

ous, and almost always alternate with scoriæ and perishable tufts, so as to be readily undermined, and most of them are speedily reduced to fragments of a transportable size because they are divided by vertical joints or split into columns.

Canary Islands—Palma.—I have enlarged so fully in the "Principles of Geology" on the different views entertained by eminent authorities respecting the origin of volcanic cones, and the laws governing the flow of lava, and its consolidation, that, in order not to repeat here what I have elsewhere published, I shall confine myself in the remainder of this chapter to the description of facts observed by me during a recent exploration of Madeira and some of the Canary Islands. In these excursions, made in the winter of 1853-4, I was accompanied by an active fellow-laborer, Mr. Hartung, of Königsberg. We visited among other places the beautiful island of Palma, a spot rendered classical by the description given of it in 1825 by the late Leopold Von Buch, who regarded it as a type of what he called a "crater of elevation."*

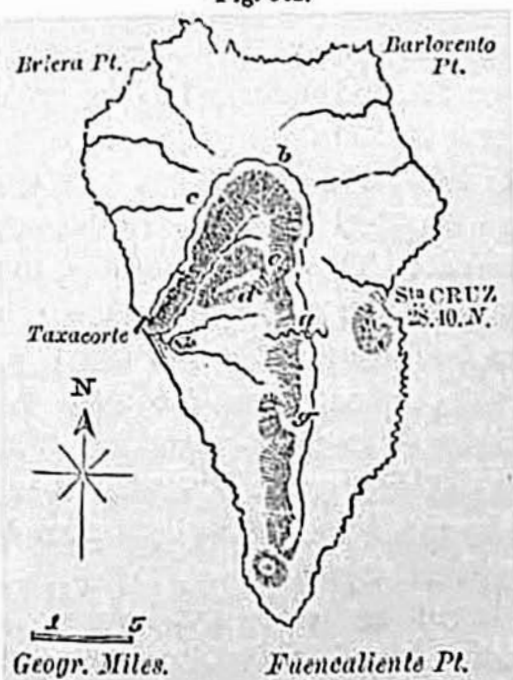
Palma is 46 geographical miles west of Teneriffe. Seen from the channel which divides the two islands,

Palma appears to consist of two principal mountain masses, the depression between them being at *a* (map, fig. 642), or at the pass of Tacanda, which is about 4600 feet above the sea-level. The most northern of these masses makes, notwithstanding certain irregularities hereafter to be mentioned, a considerable approach in general form to a great truncated cone, having in the centre a huge and deep cavity called by the inhabitants "La Caldera." This cavity (*b, c, d, e*, fig. 642) is from 3 to 4 geographical miles in diameter, and the range of precipices surrounding it vary from about 1500 to 2000

feet in vertical height. From their base a steep slope, clothed by a splendid forest of pines, descends for a thousand and sometimes two thousand feet lower, the centre of the Caldera being about 2000 feet above the sea. The northern half of the encircling ridge is more than 7000 English feet above the sea in its highest peaks, and is annually white with snow during the winter months.

Externally the flanks of this truncated cone incline outwards in every direction, the slopes being steepest near the crest, and lessening as they approach the lower country. A great number of ravines commence on

Fig. 642.



Map of Palma, from Survey of Capt. Vidal, R. N.

* Erhebung's Crater.