

hypothesis of Elevation-Craters had to be given up, and with it the classification of volcanoes into "True" or "Eruptive Volcanoes" and "Craters of Elevation" which had been so long associated with the names of Buch and Humboldt.

Karl von Seebach then proposed a new classification; he distinguished as *Stratified Volcanoes* those which have a crater and are composed of layers of lava and loose volcanic ash and scorïæ; as *Homogeneous Volcanoes* those which have no crater and no loose ejected material but have originated as massive effusions and have the form either of volcanic domes or horizontal sheets. The homogeneous volcanoes have been formed by viscous lavas, the stratified volcanoes by more liquid lavas strongly impregnated with vapour and gases. This sub-division into stratified and homogeneous volcanoes was adopted in most of the text-books, and was afterwards more firmly established by Sir Archibald Geikie and Dr. Reyer.

It is beyond the scope of this volume to enter into the extensive descriptive literature which is occupied chiefly with the configuration, composition, geographical distribution, eruptive phenomena, and history of the volcanoes. Humboldt published an epitome of all known volcanoes, and the works of Hoff, Daubeny, Scrope, and others supplemented the earlier lists.

Vesuvius is the best known volcano in the world, and during the prolonged controversy about elevation-craters was made more than ever the subject of close attention. Monticelli for thirty years, from 1815 to 1845, took observations on Vesuvius and its discharges; from 1855 to 1892 Palmieri published regular reports of the observations made in the Observatory of this mountain. Angelo Scacchi and Gerhard vom Rath examined the minerals of Vesuvius; the lavas were described by Justus Roth, the author of a monograph of Mount Vesuvius (1857), and by C. W. C. Fuchs. The last-named author also mapped and described the Island of Ischia (1872). Within recent years Vesuvius has been constantly under observation by Johnston Lavis and Matteucci.

The name of Baron Sartorius von Waltershausen is indelibly associated with Etna. His geological map (scale, 1 : 50,000) of this volcano appeared in 1861, and his descriptive text was published posthumously in 1880 by Lasaulx. The scrupulous accuracy and exhaustive details of both map and text amply entitle them to their rank as the fundamental work on Etna.