

after the passage of a star over the meridian, consequently within a few minutes of the same point of true time.*

The earthquake of the 4th of November, the first I had felt, made the greater impression on me, as it was accompanied with remarkable meteorological variations. It was, moreover, a positive movement upward and downward, and not a shock by undulation. I did not then imagine, that after a long abode on the table-lands of Quito and the coasts of Peru, I should become almost as familiar with the abrupt movements of the ground as we are in Europe with the sound of thunder. In the city of Quito, we never thought of rising from our beds when, during the night, subterraneous rumblings (*bramidos*), which seem always to come from the volcano of Pichincha, announced a shock, the force of which, however, is seldom in proportion to the intensity of the noise. The indifference of the inhabitants, who bear in mind that for three centuries past their city has not been destroyed, readily communicates itself to the least intrepid traveller. It is not so much the fear of the danger, as the novelty of the sensation, which makes so forcible an impression when the effect of the slightest earthquake is felt for the first time.

From our infancy, the idea of certain contrasts becomes fixed in our minds: water appears to us an element that moves; earth, a motionless and inert mass. These impressions are the result of daily experience; they are connected with everything that is transmitted to us by the senses. When the shock of an earthquake is felt, when the earth which we had deemed so stable is shaken on its old foundations, one instant suffices to destroy long-fixed illusions. It is like awakening from a dream; but a painful awakening. We feel that we have been deceived by the apparent stability of nature; we become observant of the least noise; we mistrust for the first time the soil we have so long trod with confidence. But if the shocks be repeated, if they become frequent during several successive days, the uncertainty quickly disappears. In 1784, the inhabitants of Mexico were accustomed to hear the thunder roll beneath

* M. Arago and I paid a great deal of attention to this phenomenon during a long series of observations made in the year 1809 and 1810, at the Observatory of Paris, with the view of verifying the declination of the stars.