

the quantity of matters is not considerable, an earthquake may ensue, without a volcano being formed. The air rarefied by the subterraneous fire may also escape through small vents, and in this case there will be only a shock without any eruption or volcano. But when the inflamed matter is in great quantities and confined by solid and compressed bodies, then a commotion and volcano is certain to ensue; but all these commotions form only the first kind of earthquakes, and can only shake a small space of ground. A violent eruption of *Ætna* will cause, for example, an earthquake throughout the whole island of Sicily; but it will never extend to the distance of three or four hundred leagues. When any new mouth bursts out in *Vesuvius*, there are earthquakes at Naples, and in the neighbourhood of the volcano; but these earthquakes never shake the Alps, nor extend into France, or other countries remote from *Vesuvius*. Therefore earthquakes produced by volcanos, are limited to a small space, are properly but the effects of the re-action of the fire; and they shake the earth, as the explosion of a powder magazine produces a shock perceptible at many leagues distance.