

having suffered as much as the town, they could find no shelter till they were beyond the mountains of los Teques, in the valleys of Aragua, and in the llanos or savannahs. No less than fifteen oscillations were felt in one day. On the 5th of April there was almost as violent an earthquake as that which overthrew the capital. During several hours the ground was in a state of perpetual undulation. Large heaps of earth fell in the mountains; and enormous masses of rock were detached from the Silla of Caracas. It was even asserted, and this opinion prevails still in the country, that the two domes of the Silla sunk fifty or sixty toises; but this statement is not founded on any measurement. I am informed that, in like manner, in the province of Quito, the people, at every period of great commotions, imagine that the volcano of Tunguragua diminishes in height. It has been affirmed, in many published accounts of the destruction of Caracas, that the mountain of the Silla is an extinguished volcano; that a great quantity of volcanic substances are found on the road from La Guáyra to Caracas; that the rocks do not present any regular stratification; and that everything bears the stamp of the action of fire. It has even been stated that twelve years prior to the great catastrophe, M. Bonpland and myself had, from our own observations, considered the Silla as a very dangerous neighbour to the city of Caracas, because the mountain contained a great quantity of sulphur, and the commotions must come from the north-east. It is seldom that observers of nature have to justify themselves for an accomplished prediction; but I think it my duty to oppose ideas which are too easily adopted on the *local causes* of earthquakes.

In all places where the soil has been incessantly agitated for whole months, as at Jamaica in 1693, Lisbon in 1755, Cumana in 1766, and Piedmont in 1808, a volcano is expected to open. People forget that we must seek the focus or centre of action, far from the surface of the earth; that, according to undeniable evidence, the undulations are propagated almost at the same instant across seas of immense depth, at the distance of a thousand leagues; and that the greatest commotions take place not at the foot of active volcanos, but in chains of mountains composed of the most heterogeneous rocks. In our geognostical observation of