

the convulsions experienced here and in other populous districts of the Andes, it would be found that the trembling of the earth had been incessant. The frequency of the movement, he thinks, is not due to volcanic explosions, but to the continual falling in of masses of rock which have been fractured and upheaved in a solid form at a comparatively recent epoch; but a longer series of observations would be requisite to confirm this opinion. According to the same author, the height of several mountains of the Andes has diminished in modern times.*

The great crest or cordillera of the Andes is depressed at the Isthmus of Panama to the height of about 1000 feet, and at the lowest point of separation between the two seas to 600 feet. What some geographers regard as a continuation of that chain in Central America lies to the east of a series of volcanos, many of which are active in the provinces of Pasto, Popayan, and Guatemala. Coseguina, on the south side of the Gulf of Fonseca, was in eruption in January 1835, and some of its ashes fell at Truxillo, on the shores of the Gulf of Mexico. What is still more remarkable, on the same day, at Kingston in Jamaica, the same shower of ashes fell, having been carried by an upper counter current against the regular east wind which was then blowing. Kingston is about 700 miles distant from Coseguina, and these ashes must have been more than four days in the air, having travelled 170 miles a day. Eight leagues to the southward of the crater, the ashes covered the ground to the depth of three yards and a half, destroying the woods and dwellings. Thousands of cattle perished, their bodies being in many instances one mass of scorched flesh. Deer and other wild animals sought the towns for protection; many birds and quadrupeds were found suffocated in the ashes, and the neighbouring streams were strewn with dead fish.† Such facts throw light on geological monuments, for in the ashes thrown out at remote periods from the volcanos of Auvergne, now extinct, we find the bones and skeletons of lost species of quadrupeds.

Mexico.—The great volcanic chain, after having thus pursued its course for several thousand miles from south to north, sends off a branch in a new direction in Mexico, in the parallel of the city of that name, and is prolonged in a great platform, between the eighteenth and twenty-second degrees of north latitude. This high table-land is said to owe its present form to the circumstance of an ancient system of valleys, in a chain of granitic mountains, having been filled up to the depth of many thousand feet with various volcanic products. Five active volcanos traverse Mexico from west to east—Tuxtla, Orizaba, Popocatepetl, Jorullo, and Colima. Jorullo, which is in the centre of the great platform, is no less than 120 miles from the nearest ocean—an important circumstance, as showing that the proximity of the sea is not a necessary condition, although certainly a very general characteristic, of the position of active volcanos. The extraordinary eruption of this mountain, in 1759, will be de-

* Bull. de la Soc. Géol. de France, tom. vi. p. 56.

† Caldeclough, Phil. Trans. 1836, p. 27.