

of cubic yards, and weighed nearly seven billions of tons. The time consumed in the execution of this stupendous piece of engineering may be roughly calculated from the observed rate of recession of the falls. In 1842 Professor Hall executed a careful trigonometrical survey of the shore-lines and landmarks of the falls. In 1855, twenty-three years later, M. Marcou made careful re-examinations, which he reported to the Geological Society of France. From these data it appears that the Canadian Fall, over which the largest body of water is discharged, has receded, by the wearing of the rocks, to the extent of twelve feet, or a little more than six inches a year. With this clew, we determine that the time required for the excavation of the entire distance from Lewiston is over seventy thousand years. This presumes the rate of recession has always been the same. The more I consider this subject the more I am impressed with a conviction that the rate of recession was formerly more rapid than during the last one hundred years. I am willing to reduce the time consumed to twenty thousand, or even to ten thousand years. Geologists most greedy of time ought to be satisfied with this when it is considered that this interval is but the unit in the arithmetic which calculates the time consumed in the revolutions of the globe. Before the beginning of the excavation of the great gorge, geological agencies had strewed the surface with drift-deposits, some of which had been transported hundreds of miles. Before the transportation of the drift, the basin of Lake Ontario had been scooped out, and the vast erosion of the escarpment at Lewiston had been effected. Before the period of the erosion was that of the solidification of the sediments; and still farther back, the incalculable intervals during which the sediments were accumulating five miles of thickness. At the commencement of the excavation of the gorge, the fauna which populated