

more thoroughly investigated than any other, leads to the conclusion that the extinction and creation of species, has been and is the result of a slow and gradual change in the organic world.

UNIFORMITY OF CHANGE CONSIDERED, SECONDLY, IN REFERENCE TO
SUBTERRANEAN MOVEMENTS.

To pass on to another of the three topics before proposed for discussion, the reader will find, in the account given in the second book of the earthquakes recorded in history, that certain countries have, from time immemorial, been rudely shaken again and again, while others, comprising by far the largest part of the globe, have remained to all appearance motionless. In the regions of convulsion rocks have been rent asunder, the surface has been forced up into ridges, chasms have opened, or the ground throughout large spaces has been permanently lifted up above or let down below its former level. In the regions of tranquillity some areas have remained at rest, but others have been ascertained by a comparison of measurements, made at different periods, to have risen by an insensible motion, as in Sweden, or to have subsided very slowly, as in Greenland. That these same movements, whether ascending or descending, have continued for ages in the same direction has been established by geological evidence. Thus, we find both on the east and west coast of Sweden, that ground which formerly constituted the bottom of the Baltic and of the ocean has been lifted up to an elevation of several hundred feet above high-water mark. The rise within the historical period has not amounted to many yards, but the greater extent of antecedent upheaval is proved by the occurrence in inland spots, several hundred feet high, of deposits filled with fossil shells of species now living either in the ocean or the Baltic.

To detect proofs of slow and gradual subsidence must in general be more difficult; but the theory which accounts for the form of circular coral reefs and lagoon islands, and which will be explained in the last chapter of the third book, will satisfy the reader that there are spaces on the globe, several thousand miles in circumference, throughout which the downward movement has predominated for ages, and yet the land has never, in a single instance, gone down suddenly for several hundred feet at once. Yet geology demonstrates that the persistency of subterranean movements in one direction has not been perpetual throughout all past time. There have been great oscillations of level by which a surface of dry land has been submerged to a depth of several thousand feet, and then at a period long subsequent raised again and made to emerge. Nor have the regions now motionless been always at rest; and some of those which are at present the theatres of reiterated earthquakes have formerly enjoyed a long continuance of tranquillity. But although disturbances have ceased after having long prevailed, or have recommenced after a suspension for ages, there has been no universal disruption of the earth's crust or desolation of the surface since times the most remote.