

GEOLOGICAL FORMATION

of these Counties we might state, generally that the Province of Ontario is divided or classified by Geologists into six "Districts," known as (I), the Lower Ottawa; (II), the Northern Townships; (III), the Ontario; (IV), the Erie and Huron; (V), the Manitoulan, and (VI), the Upper Lakes. The connexion between these technical applications and the geographical positions of the various sections indicate that the Counties of Northumberland and Durham belong to the third of these Districts or Divisions. This district comprises an essentially agricultural area, underlaid by limestone, shales and other sedimentous rocks in comparatively undisturbed stratification. It ranges along the entire northern and western limits of Lake Ontario; its eastern and northern boundaries being formed by the creptaline region, comprised by the Northern Townships "District," and its western limit extending to the great "Niagara Escarpment," which runs from the Niagara river, via Queenston, Thorold, Grimsby, Hamilton, Dundas, Georgetown, Orangeville, &c., to the northern part of Nottawassaga, and the north-west to Cabot's Head on Georgian Bay.

That section in which the Counties under discussion lie, is composed of a series of ridges or terraces, running in a generally east and west direction, and rising from the level of Lake Ontario (232 feet above the sea) to an altitude in Northumberland considerably in excess of that of Rice Lake, which is 600 feet above the sea, and to which the ridges, terrace like, again fall; while in Durham they rise similarly, above the level of Lake Scugog, and descend again by stages to its waters, which flow at a height of 800 feet above the sea level.

These ridges are composed of drift material mostly, sands and gravels, filled with boulders of various kinds, brought down during the glacial and post glacial epochs, probably by floating icebergs; while the strata underlying them consist essentially of formations of the Silurian series—those being chiefly, or almost wholly represented by the "Newton" and "Utica" formations of the Lower Silurian. The "Newton" formation is represented essentially by dark grey limestones and limestone shales, in places exceedingly fossiliferous. Some of its beds yield excellent building stone, and in some sections a band of Lithographic stone runs through its lower portion. The thickness of the formation is from 700 to 750 feet average, though it varies materially in different localities. Almost the entire area of Northumberland County lies within the regions where this formation predominates, the western limits thereof leaving the Lake Ontario shore just west of Cobourg, running to the N. W. across the Township of Hamilton, in Northumberland, and thence in the same general direction across the entire County of Durham.

The predominating formation to the west of this line is the "Utica," which covers the whole of Durham except that inlaid by the "Newton," already mentioned. The "Utica" formation is made up almost entirely of dark brown or black bituminous shales, which are weather light gray, and yield by atmospheric disintegration a very fertile soil. Exposures of both of these formations are quite numerous throughout the respective sections of the Counties in which they next underlie the superficial deposit.

In these attributes consist the only peculiarities of Northumberland and Durham from a geological standpoint,—attributes by no means marked or calling for more than passing comment by reason of their