

9th. The *Upper Tertiary*, or *Miocene* and *Pleiocene*, found also in the United States, as far north as Martha's Vineyard and Nantucket, and very extensive in Southern Europe, as well as in South America.

10th. The *Drift*, forming the most superficial deposits, and extending over a large portion of the northern countries in both hemispheres.

We have thus more than forty distinct layers already made out, each of which marks a distinct epoch in the earth's history, indicating a more or less extensive and important change in the condition of its surface.

462. All the formations are not every where found, or are not developed to the same extent, in all places. So it is with the several strata of which they are composed. In other words, the layers of the earth's crust are not continuous throughout, like the coats of an onion. There is no place on the globe where, if it were possible to bore down to its centre, all the strata would be found. It is easy to understand how this must be so. Since irregularities in the distribution of water upon the solid crust have, necessarily, always existed to a certain extent, portions of the earth's surface must have been left dry at every epoch of its history, gradually forming large islands and continents, as the changes were multiplied. And since the rocks were formed by the subsidence of sediment in water, no rocks would be formed except in regions covered by water; they would be thickest at the parts where most sediment was deposited, and gradually thin out towards their circumference. We may therefore infer, that all those portions of the earth's surface which are destitute of a certain formation were dry land, during that epoch of the earth's history to which such formation relates, excepting, indeed, where the rocks have been subsequently removed by the denuding action of water or other causes.