

tions are spread, had been extensively denuded prior to their deposition upon it. They cover, thus, an undulating and more or less broken surface; and their thickness, consequently, apart from the denudation to which they have been themselves subjected, is exceedingly variable.

2. The lowest of these deposits appear to consist of dark blue or greyish clays, with thin layers of yellowish or light-coloured clay in places. This deposit is often laminated horizontally, and is generally very calcareous. It appears also to be free from northern or large crystalline boulders. Pebbles of limestone and other fossiliferous rock, mixed with some small pebbles of water-worn gneiss, occur abundantly in it in many localities; but northern boulders, properly so-called, are either absent or exceedingly rare. Amongst the localities in which these lower and boulder-free clay deposits are of marked occurrence, the district around Toronto, and many parts of the valley of the Saugeen and western shores of Lake Huron, may be especially mentioned; but wherever our drift deposits are found to consist of clay and other materials, the clay-beds are almost invariably seen to occupy the lower place. At the same time, as described more fully in the sequel, beds of yellow and other coloured clay, it should be observed, are occasionally found with northern boulders in a higher part of the series,—but these are quite distinct from the lower clays now referred to. They are, moreover, of no great thickness, but alternate with, and are subordinate to, thick deposits of gravel and sand; whereas, the lower clays attain in places to a thickness of over 100 feet, and present a general uniformity throughout. In these latter beds, no traces of contemporaneous fossils have, as yet, been found.

3. It is generally assumed, as an established fact, that the harder rocks beneath the Drift exhibit everywhere the marks of glacial action. Although we have numerous examples throughout this section of the Province, of polished and striated rock, I believe it to be still an open question as to whether the rocks which underlie these lower clays, have been thus affected. I have not been able to discover any instances of it, nor can I find any recorded cases in our Geological Reports, or in other trustworthy sources. The question, hitherto, does not seem to have been mooted,—the Drift accumulations, generally, being classed together by most observers under one