

alluded to did not exist till after the partial or complete solidification of the rock which filled the dyke.

Examples of granite veins are innumerable, though a few years only have passed since they were deemed too rare to be of much value in supporting the Huttonian doctrine of the crystallisation of this rock from igneous fusion. Their importance was most fully understood by Dr. Hutton, and his able supporter Playfair, whose notices have not lost their value in the eyes of modern inquirers. Distinguishing between the veins which are clearly and completely traced to the large masses of granite rock, and such as appear insulated, Playfair describes the latter class as occurring in the Western Islands, particularly in Coll, where they traverse the beds of gneiss and hornblende schist. They are several fathoms in thickness, obliquely intersecting the nearly vertical planes of the strata. The beautiful Portsoy granite is a vein or dyke; a similar granite is found inland, near Huntly. The bed of the river Tilt, in the distance of little more than a mile, is intersected by no less than six very powerful veins of granite, all of them accompanied with such marks of disorder and confusion in the strata, as indicate very strongly the violence with which the granite was here introduced into its place. (Dr. Macculloch's view of these phenomena in Glen Tilt is different.) "The second kind of granite vein is one which proceeds visibly from a mass of that rock, and penetrates into the contiguous strata. The importance of this class of veins, for ascertaining the relation between granite and other mineral bodies, has been pointed out (§ 82.); and by means of them it has been shown that the granite, though inferior in position, is of more recent formation than the schistus incumbent on it; and that the latter, instead of having been quietly deposited on the former, has been, long after its deposition and consolidation, heaved up from its horizontal position by the liquid body of the granite forcibly impelled against it from below." \*

\* Illustrations of the Huttonian Theory, Works, p. 312.