and in the immediate neighbourhood of these dykes it usually presents either a highly crystallised form of that rock, or such an intermixture of it with quartz and felspar as might fairly be esteemed a variety of gneiss." (Geol. Trans. iv. p. 403.)

## Metamorphic Mica Schist, Gneiss, &c.

From cases like those already mentioned, where argillaceous slates, on approaching granite, appear in every intermediate state of change till they finally are converted to clay porphyry or to hornblende slate, we pass to consider other supposed transformations, in which the original substances are similar, but the product is different. Speaking of the altered rocks round Dart-moor, Mr. De la Beche (*Manual*, p. 479.) observes, — "The grauwacke slates in many parts of the country surrounding the granite of Dartmoor have suffered from its intrusion, some being simply micaceous, others more indurated and with the characters of mica schist and gneiss, while others again appear converted into a hard zoned rock strongly impregnated with felspar."

Von Dechen's account of the changes effected by the granite of the Hartz on the grauwacke of that region, appears not dissimilar to the description we have given of the Cumbrian rocks, for flinty slate, quartz rock, greenstone, &c. are stated to be the result of the igneous Mr. Griffith has found it convenient to express action. by a particular colour the metamorphic portion of the slaty series of the South-east of Ireland which surrounds the granite of Wicklow and Wexford. He describes them as " altered rocks in the neighbourhood of granite, clay slate, passing into greenstone or greenstone slate, or serpentine, or crystalline micaceous slate, or micaceous shining slate, or flinty slate." Similar phenomena are recorded by the same geologist, in a considerable breadth round the Mourne mountains. (See his Map, 1838.) Von Buch first made known the interesting circum-

stances under which the signite of Christiania touches

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