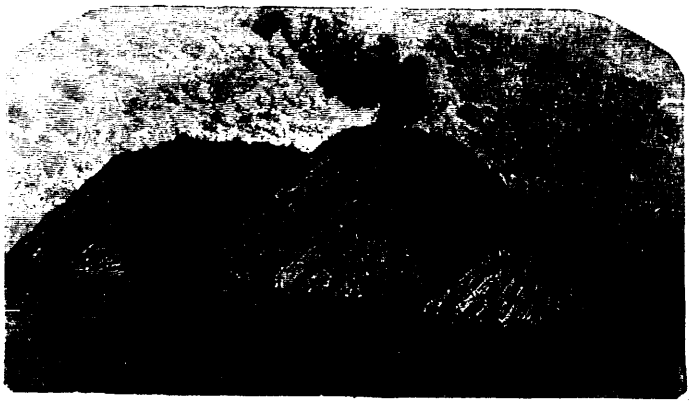
elevation," or the lifting of a great mountain bodily by subterranean force in the form of a gigantic vesicle or bubble, was asserted and defended by no less authority than that of Von Buch and Alexander von Humboldt. It was opposed by Lyell, Poulett-Scrope and the great majority of modern geologists. Von Buch, the father of the theory, based it chiefly on his observations in the Canary Islands. One of them especially, Palma, seemed to offer support to it by the shape in which the mountain was projected above the level of the sea. From all the coast of the island the ground rises gradually toward the centre, attaining a height, at the rim of the hollow interior, of over five thousand feet. The depth of the central basin is nearly as great. At one point it is cut through by a ravine which opens a passage to the sea. Along this furrow, called the Barranca de las Angustias, the almost perpendicular inside walls of the great crater continue themselves at a diminishing elevation. The external slope, much gentler, is studded



VOLCANO AND VOLCANELLO.

with cones of scoriæ, many of them having miniature craters which formerly sent forth lava.

Von Buch conceived that the layers of volcanic matter which compose the island, and are now tilted toward a common centre, lay originally in a horizontal position at the bottom of the sea. Raised thence, the hollow summit, after enduring the strain to a certain point, fell in, and left the immense cavity now occupying its place. To subsequent accretions by ejection he allows but little effect in swelling the mass of the island. Finding in the centre of the reversed and fallen cone the point of least resistance, the forces beneath effected there a new outlet, and formed a crater of eruption, the matters expelled from which gradually filled the cavity and raised themselves above it. Hence the familiar spectacle of an active cone rising in the centre of an amphitheatre. Barren Island, in the Bay of Bengal, offers a clear illustration. The Somma, or ancient wall which encloses Vesuvius, and a similar erection which has been traced around Teneriffe, suggest themselves among many others we could cite. Volcano, represented in these pages in profile and in plan, has a secondary crater on the exterior circuit.

Another argument in favour of this view was based on the assumed impossibility of lava coming to a stand upon an inclination of more than six degrees to the horizon. Observations are, however, numerous and positive of its having arrested its progress and formed sheets upon a surface of fif-