

erto been noticed. The junction of the granite rock and the schist may be distinctly seen: they form together a sloping beach uncovered by any fragments: the line of junction is waving from the coast into the sea, as represented Plate II. fig. 3., g. the Granite, s. the Schist.

It is truly worthy of notice, that the veins of granite may be distinctly seen penetrating both the schist and the granite; for the granite, in the veins, is finer-grained than the granite rock, and may as easily be distinguished in the granite, as in the schist. The granite rock itself is smaller-grained near the line of junction of the two rocks, than it is a little distance from it, where it contains large white crystals of felspar in a smaller-grained reddish granite. What is further remarkable, the largest granite vein, in passing into the schist, cuts through a vein of quartz thicker than itself; and, a few yards nearer the sea, a small quartz vein cuts through the same granite vein: see Plate II. fig. 3. What is called the schist or killas in Cornwall, in the places where I have observed it in immediate junction with granite, is highly indurated and of a dark colour, and appears to have been changed by the junction: it has no appearance of slate;—indeed the change, in the size of the grain of granite, as the latter approaches the killas at Mousehole, would indicate that the two rocks were passing into each other. Perhaps the best designation of the killas rock on this situation is, that of a minutely grained and highly indurated gneiss, that had lost its schistose character.*

Granite veins, of large size, traverse rocks of small-grained granite and gneiss in the vicinity of Aberdeen: in these veins, both the felspar and mica occur in crystalline plates and laminae of considerable magnitude, accompanied with tourmaline. At Glentilt in Scotland, a singular intermixture of granite, in veins and amorphous masses, occurs with slate and limestone, and has been described by Dr. MacCulloch in the *Geological Transactions*, vol. i. page 145. It seems impossible to conceive how masses of granite could be intermixed with, or imbedded in limestone, without admitting that the two substances have been both, in a fluid or semi-fluid state at the same time; and we are not acquainted with any cause except heat combined with pressure, which could effect a simultaneous fusion of both rocks.

Some geologists describe the granite under gneiss and the granite over gneiss as different formations; but, as gneiss is itself a schistose granite, it would be more correct to state, that the massive and schistose granites sometimes occur, alternating with each other. When the mica becomes abundant, the granite passes to the state of gneiss;

* In the *Phil. Mag.* March, 1829, there is a full description of the granite veins in killas, by two German geologists, but no new or important facts are communicated.