

ing weaker and weaker like those of a tense string or lamina ; if not elastic, the impulse could not have been propagated from Lisbon to Loch Lomond, Italy, and the West Indies. Rocks, we know, are elastic in their parts, but very imperfectly so in their mass, owing to the numerous divisions which intersect them. Composed of such materials, the crust of the earth does not, and, in fact, hardly can *vibrate*, in the ordinary sense of this term ; the motion observed is more similar to the undulation of a flexible lamina over an agitated liquid ; — as when a long cloth is shaken in a particular manner, so that a wave of air travels below its parts successively to the end.

These circumstances appear to point to the existence of liquid or gaseous bodies, capable of receiving and transmitting a few undulations, farther than could possibly be conveyed by such rocks as we see shaken near the surface of the earth ; and in harmony with this view is the opinion of Mr. C. Darwin, who, from considering the circumstances which accompany volcanos and earthquakes in the Cordilleras of the Andes, proposes, as a fundamental point of reasoning, the recognition of the existence of a vast internal sea of melted rock below a large part of South America.*

This conclusion appears liable to so little objection ; it is, besides, so perfectly in harmony with the fact historically proved of the perpetual readiness of volcanos for action, and with the geological inference of the perhaps unlimited extent below our feet of rocks once fused ; that we shall venture to adopt it as a datum sufficiently established, and applicable to the whole series of volcanic phenomena, in every country, and during all past periods of time.

But this ocean of melted rock may sleep, and does remain at rest, beneath enormous areas, for centuries, or much longer periods, till some particular *causes* concur to “ change (as Mr. Darwin expresses it) the form of

* Geol. Proceedings, 1838.