

The third resembles it, but generally shows a somewhat porphyritic structure, and near the contact with the other rocks becomes still finer in texture and often assumes a greenish shade. It is *Pulaskite*.

Their structural relations are clearly defined, each being the product of a separate irruption. The first is penetrated in many places by dykes of each of the other rocks, and the second by a large number of dykes of the third. The contacts of the different masses with one another can be seen and in all cases corroborate the evidence of the dykes. The second mass has generally been intruded along the former line of contact between the earlier igneous and the sedimentary rocks, although it also divides the former into two parts, while the third has been injected between the other two igneous rocks. These relations can be most easily seen by a reference to the accompanying map.

ESSEXITE.—This is a rather coarsely crystalline rock of granitic texture, dark-gray in colour and weathering to a dull brown. On a fresh fracture, feldspar is seen to be the most abundant of any one class of constituents, and by the aid of a pocket lens part of it can be seen to be striated by polysynthetic twinning and hence is triclinic.

The most conspicuous of the dark minerals present is hornblende, which is of a black or dark-brown colour and varies considerably in amount. In some of the contact phases it makes up fully half of the rock, but in general it is quite subordinate in amount to the feldspar. In typical parts of the essexite it is also exceeded in amount by a light coloured variety of augite which it is difficult to discern in the rock by the naked eye. Brown mica is often closely associated with the hornblende, probably by intergrowth due to contemporaneous crystallization.

A mechanical separation of a specimen of this rock (No. 179) plate iv, was made by Mr. O. E. LeRoy at the petrographical laboratory of McGill University by means of Thoulet's solution, and the following specific gravity determinations of feldspars were obtained. When the specific gravity of the liquid was reduced from 2.689 to 2.651, much feldspar fell; between 2.651 and 2.62, much feldspar both in clear and also in turbid grains; between 2.583 and 2.524, a smaller amount of feldspar, all turbid. There were no lighter constituents.

Specimens of the powder taken at 2.524, 2.62, and 2.651 were mounted in Canada balsam and ground for microscopic examination.