

character, so that, on reaching their new destination, some of them might be hardly recognisable as the same species. This would be further aided and increased by their having to compete with strange competitors. In any case, their remains would be preserved in the sedimentary rocks of the new area.

When, millions of years afterwards, we come to examine the earth's crust, and we find in two widely remote areas two series of strata containing certain identical and characteristic species, we naturally say: "These rocks are contemporaneous." It is clear, however, that if they had been formed in the manner we have been supposing, we should be wrong in this conclusion. The rocks in question would belong to the same geological period, and they would in part contain the same fossils; but they would belong to different stages of the same period, and they would not, therefore, be strictly "contemporaneous." To use a term applied by Professor Huxley to rocks believed to hold this relation to one another, they would be "homotaxeous" deposits.

What I have just said about the Carboniferous rocks would apply with equal justice to all the great formations, and to many of the smaller rock-groups all over the world. The Silurian rocks of Europe, North America, South America, Australia, &c., contain very similar fossils, and are undoubtedly "homotaxeous." Nothing, however, that we can see at the present day, would warrant us in believing that they are "contemporaneous," in the strict sense of this term. This is more especially the case with some of the minor subdivisions of the Silurian and Cambrian rocks, which have been shown to contain exactly the same fossils in parts of the world widely removed from one another. (For example, some of the peculiar Graptolites of the Quebec or Skiddaw series, are common to Canada, the north of England, and Australia.) The very closeness of the resemblance of the fossils, or the very identity of the species, is just what proves that the beds in question, from their geographical position, can not have been deposited exactly at the same time, though they doubtless belong to the same period; and may even be said to be related to one another by lineal descent. Similar remarks might be made about the Devonian, Permian, Triassic, Jurassic, Cretaceous, and other formations; but it is unnecessary to multiply examples.