

winter elevation of a mighty river, where it is beyond the tidal influence, and while its volume is daily diminishing, will be found in a paper "On the Packing of Ice in the River St. Lawrence," by Sir William Logan, published in the Transactions of the Geological Society of London for 1842.

*This* rise of the river—at least so far as to secure the formation of a winter road in front of the city—has always been viewed with satisfaction rather than alarm, and is confined to the section *below* the Lachine Rapids. Above the Rapids the level is uninfluenced by the annual icepacks below it; and as the current is very strong,—the fall between Lake St. Louis and the head of the rapids being about three feet per mile average—the river is open throughout the winter, and is navigated by a steam ferry-boat between Lachine and Caughnawaga. But, in the latter part of January, 1857, after a cold "term" of unexampled severity and duration—long after the ice had taken opposite the city, and when, according to all previous experience, no farther rise was to be apprehended, either above or below the rapids, until the "break up" in the spring—the River, above the Lachine Rapids (where it is always unfrozen,) rose suddenly four to five feet, pouring an Arctic current down the aqueduct of the new Water Works. A few feet more of elevation would have sent the river over its banks, and the consequences might have been most serious.

Such intense cold was followed, as is usual, by a rapid rise of temperature, whereupon the water fell about two feet, but thereafter remained for weeks at least two feet above its ordinary level.

There is a tradition of something similar having occurred about seventy years ago, but this was not heard of until after the irruption; all recent experience and inquiry going to shew that after the ice has taken, the water in this reach lowers gradually with slight fluctuations until the spring.

This flashing above the rapids was independent of any movement of the fixed ice below, either opposite Montreal or in the Laprarie Basin; the levels of which remained undisturbed. Another peculiarity was—the absence of any visible cause; no ice had descended or was descending, and on the surface nothing but blue water was to be seen. The continuous descent, for days and weeks before the river is frozen over above the city, of large masses of ice which being arrested below would dam back the water, is sufficient to account for the rise at Montreal; but in this case there was no descending ice, the Lake St. Louis.