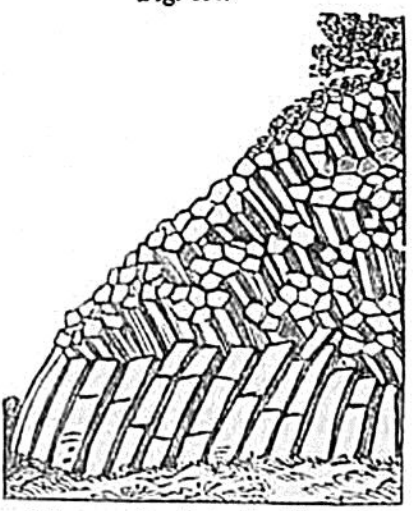
Fig. 636.

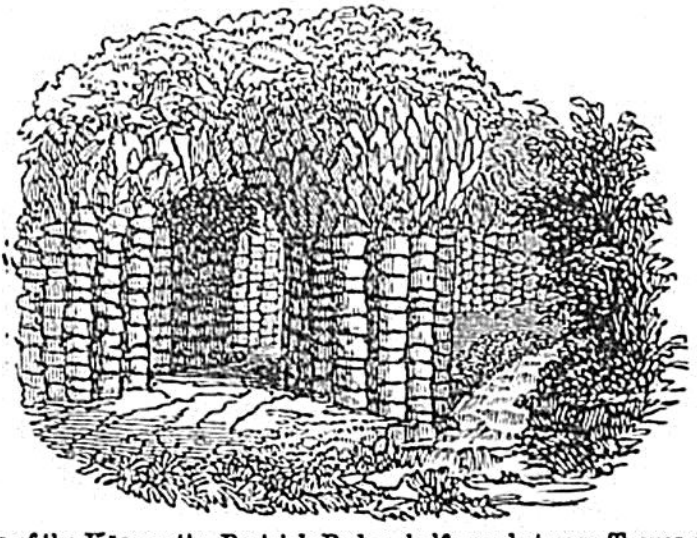


Columnar basalt in the Vicentin. (Fortis.)

The columnar structure is by no means peculiar to the trap rocks in which augite abounds; it is also observed in clinkstone, trachite, and other felspathic rocks of the igneous class, although in these it is rarely exhibited in such regular polygonal forms.

It has been already stated that basaltic columns are often divided by cross joints. Sometimes each segment, instead of an angular, assumes a spheroidal form, so that a pillar is made up of a pile of balls, usually flattened, as in the Cheese-grotto at Bertrich-Baden, in the Eifel, near the Moselle (fig. 637). The basalt there is part of a small stream of lava, from 30 to 40 feet thick, which has proceeded from one of several volcanic craters, still extant, on the neighboring heights.

Fig. 637.



Basaltic pillars of the Käsegrotte, Bertrich-Baden, half way between Treves and Coblentz. Height of grotto, from 7 to 8 feet.

The position of the lava bordering the river in this valley might be represented by a section like that already given at fig. 635, if we merely supposed inclined strata of slate and the argillaceous sandstone called greywacké to be substituted for gneiss.

In some masses of decomposing greenstone, basalt, and other trap rocks, the globular structure is so conspicuous that the rock has the appearance of a heap of large cannon balls. According to the theory of M. Delesse, the centre of each spheroid has been a centre of crystallization, around which the different minerals of the rock arranged themselves symmetrically during the process of cooling. But it was also, he says, a centre of contraction, produced by the same cooling. The globular form, therefore, of such spheroids is the combined result of crystallization and contraction.*

* Delesse, sur les Roches Globuleuses, Mém. de la Soc. Géol. de France, 2 ser. tom. iv.