

The deposits of the Pleistocene and Recent periods, loosely described by the collective term "drift," allow of separation into divisions which are at the same time lithological and chronological, as follows:

- Recent.....Lake deposits, including lake clays,  
shell marls, and peat.
- .....River gravels.
- Pleistocene.....Saxicava sand and gravel, with  
shore-ice deposits.
- .....Leda clay.
- .....Boulder clay.

These deposits lie upon the Palæozoic or Pre-Cambrian rocks, unconformably. The mode of formation of the boulder clay has been a subject for controversy, the writers on the subject falling into two sharply marked classes, viz., those who upheld the theory that it is a deposit which was laid down on the floor of the sea as material transported by icebergs, and dropped by them at such places as melting ensued, and those on the other hand, who consider the boulder clay of North America to be a deposit formed by the agency of a continental ice-sheet, acting upon land-surfaces, wearing them down, and transporting and afterwards depositing the unsorted material in sizes varying from large blocks the size of a house, down to the finest rock flour.

Without entering further into a discussion of this controversy, it may be taken as the general geological opinion of the present day, that the latter explanation applies to the greater part of the boulder clay of North America, but it cannot be denied that during a part, at any rate, if not the whole, of the time represented by the boulder clay, that the sea had access to a part of the St. Lawrence valley, as the presence of marine shells in the boulder clay of the lower St. Lawrence testifies.

If we consider the higher lands of pre-Pleistocene time, as deduced from the drowned valleys of eastern North America, to have afforded the collecting grounds for such masses of ice as are rendered necessary by the idea of the continental glacier, then without attempting to fix the limits of thickness of such an