

sea, the deposited layers of mud get into continually deeper and quieter water, where they can become condensed into stone undisturbed. But when, on the other hand, the ground slowly rises, the newly-deposited layers of mud, which enclose the remains of plants and animals, again immediately come within the reach of the play of the waves, and are soon worn away by the force of the breakers, together with the organic remains which they enclose. For this simple but very important reason, therefore, abundant layers, in which organic remains are preserved, can only be deposited during a continuous sinking of the ground. When any two different formations or strata, lying one above the other, correspond with two different periods of depression, we must assume a long period of rising between them, of which period we know nothing, because no fossil remains of the then living animals and plants could be preserved. It is evident, however, that these *periods of elevation*, which have passed without leaving any trace behind them, deserve a no less careful consideration than the greater or less alternating *periods of depression*, of whose organic population we can form an approximate idea from the strata containing petrifications. Probably the former were not of shorter duration than the latter.

From this alone it is apparent how imperfect our records must necessarily be, and all the more so since it can be theoretically proved that the variety of animal and vegetable life must have increased greatly during those very periods of elevation. For as new tracts of land are raised above the water, new islands are formed. Every new island, however, is a new centre of creation, because the animals and plants accidentally cast ashore there, find in