

gave a greatly higher temperature, the melting-point of silver being about 1800° Fahr. But copper wire has also been melted, the point of fusion of this metal being about 2204° Fahr. Evidence of the high temperature of lava has likewise been adduced from the alteration it has effected upon refractory substances in its progress, as where, at Torre del Greco, it overflowed the houses, and was afterward found to have fused the fine edges of flints, to have decomposed brass into its component metals, the copper actually crystallizing, and to have melted silver, and even sublimed it into small octahedral crystals (p. 393). The lava of Santorin has caught up pieces of limestone, and has formed out of them nodules containing crystallized anorthite, augite, sphene, black garnet, and particularly wollastonite.⁷⁹ The initial temperature of lava, as it first issues from the Vesuvian funnel, is probably considerably more than 2000° Fahr. Obviously the dissolved water (or water-substance, for, as already remarked, the temperature is far above the critical point of water, and its component gases may exist dissociated) must possess as high a temperature as that of the white-hot lava in which it is contained. The existence of the elements of water at a white heat, even in rocks which have reached the surface, is a fact of no little significance in the theoretical consideration of hypogene action.

Inclination and thickness of lava-flows.—It was at one time supposed that lava could not consolidate in beds on such steep slopes as those of most volcanoes. Hence arose the "elevation-crater theory" (described at p. 412), in which the inclined position of lavas round a volcanic vent was explained by upheaval after their

⁷⁹ Fouqué, "Santorin," p. 206.