

drained by the head waters of the Mississippi, Missouri, and their northern tributaries.\* For this and other reasons, into which I can not now enter, I presume that the great mass of the most elevated drift in the north, and the glacial grooving and polishing of the rocks, although they belong to a very modern era in the earth's history, were nevertheless anterior in date to the loam of Natchez and Vicksburg.

There exist in Canada, in the Niagara district, in New York, and other states north of the Ohio, lacustrine and swamp deposits of marl and bog-earth, including the bones of extinct quadrupeds, such as the mastodon, elephant, castoroides, and others, associated with land and fresh-water shells of recent species, which are decidedly post-glacial, and often found in hollows in the drift. These may be of contemporaneous date with the loam of Port Hudson and Natchez.

The northern drift, however, is by no means all of the same age, and as the period of glaciers and icebergs freighted with erratics is still going on, and has now a wide range in the temperate parts of the Atlantic, bordering the eastern shores of North America, so must we naturally suppose that certain parts of the drift, especially those found at lower levels, and near the sea, may not be more ancient than the loam of the western bluffs of the Mississippi.

\* See vol. i. ch. ii. p. 47, and vol. ii. ch. xix. p. 99.