

that have been reduced to a fused or plastic condition through metamorphic action.¹³ The tendency of modern inquiry is to regard granite as an eruptive and not as a metamorphic rock, and to look upon the gradations between it and various schists as phases in the deformation and alteration of the original granite. Many cases are now known where under great mechanical stresses the component minerals of granite have been drawn out, as in the fluxion structure of lavas, and the rock has assumed the laminar structure of gneiss. Many gneisses are almost certainly only varieties of granite in which a foliated structure has been superinduced.¹⁴

Diorite, etc.—On a smaller scale usually than granite, other crystalline rocks assume the condition of amorphous bosses. Diorite, syenite, quartz-porphry, gabbro, and members of the diabase and basalt family have often been erupted in irregular masses, partly along fissures, partly along the bedding, but often involving and apparently melting up portions of the rocks through which they have made their way. Such bosses have frequently tortuous boundary-lines, since they send out veins into or cut capriciously across the surrounding rocks. In Wales, as shown by the maps and sections of the Geological Survey, the Lower Silurian formations are pierced by huge bosses of different crystalline rocks, mostly included under the old term "greenstone," which, after running for some way with the strike of the strata, turn round and break across it, or branch and traverse a considerable thickness of stratified rock. In central Scotland, numerous masses of dolerite

¹³ Amer. Journ. Sci. xx. 1880, p. 219.

¹⁴ See, for an early statement of this view, Dr. Lehmann's work on the granulite region of Saxony, cited ante, p. 272. The gneisses of the northwest of Scotland are believed to be essentially crushed and foliated eruptive rocks.