

schists have been carried up by the lavas of the Tertiary volcanic plateau of the Inner Hebrides.²³

(4) Volcanic Bombs and slags.—These have originally formed portions of the column of lava ascending the pipe of a volcano, and have been detached and hurled into the air by successive explosions of steam. A bomb (Fig. 41) is a round, elliptical, or pear-shaped, often discoidal mass of lava, from a few inches to several feet in diameter; sometimes tolerably solid throughout, more usually coarsely cellular inside. Not infrequently its interior is hollow, and the bomb then consists of a shell which is most close-grained



Fig. 41.—Section of Volcanic Bomb, one-third natural size.

toward the outside, or the centre is a block of stone with an external coating of lava. There can be no doubt that, when torn by eruptions of steam from the surface of the boiling lava, the material of these bombs is in as thoroughly molten a condition as the rest of the mass. From the rotatory motion imparted by its ejection, it takes a circular form, and in proportion to its rapidity of rotation and fluidity is the amount of its "flattening at the poles." The centrifugal force within allows the expansion of the interstitial vapor, while the outer surface rapidly cools and solidifies; hence the solid crust, and the porous or cavernous interior. Such bombs, varying from the size of an apple to that of a man's body, were found by Darwin abundantly strewn over the ground in the Island of Ascension; they were also ejected

²³ Trans. Roy Soc. Edin. xxxv. (1888), p. 82.