

violence is favourable to the notion of their principally depending on the sudden evolution of the force of steam, with whose operation in this way we have been familiarised by the steam gun of Mr. Perkins.

The formation of *New Mountains* is another phenomenon which strongly indicates the importance of volcanic operations in changing the aspect of the globe. The cases are numerous. In 1538, in or near the site of the ancient Lucrine Lake, in the Bay of Baiæ, the Monte Nuovo was thrown up, in 48 hours, to a height of 440 feet, with a circumference of 8000 feet, from a crater of eruption, which has been measured to the depth of 418 feet in the middle. In 1669, the Monte Rossi was thrown up on the slope of Etna, 450 feet in height, and 2 miles in circumference; this was accomplished in three or four months. The formation of Jorullo, in 1759, to a height of 1695 feet, is one of the most remarkable effects of this kind. (See page 160.)

The *New Islands* which have been raised from the sea by volcanic explosion or movement of the sea bed, furnish additional facts; and probably a large proportion of these striking phenomena is unrecorded, and many more must pass away without notice, notwithstanding the increased facilities which extended commerce and general scientific education have afforded for recording them in future.

The changes which have occurred in and about the Island of Santorini, from an epoch 237 years before Christ, to almost the present year, are remarkable, the general effect being an augmentation of the land. The new island of Sciacca, which appeared in July, 1831, and disappeared in the course of the following winter, is one of the most interesting events of this kind known in modern times. It appears that a line of earthquakes may be traced from Corfu, by Calabria, to Etna, which, in its extension westward, nearly strikes the volcanic island of Pantellaria. Between Pantellaria and Sicily, on this line, submarine movements were noticed in June, 1831: soon afterwards the signs of an eruption