

ACTIVE VOLCANOES BENEATH THE SEA MUST NECESSARILY
PRODUCE BOTH STEAM AND EARTHQUAKES.

40. The Gulf of Santorin in the Grecian Archipelago has been for 2,000 years a scene of active volcanic operations. The Gulf contains three volcanic islands, namely, Old, New, and Little Kaimeni. Pliny informs us that Old Kaimeni rose above the water 186 before Christ. It was increased in size by other eruptions in A.D. 19, 726, and 1427. In 1573 another eruption produced Little Kaimeni. In 1650 a submarine outbreak gave rise to a shoal, which was surveyed in 1848 by Captain Graves, and found to have 10 fathoms of water over it, the sea deepening around it in all directions. This eruption lasted three months, covering the sea with floating pumice. *At the same time an earthquake destroyed many houses in Thera.*—*Principles*, p. 441.

It is well known that Santorin has been for some time, and is now in active operation; sending forth clouds of steam and flames, and giving earthquake shocks.

SUBMARINE ERUPTIONS IN VERY DEEP WATER.

41. "In the 'Nautical Magazine' (says Sir Charles Lyell) for 1835, p. 642, and for 1838, p. 361, and in the 'Comptes Rendus,' April 1838, accounts are given of a series of volcanic phenomena, earthquakes, troubled water, floating scorïæ, and columns of smoke, which have been observed at intervals since the middle of last century, in a space of open sea between longitudes 20° and 22° west, and about $\frac{1}{2}$ ° south of the equator."—*Principles*, p. 436.

Note.—I find this situation is more than 600 miles from the nearest land, which is the small island of Ascension, and the sounding is 2,800 fathoms, according to Lieut. Maury's chart. The hydrostatic pressure would be 7,496lbs., or about $3\frac{1}{2}$ tons per square inch on the bottom. Steam, however, overcame this pressure, and in addition gave shocks to ships on the surface, as will be seen in the two next evidences. And the mass of fire must be very great not to have been extinguished by the vast volume and pressure of water.

42. "Submarine volcanic action near the equator has been for some years going on. We have now two accounts of it observed by ships, but a few miles apart from each other—the *Dallas*, Captain Wikander, and the *Melbourne*, Captain Cowie—on March 20th, 1861. The latter says:—'We were startled by a heavy and loud rumbling noise, and at the same time felt the ship tremble from stem to stern, which lasted four or five minutes. The noise resembled more the low grumble of distant thunder than the harsh, grating noise produced by the ships taking ground. The *Dallas* lost her false keel by the collision.'" *Illustrated London News*, Aug. 17, 1861, p. 157.