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Toronto Harbour—Its Formation and Preservation.

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The origin of the now wealthy and flourishing city of Toronto is, in common with that of many other cities and towns, clearly traceable to certain natural advantages possessed by their localities. A waterfall or rapid stream, the navigable termination of a river, or its junction with a lake, or other open navigation, will frequently account for the position of a town or village in an agricultural or manufacturing district; but a natural harbour of easy access, will generally if not universally point out the locality of a thriving commercial nucleus, in all countries open to settlement and civilization.

To none of these circumstances except the last can we attribute the origin of Toronto. We have no waterfall—no navigable river—even the soil itself is comparatively barren, and for several miles around, with a few isolated exceptions, unsuited for agricultural purposes. To the last, therefore, must we ascribe the beginning of Toronto, and to the unparalleled excellence of this harbour forming on the north shore of Lake Ontario, the most facile outlet for the productions of the back country, is principally due the rapid and uninterrupted progress in commerce and in wealth of the western capital. To maintain this harbour in its original state, or if practicable, to improve there on so as to ensure a continuance of prosperity, becomes, therefore, of the utmost importance.

The natural basin formed by a sandridge extending from the western boundary of the township of Scarborough, embracing in its arms a portion of the great lake, possesses many of the requisites for a good harbour; it encloses about 1200 acres of water, entirely free from rocks and shallows, and averaging from 15 to 35 feet in depth, on the wide expanse of which the whole shipping of *all* the Canadian lakes might safely ride at anchor. During the prevalence of certain winds, however, the basin is not of easy access to sailing craft; and not only is the channel scarcely sufficient to admit the entrance or departure of large vessels, but it is even fast closing up, and, astounding as the assertion may appear to some, will ere many years, unless efficient means of prevention be taken, put a complete stop to all navigation—a bold enough statement, but from ascertained facts a proper inference.

That the entrance to the harbour is fast closing up, I have been led to discover, by comparing a series of careful measurements recently made, with old charts of various dates. In the sequel, this important fact will be clearly shown, and an attempt made to account for it; in the meantime, it may be sufficient to state that a bar has encroached so much on the channel, as to make it not more than about half the width it was fifteen years ago. With the view of prescribing an efficient mode to prevent the further accumulation of shoal calculated to prove so detrimental to the future prosperity of the city, it is first requisite to ascertain the cause of the evil, from whence it arises, and investigate the manner of its action—hence the following enquiry into the formation of the Peninsula and Harbour.

Few persons visiting Toronto for the first time but are struck with the singular appearance of the neck of land or peninsula stretching out into the lake in front of the town, so low, that the few small trees growing at wide intervals appear almost springing from the water, and on a nearer approach, so long, so curiously shaped, and so different from the land on shore, that, many are doubtless led to theorize a little on its formation. Some, who have probably arrived in the province by way of Niagara, and crossed over with their minds filled with contemplations of the mighty cataract, at once and without much consideration attribute to the descending torrents of that river, the power of elevating from the depths of the lake, or of carrying across in suspension, the drift deposited here—a theory wild and incapable of defence, though some are bold enough to venture it.

Others again, who have probably arrived from the west, or whose business takes them frequently in that direction, and from the steamer generally calling at the mouths of the various small rivers emptying into the lake between this and Hamilton, may be induced to think that these streams have had the effect of drifting the debris of the uplands outward, which with the assistance of an imaginary eastward current of the lake, is carried until meeting a contrary current, supposed to be of the Don, then the matter held in suspension is supposed to have been deposited at their junction line, opposite Toronto. The advocates of this theory have yet to prove that such currents of the lake as these exist in reality: although it is true that currents outward and inward, over the bar, are found, occasionally resembling a slight half-hourly tide; yet if they have any effect on the bar at all, they must have a tendency rather to diminish than increase the deposit. All these streams with the exception of the Don, enter the lake nearly at right angles, and it is impossible that they can flow into a large and deep body of water such as exists between their mouths and the point in question, without being entirely diffused; nor could the drift brought down by them be carried wholly or chiefly in one particular direction without a most powerful current, but would, if ponderous, be deposited at their outlet, and if light, would be distributed far and wide. More especially is it reasonable to infer that the Peninsula is neither now effected in any way by these western streams and the imaginary currents in conjunction with them, nor *has* been formed by their drift, since the material composing it, sand and gravel could not in accordance with existing laws, be held in suspension and transported for miles over still water, 60 and 100 feet deep. Were the deposit or any part of it of an agillaceous nature, there would have been some slight reason to think that these streams might have been auxiliaries, but such is not the case.

Others again suppose that the Peninsula is merely a narrow ledge of rock slightly covered with the sand and gravel which we find on the surface, but this opinion is quite at variance with the general geological features of this part of the country, and to local investigations.

A little consideration of the subject will shew that these opinions can only be advanced by those persons who have merely been enabled to make cursory observations, and by those who, knowing the wonderful transporting power of running water when confined, as in a river, are inclined to attribute to its agency more than is justly due, and overlooking the change of circumstances, class effects universally which can only be produced by causes under particular conditions. They being anxious to account for certain results, are contented with a superficial and fallacious reasoning, and assign to the most conspicuous agents of nature, that, which after a more careful and deeper search would be ascribed to a power less easily observed, but not less active, or less potent.

Sir Richard Bonnycastle, in an elaborately drawn up Report