

CHAPTER II.

PLEISTOCENE AND RECENT DEPOSITS.

BOULDER CLAY.

CHARACTERS.

The boulder clay is typically a mixture of rock fragments, in which the size of the fragments may vary from that of a house down to the finest rock flour. The larger fragments are usually partially rounded, often with nearly flat surfaces indicating continued abrasion in definite directions at different times, and often marked by "striæ" produced during such abrasion. These are the so-called sub-angular boulders which are characteristic of glacial action, and are embedded in a very fine-grained, stiff clay, which is made up of the finer fragments, without any regular arrangement or distribution. The deposit thus formed is very characteristic, and is also sometimes referred to as "till."

The boulders within the boulder clay and also a large part of the matrix at any point, are for the most part derived from the immediately underlying rock. Thus within the City of Montreal a large percentage of the boulders are of Trenton limestone; at the new dry dock many boulders of Utica shale are present; and at the southwestern end of the island boulders of Beekmantown (Calciferous) dolomite are predominant. In addition there are many boulders which have been brought from a considerable distance, in some cases 50 miles, or even more. Conspicuous amongst these are the various boulders of gneiss, granite, quartz, anorthosite, etc., which have been brought from the Laurentian area to the north, or northeast.

The colour of the matrix of the boulder clay, when fresh, is usually dark bluish-grey, though where the Calciferous dolomite has helped to furnish the matrix, it may be dark brown. The bluish-grey boulder clay may be seen at the surface, but more usually a few feet of the matrix next to the surface are oxi-