

CHAPTER XIII.

UNIFORMITY IN THE SERIES OF PAST CHANGES IN THE ANIMATE
AND INANIMATE WORLD.

Supposed alternate periods of repose and disorder—Observed facts in which this doctrine has originated—These may be explained by supposing a uniform and uninterrupted series of changes—Threefold consideration of this subject; first, in reference to the living creation, extinction of species, and origin of new animals and plants; secondly, in reference to the changes produced in the earth's crust by the continuance of subterranean movements in certain areas, and their transference after long periods to new areas; thirdly, in reference to the laws which govern the formation of fossiliferous strata, and the shifting of the areas of sedimentary deposition—On the combined influence of all these modes and causes of change in producing breaks and chasms in the chain of records—Concluding remarks on the identity of the ancient and present system of terrestrial changes.

Origin of the doctrine of alternate periods of repose and disorder.

—It has been truly observed, that when we arrange the fossiliferous formations in chronological order, they constitute a broken and defective series of monuments: we pass without any intermediate gradations, from systems of strata which are horizontal to other systems which are highly inclined, from rocks of peculiar mineral composition to others which have a character wholly distinct,—from one assemblage of organic remains to another, in which frequently all the species, and most of the genera, are different. These violations of continuity are so common, as to constitute the rule rather than the exception, and they have been considered by many geologists as conclusive in favour of sudden revolutions in the inanimate and animate world. According to the speculations of some writers, there have been in the past history of the planet alternate periods of tranquillity and convulsion, the former enduring for ages, and resembling that state of things now experienced by man: the other brief, transient, and paroxysmal, giving rise to new mountains, seas, and valleys, annihilating one set of organic beings, and ushering in the creation of another.

It will be the object of the present chapter to demonstrate, that these theoretical views are not borne out by a fair interpretation of geological monuments. It is true that in the solid framework of the globe, we have a chronological chain of natural records, and that many links in this chain are wanting; but a careful consideration of all the phenomena will lead to the opinion that the series was originally defective,—that it has been rendered still more so by time—that a great part of what remains is inaccessible to man, and even of that fraction which is accessible, nine tenths are to this day unexplored.