

with the hypothesis of the decomposition of great masses of water?\*

The discussion of these important physical questions does not come within the scope of a work of this nature; but, while we are considering these phenomena, we would enter somewhat more into the question of the geographical distribution of still active volcanoes. We find, for instance, that in the New World, three, viz., Jorullo, Popocatepetl, and the volcano of De la Fragua, are situated at the respective distances of 80, 132, and 196 miles from the sea-coast, while in Central Asia, as Abel Rémusat† first made known to geognosists, the Thianschan (Celestial Mountains), in which are situated the lava-emitting mountain of Pe-schan, the solfatara of Urumtsi, and the still active igneous mountain (Ho-tscheu) of Turfan, lie at an almost equal distance (1480 to 1528 miles) from the shores of the Polar Sea and those of the Indian Ocean. Pe-schan is also fully 1360 miles distant from the Caspian Sea,‡ and 172 and 218 miles from the seas of Issikul and Balkasch. It is a fact worthy of notice, that among the four great parallel mountain chains which traverse the Asiatic continent from east to west, the Altai, the Thianschan, the Kuen-lun, and the Himalaya, it is not the latter chain, which is nearest to the ocean, but the two inner ranges, the Thianschan and the Kuen-lun, at the distance of 1600 and 720 miles from the sea, which have fire-emitting mountains like Ætna and Vesuvius, and generate ammonia like the volcano of Guatemala. Chinese writers undoubtedly speak of lava streams when they describe the emissions of smoke and flame, which, issuing from Pe-schan, devastated a space measuring ten li§ in the first and seventh centuries of our era. Burning masses of stone flowed, according to their description, "like thin melted fat." The facts that have been enumerated, and to which sufficient attention has not been bestowed, render it probable that the vicinity of the sea, and the penetration of sea water to the foci of volcanoes, are not absolutely necessary to the eruption of

\* [See Daubeney *On Volcanoes*, Part iii., ch. xxxvi., xxxviii., xxxix.] —*Tr.*

† Abel Rémusat, *Lettre à M. Cordier*, in the *Annales de Chimie*, t. v., p. 137.

‡ Humboldt, *Asie Centrale*, t. ii., p. 30-33, 38-52, 70-80, and 426-428. The existence of active volcanoes in Kordofan, 540 miles from the Red Sea, has been recently contradicted by Ruppell, *Reisen in Nubien*, 1829, s. 151.

§ [A li is a Chinese measurement, equal to about one thirtieth of a mile.] —*Tr.*