

compensating depressions of the earth's crust would probably be gradual and almost insensible: in such situations there may also occur equally gradual and almost imperceptible elevations of particular tracts of land, because if there be a *real sinking* over lines and surfaces of weakness, there will be *relatively a rising* over points having the contrary properties. There may also be a *real rising* of such parts, with a *relative sinking* of others, if the arrangement of the rocks is such as to give maxima of strength in opposite directions. The ordinary and well-known forms of anticlinal and synclinal axes are examples of such figures; for an upward general pressure, such as accompanies volcanic violence, may more easily extend and raise an anticlinal mass, and a subsequent general collapse would act with more force on the synclinal surfaces of stratification. Other causes concur to augment these effects, which are certainly exemplified in observed phenomena of the relative levels of land and sea.

In conformity with this reasoning, we find, on the testimony of all writers who have examined the history of earthquakes, that they are by far most abundant and most violent, in countries which surround or lie between volcanic districts. Before and during volcanic excitements, earthquakes abound, so as evidently to make part of the same phenomenon; and, even under countries where volcanic fires are dormant or extinct, these convulsions of the solid framework of the earth are more powerful than in remoter districts. It is in volcanic countries that proofs have been found of the real displacement and positive elevation of land, on particular days, and during particular earthquakes; while at points far remote from Vesuvius and Hecla, the land is slowly rising in Scandinavia, perhaps slowly sinking in Greenland, perhaps alternately elevated and depressed on some parts of the shores of Britain.

Examples of permanent displacements of land, arising from *convulsive* movements near the seats of igneous activity, are furnished by the Calabrian earthquakes of