inward from the retreating margin, its surface had a considerable slope, so that the upper currents of the ice, unsupported on the outer side, would move much faster than its lower currents which were impeded by friction on the land. There would be accordingly within this belt a strong tendency of the ice to flow outward with somewhat curved currents, tending first to carry the onwardly moving drift gradually upward into the ice-sheet, and later to bear it downward and deposit it partly beneath the edge of the ice and partly along the ice boundary. The Niagara boulders, and others from the Clinton and Medina formations farther north, having been borne upward as englacial drift to a greater altitude than the Pinnacle hills, were exposed on the surface of the ice-sheet by its ablation and were swept by torrents bearing ice rafts, or probably sometimes by avalanches, into the river channel. Their great profusion in certain parts of this esker implies unusual abundance in and upon the contiguous portions of the ice-sheet, which may have resulted from convergent glacial currents and perhaps from a temporary re-advance of the thicker tract of the ice, massing its superglacial drift stratum in a way analogous with the accumulation of terminal morainic hills, which often are equally charged with boulders.

The morainic ridge continuing westward from the Mt. Hope cemetery seems probably to have been formed along the margin of the ice, on the northern side of a re-entrant angle or embayment into which the glacial river depositing the esker of the Pinnacle hills debouched. Close south of this ridge, a brick yard beside the Buffalo, Rochester & Pittsburgh railroad works the stratified clay which the river discharged into the shallow glacial lake of the embayment.

Finding so abrupt an end of this esker at Brighton, we are constrained to believe that the powerful river by which it was accumulated suddenly ceased to flow here. The neighboring Pittsford esker apparently shows the site of the new glacial channel, previously the course of some smaller stream, which then became the main avenue of drainage from the rapidly melting ice-fields of this region. But when the Pittsford esker had gradually grown in its length from the west flank of the Turk's hill range northward to the present site of Allen's creek, the glacial river which formed it was again diverted; or more probably thenceforward it emptied into a marginal lake so broad and deep that no distinct esker was made, the gravel and sand being then laid down in the valley which now holds Irondequoit bay.

If the eroded drift from the area north of the Pinnacle hills was carried upward by glacial currents having an average ascent of one