arranged over each other in regular layers; the particles or fragments of which they are composed vary in size, and indicate the different states of agitation or repose of the waters from which they were deposited. It is proper to notice, that certain rocks are disposed to divide in parallel seams, in a different direction from that of the regular stratification: this results from the crystalline structure of the rock. Some strata appear to have been formed by chemical precipitation; and, not unfrequently, chemical precipitation and sedimentary deposition have taken place, at the same time, and produced rocks of a mixed character.

The *Tabular structure* consists of parallel plates of rock, separated by regular seams. This structure has, often, been confounded with stratification: it appears to be the result of crystallization, and is closely allied to the columnar structure.

The *Columnar* or *Prismatic structure* is peculiar to certain rocks, but occurs chiefly in the basaltic and volcanic class. Thick beds are divided into columns or prisms, which are, most generally, pentagonal. They, sometimes, form vast ranges of natural columns, as at Staffa, the Giants' Causeway in Ireland, and in many volcanic countries. Sometimes, the prismatic structure may be observed forming detached groups of columns and prisms, as represented in the group of columns on Cader Idris. (Plate VII.) A group of basaltic columns of similar form, and equally perfect, was observed by the author on the side of the volcanic mountain called Gravenaire, in Auvergne, at a small distance from the crater.

The *Globular structure* consists of globular masses, either detached or imbedded in rocks of the same kind; they are frequently composed of concentric layers.

The terms *Massive*, or *Indeterminate*, may be applied to all unstratified rocks that have no regular divisions. Many of the primary rocks, such as granite, porphyry and serpentine, occur in masses of enormous thickness, which are broken by irregular fissures in every direction. Thick currents of lava, which have filled up hollows or valleys, are also indeterminate, as might be expected from their mode of formation. Sometimes rocks of granite and porphyry, and also of compact lava, present either a tabular or columnar structure; but the structure is seldom so regular as in basaltic rocks.