

of Plutonic action in the locality, into a rounded hill of moderate altitude, but of huge base. The upheaving power continued to operate — the gneiss and mica-slate gave way a-top — and out of this lower dome there arose a higher dome of granite, which, in an after and terminating period of the internal activity, gave way in turn to yet a third and last dome of porphyry. Now, had the elevating forces ceased to operate just ere the gneiss and mica-slate had given way, we would have known nothing of the interior nucleus of granite — had they ceased just ere the granite had given way, we would have known nothing of the yet deeper nucleus of porphyry; and yet the granite and the porphyry would assuredly have been there. Nor could any application of the measuring rule to the side of the hill have ascertained the thickness of its outer covering — the gneiss and the mica schist. The geologists of the school of Werner used to illustrate what we may term the anatomy of the earth, as seen through the spectacles of their system, by an onion and its coats: they represented the globe as a central nucleus, encircled by concentric coverings, each covering constituting a geological formation. The onion, through the introduction of a better school, has become obsolete as an illustration; but to restore it again, though for another purpose, we have merely to cut it through the middle, and turn downwards the planes formed by the knife. It then represents, with its coats, hills such as we describe — hills such as Ben Nevis, ere the granite had perforated the gneiss, or the porphyry broken through the granite.

If it be thus unsafe, however, to calculate on the depth of deposits by the altitude of hills, it is quite as unsafe for the geologist, who has studied a formation in one district, to set himself to criticise the calculations of a brother geologist by whom it has been studied in a different and widely-separated