Zoology Part XXII: Report on the Foraminifera. By Henry Bowman Brady. Bound in Volume 9,1884.

made, and correctly in a certain sense; but in such cases the subordinate groups, though indistinct in outline, and often overlapping at their edges, have independent characters more or less marked, coincident with certain conditions of locality, latitude, depth, or geological age, none of which can be adduced with reference to the *Peneroplides*. Nor is there any genus of Foraminifera, embracing so great a range of external form, in which the morphological sequence is at once so simple and complete, so free from complications arising from divergent series, or from minor distinctions depending on questions of surface-ornament and the like. In stating these facts I am doing little more than repeating conclusions expressed at various times, by my colleagues Dr. Carpenter, and Messrs. Parker and Rupert Jones. Wherever *Peneroplides* abound, this wide variation exists, and nothing can be more easy than to pick out a number of striking specimens and give to each a distinctive name, but in no other way can they be divided into "species." The foregoing remarks refer primarily to the well-known living representatives of the type. There are, nevertheless, certain rare Tertiary forms, some of them attaining large dimensions and probably subgenerically distinct, concerning which little can be said at the present moment. The species referred to have been specially studied by M. Munier-Chalmas, to whose kindness I am indebted for specimens, but the results of his investigations respecting them have not yet been made public.

In the foregoing summary I have attempted nothing more than to collect references to the various modifications described by previous authors under specific names, and to arrange them round a few of the more easily recognised forms. The groups so constituted, each represented by a sort of type, are, zoologically speaking, of something less than subvarietal value, but they possess a certain amount of convenience, and at any rate the arrangement gives a succinct view of the morphological range of the genus.

The typical *Peneroplis pertusus* (*b.*) is represented by a compressed planospiral shell of about three convolutions, the width of the chambers increasing somewhat rapidly. The convolutions are sometimes investing and nautiloid, sometimes evolute and more or less visible to the centre. The degree and comparative rapidity of the widening of the spire vary with every specimen, and find their extreme development in the thin outspread shell of *Peneroplis planatus* (*a.*).

On the other hand, there are a number of modifications dependent on the change from a spiral to a rectilinear plan of growth, and the consequent production of a more or less crosier-shaped test. The intermediate condition, in which the shell is still compressed and the rectilinear portion increases very gradually in width, is exemplified in one of Batsch's figures, and may be accepted with the name *Peneroplis arietinus* (*c.*), as the type of the third series.

But the more distinctly crosier-like varieties (*Peneroplis cylindraceus*, *d.*) lose the compressed contour and the tendency to widening of the chambers; and, after the spiral commencement, put on a straight line of segments of nearly uniform size, and oval

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