

in their very highest grade of development. And yet, whilst these three types of form are so well marked, and so constantly reproduced genetically, that the whole Challenger collection (with an exception to be presently referred to) can be ranged under one or another of them, yet even in the assemblage that is characterised by the most complex type of structure, certain individuals are found, which, in the earlier stages of their development, are no less characteristically representative of the lowest and intermediate. But the fourth of these specific types, *Orbitolites tenuissima*, in which the pedigree just now traced-out presents itself most completely and unmistakably, is not only (so far as is yet known) remarkably constant in its characters, but, whilst constructed on the very simplest plan, is separated from *Orbitolites marginalis* (which is precisely on the same grade of development with itself) by very sharply-defined peculiarities of its own. And it is not a little remarkable that its *habitat* should be almost entirely different from that of the other three; its home being apparently in the cold depths of the North Atlantic, whence it has strayed into the littoral zone of the Iberian peninsula, and thence along the Mediterranean into the Ægean, where it encounters a similar "outlier" of *Orbitolites marginalis*, which has probably found its way thither through the Red Sea.

III. "The only natural classification of the vast aggregate of diversified forms which this group contains will be one which ranges them according to their direction and degree of divergence from a small number of principal family types; and any subordinate groupings of genera and species which may be adopted for the convenience of description and nomenclature, must be regarded merely as assemblages of forms characterised by the nature and degree of the modifications of the original type, which they may have respectively acquired in the course of genetic descent from a common ancestry."

Of this principle, the evidence I have now to present of the genetic derivation of the most complex and highly-specialised Orbitoline type from the simplest and most generalised Milioline, will be found—to say the least—peculiarly illustrative; its special value as a "Study in the Theory of Descent" consisting in this, that whilst the ancestral relations of the higher types of organisation are for the most part evinced in transitory phases of development, of which few or even no traces may remain in the adult, we here find the whole genetic history distinctly recognisable in the completed type.

Having thus set forth what I regard as the principles on which alone a Natural System of the FORAMINIFERA generally can be framed, I shall proceed to apply these in the description I have now to give of the genus *Orbitolites*, and of the specific types which my enlarged study of it now enables me to recognise.