which I have had access have certain geological and physical phenomena been referred to, which cannot be ignored in the discussion of a work involving such difficulties, and attended with such enormous outlay, as the proposed Baie Verte Canal.

Questions connected with the physical geography of the country traversed, and more particularly its hydrography and geology, obtrude themselves constantly in an examination of the details of this great project. It is as much a geological and hydrographical as an engineering problem. It really involves at the very outset of the enquiry the problems incident to the action, influence, and history of the tides in the Bay of Fundy; the formation of the isthmus across which the canal is to be built; and, perhaps greater than all, it involves the most careful examination into the probable future behaviour of the tides with respect to the impediments, in the shape of piers, which are proposed to be thrown in the way of their resistless and never ceasing energies. Many of the details included in this notice of the Baie Verte Canal have been written for a work, now in an advanced state of preparation, entitled "The Dominion of Canada," the publication of the first part of which is delayed for the purpose of introducing the results of recent highly important surveys within the limits and near the borders of the Dominion. But as the official notice inviting contractors to tender for preliminary works on the canal has already been issued by the Department of Public Works, I have thought that a brief sketch of the geological and hydrographical features of the question, chiefly drawn from the manuscript work before referred to, might embody suggestions worthy of consideration, or direct enquiry towards certain phenomena peculiar to the Bay of Fundy and similarly situated water areas, or tend to avert possible contingencies arising from tidal ice and uncontrollable currents which might impede the progress of the stupendous work now about to be begun.

2. THE "EYGRE" OF THE BAY OF FUNDY.

I was an eye-witness of the effects produced in some parts of the Bay of Fundy by the so-called "Saxby Storm," in October, 1869, and I still retain a vivid recollection of the grandeur and power of the advancing sea over the wide-spreading dyked lands on the borders of the Bay, and of the impotency of the dykes as they now exist, to restrain the bounds of the great tidal wave—the "eygre" of our forefathers—when it exceeds its normal maximum range.

The "Saxby Storm" rose but four feet above the highest water observed during Mr. Baillairgé's survey, and I suppose about the same elevation above the dykes of Cumberland Basin; but if we are to credit the accounts of the storm on the 3rd of November, 1759, to which reference will be made subsequently, the tidal wave rose *ten* feet higher than the tops of the dykes near Fort Cumberland on the Baie Verte isthmus.

To those who are not "dwellers by the sea," and have not had opportunities for forming a mental picture of a great tidal wave surging upon a dyked coast and breaking down the barriers, the beautiful description by Jean Ingelow, of the High Tide on the Coast of Lincolnshire, in 1571, may give an impress,

"For lo! along the river's bed,
A mighty Eygre* reared its crest,
And uppe the Lindis raging sped.
It swept with thunderous noises loud;
Shaped like a curling snow-white cloud,
Or like a demon in a shroud.

And rearing Lindis backward pressed,
Shook all her trembling bankes amaine;
Then madly at the Eygre's breast
Flung uppe her weltering walls again.
Then bankes came downe with ruin and rout—
Then beaten foam flew round about—
Then all the mighty floods were out.

So farre, so fast, the Eygre drave,
The heart had hardly time to beat,
Before a shallow, seething wave,
Sobbed in the grasses at oure feet:
The feet had hardly time to flee
Before it break against the knee,
And all the world was in the sea."

Commissioners, 1871; 8. Messrs. Keefer and Gzowski, 1872; 9. Messrs. Keefer and Gzowski, 1873; 10. G. F. Baillairgé, 1873; 11. G. F. Baillairgé, 1873; 12. J. Page, Ch. En., P. W., 1873.

* "Eygre"—bore—tidal wave, in strait, estuary, or river. There is no "bore" in the *channel* of Cumberland Basin, owing to its great depth, but there is a bore or "eygre" on the sandy flats, and in several estuaries and rivers, particularly the Peticoudiac.