

small disseminated grains, which like the hypersthene appear to mark the planes of stratification. If to these we add small portions of iron pyrites and a little disseminated carbonate of lime, we have the mineralogy of the rock so far as yet known.

The texture of these felspar rocks is varied; sometimes the mass is a confusedly crystalline aggregate, exhibiting cleavage surfaces three or four lines in diameter, with a fine-grained, somewhat calcareous paste in the interstices. Sometimes the whole rock is uniformly granular, while more frequently a granular base holds at intervals cleavable masses of felspar, often several inches in diameter. The colours of these rocks vary from grayish and bluish-white to lavender and violet-blue; flesh-red, greenish and brownish tints are also met with; the colours are rarely brilliant. These felspars seldom occur in distinct crystals, but their cleavage is triclinic, a fact which, coupled with their densities varying from 2.66 to 2.73, shows them to belong to the group of which albite and anorthite may be taken as the representatives. The bluish cleavable varieties often exhibit the opalescence of labradorite, to which species American mineralogists have hitherto referred them; but with the exception of a few analyses by myself, we have no published analyses of any of these felspars. My investigations show, that while all of them are felspars with a base of lime and soda, the composition varies very much, being sometimes that of labradorite, andesine or intermediate varieties, and at other times approaching to that of anorthite. The results of these examinations, as far as yet completed, I propose to give in the present paper, as the first part of the history of these felspathic rocks.

One of the most interesting localities of these felspars is in the parish of Château-Richer, in the county of Montmorenci near Quebec, where they cover a breadth of two or three miles across the strike, bounded by crystalline limestone on one side, and a quartzo-felspathic rock on the other, and rising into small hills. In this region several varieties of the rock appear, but the most interesting is made up of a finely granular base, greenish or grayish-white in colour, holding masses of a reddish cleavable felspar, which are sometimes from one-tenth to one-half an inch in diameter, but often take the form of large imperfect crystals, frequently 12 inches long, and 4 or 5 inches wide. These dimensions correspond to the faces M and T, while the face P, characterized by its perfect cleavage, is from half an inch to 2 inches broad. Twin crystals sometimes occur having a composition parallel to M.

Hypersthene is met with throughout the rock in flattened masses, which although variable and irregular in their distribution, exhibit a general parallelism; they are occasionally 4 or