

## CHAPTER VI.

### EARTHQUAKES—THEIR GENERAL PHENOMENA.

**E**ARTHQUAKES and Volcanoes are two successive or concomitant effects of one and the same general cause.

Since the interior of our planet, at a depth of probably not more than twelve leagues from its surface, is occupied by a liquid incandescent mass—by fused matter—we may figure to ourselves its solid crust as a kind of raft floating, with no other support than its own cohesion, upon an ocean of fire, the *Phlégéon* of the Greek.

This thin crust must necessarily be susceptible to the various impressions communicated by the tumultuous movements of the liquid mass which supports it.

A French savant, M. Perrey,\* has given to this idea an eminently scientific form. He has endeavoured to establish, from the calculation and comparison of an immense number of observations, that the lunar and solar attraction, which produces on the surface of our globe the flux and reflux of the seas, acts in like manner on the inner sea concealed in the depths of our earth; to the potent influence of our satellite he refers those convulsions which we call earthquakes, and which would be, as it were, the periodical result of the tides of the internal lava-ocean. We are not here called upon to examine closely this remarkable and strikingly original hypothesis. We only allude to it to establish the general cause of earthquakes, and to demonstrate the indissoluble connection of their phenomena with those of the volcanoes.

When the incandescent floods of the inner sea of fire dash against the interior surface of the terrestrial crust, an earthquake occurs over

\* [See his elaborate and comprehensive “*Histoire des Tremblements de Terre.*”]