

Other families, both of animals and vegetables, are limited to particular formations, there being certain points where entire groups ceased to exist, and were replaced by others of a different character. The changes of genera and species are still more frequent; hence, it has been well observed, that to attempt an investigation of the structure and revolutions of the earth, without applying minute attention to the evidences afforded by organic remains, would be no less absurd than to undertake to write the history of any ancient people, without reference to the documents afforded by their medals and inscriptions, their monuments, and the ruins of their cities and temples. The study of Zoology and Botany has therefore become as indispensable to the progress of Geology, as a knowledge of Mineralogy. Indeed the mineral character of the inorganic matter of which the Earth's strata are composed, presents so similar a succession of beds of sandstone, clay, and limestone, repeated irregularly, not only in different, but even in the same formations,* that similarity of mineral composition is but an uncertain proof of contemporaneous origin, while the surest test of

* The same formation which in England constitutes the argillaceous deposits of the London Clay, presents at Paris the sand and freestone of the Calcaire Grossier; whilst the resemblance of their Organic remains, proves the period of their deposition to have been the same, notwithstanding the difference in the character of their mineral ingredients.