

such an operation, for the land beneath the former sea has been laid bare, and is now exposed, over an extent equal to that of all the habitable parts of the globe. Every island and continent has formed part of an ancient bed of the ocean, and that not once, but repeatedly. This extended surface of the ancient bed, is exposed to the examination of thousands of observers, in every degree of latitude not covered by polar snows. The absence of remains of the higher orders of animals in all the secondary strata, and the frequent recurrence of these remains in the more recent or tertiary strata, appear to afford presumptive evidence, amounting almost to certainty, that the higher orders did not exist, at least in the northern hemisphere, till an epoch subsequent to the deposition of all the secondary formations.

When we ascend to the strata deposited at a later period than chalk, we find a remarkable change in the character of the organic remains. The ammonites, and other chambered shells, which are so numerous in the secondary strata, disappear, entirely, in the tertiary strata, except the fossil nautilus, which is occasionally found in them; and the animal now exists as a living species in the Indian Ocean. The enormous lizards, and animals allied to the lizard and crocodile, whose bones abound in the secondary strata, from lias to chalk, disappear also in the tertiary strata, with the rare exception of a small species of crocodile;—a fact which indicates, that animals of this order ceased to be inhabitants of northern latitudes when the tertiary strata were deposited. In the tertiary strata, the place of these enormous reptiles is occupied by the remains of the higher order of terrestrial mammalia, but belonging to genera or species now extinct; the gigantic mastodon, the mammoth, and megatherium, rivalled in magnitude the enormous reptiles of a more ancient world. Other species of mammalia of less size, both herbivorous and carnivorous, but equally perfect in their organization with the land quadrupeds of the present epoch, have left their bones in many of the tertiary beds. Here we may stop; for we approach to a period connected with the present order of things, a period immediately preceding that mysterious operation of divine power and intelligence, the creation of man.

The doctrine of the progressive development of organic life here briefly stated, has been recently opposed by highly ingenious arguments, which display the great talents and ability of the author, but which, in my opinion, do not invalidate the truth of the doctrine,—a doctrine, however, that, like almost all general conclusions, requires to be admitted with certain limitations and restrictions. Every instance hitherto adduced, of bones of the higher orders of animals being found in ancient secondary strata, has proved, on accurate examination, to be fallacious. An instance of this kind came under my observation, when on a visit to my native town, Nottingham, in 1831. A medical gentleman showed me the portion of the thigh-bone of