

inclined sediment invaded by the igneous rock. A block of this is shown in an accompanying figure, plate II. The mineral composition of these masses, however, seems to be so widely different from that of any of the sedimentary rocks of the locality as to make it a more probable theory of their origin that they are due to primary segregation. Yet it is one that requires still further evidence to be fully verified.

WEATHERING.

Disintegration.

The essexite is generally fresh in specimens obtained at any considerable depths, as in open quarries, yet the disintegration is strongly marked at a depth of eight feet in the excavations for the Granby waterworks, near Comlands lake, at a point where glaciation appears to have been quite as heavy as usual. Wherever decomposition is seen, calcite seems to be an important resultant product. This, together with the release of the potassium attendant on the breaking down of the orthoclase molecule (for orthoclase besides being the last to crystallize is the first to yield to disintegrating agencies) gives a considerable degree of fertility to the rock waste. Little of the virgin forest (conifers) remains, but a thrifty second growth (deciduous) is borne by a soil of angular grains of feldspar all but destitute of the slightest vestige of leaf mould. Roots can be seen penetrating the joint cracks of the rocks, and by their growth in size forcing the divisions of the rock apart. This healthy vegetation is, however, attributable in no small degree to the regular rainfall of the district, which amounts to about forty inches per annum. Pomological experts claim that the apples which are raised in great abundance on these eruptive hills are distinguishable by their flavour from those on the surrounding plain of stratified rock.

Effect on vegetation.

Spheroidal weathering.

The tendency of the essexite to weather into spherical forms by casting of concentric shells is well shown in the mountain road, near Lavignes brook. Here rectangular blocks have been largely reduced to rounded forms, leaving less surface in proportion to their volume.

Nordmarkite described by Logan.

2. NORDMARKITE.—The second variety of intrusive rocks in order of age is described by Logan (*Geology of Canada*, 1863, p. 656), as 'being made up in great part of a crystalline feldspar, with small portions of brownish black mica, or of black hornblende, which are sometimes associated. The proportion of these two minerals is never above a few hundredths, and is often less than one hundredth. The other mineral species are small brilliant crystals of yellowish sphene, and