unless possibly that the earlier crystallization of the hornblende than the feldspar is less apparent. (plate iii). The mineral composition, however, changes by a distinct increase in the amount of hornblende and decrease in augite, while the minerals sodalite* and nepheline* appear as accessary constituents. These are found chiefly in the coarser band that has been mentioned, but are not entirely confined to it.

Essexite of Massachusetts compared.

The rock then becomes practically identical in microscopic character with the essexite of the type occurrence at Salem, Massachusetts, which has been described by J. H. Sears, (Bulletin Essex Institute, 1891). Many of the finer specimens bear a strikingly close resemblance, both to the naked eye and in the thin section, to a type specimen for which I am indebted to Mr. Sears. These features are best shown in sections 102, 117, 144, 156, 202, 203, *et al*. One or two of these (202, 117) approach very closely to theralite.

Olivine, which is a variable constituent of the Massachusetts essexite, and also marks the more basic facies in the Rosita Hills, has not yet been found at Shefford, except at a single narrow dyke about one and a half inches in width, whose relations to the other igneous rocks could not be well ascertained. It is thought to belong to the later theralite dykes, but may be an offshoot from the essexite.

The breadth of the altered zone varies considerably, yet it was found wherever the contact could be well observed. Near Couplands lake, as noticed above, it was two hundred and eighty yards wide, and on the 'mountain road' at Lavigne's hill it is not less.

On the other hand at the southwest side of the mountain near Knott's corner, and also on the extreme opposite side, at Morriseau's quarry, no evidences of contact metamorphism could be seen at a distance of ten yards from the sedimentary rocks.

PEGMATITIC FORMS.

Pegmatite.

Another phase of this rock, whose occurrence could not be very well defined although it is quite extensive, as it appears continuously for half a mile in one direction, is distinguished by a very coarse texture and a singular reversal in the order of crystallization of the feldspar and hornblende.

*Both these terms are used throughout this sketch in the generic sense. The former mineral is sometimes a colourless variety in rounded or polygonal outlines with characteristic dust-like inclusions, and at others it occurs in strings between the feldspars and is blue in colour. In both cases it is isotropic. The latter is usually much decomposed and might be more precisely called elæolite.