

Red Sandstone at the other end of an immense series, may have been thought to form a kind of resting-place, a term to mark the total cessation of one order of things and the commencement of another upon a different plan ; but it would be a fallacy to suppose so. No formation of stratified material is continuous over the whole globe. Both the Old Red and the Chalk are of limited extent ; and, where they do exist, there is not always an abruptness in the succession, below or above. In the Eastern Alps, Professor Sedgwick and Mr. Murchison have demonstrated a large series of a peculiar Limestone and other formations, making, in part at least, a transition from the highest chalk-beds to the commencement of the Tertiary series ;* according to the usual and convenient nomenclature. Also beds occur near Maestricht, which hold the same intermediate position. But whether or not these fill up the interval between the Secondary and Tertiary Series of formations, (for it is a mere dispute of words, to which of the two they should be assigned,) does not affect the argument respecting time. If geologists have not yet arrived at a complete acquaintance with the formations that effect the passage from the Chalk to the Sands and Clays commonly esteemed the lowest of the Tertiaries ; if, from well-ascertained discoveries in countries not yet explored, it should turn out that some bed or beds of distinct character are to be intercalated ; it will be so much of addition to the time necessary for these formations,—their being deposited at the bottom of great waters, obtaining their fossil inhabitants, being raised up, dried, hardened ; and these processes being probably several times repeated. The whole lapse of time, for so small a part of stratification as this, is astonishing ; to our faculties, in the present state, it is immense.

Our last stage of ascent comprehends that Tertiary Series ; a succession of beds, Clays, Sands, and Limes, variously intermixed, occupying a thickness of some six or eight hundred feet, and reaching up to the ground which we tread in our London basin ; but in neighbouring districts, there are two or three later formations. Stratification, generally undisturbed, though in some places strikingly otherwise, as in the Isle of Wight, is here marked in characters impossible to be mistaken. When we have mounted to the most recent of those later formations, immediately below the soil on which we tread, we find enormous masses of gravel and other transported materials demonstrated by their position to have been rolled along by mighty currents, subsequently to all the lower formations. They are sometimes spread out upon extensive horizontal areas ; but sometimes, from local causes, heaped tumultuously together. If the reader will

* Trans. Geol. Soc. Second Series, vol. III. pp. 301—420.