

of those gaps and chasms which here and there interrupt the continuity of the chronological series, as at present known, they deduce, from the frequency of these breaks in the chain of records, an irregular mode of succession in the events themselves both in the organic and inorganic world. But, besides that some links of the chain which once existed are now clearly lost and others concealed from view, we have good reason to suspect that it was never complete originally. It may undoubtedly be said, that strata have been always forming somewhere, and therefore at every moment of past time nature has added a page to her archives; but, in reference to this subject, it should be remembered that we can never hope to compile a consecutive history by gathering together monuments which were originally detached and scattered over the globe. For as the species of organic beings contemporaneously inhabiting remote regions are distinct, the fossils of the first of several periods which may be preserved in any one country, as in America, for example, will have no connection with those of a second period found in India, and will therefore no more enable us to trace the signs of a gradual change in the living creation, than a fragment of Chinese history will fill up a blank in the political annals of Europe.

The absence of any deposits of importance containing recent shells in Chili, or any where on the western coast of South America, naturally led Mr. Darwin to the conclusion that "where the bed of the sea is either stationary or rising, circumstances are far less favourable than where the level is sinking to the accumulation of conchiferous strata of sufficient thickness and extension to resist the average vast amount of denudation."\* An examination of the superficial clay, sand, and gravel of the most modern date in Norway and Sweden, where the land is also rising, would incline us to admit a similar proposition. Yet in these cases there has been a supply of sediment from the waste of the coast and the interior, especially in Patagonia and Chili. Nevertheless wherever the bottom of the sea has been continually elevated, the total thickness of sedimentary matter accumulating at depths suited to the habitation of most of the species of shells can never be great, nor can the deposits be thickly covered by superincumbent matter, so as to be consolidated by pressure. When they are upheaved, therefore, the waves on the beach will bear down and disperse the loose materials; whereas if the bed of the sea subsides slowly, a mass of strata containing abundance of such species as live at moderate depths may increase in thickness to any amount, and may extend over a broad area, as the water gradually encroaches on the land. If then at particular periods, as in the Miocene epoch, for example, both in Europe and North America, contemporaneous shelly deposits have originated and have been preserved at very distant points, it may arise from the prevalence at that period of simultaneous subsidence throughout very wide areas. The absence in the same quarters of the globe of strata marking the ages which immediately succeeded, may be accounted for by supposing

\* Darwin's S. America, pp. 136. 139.