

tured strata. This important statement has been controverted by the opponents of Von Buch's hypothesis of "Erhebungs Cratere," and defended by its favourers; and if Humboldt's account remains the only authority for *such* a mode of origination of a crater on land, we must also remember that it is the only authority for *any* mode of origin of the opening of a new volcanic region.

But it may be asked,—Are there no characteristic arrangements of the volcanic rocks, which may be employed to determine whether they were accumulated in a level, or in an inclined conical position? are there no characters of form or fissures by which a mountain of elevation can be distinguished from a crater of eruption? It is maintained by De Beaumont and Dufrenoy that there are. If we attend to the forms necessarily assumed by lava flowing from the crater of a volcano, we shall see the almost impossibility, that the melted matter should flow equally on all sides, so as every way to invest the cone with a concentric strata of rock. Wherever the crater is lower, or the slope of the cone depressed, there the liquid would be directed, and long streams (or coulées), not zones of rock, be solidified. If then, in any case, the structure of volcanic masses is such that the distribution of once melted rock is concentric to the conical surface, and not in narrow streams parallel to the slope, such a mass of rocks may be thought to have been raised by expansion, by elevation from an originally nearly horizontal strata. If, indeed, we suppose the lapse of immense time, many streams of lava may successively flow down, and cover the whole conical slope; but not regularly, nor with that uniformity and mutual union here meant by the term concentric sheet of rock.

The cases are few in which this arrangement of the volcanic layers appears. The insulated hills of trachyte ("domite") near Clermont, in Auvergne, are supposed by Dr. Daubeny to be of this nature; the Mont d'Or and Plomb du Cantal have been specially