CHAPTER XLIV.

EXTINCTION AND CREATION OF SPECIES.

Theory of the successive extinction of species consistent with a limited geographical distribution — Opinions of botanists respecting the centres from which plants have been diffused — Whether there are grounds for inferring that the loss, from time to time, of certain animals and plants, is compensated by the introduction of new species? — Whether any evidence of such new creations could be expected within the historical era? — The question whether the existing species have been created in succession must be decided by geological monuments.

Successive Extinction of Species consistent with their limited Geographical Distribution.

In the preceding chapters I have pointed out the strict dependence of each species of animal and plant on certain physical conditions in the state of the earth's surface, and on the number and attributes of other organic beings inhabiting the same region. I have also endeavoured to show that all these conditions are in a state of continual fluctuation, the igneous and aqueous agents remodelling, from time to time, the physical geography of the globe, and the migrations of species causing new relations to spring up successively between different organic beings. I have deduced as a corollary, that the species existing at any particular period, must, in the course of ages, become extinct one after the other. "They must die out," to borrow an emphatical expression from Buffon, "because Time fights against them."

If the views which I have taken are just, there will be no difficulty in explaining why the habitations of so many species are now restrained within exceedingly narrow limits. Every local revolution, such as those contemplated in the preceding chapter, tends to circumscribe the range of some species, while it enlarges that of others; and if we are led to infer that new species originate in one spot only, each must require time to diffuse itself over a wide area. It will follow, therefore, from the adoption of this hypothesis, that the recent origin of some species, and the high antiquity of others, are equally consistent with the general fact of their limited distribution; some being local, because they have not existed long enough to admit of their wide dissemination; others, because circumstances in the animate or inanimate world have occurred to restrict the range which they may once have obtained.

As considerable modifications in the relative levels of land and sea have taken place in certain regions since the existing species were in being, we can feel no surprise that the zoologist and botanist have hitherto found it difficult to refer the geographical distribution of