

that it hath not since been found necessary to publish any other." He surveyed Miquelon and St. Pierre and the coast of Newfoundland in 1763-7, and held from the latter year the title of Marine Surveyor of Newfoundland and Labrador. Captain Bayfield, who charted the river very extensively, was no unworthy successor.

As early as 1785 the London Merchants trading to Canada offered to place buoys in the Traverse, if the authorities would maintain them, and the proposal was received with favor. As early as 1783 the buoying and lighting of the river had been proposed, and attached to the recommendation was a report showing that sixty vessels had been wrecked in the river between 1776 and 1783. In 1788 the Council declared that it could not afford the expense of lighting Green Island, and it was not until 1809 that a light shone upon that dangerous strand, which is almost opposite the Saguenay. This, I believe, was the first lighthouse in the St. Lawrence.

We come now to a period which we cannot treat in such detail as has hitherto been done. Improvements began to come rapidly. The influx of exiles from the United States had begun to give the upper country an air of civilization, and in 1793 the province of Upper Canada was created. Its wonderful prosperity had all to do with the development of the St. Lawrence route, up to Confederation at least, and we will begin our consideration of the third period by describing the advance of shipping on the Great lakes up to the Union of the provinces in 1841. The first canal on the lakes was built by the North West Fur Company, at Sault Ste Marie about 1800, Mr. Keefer says, in 1798. The United States had a canal in 1800 from the Mohawk river to Wood's Creek, the first effort to establish communication with the Hudson river, that is to say forerunner of the Erie canal. The canal of the Fur Company was built at the lower end of the rapid on the northern or Canadian side, and supplemented a road by which the goods of the company were transported to the landing on Lake Superior. The commerce on Lake Superior was developed later than that on the other lakes. Canadian companies navigated it from about 1800, one of the first vessels being the "Recovery," owned by the British Northwestern Company. She was of 150 tons burden and a brigantine. The "John Jacob Astor," the first United States vessel on this lake, was launched in 1835.

Coming to the next obstruction in navigation on the lakes, there is the historic Niagara portage, which was in a good state of development in the French regime and which in spite of all competition remained in the hands of Canadians until the United States passed the embargo and non-intercourse acts of 1807 and 1809. This portage was usually leased to one firm, which had a fixed tariff. There was another portage from Toronto to Georgian Bay, avoiding the navigation of Lake Erie.

For many years there were no roads worthy the name in what is now Ontario. All travel was by water, and in time a class of packet schooners arose which reached a high state of development. Then came steam, first used in Canada at Montreal, by Hon. John Molson in 1809, and used on the great lakes by Canada before it was used by the United States. The "Frontenac," built in 1815, and the "Queen Charlotte," built in 1816, both antedate the United States vessel the "Ontario," which was so poorly constructed that her paddle shaft was thrown from its bearings during the first trip. But the heat of the furnaces, the clank of the engines, and the smell of the whale oil lamps in the cabins of the early steamboats were not conducive to hearty appetites, and it was not until the thirties that the competition of a line of steamers from Toronto to

Prescott was able to place the schooners in the background. The speediest of these steamers made four miles per hour against a stiff breeze, and her walking beam was as broad as it was long. She was subsequently transferred to the lower lakes on the St. Lawrence proper, and the "Sir Robert Peel" took her place on the route from Cobourg to Toronto.

In 1841 the propeller came into use on the lakes through the instrumentality of a Canadian, who had read of Ericson's invention, and urged an Oswego friend, then in New York, to look into the invention and let him know the result. The friend took one Van Cleve, of Lewiston, N.Y., to see the invention, and Van Cleve left the place with the monopoly of propeller traffic on the lakes in his pocket, the result of which was the "Vandalia"—such is the consequence sometimes of consulting one's friends on matters of importance.

In the early years of the century there was not a lighthouse on the great lakes and the harbors were still in a state of nature. Some charting had been done, and it had been ascertained that the harbor of Toronto was rapidly shoaling. Measures to prevent this were proposed by Captains Richardson and Bonnycastle, but nothing was done until after 1841. Towards the close of the twenties some of the harbors, such as Port Stanley, Port Hope, Cobourg and Oakville, had been supplied with wharves, chiefly by private enterprise. The Queen's wharf at Toronto had been constructed prior to 1841, 1,091 feet long, with a depth of water varying from 9 to 12 feet. There was not a lighthouse on the lakes until after 1825, and the total expenditure of Upper Canada upon lighthouses, beacons and buoys, prior to the Union was less than \$100,000.

In 1816 the firm now known as that of David Torrance & Co. purchased from John Handyside & Co. the tug and passenger steamer "Hercules," and placing Captain Brush in command began a competition with the Molson line. This was the origin of the Richelieu and Ontario Navigation Company.

Steam navigation speedily spread beyond Quebec and Montreal. Above the latter city on Lake St. Louis, a steamboat was placed as early as 1824, and there was one on the Ottawa above Carillon in 1819, followed by one on the lower Ottawa in 1826. The first steamer to run the Lachine Rapids was the "Ontario," Captain Hilliard made the perilous trip 19th August, 1841. The name of this vessel was subsequently altered to the "Lord Sydenham." In 1814 Lower Canada had a population of 335,000 and Upper Canada had 95,000, increased by 1825 to 479,188 and 157,923 respectively, an increase of nearly 70% for Lower Canada and quite 60% for Upper Canada. Side by side with this increase in population came an increase in trade, which added to the need of good communication experienced during the war of 1812, led to the devotion of a good deal of attention to the improvement of the St. Lawrence route and of the connections between the upper lakes.

The first important improvement in the St. Lawrence route was the construction of the Lachine Canal. Adam Lymburner in 1791 had proposed a canal from Montreal to Lachine, and as a compromise, in 1805 a vote of \$4,000 for the improvement of the river had been applied by the Commissioners to improvements in the Lachine rapids. In the following year a similar sum was applied to further improvements as well as to work between Montreal and Laprairie, at Point St. Charles and in the rapids above Lachine. In 1815 a company was incorporated to construct the canal, but failing eventually to secure the requisite capital, the Legislature took over the work in 1821, ground being broken 17th July by Hon. John Richardson.