

## 10 PRINCIPLES OF MODERN GEOLOGY.

above presses the mud beneath, and mere pressure, if heavy and prolonged, may fasten the component particles together. There is oftener, however, an admixture of cementing substances, as of lime or iron, and this carried among the particles, by permeating water, indurates the whole mass.

As to the fossils, we may easily conceive how fish and sea-weed, dying in their proper domains, may be entombed in the strata; and the same may happen with any vegetable or animal productions, drifted by currents from their original sites to the spots where they are found.

The facts which I have thus cursorily mentioned, furnish some of the data on which

sequent process. Both the manner in which stratified deposits have been solidified, and the period of time which the process may have occupied, are exceedingly various. Mechanical deposits may be rendered coherent by the infiltration of some cementing substance, and loose sand may be changed into solid quartz rock from being percolated by water holding silica in solution. As sedimentary matters are of a very heterogeneous composition, the chemical reactions of their contents will produce solid rocks, just as a mixture of fine sand and iron filings will, if exposed to the weather, become a hard mass. The long-continued action of heat will also cause the cohesion of sediments, and this influence has operated very extensively in nature. S.