

points of their history. That such variations should take place among the felspathic rocks on the one hand, and among the augitic rocks on the other, was quite to be expected; but, in fact, between these generally opposite groups some transitions are known. Dr. Hibbert Ware has noticed, in his work on the Shetland islands, a gradation from binary granite (composed of quartz and felspar) to a basaltic rock (composed of hornblende and some felspar). He also describes a transition from felspar porphyry into granite, near Hillswick Ness.

M. Necker informs us, that, in the depth of the valley of the Valteline, which is in the anticlinal axis of the Alps north of Como, three great protuberances of granite arise, surmounted by gneiss and mica schist. The granite resembles that of the Valorsine and Mittenwald, in the Tyrol, being composed of grey quartz, white felspar, and black mica, and it throws up veins into the schistose rocks. This granite is seen to pass, by an easy gradation, first to common sienite, then to sienitic hypersthene, some of which has white felspar and black hypersthene, some green hypersthene, and greenish felspar. This rock varies also in the size of the grain and the reflections of the hypersthene; it partly resembles diallage rock and partly greenstone; the different varieties are intermingled, and the complication is augmented by contemporaneous veins of fine-grained granite entering the hypersthene. The granite is traversed [by veins of quartz enclosing black tourmaline. (*Bibliothèque Universelle*, 1829.)

This description of M. Necker will remind the geologist who has examined the granitic region of the Caldew, in Cumberland, of what is there a probable, but not a certain, inference, the connection of the granite of the base of Saddleback (which, like that of the Valteline, is composed of grey quartz, white felspar, and black mica) with the hypersthenic sienite of Carrock Fell, which passes into common sienite, and in places cannot be distinguished from diallage rock or greenstone. It often encloses magnetic iron ore.