

finer material being scanty and in a finely-divided or comminuted state. Such a deposit is one which "land ice" alone produces and one which resembles wonderfully the "moraine-profonde" of the ancient Rhône glacier as they may be seen near the Western extremity of Lake Geneva (a mile and a-half below) and in the adjoining districts. In further corroboration of these boulder clays being due to land ice is the fact that none of the organisms which would be expected to characterize marine clays are present therein. The total absence of organic remains (so far as ascertained) in these glacial clays, coupled with the fact of their occurrence in abundance in the Leda clays above, points clearly to a wide difference in the mode and condition of deposition of both, the one being laid at a great elevation above the sea level, the other below the level of an ocean or arm of a sea.

In examining the surface geology of Ottawa, one is struck with the diversity in the distribution and extent of this "boulder clay formation." In some places, the only indexes present, which point to its existence at one time, are the striæ and grooves over the bare rocks, such as are exposed principally about Hull and Ottawa in the vicinity of the Grand River, whilst there are also numerous fields and tracts of country which exhibit that formation very clearly. In such post-glacial valleys and districts, from which the Leda clay, and Saxicava sand and overlying strata, have been removed by denudation, there occurs a large quantity of these boulders. Amongst these are no doubt included, at the present day, the erratics which were dropped by ice-bergs at a period subsequent to the Great Ice Age. The Rideau River Valley, of Post-Tertiary Age, and very recent, geologically speaking, presents numerous points of interest from its mouth at the falls in New Edinburgh to the Hog's Back. Nearly the whole of the Post-Tertiary formations were carried away by the once wide stream which flowed there, and even the glacial clays suffered not a little, as the materials cementing the pebbles are to a great extent entirely wanting. The Rideau Rifle Range extends, for the most part, over this formation, whilst the southern portion of the range, as well as its northern limit (at the 600 yard butte) are on the outskirts of the newer overlying marine clays. We have already spoken of *moraines*. These vary very much in extent and distribution just as the "boulder clay" or "till,"