the usual one being that the pyroxenes and ilmenite increase in amount and come to constitute from 15% to 35% of the rock, which thus tends to approach gabbro in character. It is, however, much too feldspathic for normal gabbro and may well be called anorthosite gabbro, since it represents a distinct intermediate stage. With this mineralogic change there is always found an accompanying change in texture, the rock becoming always less coarsely crystalline, the big feldspars diminishing in both number and size and the amount of granular mosaic increasing. The rock also becomes more gneissoid. In this phase garnet is sure to creep in, often in considerable quantity. It develops in the main at the contacts between ilmenite and feldspar, the one furnishing the iron, and the other the lime, alumina and silica which enter into its formation. Garnets may form in this way, either during the original cooling of the rock or owing to subsequent metamorphism, and it is usually impossible to say, in these anorthosites, whether they are to be referred to the one or the other, or to both methods of formation.

It is not meant to imply that changes of this sort occur only as the edge of the mass is neared, but rather to point out that they do uniformly occur under those conditions. But the same rock is often produced well within the anorthosite mass by local differentiation. It is in fact but a more extreme differentiation of the same sort that gives rise to the local development of great masses of titaniferous magnetite such as occur about Lake Sanford in Essex county and have been described in detail by Kemp.[1]

This anorthosite gabbro forms the greater part of the boundary of the Franklin county portion of the anorthosite mass. But on the south a yet greater change takes place, and the anorthosite gabbro passes over into a dark colored gabbro gneiss. This rock has not yet been seen in fresh condition, and hence has not received the thorough investigation that its interest and importance demand. The change is of the same sort as that involved in the passage of anorthosite into anorthosite gabbro, but is more ex-

[1] U. S. Geol. Sur. 19th An. Rep't, pt 3, p.383–422.