

*How many for article about
with the following facts*

A LETTER

ON THE SUBJECT OF

A SUBMERGED TUBULAR OR TUNNEL BRIDGE

UNDER THE

RIVER ST. LAWRENCE,

IN CONNECTION WITH THE

NORTH SHORE RAILROAD.

BY

W. MARSDEN, M. A., M. D.,

EX-PRESIDENT OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA ;
HONORARY FELLOW MEDICO-BOTANICAL SOCIETY, LONDON ; COR. FELLOW MEDICAL
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*To General SILAS SEYMOUR, Civil Engineer; late State
Engineer and Surveyor-General of New York; late
Chief Engineer of the Washington and Alexandria
Aqueduct; late Consulting Engineer of the Union
Pacific Railroad; and Consulting Engineer of the
North-Shore Railroad, Quebec; &c., &c., &c.*

LETTER

ON THE SUBJECT OF

A Submerged Tubular or Tunnel Bridge under the River St. Lawrence,

ADDRESSED TO

GENERAL SILAS SEYMOUR.

SIR,

The high opinion which your antecedents have given me of your skill, judgment, decision of character, and experience as an engineer, no less than that quality which one of your biographers characterizes as a "tenacity of purpose that never yields," has induced me thus publicly to address you on a subject, the importance of which to this city, as a commercial centre, is paramount to every other consideration: I mean the North-Shore Railway. Under your skillful and energetic management and direction, I look upon this long-lingering line as a *fait accompli*.

I do not mean that with the completion of the North-Shore Railway this great national work will be completed. No! It will then be only just begun. This link or portion of a great commercial highway across this continent, the *shortest and most direct route from Great Britain to the Pacific Ocean*, will be only the beginning of a great end—one that will affect the whole European policy, and particularly its trade with China, India, Japan, &c, &c.

Many of my *anonymous* newspaper predictions of bye-gone years—some of which, at the time, were denounced as "fabulous," and others as "castle-building in the air,"—have already been successfully accomplished; and among

these, the prognostic of "the Atlantic cable," (long before Lieut. Maury's deep-sea survey of the Northern Atlantic Ocean,) which up to that time seemed equally chimerical.

When we consider, Sir, that by our short Northern circuit of the globe, an air-line from Quebec to New Westminster, British Columbia, is only two thousand and twenty (2,020) miles, and from Quebec to Liverpool by the Straits of Belleisle, by the Allans' line route, only two thousand five hundred and two (2,502) miles, it required no extraordinary flight of fancy to predict at a public lecture, delivered some years ago by me in this city, that this being the shortest route to "La Chine"—China—India—from Great Britain, many of my hearers would live to see the trip from Great Britain to the Pacific Ocean accomplished within the short space of a fortnight, without any increased railroad speed, but with steamers of a class to equal the best sea-going vessels afloat, of which the *Polynesian* is now an ensample.

It is surprising, sir, what a trifle will sometimes make or mar the greatest enterprise; and this has eminently been the case until now with the North Shore Railroad, as I will shew you.

During the progress of the construction of the Quebec and Richmond Railway, and when it was approaching completion, a spasmodic effort was made to float the North Shore Railway, when Mr. Jackson (of Jackson, Peto, Brassey and Betts) was present, and several of the provisional directors of the road. On my remarking to Mr. Jackson that the railroad ought to have been on this side of the river, instead of on the South Shore, he replied: "Yes, it ought, and would have been but for these gentlemen"—referring to the directors. As I did not know their engineer, Mr. Stavelly, I could not, of course, give a tender on his survey and estimates; and I therefore offered them, if they would advance £500, I would give £1,000 for an experimental survey by our engineer, Mr. Ross; but they declined. Had

they done this, the road would now have been on this side of the river, which is the right side, as all the cities or towns are on this side, and two bridges would have been saved. Thus, "for want of a nail the shoe was lost; for want of a shoe the horse was lost; for want of a horse the rider was lost, being overtaken and slain by the enemy—and all for want of a horse-shoe-nail!"

But, Sir, let us proceed from the past to the future, and be thankful that poor, old, unprogressive, obstructive Quebec stood in the way of such progressive, practical policemen as yourself and Willis Russell, Esq., who gave the order to "move on!" which order has been taken up and echoed and re-echoed until not a loiterer remains upon the road; nor will there be, until this great trans-continental railroad is completed from the broad Atlantic to the boundless Pacific.

The completion of this link of the road, Sir, will be followed by two results, not less important to this city than the railroad itself—viz., Harbour Extension and Eastern Connexion.

"Harbour Extension" will rouse the Harbour Commissioners from their present lethargy; and wharves, docks, drawbridges and floating elevators will rise up, as if by a magic that might astonish Rip-Van-Winkle, and the depreciated Harbour Bonds—now almost a drug—will become valuable negociable securities.

So much, Sir, for "Harbour Extension;" and we now come to the most important object connected with this letter—viz.: "Eastern Connexion," which means a "Bridge."

It is several years since I wrote, *anonymously*, in one of our city papers, that the completion of the North-Shore Railway would give to Quebec an "Albert" submerged tubular or tunnel bridge, as sure as Montreal had her "Victoria Bridge," and that the present generation would live to see it; and

among the reasons assigned for my preference of a tunnel bridge, were, its small cost compared with other bridges, besides its advantages in not obstructing or interfering with navigation. A bridge would also secure a direct and easy line from Levis to St. Charles by Major Robinson's Quebec and Halifax route, being only ten miles instead of twenty-two. By this route, which extends eastwards instead of westwards to the Chaudière, a grade of only about one-half that of the present road is obtained, besides a saving of twelve miles.

The project of a tunnel from Dover to Calais, across the English Channel, might have been contemplated, but it had not been publicly broached or seriously spoken of till some time after the appearance of my letter just referred to, and, when it was spoken of, was at first ridiculed as the chimera of some monomaniac; but when I look back, and contemplate what you, Sir, have already done, and what has been correctly designated as "a monument of your skill, ingenuity, and professional judgment, the famous Portage Bridge across the Genessee River, two hundred and thirty-four (234) feet high, and eight hundred (800) feet in length," I have no fear of figuring in that class if I repeat, over my own signature, that I really expect to live to see that necessary work accomplished, under the skillful management of one who ranks "as one of the most prominent Civil Engineers of our country."

With the "North-Shore Railway" and the "Quebec and Gosford," (which will ultimately be the Quebec and Lake St. John,) and the "Quebec and Halifax," the "Quebec and Richmond," and the "Levis and Kennebec," already extending their iron arms, and asking to be united, (with a strait of only a mile wide between them,) "a Bridge is a necessity." This being so, *money* and *will* alone are required to obtain it. Of the former, it requires such a trifle, in comparison with the immensity of the enterprise of which it forms an indispensable component part, that with the combined energy and *will* of persons as persevering and

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determined as yourself, and the Honorable President of the road, Mr. Cauchon ("the Bridge" will also soon become a *fait accompli*.

I have, Sir, advisedly abstained from making any remarks on the respective merits of tubular, suspension, submerged or other bridges, aware that I am addressing one eminently qualified to treat on the whole subject; and I have, therefore, taken the liberty of speaking thus publicly, as your reply (should you honour me with one) will be as interesting to every citizen of Quebec as to

Your obedient servant,

W. MARSDEN, M.A., M.D., &c.

PLACE D'ARMES.

QUEBEC, 19th March, 1872.

GENERAL SEYMOUR'S REPLY.

OFFICE OF THE NORTH-SHORE RAILWAY CO.,

QUEBEC, March 29th, 1872.

W. Marsden, Esq., M. A., M. D., &c.

DEAR SIR,—My absence from the city will, I trust, be a sufficient apology for my neglect in acknowledging the receipt of your communication of the 19th instant, in relation to the great importance of the North-Shore Railway, as well as of its unbroken connection at this city with the railway lines now constructed, and to be constructed, upon the opposite side of the St. Lawrence River.

I am now preparing a Report to the Honourable Joseph Cauchon, President of the North-Shore Railway Company, in which I propose to discuss, at some length, the important

questions suggested in your letter; and it might, therefore, be regarded as somewhat premature for me to give any public expression of my views at the present time, any further than to say that the enlightened and statesmanlike views contained in your letter have my fullest endorsement, so far as they may be found susceptible of practical execution and adaptation;—and I trust that the day may not be very far distant when your fondest anticipations with reference to the future commercial importance of the city of Quebec will be fully realized.

I am, very respectfully,

Your obedient servant,

SILAS SEYMOUR.
