

whole country was submerged beneath the sea. In the region of the Niagara it is stratified, and though no fossils have as yet been detected in it, similar deposits occur in the valley of the St. Lawrence at Montreal, at a height nearly equal to Lake Erie, where fossil shells, of species such as now inhabit the northern seas, lie buried in the drift.

It is almost superfluous to affirm that a consideration of the geology of the whole basin of the St. Lawrence and the great lakes can alone entitle us to speculate on the state of things which immediately preceded or accompanied the origin of the Great Cataract. To give even a brief sketch of the various phenomena to which our attention must be directed, in order to solve this curious problem, would require a digression of several chapters. At present the shortest and most intelligible way of explaining the results of my observations and reflections on this subject will be to describe the successive changes in the order in which I imagine them to have happened. The first event then to which we must recur is the superficial waste or denudation of the older stratified rocks (from 1 to 10 inclusive, section, fig. 4., p. 37.), all of which had remained nearly undisturbed and horizontal from the era of their formation beneath the sea to a comparatively modern period. That they were all of marine origin is proved by their imbedded corals and shells. They at length emerged slowly, and portions of their edges were removed by the action of the waves and currents, by which cliffs were formed at successive heights, especially where hard limestones (such as Nos. 10 and 8, fig. 4.) at Blackrock and Lewiston, were incumbent on soft shales. After this denudation the whole region was again gradually