

THE MARVEL OF LAKE SUPERIOR AND ITS GREAT TRAFFIC.

Under the above heading, Mr. S. H. Howard, a contributor to the Toronto Star Weekly, by the way one of the new and bright things in Canadian journalism, tells an interesting story of Lake Superior and its Traffic. The story is worthy of being retold and with due credit to the writer and the Weekly Star here it is:—

Time writes no deeper wrinkles on the azure brow of Superior than on that of the sea. Nor do the shores of Superior greatly change. Pondering brows frown down from eternal granite cliffs; little harbors, like grim smiles, open out amid stupendous rocks, hills swell back from the fore-shore unbroken forest to the skyline, islands green with trees to the very smash of the breakers—these show little if any trace of the passing of the primeval, any sign of Canada's dawning twentieth century.

Yet, on this changeless lake, framed by these as yet unchanged Laurentian hills, amid these wilderness islands of the world's most ancient rock, pass the most modern ships of commerce, and the cargoes of two of the utmost "up-to-date" peoples of the world! These ships, monstrous chests of iron and steel, these cargoes, the raw products of America, east and west, are the development of half a century, and by far the greater part of this development has occurred within the last ten years!

So sudden and stupendous has been the growth of inland navigation on the Great Lakes of North America; so great has been the demand for carriers for the wheat and the coal and the iron and the copper, for the steel rails and the factory products of the East consigned to the far Northwest—so quick has been the growth within the decade just closing, that it seems as though the wilderness had been invaded in a moment, and surprised. Grain elevators arise from the bush, cities asphalt their streets out into the stumps. Lighthouse keepers on the headlands and the islands live where their sons can trap fur and kill moose in sight of the Main Highway and the constant procession of ships. There has been little or no intermediate stage on the North Shore of Lake Superior, such as Ontario, Erie, and Lake Huron knew, no long process of primitive compromise with forest, of farms in the bush, of villages and rough roads amid the boulders, of a simple life and a minor traffic such as the older countries knew down on the lower lakes. Here on the North Shore the twentieth century has plunged into the primeval Hudson Bay Company trapping grounds at a bound, and it came chiefly by way of Lake Superior and the Sault.

THE BEGINNING OF THE STEAM-BOAT ERA.

In 1846 Sir William Logan, head of Canada's Geological Survey at that time, recommended to the Montreal Mining Company to prospect on the North Shore, foretelling the formation they would find there, although he had never visited Lake Superior himself. Thomas McFarlane, now Chief Dominion Analyst at Ottawa, was one of the combination, which acquired several thousand acres on the North Shore, speculatively. They engaged the steamer Julia Palmer to bring supplies to their prospectors at Pigeon River, Prince's Bay, Silver Islet, Point Porphyry, Point Manaise, and other places. That was the beginning of North Shore steamboating on Lake Superior—sixty-four years ago, so to fall. The Julia Palmer was the second steamer on Lake Superior, having been hauled up the Sault Rapids on the Canadian side. She was a side-wheeler, 100 feet long. She was preceded on Lake Superior only by the Independence, a wooden propeller about 150 feet long, which was hauled over the Sault Portage on the American side in 1845. To cross the portage, vessels were set into cradles and hauled on rollers or greased ways by a capstan. But the Julia came up the rapids.

Previous to the advent of steam-boats, Lake Superior had known an era of skomers, overlapping that of the Rubiscaw canoes. Alexander Henry, the famous fur trader, built the first one at Point aux Pins in 1770. The Northwest Company built the Athabasca above the Sault about 1790, and in 1795 added the Otter, sailing between Sault Ste. Marie and Grande Portage, with Indian trade goods and furs. The American Fur Company built a vessel in 1835 called the John Jacob Astor, said to have been the first United States sailing vessel on Lake Superior.

THE SAULT CANAL BROUGHT A NEW DAY.

In 1855 the first American canal at the Sault was ready, and on June 18, the steamer Illinois locked through to Lake Superior. Steamboats became more frequent on the Gitchi Gami henceforth. The Rescue and the Ploughboy are two names Canadian old-timers are most familiar with, as they traded on the North Shore. Most business was done, of course, on the Michigan side, where copper was causing as much excitement then as Cobalt silver did in 1905.

Soon after the opening of the State Lock, the Canadian Government established a mail service to Fort Garry, using the Great Lakes to "Northwest Station," near the mouth of the Current River, in present-day Port Arthur. From there the mail was taken overland by couriers to Dog Lake, and shipped in canoes over the old Hudson's Bay Company route—Shebandowan, Lac des Mille Lacs, Rainy River, Rainy Lake, Lake of the Woods, Winnipeg River, and Winnipeg Lake, to Red River, and Fort Garry at the junction of the Assiniboine—where "Winnipeg Manitoba," plainly written on the envelope, takes your mail, to-day. In winter, mails went by dog team on the anchor ice of the North Shore, or through the woods.

The Algoma No. 1 (side wheeler), and the Cumberland were the foremost steamers on the Canadian side at that time. The Red River Expedition came up in the Chicora—the old blockade runner, Letter "B," of the American Civil War, still a favorite vessel of the Niagara Navigation Company's fleet, and still with a great "B" stamped on her bell, and in all the available Canadian steamers just enumerated, reinforced by sailing vessels.

In the same year (1870) the Northwest Transportation Company was formed, running between Sarnia and Duluth, calling at Silver Islet, Michipicoten, Pic, Nipigon, and Port Arthur, both ways. Silver Islet was at this time one of the important points on Lake Superior, and the link of the whole country. Nothing like it for richness had ever been known in silver mining. Flooded and deserted, it is still one of the show places of the North Shore.

The steamers now added to the Canadian fleet on Superior included the Quebec, Ontario, Manitoba, Asia, and the Sovereign. The Asia was lost on Manitoulin in a September storm in 1882 with 102 people on board.

The Canada Transit Company belonged also to this period, with the steamers—Frances Smith and the City of Owen Sound, and the City of Winnipeg.

The latter was burned at the dock at Duluth. The traffic for Manitoba and the Northwest had swung to Duluth before this. The Dawson road as a business route had proved a failure. Duluth by now had the Lake Superior and Mississippi Railroad running into St. Paul, Minnesota, and a cart and river road extended north from there to Winnipeg.

THE FAMOUS C. P. R. BOATS.

In 1883 the Canadian Pacific Railway from Port Arthur to Winnipeg was ready and taken over from the contractors. To connect with the East the company provided three steamers, built in the Old Country, to ply the Upper Lakes—the Alberta, the Athabasca, and the Algoma. For years these were undoubtedly the finest boats on fresh water, and vessel men now admit that they were so far ahead of their time as to be practically up-to-date to-day. Since they came through the Sault, a revolution has taken place in lake shipping, but these first C. P. R. boats have held their own during all these years, and are only recently beginning to yield their records to the larger, faster, and more elaborately equipped steamers in the American passenger service—as also in that of the C.P.R. itself, and Northern Navigation Company, of Collingwood. Credit is due for this remarkable fact to Mr. Henry Beatty of Toronto, manager of the C.P.R. steamboat line, and still one of the C.P.R. executive. The boats were constructed under his supervision, with Lake Superior and Georgian Bay requirements in mind. They were practically ocean vessels of canal draught—crossing the Atlantic under their own steam, and proving themselves in many a gale on the Big Lake. The Algoma was lost on Isle Royale on November 7, 1885, in a snowstorm with a heavy gale from the north-east. The date is historic on the lakes. Forty-eight people were drowned.

The bulk of the lake commerce at this time, however, still continued to be carried in wooden schooners. In 1884 Thomas Marks and Company of

Algonquin built in Glasgow. It crossed the Atlantic and was cut in two at Montreal to come up the St. Lawrence canals. At Ogdensburg she was put together again, and for many years it was the leading freighter of the lakes. She may be said to be the parent ship of the British built freighter class, dozens of which now ply the Upper Lakes. The Algonquin (3,000 tons) is still working successfully, being now owned in Toronto. Fresh types have been introduced since then, such as the Whaleback, but they lasted only a short time, and to-day freight boats have been displaced by larger boats of the staple old Algonquin type.

High in the bow to break the seas, long, straight-flanked, tight-hatched, with engines in the stern, these immense steel boxes, afford the greatest possible hold and carry more freight and draw less water than any other vessels in the world, and they handle coarse freight with the least possible expense yet attained on salt water or fresh. Nine-tenths of a cent per mile is the average cost of the freight passing the Sault Canals. Nothing cheap enough to compare with that rate occurs in the history of transportation on land or water.

The modern lake freight giant, such as the stranger marvels at the Lake Superior and Lake Huron this summer—the long-drawn "iron box"—dates its beginning as a vessel of first magnitude to the first active exploitation of the Minnesota Iron region in 1890, and the introduction of steel shipbuilding about the same time. The backbone of its commerce and the chief determining factor in its design is the iron ore trade, and the lake carrier has kept pace with the phenomenal growth of that business. The vastness of the iron mining development runs too high in the millions of tons to be clearly comprehended. It has made the Sault Canal traffic double, triple, and more than quadruple the tonnage records of the Suez. The growth of the iron ore fleet since 1905 will give the best concrete idea of the importance of American iron. At that time there were less than three hundred steel freight vessels over 300 feet long on the lakes, none of them reaching 500 feet. In the past five years the shipyards have turned out no less than one hundred and twenty-five freight steamers ranging from 800 to 12,000 tons in carrying capacity. In addition to these, fifty others of between 400 and

600 feet have been built, all of them entering the ore, coal, and grain trade as soon as completed.

The 300-foot steel freighter of 1890, represented by the Corona, 315 feet long, carrying 2,800 tons on a 16-foot draught was the first step after the Algonquin in the evolution of the steel carrier of to-day. These vessels in turn were evolved from the old wooden lake steamer which was carried to the limit of its possibilities of size and length before it became inadequate to the increasing demands of the enormous traffic.

Since 1890 the development of the coarse freighter has been chiefly in their length. Their draught is a fixed dimension determined by the Sault canals. The old Welland set the standard first. For long the maximum stood at 10 feet 2 inches. In 1881-2 the second Welland gave vessels 14 feet of water and 14 feet became the standard draught.

In the Upper Lakes the Sault canal gives the big freighters running from Superior to the Erie ports the determining figures. Until recently these boats were governed by the Limekiln Crossing in the Detroit River, but the Americans have blasted out the Limekilns pretty well now, and the Sault has the say again. And it puts the limit at twenty-one feet.

AT THE SOO.

In 1881 the Weitzel Lock on the American side of the Sault was opened—511 feet long—at that time the largest lock in the world, Lake Superior traffic was provided for for all time to come—so thought the builders, the vessel owners, and the most bombastic of the prophets. Scarcely was it in operation before the Poe lock was commenced—800 feet long and 100 feet wide. It was but little more than a decade, when, in 1895, the Canadian Government opened another lock on the Ontario side still longer—900 feet. And now on the Michigan side is building a new lock between the Poe lock and the rapids—1,000 feet long and 100 feet wide. Times have changed since the days of the old Northwest Company Canal of 1789—36 feet long and a standing jump across.

THE GREATEST DEVELOPMENT ON SHORE.

While the channels and the canals have been determining factors in fixing the draught of the lake ship, the loading and unloading facilities of the harbors have been the controlling element in regard to its type and size. The highly efficient freighter of to-day has evolved consistently according to these governing conditions. The greatest development of Great Lake navigation, therefore, may be said to have occurred on shore. The inventions for handling cargoes, and managing big vessels at the wharves; the ore docks, the coal chutes, the buckets, the elevators, the "Clam Shells," the "Grabs," and the various special types of derricks and cranes—these are what have revolutionized lake shipping. The vessels have simply grown longer and deeper with the canals. There seems to be no other limit.

The first cargo of grain out of Port Arthur was loaded in '83 on the steamer firm with the aid of men and push carts. To-day the Canadian Northern elevator stores 7,500,000 bushels of wheat and can load a 10-

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ooo-ton ship in a few hours. And there are 13 other elevators on Thunder Bay similarly equipped.

607 FEET THE MAXIMUM UP-TO-DATE.

The largest vessels on Lake Superior to-day measure 600 feet or over, with a carrying capacity which runs to 12,000 tons. The 'William B. Kerr,' 'William M. Mills,' and the 'Le-grand S. de Graft' measure 607 feet in length by 60 feet beam, and 32 feet depth. Each of these vessels carry 36 hatches forty feet long by nine feet wide, and a crew of 24 men, engines of 2,100 horse-power, and cargoes of 12,000 tons. The Steel Trust fleet alone boasts fifteen steamers of the 600-foot class.

By reason of the carrying capacity and competition of such vessels as these, and the developed facilities at the docks, coal can be brought from Lake Erie to Fort William at 30c a ton—cheaper by 10c a ton than the smaller vessels engaged can bring coal from Charlotte and Oswego to the city of Toronto, across comparatively miniature Lake Ontario.

The first coal shipped to the Canadian Northwest was carried in the schooner Danforth in 1883. The lake charges came to \$1.25 a ton. The coal sold in Winnipeg that winter at \$20 a ton—which shows the relative cost of rail and water transportation in those days. Four hundred miles by railroad added about \$12 a ton to the cost to the Winnipeg consumer.

Ten years ago one steamer, the Arabian, carried practically all package freight billed to Port Arthur. To-day 30 vessels engage in that trade, bearing grain to Montreal and the other lower ports, returning with package freight.

While the discovery of soft iron ore on the Mesaba Range—where they can dig it into ore cars with steam shovel, and run the trains right down into the mine—has had a prime influence in the growth of Lake Superior traffic, the Northwest wheat crop is the big staple, both at Duluth and at Thunder Bay. And the Northwest shivers for they have a winter out there on the plains, and mighty little wood. The Northwest wants things to wear, and to eat, and to drink. The Northwest wants everything almost except wheat. Wheat they have to burn—or rather to ship—one hundred million bushels of it, more or less, and 200,000,000 bushels of other grains. Fort William can't handle it, Port Arthur can't handle it—fourteen elevators can't hold it—all Canadian boats can't carry it all. What with American wheat from the Dakotas and Canadian wheat from the prairie provinces, it takes all Duluth, Superior City, Port Arthur and Fort William can do to keep it pouring until the insurance companies shut off the season of navigation at December 31st. And then with every elevator full, they bring in all box cars from the prairies full of grain, and store about 20 million bushels in the railway yards.

The Canadian Northwest business is only just nicely commenced. Not 5 per cent. of the wheat lands are under cultivation. Is it any wonder that men at the head of the labors, witnessing the development in ten years declare that most of us will live to know, if not necessarily to see, the shore of Thunder Bay from Mount McKay to Bear Point on the easternmost plank of Port Arthur, a line-up of elevators in virtually a continuous row?

The enormous growth of our inland navigation within the last ten years forms the subject of greater marvel to no one than to the vessel men themselves. Is it any wonder they refuse to put any limit whatsoever on the future size of ships, depths of canals, tonnage through the Sault or any such thing?

There is no known limit.

When the Hudson Bay route is open, when the Georgian Bay Canal is completed, when the Erie Canal is finished, when the Pacific Coast outlet is a factor, handling the wheat will still constitute the yearly problem of Fort William and Port Arthur—or whatever they'll agree to call themselves—every fall.

So they say, and it is those who have been West who say it "most emphatic."