

as the series of strata, full, at least partially, of organic remains, which lived on or near the spots they now occupy, exceeds in almost all countries many thousands of feet in thickness, the successively deposited surfaces of strata must have successively sunk lower and lower, till, the whole depressing force being exhausted, a contrary action raised them again. To this highly important subject we shall recur in another part of this Treatise.

It is further deserving of remark, that if, at this day, contemporaneous deposits of pebbles, sand, clay, and calcareous matter happen even in the same oceanic bed, as the bottom of German Ocean, each strewn with different groups of shells, the distribution of organic fossils in the different primary and later strata, if at all governed by the same laws as those now traceable in nature, though affected by some general characteristics of period, must also exhibit specific relations to the nature of the rocks. We have already shown this to be the fact; and it serves to strengthen our confidence in the reasoning employed, when we find the results of the same causes harmonise in the most ancient as well as the most modern instances.

*Banks of Sand, Clay, Gravel, &c.* — A very slight observation of the action of the marine currents on our shores is enough to determine many circumstances regarding such accumulations. The first remarkable act, is the sorting of the mingled materials brought down to the sea by inundations from steep land, like the maritime Alps, or gathered from the falling cliffs by the action of the waves. According to specific gravity and magnitude, the masses are separated, transported, deposited — pebbly deposits lie under the gravelly cliffs — the sands are swept to a greater distance — the fine clay carried far in the waters. Of all these circumstances the English coasts offer abundant examples — especially Teesmouth, the Bristol Channel, and the Bay of Morecambe, which, on their wide sands, present a wonderful variety of appearances, proper to