ore is coarsely crystalline; its colour and streak are iron-black, and its lustre submetallic; it affects the magnetic needle very feebly. Hardness, 6; density, 4·56 to 4·66. Its analysis gave me titanic acid, 48·60; protoxide of iron, 37·06; peroxide of iron, 10·42; magnesia, 3·60 = 99·68. Disseminated through portions of the ore, are small, garnet-red, translucent grains, which have an adamantine lustre, a conchoidal fracture, and a hardness of 6. They are found by analysis to be pure oxide of titanium, and are to be referred to the species rutile or brookite.

We have in the rocks which have been the subject of these examinations, a series of felspars in which the amount of silica varies from 47·40 to 59·80 per cent., and that of the lime from 7·73 to 14·24 per cent., the amount of the alkalies decreasing as that of the lime augments. These results only help to confirm the conclusion which may be drawn from all the previous analyses of triclinic felspars, that there are no defined limits for those species which, like vosgite, labradorite, andesine, and oligoclase, have been created between albite on the one hand, and anorthite on the other. I therefore proposed some time since to regard all of the intermediate felspars as mixtures of these two species, which, being homœomorphous, may be supposed to crystallize together in indefinite proportions. Multiplying and expanding the received formulæ of albite and anorthite, I represented them as follows (silica being SiO, and alumina alO = $(Al^2 O^3) \div 3$)* :—

		Eq. wt.	Density.	Eq. vol.
Albite . .	$(Si^{48} al^{12} Na^4) O^{64}$	= 1054·4	÷ 2·62	= 402·4
Anorthite .	$(Si^{32} al^{24} Ca^8) O^{64}$	= 1118·4	÷ 2·72	= 405·0.

The composition and density of the intermediate felspars permit us to regard them, for the most part, as mixtures of a soda-albite and a lime-anorthite. In the analyses of many albites and anorthites, however, we have evidence of similar admixtures; for some albites contain from 1 to 2·5 per cent. of lime, and anorthites from 3 to 4 per cent. of alkalies. Of a like significance is the constant presence of a small amount of potash with the soda of these felspars, and the magnesia, sometimes amounting to 5 per cent. in anorthite, leading us to infer the existence of lime and potash-albites (orthoclase?), and soda and magnesia anorthites. The difficulties presented by the varying composition of these felspars are obviated by admitting such a mixture of species as constantly takes place in the crystallization of homœomorphous salts from mixed solutions, and this consideration should never be lost sight of in the study of mineral chemistry.

It was not until after I had published this view of the constitution of the triclinic felspars (a view which must also be ex-

* American Journal of Science, 2nd series, vol. xviii. p. 270.