery has been found very detrimental.” In other words, these honest men wanted the Commons of England to give them the power of thrash-

ing their servants as they thought proper, without being made answerable in any way. They also asked Parliament to send off all shop-keepers from the country at six months' notice, or else compel them to keep fishing vessels; as they were interfering with their own profits in supplying their own servants. This was rather rough on the shopkeepers of a hundred years ago, and shows that the principle of buying in the cheapest market was not then recognized. The petition winds up by requesting that no more ground be enclosed for farms, as the gardens of the officers stationed here "obstructed the public pathways to the woods." What a curious picture this gives us of the state of matters in St. John's a hundred years ago—merchants and planters cudgelling their servants—charging them what they pleased for supplies, and asking Parliament to remove all shopkeepers. A letter from Governor Milbank, dated October 1790, or eighty-eight years ago, addressed to George Hutchins, Esq., is also extant, in which the Governor orders the house of a certain Alexander Long to be pulled down because "it had a complete chimney in it, *if not two*, and lodging for at least six or eight dieters," and so had been erected contrary to law; and the sturdy old Governor further says that he will not allow possession of any land except such as is employed in the fisheries. But I have still a worse case to tell you of—a certain Major, Lieutenant Governor Elford, about the year 1783, sent a despatch to the British Parliament recommending strongly that "all the women located on the island should be removed, and that in future no women should be allowed to land." Only fancy our present highly-esteemed and popular Governor, issuing such an inhuman order for the removal of all the ladies in the colony. I am sure he never would do so unless he meant to accompany them. But how came women to be in Newfoundland at all, in such rough times? This is the first mention of them in our history. How did they get here? Blessings on them, they had come to take care of the unfortunate men. "Where the carcass is, there will the eagles be gathered together." Wherever man is, woman is sure to venture. She knows we require to be looked after, and that alone, man is as useless as one side of a pair of scissors. I feel satisfied that this ill-natured Governor, who must have been an old bachelor, did not succeed in driving out the women, and preventing all new arrivals. I should like to see the Governor or the laws that could accomplish that. As Horace said

long ago, "if you drive out nature with a fork she will return on you." The tender passion is not to be eliminated from human nature by any forcible measures. The Italians tell a story of a nobleman who grew sick of the world, and especially of the better half of it—womankind; and so he retired with his son, then an infant, to a castle in the mountains where no girl or woman was ever allowed to come; and there the child grew up to be a young man without ever having looked into the face of a woman. At last his father ventured down with him to a great public festival that was to be held in the valley; and there among other wonders he saw for the first time young girls; and with wide-open eyes he whispered to his father, "What are they?" "They are devils my son," the father answered, "don't look at them, or think about them." He thought, no doubt, he had made all safe. But as they were about to go home he said, "My son what is there in the fair you would like, and I will get it for you?" Now the poor youth had seen a lassie of the hills, with a blush on her cheek like the Alpine rose, and eyes as blue as Italian skies or Juliet's dark liquid orbs; and she had shot a glance at him and wickedly slain him; and so he said, with a great gulp, "O father, I should like so much to have that young Devil to take home with me." If the story is not true in fact, it is as true as heaven and earth can make it of this human nature of ours. You may be quite sure the women did not leave this island, on the rough hint of the Governor; and if they had done so, fresh importations would have been soon called for.

Chaos ended, I have said, and Cosmos began in 1728, when our first Governor was appointed, and we were raised to the rank of a colony,—

"The mills of the gods grind slowly,
But they grind exceedingly small."

They ground up at last the old Fishing Admirals and their marlinespikes; and after them the "Surrogates" of blessed memory, and all the stupid selfish laws which prohibited local industry but authorised religious intolerance; and I think, that these same "mills of the gods" will one day grind up those ancient treaties which have shut us out from the best half of our island, and most seriously impeded the progress of the colony. Still Cosmos came with slow footsteps. In 1805 the country made a big leap forward and got a post office; and in the same year the *Royal Gazette*,

the first newspaper was printed. The transition may be considered to have been fairly established in 1832, when the colony obtained the boon of Representative Government, which in 1855 was followed by Responsible Government, its natural and necessary sequel. Almost every one will now admit that great and beneficial results have followed the introduction of local self-government, which is simply the application of the principles of the British Constitution to the subjects of Queen Victoria in Newfoundland. We are now as free as any people under the sun. I should like to know what greater degree of liberty any man could reasonably ask for than that enjoyed here. We elect our representatives, having a household suffrage; make our own laws; select our own Government; pay them to govern us, and then we have the privilege and happiness of governing them. Think how closely we watch our government at every turn, and abuse them when they go contrary to our wishes. Think of the generous, disinterested, watchful care of the opposition to keep them right; and how our faithful Press pours out the vials of its wrath at times on the devoted heads of the government, and say are we not sufficiently free? Even the representative of royalty himself, when he arrives here, finds himself, a very limited monarch indeed. With Responsible Government then our transition was fully inaugurated, and we are jogging on now fairly towards the stage of our maturity, as an organized and civilized community.

Do you ask me when the period of our maturity will begin? I answer, without hesitation, when our island is pierced by a grand trunk railway, with branches radiating to all the principal districts—then, and not till then, will our majority have arrived. Permit me for a moment to state my honest convictions on this subject. Right or wrong, you will I hope give me credit for sincerity, for I have no "axe to grind," and I am uninfluenced by any political bias. And my conviction is this—that Newfoundland has reached that stage in which a railroad has become an absolute necessity, if she is to make further progress; and that we ought to strain every nerve, and submit to almost any sacrifice in order to obtain this grand necessity of modern civilization. We have all that could be wished for, at present, as regards ocean and local steam communication. We have the splendid steamers of the Allan line calling here weekly; and they have given to the world a practical

demonstration of the magnificence of our geographical position. In ten minutes after leaving the broad Atlantic they are moored at the wharf, in one of the safest harbors in the world. Their prows are turned eastward, and ten minutes after clearing the wharf they are again in the Atlantic, with not a rock or shoal between them and Queenstown, which they reach in six days almost as regularly as a railway train. People understand now the superiority and safety of this route, and are getting to have faith in St. John's as a port of arrival and departure. Now, suppose we had a railway built, and could whisk passengers across the island to St. George's Bay in nine hours, and put them across the Gulf in fifteen more, and that then they could take rail for all parts of the Continent, do you not think we should have the bulk of passengers who cross the Atlantic taking this swift route, and that we should have the greater part of the mails transmitted by the same track, when London would thus be brought within seven days of New York. This is no dream. One of the most eminent of living engineers—Mr. Sandford Fleming—has pronounced it quite a practicable achievement thus to establish communication between the two hemispheres. When we can furnish at once the safest and quickest route between the Old and New Worlds, our claims are sure one day to be recognized. But setting this aside for a moment, let us look at our internal condition, as suggesting the necessity for a railroad. What are we going to do with this huge territory of forty-two thousand square miles? Are we going to leave the interior for ever to the wolves and the deer? Are the fine agricultural districts to remain solitudes, when our own people and the people of other countries, who are in need of bread, would occupy them if they were made accessible, and transform them into smiling farms, and make them the happy homes of men? Must our noble forests be left to rot and burn?—our coal beds and mineral deposits sleep for ever where bountiful nature has stored them? Shall our people cling for ever to the rocky shores, and content themselves with a precarious subsistence derived from the stormy deep? Shame on us if we do not rise to a nobler conception of our destiny as a people, and utilize the gifts of a bountiful Providence. To me it seems that the present generation are brought face to face with the task of constructing a railroad across the island, and that they will prove untrue to their duty if they do not lay aside all party considerations and

unitedly and valiantly gird themselves for the work. Think for a moment what the construction of such a railroad means to us! It means the opening up of this great island—the union of its eastern and western shores—the working of its lands, forests and minerals—its connection by a rapid means of communication with the neighbouring continent. It means the increase of its population by a stream of immigration—it means the conversion of the country into a hive of industry, and the commencement of a material prosperity to which we can set no limits. It means employment at good wages to our population—many of whom alas! are now very scantily supplied with the poorest necessities of life—“Too little to live on and too much to die on.” To St. John’s itself a railroad means a vast increase of business of all kinds,—new houses going up—steamers arriving and departing every day—real estate increased in value fourfold; and an end to all grumbling among our traders about bad debts and heavy stocks on hand at the close of the season. It means openings of all kinds for the talents and energy of the young generation. But wanting a railroad, none of these benefits will come, and we shall be simply at a standstill and all our resources must remain undeveloped.

But then it is asked how is a poor colony like this to build a railroad! We can’t afford it. I reply you can’t afford to do without it. Your poverty is your strongest argument for going at it, in order to transform that poverty into wealth. It seems to me that a railroad is perfectly within our reach by a very little sacrifice. The first step has been taken by securing a survey of the line; and, in my humble judgment, never was public money better spent than in that instance, for it has lodged the idea of a railroad in the public mind, and that will not be eradicated till it is translated into a fact. Moreover—it has shown that there are no serious difficulties in the construction of such a road. This is one of the easiest countries in the world to pierce with a railroad. I have high authority for saying that a subsidy of £30,000 per annum, for a limited number of years, with a liberal grant of unoccupied land along the line, would secure this grand desideratum. What is wanted is that the people should arouse themselves to the necessity of getting a railroad, and tell their representatives that it must be done; and that if there are difficulties, they are sent to the halls of legislation to overcome difficulties, and lead the way in the path of progress. If I were Prime

Minister I should, in Yankee phrase, "freeze to" this railroad. I would plot and scheme and scrape and pare, and revise the tariff, and do everything short of stealing, till I got money enough for the railroad. I think I would take that million or million and a quarter of dollars which we have had the good fortune to obtain by the award of the Fishery Commission—thanks to the goodness of our case, and the ability and zeal of our representative, Mr. White-way;—and I would permanently invest it, and thus obtain £10,000 per annum, or a third of all that is wanted for our railroad. I would keep at it, sledge-hammering, knocking down all opponents, confident that I should win, in the long run, and that a grateful posterity would one day bless my memory, and that my statute would stand over the great International Railway station that shall yet adorn St. John's. Once it is built, all things are possible. Hail to the great Hereafter, when Newfoundlanders will be making excursions by rail, on their public holidays, to witness a regatta on Gander Lake, or Red Indian Lake; when picnics will be held at the Serpentine Mountains or Powderhorn Hill, and dances at the foot of the Blowmedown Range; when Sunday school children will be taken in happy batches in excursion trains, to gather hurtz and play games on the tableland of the interior; when day schools will be whisked off to spend a charming day in visiting the mines and great copper smelting works of the north, or in waudering along the banks of the Humber—when visitors from the United States and Canada will be crowding the Imperial hotel at Long Pond, where cold and hot salt water baths can then be had and excellent livery stables are kept; and when return tickets for Japan and China, *via* the Canadian Pacific railway will be issued at a cheap rate; and such will be the facilities for travelling that we shall seldom live at home. Don't tell me that, with all these glowing prospects before us, we cannot afford to build a railway. With an annual revenue of \$912,000 and yet not able to construct three hundred and fifty miles of railway! Then might we ask

"Is our civilization a failure,
Or is the Caucasian played out?"

Let us abjure such faithless ideas.

"Lay down your rails, ye nations, near and far,—
Yoke your full trains to steam's triumphal car;
Link town to town; unite in iron bands
The long-estranged and oft-embattled lands.

Peace, mild-eyed Seraph—knowledge, light divine,
 Shall send their messengers by every line.
 Blessings on science and her handmaid steam !
 They make Utopia only half a dream ;
 And show the fervent, of capacious souls,
 Who watch the ball of Progress as it rolls,
 That all as yet completed or begun,
 Is but the dawning that precedes the sun.”

I must now draw this rather lengthy address to a close ; and I shall do so by endeavoring to show you that this country has made such real and, I might say, wonderful progress during the last forty or fifty years, and more especially during the last fifteen or twenty years, that we are warranted in predicting great things of it in the near future. I begin with its progress in road-making which has been very considerable, though much remains to be done. Roads are types of civilization. Where there are no roads the people are savages ; where roads are few and bad, law is weak and society semi-barbarous. If you want to know whether a people is stagnant or progressive look at their roads. Wherever there is mental activity, enterprise, and a liberalizing spirit of any kind you will see their manifestations in the building of roads for travel and intercourse. All the great epochs of civilization in the world's history were ages of roads. Nothing marked the splendid era of the Roman Empire so strikingly as the magnificent system of roads which radiated from the forum of Rome to the furthest extremities of the most distant provinces. This is emphatically the age of roads, not only of stone but of iron, along which rushes the iron horse, with heart of fire and muscles of steel and breath of steam. Then we make roads over the ocean by our steamships ; and roads for thought by the telegraph wire ; and the day is not distant when the world will be one vast sensorium, with nerves of communication to the very ends of the earth. In the Highlands of Scotland, in what was once a very wild district, but which is now well furnished with excellent roads, there stands a stone bearing this inscription, which reads rather like an Irish bull but is really a Highland one :—

“ If you had seen these roads before they were made,
 You would lift up your hands and bless General Wade.”

Now in like manner I might say if you had seen the excellent roads that now radiate from St. John's “ before they were made,” you would bless, first of all, the memory of Sir

Thomas Cochrane, one of our governors, who in 1825 made the first road to Portugal Cove, and also the road between Harbor Grace and Carbonear. Like our present Governor, he was not afraid of the bogs and bushes, and travelled far and wide to inform himself regarding the country and people. He initiated road-making, and others have followed it up. Still the labor of road building went on slowly. When Mr. Jukes, the geologist, was here in 1840, he tells us that when making an excursion to Topsail, he found the first five miles of the road from St. John's "in a condition good enough for a horse to trot along it"; the rest was merely marked out, not gravelled, and cut through woods "leaving the stumps and roots of the trees." When this was the case around the capital so lately as thirty-seven years ago, it may be imagined what was the condition of the rest of the country in regard to roads. You will agree with me then that, during those thirty-seven years, great progress has been made in road-making; but still an enormous amount of work remains to be done before our population shall be provided as they ought, with roads—the indispensable elements of civilized existence. At the present date we can reckon up seven hundred and twenty-seven miles of postal roads and one thousand seven hundred and thirty miles of district roads. The Great Northern mail route when completed will be one hundred and thirty-seven miles in length, and twelve hundred miles are in process of making.

I must now very rapidly sum up other indications of progress. In 1840 the first steamer ever seen in Newfoundland made her appearance; in 1840, or thirty-eight years ago, we got our first mail steamer; a small one that ran to Halifax. Now what a contrast! We have ocean steamers calling weekly; we have three local steamers; and a fleet of some twenty-six steamers will be starting next month from our harbours for the icefields. We are now able to spend \$121,420 per annum on steam communication. I call that genuine progress; and it is the work of the last few years. It is an unmistakable index of the growing wealth, enterprise and intelligence of the colony. Some dozen years ago it was whispered that copper ore had been found in the north of the island, but hardly any one gave any attention to the rumour or expected anything out of it. Now what is the state of the case? From Betts Cove mine alone forty-five thousand tons of ore were shipped last year, requiring a small fleet for its conveyance; and twelve hundred men

found remunerative employment in that single mine. It is well known that Tilt Cove is no less valuable. The whole region around these mines is covered with mining licenses; speculation is rife and new deposits of ore are continually discovered. The geological map of Newfoundland shews that the serpentine rocks, with which the ore is associated, have a spread of five thousand square miles—enough to furnish scope for any amount of mining enterprise in the future. It is now put beyond a doubt that our island is destined to become one of the world's great mining regions. Here then is another great stride in advance. Mining means employment for our people,—the improvement of our revenue—the extension of our trade and the increase of our population. Even in agriculture we are advancing. The Solicitor General told us last year that the annual value of our agricultural produce is at present over \$612,000. Mr. Murray has calculated that there are nearly three millions of acres of land suitable for settlement on our eastern and western shores, all at present unoccupied. When with such slight efforts now put forth in the cultivation of the soil we raise produce valued at £153,000 per annum, our whole population being only 161,000, what may we not anticipate when our present antiquated laws which fail to promote settlement are repealed, the country thrown open to enterprise in lumbering and farming; the districts surveyed and made accessible; information regarding their soil, climate and capabilities widely circulated, and means taken to attract emigrants to our shores, as is the case in all the other provinces!

A word or two now about our fisheries. Fears are entertained by many that they are failing and may become exhausted. Believe me such fears are utterly unfounded. Of course they are now, as they have always been, subject to considerable fluctuations; and as we all know last year's results were unfavorable. But so long as the Arctic current, laden with the germs of fish life and furnishing the true home for the commercial fishes, continues to wash our shores, no one need dread an exhaustion of our fisheries. Their increase in value has been steady up to the present hour, and with the aid of science they are capable of indefinite expansion. Within a dozen years the value of codfish, our grand staple has doubled. Where is the country in the world of whose staple production a similar tale could be told! The more railways are extended in those countries

which consume our fish,—such as Spain, Portugal, Italy and Brazil—the greater the demand for our codfish. Risks in its shipments are now immensely less than in former years, partly owing to the state of all markets being made known by telegraph, and partly to increased facilities for its transportation inland by railways; so that I am told it is here becoming more and more a “cash article,” like the flour of Canada and the United States. It is a mistake to suppose there has been any falling off in the quantity of codfish exported during the last fifty-seven years. In the year 1849, 1,175,167 quintals of codfish were exported; in 1874, 1,609,724; in 1875, 1,136,235; in 1876, 1,364,068 quintals. In the five years ending in 1856 the average annual value of the products of our fisheries was \$5,166,129; during the five years ending 1876 the annual value rose to \$7,847,661—being an increase of \$2,681,532 since 1856 in the annual value of our fish products. Such a result ought to quiet all our fears. What we want now is to call in the aid of science, and secure the services of an able practical and scientific man to act as fishery commissioner. We have the most valuable fisheries in the world, but unlike all other countries, we have no one specially charged with watching over their interests.

Did time permit I could show you that the table of our exports and imports, the deposits in our Savings Bank now reaching above a million dollars—and in our other banks whose shareholders are in “pastures green”—and the healthy state of our trade while most other countries have been suffering from depression,—that all these further indicate steady progress, and give promise of a prosperous future for THIS NEWFOUNDLAND OF OURS. But I must now close. I trust my subject will be to some extent an apology for the unwarrantable length of this address. If I have detained you too long, you can console yourselves with the thought that you have been suffering for your country. I respectfully submit that I have made out my case and adduced sufficient evidence to prove that the land we live in is not exactly, as many believe, a stranded iceberg, but one that has all the elements of prosperity in itself, and a great future before it. I have proved, I flatter myself, that since unjust and oppressive legislation ceased and it obtained a fair chance, it has made rapid progress and is likely, ere long, to overtake its sister provinces which got a start of it in the race. Nor is our progress merely material—it is also

social and moral. During my residence here of twenty-five years I have observed a very great amelioration in many directions. The asperities of political and religious conflicts are greatly softened. Though there is still room for a little improvement, the political warfare is now carried in better taste, with more moderation and greater regard for the amenities of life. We have learned that our opponents are not necessarily fiends, knaves, or jackasses, and that it is hardly polite to call them by such titles. I think that even the *odium theologicum* is greatly toned down. The patriotic spirit is rising gradually above party strife and denominational zeal. This is what we require to cultivate and extend, especially among our young men, on whom the future of the country depends—that patriotism which so respects and loves the country as to be willing to make all sacrifices for the promotion of its highest and best interests, and which will regard any trust which the country commits to their keeping as among the most sacred of human pledges—that enlightened patriotism which recognizes that the true greatness and happiness of our country consists not in mere material prosperity, but in the education, the intelligence, the virtue and the religion of its people. Let us each try to do our part bravely and faithfully to leave the country better than we have found it. And let our watchword be “Forward.”—

“Standing still is childish folly,
 Going backward is a crime ;
 None should patiently endure
 Any ill that he can cure.
 Onward ! Keep the march of time—
 Onward ! while a wrong remains
 To be conquered by the right ;
 While oppression lifts a finger
 To affront us by its might ;
 While an error clouds the reason
 Of the universal heart,
 Or a slave awaits his freedom,
 Action is the wise man's part.

“Lo ! the world is rich in blessings—
 Earth and ocean, flame and wind
 Have unnumbered secrets still,

To be ransacked when you will,
For the service of mankind ;
Science is a child as yet
And her power and scope shall grow,
And her triumphs in the future
Shall diminish toil and woe ;
Shall extend the bounds of pleasure,
With an ever-widening ken,
And of woods and wildernesses
Make the happy homes of men."



APPENDIX.

No. I.

In support of the statement that our fisheries are not deteriorating, the following extract from Professor Hind's report on the effect of the Treaty of Washington on our fisheries carries with it great weight:—

“About forty years ago, the bank fishery, so far as regards Newfoundland, entirely ceased, and the fishery has since been carried on altogether within shore, and is extending, year by year, further and further up Labrador. As far as my observation goes, and as far as statistics go, I am able to show that the increase, during the last sixty or seventy years, since for instance 1804, has been almost perfectly uniform, when you take into account the increase in the population of the country. Of course it is to a certain extent dependent upon that, and subject also to those fluctuations which continually take place in our fisheries—in the mackerel and cod fisheries—and in the marine climate on the American coasts. Also in the cod fishery the increase has been continuous since 1850, since when there has always been a mean of one million quintals. It reached one million quintals in 1842, and after that it either approached to or rose above it continually.”

The following is a table showing the exports of codfish from Newfoundland since 1867:—

	Quintals.
1867	1,066,215
1868	1,169,948
1869	1,204,086
1870	1,213,737
1871	1,328,726
1872	1,221,157
1873	1,369,205
1874	1,609,724
1875	1,136,235
1876	1,364,068

The following table, from the same report, shows the gradual progress of the value of the products of the Newfoundland fisheries, during each group of five years, from 1852 to 1876, inclusive:—

Average value of Exports—group of five years—	
1852 to 1856	\$5,166,129
1857 to 1862	6,132,392
1862 to 1866	6,080,445
1867 to 1871	7,011,407
1872 to 1876	7,847,661

The way in which the Arctic current, which sweeps along our shores, sustains our fisheries, will appear from the following extracts from Professor Hind's report:—

“It is a popular error that the cold of the Arctic seas is unfavourable to fish life. In truth the Arctic seas and the great currents flowing from them are in many places a living mass, a vast ocean of living slime, and the all-pervading life which exists there affords the true solution of the problem which has so often presented itself—where the food comes from which gives sustenance to the countless millions of fish which swarm on the Labrador, on the coast of Newfoundland and in the Dominion of Canada and United States waters, or wherever the Arctic current exerts an active influence.” “This “slime” of the ocean appears to live most abundantly in the coldest water and in the neighbourhood of ice. The great ice-drift coming from the Spitsbergen seas, sweeping round Cape Farewell, then northwesterly by Davis' Straits, is augmented by immense bergs and floes from Baffin's Bay and Hudson's Straits, and at length, on the banks of Labrador, countless thousands of these ground, bringing with them their “slime.” Thus the slime which accompanies the icebergs and icefloes of the Arctic current, accumulates on the banks of Northern Labrador, and renders the existence possible there of all those forms of marine life—from the diatom to the minute crustacean—from the minute crustacean to the crab and prawn, together with mulluscous animals and starfish in vast profusion, which contribute to the support of vast schools of cod, which also find their home there.”

No. II.

Evidences of the progress of the colony are supplied from the advance in the exports and imports, the deposits in the

Savings' Bank and private banks, and from the revenue.— In 1866 the value of the exports was \$5,694,305; in 1876, \$8,168,340. In 1866 the value of imports was \$5,784,849; in 1876, \$7,205,907. At the close of 1876 the deposits in the Savings' Bank amounted to \$1,011,800. It is understood that our two private banks have very large sums, as deposits, at the same rate of interest as that of the Savings' Bank. The revenue in 1866 was \$721,390; in 1877, \$833,068. The public debt of the colony in 1876 was \$1,319,340. In 1785 the population of Newfoundland was 10,244; in 1857 it had risen to 122,638; in 1869, to 146,536; and in 1874, to 161,374. In 1869 the total number of boats employed in the shore fishery was 14,765; in 1874 they had increased to 18,611. In 1869, the number of persons engaged in catching and curing fish was 37,259; in 1874, 45,854 persons were so employed. In 1874, the number of vessels, including sealers, was 1,197, with a tonnage of 61,551 tons, manned by 8,394 fishermen sailors.

No. III.

THE PUBLIC DEBT.

There is not perhaps any other British colony so favourable circumstanced in regard to its public debt. The total amount of the public debt of Newfoundland is but \$1,347,692. Of this the Savings' Bank, which is a Government institution, holds \$593,304. An act has been passed by the legislature during the session of 1879, entitled, "An Act to provide for the payment of the public debt of this colony," by which it is enacted that "the profits of the Newfoundland Savings' Bank now existing, and the profits of the said bank as they shall arise from time to time, together with the sum of \$8,651 now held by the said bank as a sinking fund, and all interest accruing thereon, shall be constituted a Sinking Fund for the liquidation of the public debt of this colony, and that such fund be applied in the first instance towards the payment of all debentures of the colony which are or may be held by the said Newfoundland Savings' Bank."

The effect of this Act in reducing the public debt will be apparent from the following statement: At the end of 1878 the reserve of profits, arising from the working of the Savings' Bank, was \$75,716. Adding to this the sinking fund,

amounting to \$8,651, we have \$84,367 applicable to the reduction of debentures in terms of the Act. When we take into account the assured system on which the bank is worked, and the steady growth of its reserve fund, about \$14,000 per annum, even without any increase in the present amount of deposits and profits, the debentures held by the bank will be paid off in twenty-one years. So much of the funded debt being thus secured, there remains otherwise to be provided for \$754,388; and against this we hold the balance of the fishery award, which is now invested at four per cent., and which, exclusive of \$102,300 loaned to the telegraph extension expenditure, amounts to \$630,514. This practically brings down the debt of the colony to \$114,874. The whole public debt is thus provided for; and with the exception of the small sum named, the colony may be pronounced virtually clear of debt. Such is the enviable position of Newfoundland at the present moment. Suppose that for any great public work, such as the building of a railway, the country should decide on pledging the security of the colony, it is evident that with such a balance sheet to exhibit, money could be obtained on the most favourable terms. No doubt the Government and Legislature have made the foregoing provision for the public debt, with the view of being untrammelled in promoting measures of public utility, in the near future.

No. IV.

SHEEP FARMING.

Newfoundland presents great attractions as a sheep farming country, and there can be little doubt that this branch of industry, as well as stock raising generally, will gradually attain large dimensions, more especially in view of the facilities for sending dead meat to the English markets. In many parts of the island sheep pass the winter in the open air living mainly on the browse of the fir and other trees, and return in the spring from the woods healthier, and in better condition than those which have been housed during the season. An Act "for the encouragement of sheep farming" was introduced last session by the Hon. J. J. Rogerson, and is now law. It enacts that the Governor in Council may grant licenses of occupation upon ungranted crown lands which may be deemed suitable for the purposes of sheep

farming, to the extent of three square miles for each license (such licenses not to exceed ten in number) for a period of ten years: and that any holder of such license having efficiently maintained upon the land so licensed a flock of at least five hundred sheep for the period of ten consecutive years, shall be entitled to a grant in fee of the land so licensed; provided that the Governor in Council may allow such licensee three years for preparing and stocking such farm—all agricultural implements imported for such farms to be admitted free of duty. Further, it is enacted that the sum of four hundred dollars shall be paid, in equal sums, to the first two persons or companies, or any one of them, who shall actually establish stock with the aforesaid number of sheep, and work sheep farms in this island, in accordance with the terms of this Act. It is to be hoped the foregoing liberal terms will attract some practical sheep farmers from Britain or Canada. We only want a few enterprising men to lead the way.

No. V.

CLIMATE OF NEWFOUNDLAND.

Taken as a whole, the climate of Newfoundland may be pronounced one of the healthiest in the world. Fogs are confined to the southeastern shore, the northern and western shores, as well as the interior being almost entirely free from them. The summer, though short, is delightful, the thermometer rarely rising higher than 80°, and the fierce heats of Canada and the United States, in July and August, being unknown. The following tabulated statement of the mean annual temperature throughout the year at Bay St. George, on the west coast of Newfoundland; Toronto, Ontario; Winnipeg, Northwest Territory; and Windsor, Nova Scotia, shows that the climate of St. George's Bay, Newfoundland, is only a little less favourable than that of Toronto, and much superior to that of the other two places:—

MEAN TEMPERATURE THROUGHOUT THE YEAR.

	Frost.
Of Bay St. George	43° 8'
Of Toronto	44° 3'
Of Winnipeg	32° 7'
Of Windsor, N. S.	42° 7'

GREATEST COLD IN JANUARY.

At St. George's Bay.....	—3°	0'
At Toronto.....	—4°	0'
At Winnipeg.....	—43°	5'
At Windsor.....	—15°	0'

GREATEST COLD IN MAY.

At St. George's Bay.....	29	0
At Toronto.....	25	3
At Winnipeg.....	28	6
At Windsor.....	27	0

GREATEST COLD IN JULY.

At St. George's Bay.....	50	0
At Toronto.....	44	4
At Winnipeg.....	42	5
At Windsor.....	44	0

RAINFALL.

Bay St. George, total days of rain in four months.....	34	0
Toronto, ditto.....	47	0
Winnipeg, ditto.....	52	0
Truro, Nova Scotia, ditto.....	68	0

Dr. Alexander, who resided as medical officer at Tilt Cove, Union Mine, on the northeast coast of Newfoundland, published a pamphlet in which he says, "I consider the climate in that, and indeed in most parts of the island, good, and much healthier than the average English one. The summers, though shorter, are warmer than those of England, and also dryer, except on the southeast coast." The cold, he states, is "much more severe, but it is steady with a fine dry, bracing frost nearly all the time, and very few of those sudden vicissitudes which are so common in an English winter." Dr. Alexander is of opinion that invalids, suffering from chest affections, might with advantage visit Newfoundland, taking care to avoid the foggy part of the coast. Our fine scenery, bracing air, and bays and rivers presenting such attractions for excursions by water, our abundant game and well-stocked trout and salmon streams; the freshness and novelty of our lake, river and bold coast scenery, will all concur when known, in drawing tourists to our island, and rendering it one day the Norway of British America.

One hundred acres of Crown land can be obtained by any settler for fifty dollars. Or he can, if he choose, obtain a

license of occupation of fifty acres, and is entitled to eight dollars on clearing the first acre, and six dollars per acre for five more;—when six acres are cleared the whole fifty are given to him in fee. License for the occupation of two hundred acres may be obtained on condition of erecting a saw-mill, and by working it three years a grant in fee of the whole land is obtained.

No. VI.

OUR MINING INDUSTRY.

Mr. Ellershausen commenced operations at Betts Cove in 1874. During the next four years he raised 102,400 tons of copper ore, value £512,000; and during the last two years he paid in wages \$409,600. Tilt Cove mine, owned by Messrs. Bennett and McKay, was opened in 1864. The value of the ore shipped from it up to the close of 1876 was £223,840. New deposits of great extent and value have recently been discovered at Tilt Cove, while the old workings show no signs of exhaustion. Mr. C. F. Bennett is the honoured pioneer of mining enterprise in Newfoundland. To his untiring energy and perseverance we are indebted for the opening of this source of wealth and prosperity; and to Mr. Smith McKay is due the honour of discovering the first copper mine.

No. VII.

AGRICULTURAL STATISTICS.

The agricultural returns for 1874 show that the value of the cleared land, and of horses, cattle, sheep, and swine, in the colony, is \$2,454,939, while the value of the annual produce is \$884,288. In 1877 the value of horses, cattle and agricultural produce imported into the colony was \$660,763.

No. VIII.

The amount on deposit in the Savings' Bank and in the other banks is a fair test of the prosperity of the colony. In 1878 the amount on deposit in the Savings' Bank, was \$1,092,559; in the Union Bank \$1,502,380; in the Commercial Bank \$760,000; in all \$3,354,939. The banks allow three per cent. interest on deposits. Shipbuilding advances

prosperously. In 1877, one hundred and forty-six new vessels, having a tonnage of five thousand five hundred and thirty-six tons were built; and in 1878, one hundred vessels of four thousand one hundred and eighty-one tons. In 1878 the number of vessels owned in the colony was one thousand five hundred and sixty-five sailing vessels of seventy-two thousand nine hundred and eight tons, and twenty-six steamers of six thousand nine hundred and twenty-five tons. The value of vessels, boats, and nets, employed in the various fisheries, in 1874 was \$3,766,863. The population of the colony in 1869 was 146,536: in 1874, 161,374; an increase at the rate of ten per cent. in five years. From 1857 to 1869 the increase was at the rate of nineteen per cent. For several of the foregoing items I am indebted to Judge Prowse's valuable lecture on the Progress of Newfoundland which was published in the *North Star* newspaper.

No. IX.

FRESHWATER SEALS.

In Grand Lake, Sandy Lake and several other inland freshwater lakes of Newfoundland, seals are abundant. These seals never visit the sea and breed freely. The same is said to be the case in Lake Baikal, in Central Asia, one thousand two hundred and eighty feet above the sea level. The question arises, how come these animals, supposed to be essentially marine, to be found inhabiting fresh water? During the great changes which the surface of the earth has undergone, in geological periods, especially when the Silurian was passing into the Old Red Sandstone, it happened, in certain regions, that a shallowing of the sea took place, followed by a gradual alteration in the physical geography of the district, so that the area became changed into a series of mingled fresh and brackish lagoons, which finally, by continued terrestrial changes, were converted into a great freshwater lake or series of lakes. In the case of Grand Lake and other lakes in the same region, which may have been originally formed in this way, and are but little above the sea level, it is probable that they were submerged during the glacial period and remained as deep basins while the land was emerging; and after its final emergence, the salt waters of these lakes freshened so slowly that the seals, and perhaps other creatures, originally marine, which in-

habited these waters, had time, by degrees, to adjust themselves to the new and abnormal conditions in which they were placed, by the change from salt to freshwater, and to the different kinds of food on which they were henceforth to subsist. Holyrood Pond, in St. Mary's Bay, is a salt-water lake at present, as each year communication between it and the sea is opened at one place, through the shingly beach, and codfish and other saltwater fishes enter it and live in this lake which is over twenty miles in length. The storms of autumn close up the opening with shingle and sand, and for a time the fish are cut off from communication with the sea. Were this communication to be finally closed, Holyrood Pond would become a brackish pool, and finally a freshwater lake, and the fish enclosed would either die or gradually adjust themselves in "the struggle for existence" to the altered conditions. The great law of "the survival of the fittest" would come into operation. Seals would be transformed into freshwater denizens as in Grand Lake.