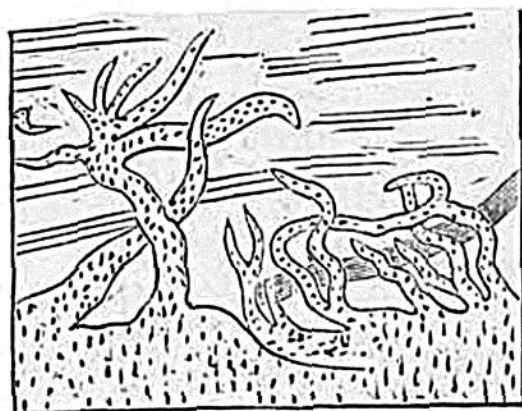


It is not uncommon for one set of granite veins to intersect another; and sometimes there are three sets, as in the environs of Heidelberg, where the granite on the banks of the river Neckar is seen to consist of three varieties, differing in colour, grain, and various peculiarities of mineral composition. One of these,

Fig. 690.



Granite veins traversing gneiss, Cape Wrath.
(MacCulloch.)†

which is evidently the second in age, is seen to cut through an older granite; and another, still newer, traverses both the second and the first.

In Shotland there are two kinds of granite. One of them composed of hornblende, mica, felspar, and quartz, is of a dark color, and is seen underlying gneiss. The other is a red granite, which penetrates the dark variety everywhere in veins.*

The accompanying sketches will explain the manner in which granite veins often ramify and cut each other (figs. 690 and 691). They repre-

Fig. 691.



Granite veins traversing gneiss, at Capo Wrath, in Scotland. (MacCulloch.)

sent the manner in which the gneiss at Cape Wrath, in Sutherlandshire, is intersected by veins. Their light colour, strongly contrasted with that of the hornblende-schist, here associated with the gneiss, renders them very conspicuous.

Granite very generally assumes a finer grain, and undergoes a change in mineral composition, in the veins which it sends into contiguous rocks. Thus, according to Professor Sedgwick, the main body of the Cornish granite is an aggregate of mica, quartz, and felspar; but the veins are sometimes without mica, being a granular aggregate of quartz and felspar. In other varieties quartz prevails to the almost entire exclusion both of felspar and mica; in others, the mica and quartz both disappear; and the vein is simply composed of white granular felspar.‡

* MacCulloch, Syst. of Geol., vol. i., p. 58.

† Western Islands, pl. 31.

‡ On Geol. of Cornwall, Camb. Trans., vol. i. p. 124.