

NEWFOUNDLAND AND THE PAPER SUPPLY

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NEWFOUNDLAND'S pre-eminence has been, in the past, altogether in the way of her fisheries, which give employment to nearly three-fourths of her people and represent a proportionate value in her exports. But within the last generation she has forged to the front as a country possessed of vast mineral, forest and water power resources; and consequently great things are expected from her in that respect in the future, of which a substantial earnest has already been made evident.

The first of these developments took place with the uncovering of the hematite iron deposit at Bell Island in Conception Bay, some twenty miles from St. John's, about 25 years ago. Readers of this *Review* will note with pleasure that the undertaking was set on foot by Nova Scotians, for the original working was started by the Nova Scotia Steel Company. They attacked one of the deposits, and later sold the other and larger mine-body to the Dominion Steel Company, which was then about to establish its Steel Works at Sydney. To-day, since the consolidation of these two into the British Empire Steel Corporation, both deposits at Bell Island are worked under the same management. These mines are among the most remarkable of their kind in the world, and the possibilities of the areas are only of late years coming to be fully recognized. They stretch under the ocean from Bell Island, and competent scientists have given estimates of their extent which run into figures so immense as to suggest that these ore-bodies are virtually inexhaustible.

Before the war these mines gave employment to some 2500 men every year, and in 1913 they produced $1\frac{1}{4}$ million tons of ore. Since then, through various causes, the annual production has decreased considerably, though in 1922 it reached nearly 900,000 tons. But it is hoped that as the world gets back to normal conditions the old-time activities here may be resumed, and employment may be found for similar if not greater numbers of workmen. A feature of this enterprise is the readiness with which the Newfoundland fisherman adapts himself to the work of a miner, and the brief period required to make him a capable one. It is not

uncommon for those in a fishing boat one week to be in the mines a week later and, in turn, to be in the logging-camps up country, cutting spruce trees for conversion into pulp and ultimately into the newsprint paper which is the product of the great paper mills of the Harmsworth Brothers at Grand Falls, in the interior of the island. It might, indeed, be said that these mines could not be worked at all but for the adaptability of the Newfoundland "out porter," a term which may be used to describe the population apart from St. John's, as—in everyday parlance—the other settlements large and small, which are located on the fringe of the coast all around the island, are known as "Outports."

Some twenty years ago Harmsworth Brothers (of whom the late famous Lord Northcliffe was the senior, with the now almost as well-known Lord Rothermere as the second of the six) were in search of pulp-wood areas within which to establish a paper mill, so as to assure themselves of a continuous supply of the material for the printing of their various publications. Having studied the possibilities in different parts of the world, they decided upon Newfoundland, and obtained—partly from the Reid Company, the railway operators, and partly from the Government—timber areas which with subsequent purchases made up a total of over 3000 square miles, in the very heart of the country, extending along a system of lakes and streams very advantageous for their working. They secured at the same time a water power on the Exploits River capable of generating, with certain improvements, as much as 50,000 horse power. Alongside this water power, known as the Grand Falls, they established the mills—designed for an output of 200 tons of newsprint daily, or say 60,000 tons per year. These mills were, at the time of their construction, the finest in the world. Every machine and device of proved worth, likely to assist in producing a first-class article, had been introduced into the general scheme, so that to-day, after being in actual operation for fourteen years, they admittedly produce one of the very best qualities of newsprint paper manufactured in the world, and the output is increasing rather than diminishing. It is now 217 tons a day, or nearly nine per cent beyond the supposed maximum capacity.

The town of Grand Falls has grown within the past two decades from nothing up to a place of nearly 5,000 people, and it bids fair to become within the next few years the second town in size and importance in the colony. The mills themselves employ about 800 men all the year round, with an addition of some 200 in the summer months when the cutting up of the winter's supply of logs has to be carried on, while in the winter a logging force of from 2,000

to 3,000 men is employed working in gangs in various sections of the area controlled by the company, cutting in the forests the spruce trees that form the raw material on which this industry is based. The annual value of the export of paper from these mills is about \$3,500,000. The company formed for the operation of the property, and known as the "Anglo-Newfoundland Development Company," having weathered the storms of the war and the post-war periods, is so satisfied with the results achieved thus far that it has now begun work on an extension of the plant, which will effect the production of another 75 tons of paper daily. This has been ensured partly by the acquisition of a small pulp-making plant at Bishop Falls, some nine miles down the Exploits River. This property was established by an English paper-making concern, the Albert Reed Company of London, but it has recently been acquired by the larger company, which is now proposing to work it to its full capacity of ground-wood, or mechanical pulp of 50 tons (dry) a day. This will be conveyed by means of a pipe-line in liquid form to Grand Falls, where the actual manufacture of it into paper will be carried out. To obtain the necessary additional sulphite-pulp, which is a constituent of paper to the extent of about one-third of the bulk, the "A. N. D. Co.," (its "short title" in popular parlance in this country) has also acquired a sulphite-making plant which a Norwegian company started to construct at Gloverton, some 90 miles distant, a few years ago. By reason of war and post-war difficulties in financing, the owners of the enterprise—with their plant partly completed—decided to sell to the larger company; so that this "Harmsworth" scheme, as it is alternatively termed, is now in possession of the mills at Grand Falls, at Bishop Falls and at Gloverton. As the latter will produce an excess quantity of sulphite-pulp daily from its mills, it proposes to ship this direct to England for use in the same company's mills there.

The success achieved by the Harmsworths in this enterprise naturally attracted attention to the possibilities of the other large forest areas in the island for the making of paper. Among the largest and best-wooded was that on the Humber River on the west coast, possessed by the Reid Newfoundland Company as part of the payment for the operation of the railway system of the island. Recently a proposition was worked out for the development of this property by the utilization, not only of its forest areas, but of its enormous water powers. These by means of scientific development can be so constituted as to yield 250,000 horse power altogether. The great engineering firm of Armstrong-Whitworth,

of London, was induced to acquire the controlling interest in this new effort, and within the past few months the actual work of construction has been set on foot. This is now so well advanced that it is confidently expected that the manufacture of paper will start there in April, 1925.

The Armstrong-Whitworth Company have formed a subsidiary concern to be known as "The Newfoundland Power and Paper Co., Ltd.," and have acquired from the Reid Newfoundland Company or its subsidiary, the Newfoundland Products Corporation, Ltd., a controlling interest in the properties, water powers, forest areas, etc., on the west coast. These comprise roughly the valleys of Grand Lake and Deer Lake, and of the Humber, which were designed to be the home of a fertilizer industry projected in 1915.

These properties the Armstrongs, in the capacity of "The Newfoundland Power and Paper Company, Ltd.," propose to use as a means of establishing a paper-making industry centred at Corner Brook, Bay of Islands. Here mills will be established capable of producing 400 tons of high grade newsprint daily. These mills will have twice the daily output of the Harmsworth mills at Grand Falls. At Corner Brook, in addition to the mills themselves, will be storage warehouses with a capacity of 30,000 tons, in which the greater part of the winter's output can be stored. Piers will be erected for the shipping of the manufactured product during the period of open navigation, similar to, but of twice the capacity of the piers at Botwood, by which the products of the mills at Grand Falls are exported to Britain and other countries. Use will be made of the Newfoundland railway during the winter months, when Bay of Islands is blocked with ice, to transport to Port aux Basque or vicinity the paper then to be shipped, and to carry this material will require three loaded trains every day during the winter season.

The pulpwood to be used for the making of the paper will be cut in the areas surrounding Grand and Deer Lakes, and ferried to the Humber outlet, mainly by the natural flow of the lakes and streams in that vicinity. The power necessary for the operating of the mills will be obtained by harnessing the waterfall of Junction Brook on the Humber River. This means the construction of a dam across the river at a suitable point, and the cutting of a canal several miles long to carry the water to the power house. This scheme will obviate the necessity of ten smaller dams at various stages in the downward trend of the stream. In other words, applied science will control the natural power of the waterfall

developed through its drop at Junction Brook as an agency capable of furnishing for its first development 100,000 horse power, while provision is being made for further later development which will furnish additional 130,000 to 150,000 horse power that can be utilized for various other industries. These it is hoped to establish in the vicinity later, because the company's engineers are confident that the power can be produced at this point at a lower figure than anywhere else in the world. We have but a faint idea in Newfoundland to-day of the immense development of water power in other countries, and the application of electricity to industries. But when regard is had to what has been accomplished elsewhere, one is safe in contending that this industry is based—so far as water power is concerned—upon an agency the success of which has been demonstrated not only at home, but abroad, as the cheapest and most effective in use in the world to-day. Indeed, so marked has the advance been that in this mill at Corner Brook the heat needed for drying the paper in the process of manufacture will be created by electricity, and not by coal as is done at Grand Falls. In the fourteen years since the Grand Falls mills were set in operation, scientific progress in the utilization of electricity has been so great that coal is no longer used in the latest type of mills, but electricity is employed to raise the steam for this purpose, just as coal was employed 15 to 20 years ago.

I do not propose to go into details of the various buildings which will compose the mills, but I may say that provision is being made for mills of the most modern type, and also for a town designed by a professional town-planning engineer and equipped with everything essential to the comfort and happiness of the working men employed, just as the plant at Grand Falls has attached to it a town of modern design and embodying all that is needful to secure a contented and comfortable working community.

The financial position may be summarized as follows: The company proposes to float in the money markets of the world certain construction bonds to a total value of \$4,000,000. Of this amount \$2,000,000 will be guaranteed by the Imperial Government and \$2,000,000 by the Newfoundland Government. No money will be advanced by either Government. The interest on the bonds will be paid out of principal during the two construction years and subsequently by the company. During the first five years from 1923 the company has no liability as to creation of sinking fund for redemption of debentures. At the end of five years, redemption of bonds begins. The Newfoundland bonds only are subject to redemption for the following period of five years. At the end of

the tenth year the English bonds come in for redemption. At the end of twenty years the Newfoundland bonds are due for redemption in full. At that date the English bonds are due for redemption to the amount of approximately one million pounds.

In other words, the Newfoundland debentures will be paid off in full when but half of the British debentures will be provided for. The interest on the English bonds is not to exceed $5\frac{1}{4}$ per cent. And it is probable that the actual flotation will be at a much lower rate. The interest on the Newfoundland bonds is not to exceed $5\frac{1}{2}$ per cent. It is probable that they will be floated at that figure, as that is the interest at which our 1922 loan was so successfully floated.

This Humber proposition was intimately associated with a settlement of our railway difficulties. Armstrong, Whitworth & Co., Ltd., made it abundantly clear that under no circumstances were they prepared to be identified with a subsidiary company in Newfoundland if that company through its minority share-holders was involved in litigation with the Newfoundland Government in connection with railway matters, nor were they prepared to undertake these operations unless they were assured of railway service in Newfoundland as continuous and efficient as was practicable in view of local conditions. This attitude of Armstrong-Whitworths was not only communicated to the Government but also communicated to the Reid Newfoundland Company. As a result, the Government found it possible to enforce a settlement of our railway problem, in so far as the Reid Newfoundland Company is concerned, on terms which were considered to be very advantageous to the colony. Such terms it would have been impossible to secure but for the fact that the settlement by the Reid Newfoundland Company with the Government of all railway disputes formed a condition precedent to the identification of the Armstrong-Whitworth Corporation with this matter, and consequently a condition precedent to the Imperial Government guarantee.

This railroad settlement meant the entire elimination of the Reid Newfoundland Company and all their interests and connections from the transportation facilities in Newfoundland, including the railway, steamships, express company, telegraphs, and also the dry dock enterprise in St. John's. It meant the taking over by the Newfoundland Government of all the property indicated above. The Reids owned the steamships; they owned the railway station in St. John's, railway stations throughout the country, and certain sidings. They owned about half the rolling stock. They owned the express company and the dock. There was a dispute as to the

ownership of the railway telegraph lines. The Newfoundland Government owned the railway right-of-way and about half the rolling stock.

The Reid Newfoundland Company claimed the right to submit to arbitration demands which they said they had against the Newfoundland Government for many millions of dollars, arising out of a multitude of contractual relationships and alleged special transportation services during the war period. In view of the great pressure it was possible to bring to bear upon the Reids because of the attitude taken by the English financiers in connection with this dispute, it became possible to force them to cancel their claims, huge as they are, give up more than 200,000 acres of land to which they are entitled under the 1904 Transportation of Timber Act, and transfer all their railway equipment, stations, sidings, express company, telegraph lines, dock and freight steamers to the Government, in consideration of the issue to them of twenty-year five per cent Government bonds of the face value of two million dollars.

It is confidently expected by the promoters of this new paper-making industry that within a few years they will have a number of lesser industries operating in the vicinity and utilizing the excess electricity now to be generated. As conditions warrant, a further development of the rivers and streams of this region can be undertaken which will yield an additional 100,000 horse power, though it is not expected that this will be required for some years. Even as it is, the enterprise contemplated is exceeded in magnitude only by three or four mills in North America, and as it is the last established it will be the last word in construction and equipment. Its permanent working force will be about 1500, and its logging crews during the winter months will run from 3000 to 4000. It will thus become the largest labour-giving enterprise in the island; as the work is not exacting and in some aspects attractive, it goes without saying that there is vigorous competition for places on the force to be embodied. Great store is set by those in authority in Newfoundland upon the fact that this enterprise will prove the possession of hydro-electric power within the island to an extent not believed possible until recently, but now recognized to be of the greatest promise for the future. The example is frequently cited of communities in Canada, notably in the province of Quebec, where—because of abundance of power—numerous smaller industries have been established, and highly progressive and comfortable communities have sprung up with great advantage to themselves and to the State. The hope is held out that similar conditions may soon manifest themselves in this island as a result of this new venture.

A possibility of the development of the hydro-electric energy on the Humber is that some of the surplus power, probably 10,000 units, may be utilized within the next year or so for the smelting of copper from a deposit at Gull Pond, near Little Bay, on the east coast, which is at present being tested by English capitalists in conjunction with the Reid Newfoundland Company. Diamond drills have been operated for some time past on borings in the deposit, and the prospects are said to be so promising that the practical working of the area may be set on foot shortly. It is proposed to transmit the power across the intervening area, some 40 miles, and to utilize it in this fashion. Similarly it is expected that as much horse power may be utilized at Pelley's Island equally soon, through the development of an iron pyrites deposit in that quarter, plans for which are now understood to be maturing in the United States. In addition to this, the St. Lawrence Pulp and Lumber Company operating at Bonne Bay, 30 miles north of Bay of Islands, is planning to go into the manufacture of paper also, and is proposing to install a mill of 100 tons daily capacity and to operate it by means of 20,000 horse power of electricity to be obtained from the Humber development. This company has large and well-wooded forest areas on the north-west section of the island, beyond those over which the Humber Company has secured rights, and the building of this mill should add greatly to the industrial advancement of that section of the country, which is the most remote of all, and the least served with steamship facilities. Everybody will welcome, especially, development in this quarter because of that fact, and the conditions of its shipment from Bonne Bay are virtually identical with those that apply at Bay of Islands.

Another large hydro-electric development is now being proposed also for the south coast, by Mr. H. J. Crowe, an enterprising Nova Scotian of Bridgewater, who has been identified with the development of Newfoundland's forest resources for the past quarter century. A measure granting Mr. Crowe certain concessions is now before the Newfoundland legislature, and his outline of the scheme may be briefly described thus: He hopes to establish a large paper mill at Rosi harbor, in Bay d'Espoir, on the south coast. He has been working on this project for the past ten or twelve years, and has employed some of the best engineers in America, including Col. Hugh L. Cooper, who has an international reputation. Col. Cooper only recently submitted a proposal to Canada and the United States for developing the enormous water power on the St. Lawrence, at a cost of \$200,000,000, which he and his associates agreed to finance. He has offered to develop his south

coast water power at Bay D'Espoir, and finance this to the extent of \$10,600,000, provided he can furnish a market for the power by establishing pulp and paper or other industries there.

After considerable investigations and negotiations Mr. Crowe has secured and consolidated into one block about two million acres of timber limits on the south coast contiguous to this power. He has had these properties cruised by Norwegian, Canadian, and American forest experts. Sufficient wood is available for a plant capable of producing 200 tons of newsprint per day; but in view of the large water powers at their disposal, estimated at not less than 150,000 H. P., the company will erect a mill with a capacity of 500 tons,—100 tons more than the Humber proposition, and the whole will be financed without any guarantee whatever from the Government, either now or in the future. This will necessitate a very much larger wood supply than it is possible to furnish on the south coast, and Mr. Crowe has recently secured 1500 square miles of what is supposed to be one of the heaviest and most economically operated timber areas at Double Mer Bay, Hamilton Inlet, Labrador. There he hopes to cut annually 50,000 cords, for delivery to the proposed tide water mill on the south coast, which would be located at an open port all the year.

In addition to the pulp and paper enterprises, which will use only a portion of the available water power, it is intended to establish an aluminum plant, and negotiations are now in progress with this end in view. The raw material is got from British Guiana, and it is proposed to employ the Canadian Government boats that run regularly to the West Indies to bring up cargoes on their voyages to Montreal. By this means cheap freights could be secured. With abundance of cheap water power available, an open port and every convenience for reaching the markets along the entire Atlantic seaboard as well as Europe, the new undertaking should prove a great benefit to the country in general.

With these various projects likely to bear fruit in the next few years, the hope is entertained here that Newfoundland may before long be on the high road of prosperity again, and some of her financial and economic problems be much nearer to solution than they are at present.