

deed be rendered intelligible until some acquaintance with the parent strata themselves had been acquired; we shall therefore refer the fuller consideration of these subjects to an Appendix; and contenting ourselves for the present with the above remarks, proceed at once to the history of the regular strata.

(c) *Regular Strata and their division.* These regular strata consist, as has been observed in the introduction, of various beds of sand, clay, limestone, and other mineral substances; deposited, as is evident from the exuviae of marine animals contained in nearly all of them (with the exception of the rocks constituting the lowest and earliest group), at the bottom of the ocean; superimposed on one another in regular order, and making their appearance on the surface of the earth, by emerging in succession from beneath one another as the line of that surface cuts the planes of their stratification, which are seldom strictly horizontal, although in the more recent rocks they approach very nearly to such a position; but in the older an approach to a vertical position is very frequent.

In treating of these strata, the immense number of the individual beds might seem at first to defy the powers of enumeration or examination, but we shall soon find that these individual beds naturally form themselves into assemblages of similar strata; e. g. we shall find 50 or 100 beds of chalk alternating with the same number of flint, and thus constituting a single though compound whole. Several even of these compounded assemblages which occupy a neighbouring position will also be found to possess so many points of common analogy with one another, that it will be convenient, by a further composition, to constitute still more general classes for their reception. By this process, the almost infinite extent of the subject becomes reduced within manageable limits; the grand divisions thus obtained form the landmarks that guide us in the enquiry, and simplify and generalise without confounding our conceptions. Assuming these divisions then, it will be the object of the following pages, inverting the above process, to analyse each of them into its most essential elements, that the accuracy of particular, may be added to the simplicity of general, knowledge.

The great range of Chalk hills extending through the island from Yorkshire to Dorsetshire, is so prominent a feature, naturally, as well as geologically, of its surface, that it forms a most convenient line of demarcation; and the relations of the deposits which occur reposing upon the chalk, and occupying the areas circumscribed by it, are such that they naturally form themselves into one of the grand divisions above alluded