

Laurentian or Huronian, and over the origin and relations of which many wordy battles have been waged, consist of granite, gneiss, limestone, greenstones, &c. The term gneiss does not apply of necessity to rocks of any special age, but has a general reference to structure only, though this distinction has often been lost sight of in discussions on the subject. A gneiss has been by some regarded as peculiar to the rocks of the Laurentian system, yet when we find a granite of comparatively recent age, as is the case of many of the masses which penetrate the sedimentary formations as recent as the Cretaceous, assuming a foliated structure, especially on the outer zone, a feature which may be due to pressure or other causes, it is also styled a gneiss, as readily as is its older brother of the Laurentian time.

The generally accepted idea at the present day, as to the structure and relations of these oldest rocks of our country may be briefly stated, as these points have a manifest bearing on the question of mineral deposits. The lowest, and presumably the oldest, since upon these all the others rest, is a reddish, or greyish granite gneiss but containing different coloured bands, and called for the purpose of distinction, the lower or sometimes the Ottawa gneiss. This rock may be held to represent the oldest known crust of the earth, though probably now in a form much modified or altered from its original condition, when this crust was first consolidated. It is, in so far as yet known, lacking in mineral deposits of economic importance.

Succeeding this in ascending order, are certain other gneisses of greyish or darker shades, some of which have been clearly shewn to owe their origin to aqueous action, though now in a highly metamorphic state. With these are associated bands of quartzite and limestone which sometimes form large areas. These last, with the upper gneisses, form what has been styled the Grenville and Hastings series of the Ottawa district. We thus have in the crystalline rocks produced in two different ways.

Throughout the districts in which these rocks occur there are often great masses of granite, anorthosite, diorite and pyroxenic rocks, some of which also shew a gneissic structure ;