

I have elsewhere tested the results of M. Deshayes' researches in a peculiar manner, and shown that, tried by the relations existing among one another, the classification which he has proposed is well founded: there may be doubts as to the exact discrimination of the species, and the precise proportions of recent forms included among the fossils; but as the whole have been examined by an eminent naturalist, it is probable that, even if the species supposed to be identical were not so, the conclusion of the order of antiquity of the several deposits would be correct. The only thing remaining to be examined, before adopting these conclusions, is, *the general principle upon which they all depend.* (p. 250.)

This principle is not collected, as an inference, from many observations on the order of tertiary strata, and determinations of the proportion of living species in each, according to its known position in the series; nor is it to be considered in the same light as a mathematical principle, assumed as the basis of certain deductions, which, being compared with phenomena, may serve to test the truth of the assumption; but, in the absence of proof, it is to be admitted or denied upon the following statement of the reasons. In all the series of stratified rocks, the systems of organic nature are found to be different, according to the period: these differences are sometimes gradually, and sometimes abruptly, produced between system and system: in any one clearly defined system, the strata differ as to their organic contents, according to their order of superposition, and the nature of the rock; and, upon the great scale, are characteristic both of geological period and local conditions. Below the tertiary system are no recent species: at the base of that system the lower strata, determined to be such by observation of their position, undoubtedly contain only a very small proportion of recent forms (basin of Paris): in the middle of that system, determined as before, the strata contain about 20 per cent. of recent forms (Bordeaux): in the highest of the system (in