

has journeyed through Spanish America, should have chiefly fixed his attention on volcanoes and earthquakes. Each part of the globe is an object of particular study; and when we cannot hope to penetrate the causes of natural phenomena, we ought at least to endeavour to discover their laws, and distinguish, by the comparison of numerous facts, that which is permanent and uniform from that which is variable and accidental.

The great earthquakes, which interrupt the long series of slight shocks, appear to have no regular periods at Cumana. They have taken place at intervals of eighty, a hundred, and sometimes less than thirty years; while on the coasts of Peru, for instance at Lima, a certain regularity has marked the periods of the total destruction of the city. The belief of the inhabitants in the existence of this uniformity has a happy influence on public tranquillity, and the encouragement of industry. It is generally admitted, that it requires a sufficiently long space of time for the same causes to act with the same energy; but this reasoning is just only inasmuch as the shocks are considered as a local phenomenon; and a particular focus, under each point of the globe exposed to those great catastrophes, is admitted. Whenever new edifices are raised on the ruins of the old, we hear from those who refuse to build, that the destruction of Lisbon on the first day of November, 1755, was soon followed by a second, and not less fatal convulsion, on the 31st of March, 1761.

It is a very ancient opinion,\* and one that is commonly received at Cumana, Acapulco, and Lima, that a perceptible connection exists between earthquakes and the state of the atmosphere that precedes those phenomena. But from the great number of earthquakes which I have witnessed to the north and south of the equator; on the continent, and on the seas; on the coasts, and at 2500 toises height; it appears to me that the oscillations are generally very independent of the previous state of the atmosphere. This opinion is entertained by a number of intelligent residents of the Spanish colonies, whose experience extends, if not over a greater space of the globe, at least over a greater number of years,

\* Arist. de Meteor. lib. ii, (ed. Duval, tom. i. p. 798). Seneca, Nat. Quæst., lib. vi., c. 12.