

into the New Red Marl; if we pierce the red marl, we reach the water-bearing strata of the New Red Sandstone. If in certain districts we penetrate the Cretaceous strata, we are sure to reach the Upper Oolites, and under London many deep wells have been sunk through the Eocene beds, in the certainty of reaching the chalk and finding water.

It is, therefore, not that the mere surface of the land is formed of various rocks, but the several formations that form the land dip or pass under each other in regular succession, being, in fact, vast beds placed much in the same way as a set of sheets of variously-coloured pasteboard, placed flat on each other, and then slightly tilted up at one end, may slope in one direction, one edge of each sheet being exposed at the surface.

Vertical sinkings, therefore, in horizontal or slightly inclined strata, often prove practically what we know theoretically, viz. the underground continuity in certain areas of strata one beneath the other. Accurate but more difficult observation and reasoning has done the same for more disturbed strata, so that our island and other countries have been proved to be formed of a series of beds of rock, some many hundreds and some many thousands of feet in thickness, arranged in succession, the lowest *stratified* formation being of older and the uppermost of younger age.

Most of these strata are *fossiliferous*, that is to say *they contain shells, bones, and other relics of the creatures that lived and died in the waters or water-laid sediments of each special period*; or as sometimes happens, *the remains of land plants and terrestrial animals* that have been washed into the sea or into lakes. What is the more special evidence on this subject afforded by the rocks? As we proceed, we shall suppose,