

we could assume that the sea once entered the Caldera here as well as by the great Barranco, it might have produced such a breach as *e*, and such an extension of the line of cliffs as that now observable between *e* and *a*, map, p. 494, without any corresponding cliff to the westward of *e*, *a*.

Yet we could discover no elevated outliers of conglomerate to attest the supposed erosion at the Cumbrecito, which is about 3500 feet above the level of the sea. It might also be objected to the hypothesis of marine denudation in Palma, that there are no ranges of ancient sea-cliffs on the external slopes of the island. The flanks of the mountain, except where it is furrowed by ravines or broken by lateral cones, descend to the sea with a uniform inclination. In reply to such a remark, I may observe that we do not require the submergence of the uppermost 3000 feet of the old cone in order to allow the sea to enter both the great Barranco and the Cumbrecito and to flow into the Caldera. It would be enough to suppose the land to sink down so as to permit the waves to wash the base of the basaltic cliffs in the interior of the Caldera, and to wear a passage through the Cumbrecito where there may have been always a considerable depression in the outline of the upper formation. But would not the same waves which had power to form in the Barranco a mass of conglomerate 800 feet thick have left memorials of their beach-action on the external slope of the island? No such monuments are to be seen. It may be said, in explanation,—first, that cliffs are not so easily cut on the side of an island towards which the beds dip as on the side from which they dip; secondly, if some small cliffs and sea-beaches had existed, they may have been subsequently buried under showers of ashes and currents of lava proceeding from lateral cones during eruptions of the same date as those which were certainly contemporaneous with the conglomerate of the great Barranco.

On the eastern coast of Palma, about half a mile from the sea, in the ravine of Las Nieves, not far from Santa Cruz, we observed a conglomerate of well-rounded pebbles having a thickness of 100 feet, covered by successive beds of lava, also about 100 feet thick. In this instance the ancient gravel beds occupy a position very analogous to the buried cone, *s.p.*, fig. 645, p. 496. When in Palma, I conceived them to be of fluvial origin; but, whether marine or freshwater, it must be admitted that the superposition of so dense an accumulation of lavas to a mass of conglomerate 100 feet thick shows how easily the outer slopes of the island may have been denuded by the sea and yet display no superficial signs of marine denudation, every old beach or delta once at the mouth of a torrent being concealed under newer volcanic outpourings.

Since the cessation of volcanic action in the north of Palma, the most frequent eruptions appear to have taken place in a line running north and south, from *a* to Fuencaliente, map, p. 494; one of the volcanoes in this range, called Verigojo, *g*, being no less than 6565 English feet high. The lavas descending from several vents in this chain reach the sea both