

and islands, existed then, as now,—their geographical distribution may have varied,—the temperature in certain latitudes may have been much higher,—countries may have existed in areas now covered by water, and marshes and fens have prevailed in regions now arid and waste; but the same agents of destruction and of renovation were then, as now, in constant activity. It is true that immense numbers of large mammalia lie buried in regions where it is utterly impossible such creatures could now find subsistence, and in latitudes whose climates are unsuitable to such forms of organization. But some of these apparent anomalies may be explained by the fact, that the alluvial beds in which these remains occur cannot have been the sites of the dry land on which these lost beings existed; they are the sediments of ancient lakes—the deltas of former rivers—the estuaries of seas—they are formed of the detritus of the land transported from a distance. If the Gulf-stream annually strews the shores of the Hebrides with the fruits of torrid climes, the currents of the ancient seas must have produced analogous results; and in our attempt to interpret past changes, it must not be forgotten that they have most probably been produced by causes similar to those which are still in action. I do not question the assumption that the countries containing these fossil remains may have enjoyed a milder climate during the tertiary epoch than at present; or that in still more ancient periods there may not have prevailed