the other families of this legion. But a very difficult and as yet unsolved problem is the important question, in what manner these different groups of NASSELLARIA are phylogenetically connected. Either the Plectoidea—as the simplest of all—are the original common ancestral group of this whole legion (as I assumed in my Prodromus, 1881), or they are derived from the Stephoidea (by reduction of the sagittal ring), or they have originated independently from them (if we suppose a poly-phyletic origin of the MONOPYLEA. Compare above, p. 893, &c.). In any case the typical "triradial structure" of the Plectoidea, prevalent also in the other groups of this legion, is a very important and interesting fact.

The triradial skeleton of the Plectoidea exhibits in the two families of Plagonida and Plectanida a complete homology of development, so that each genus of the latter may be derived from a corresponding genus of the former, simply arisen by concrescence or union of the branches of the radial spines. Therefore the only difference between the two closely allied families is, that the branches of the radial spines in the Plagonida remain free, whilst in the Plectanida they produce a loose framework or wickerwork by union of their meeting ends. We express this complete homology in the nomenclature of the Plectoidea, in each genus of Plagonida retaining the syllable "Plag-"; in each genus of Plectanida, correspondingly, the syllable "Plect-."

The number of radial spines composing the skeleton is originally three, and in all not triradial genera is probably derived from three. For better survey we may divide each family, according to the different number of rays, into four different subfamilies : A, with three radial spines (Triplagida and Triplectida); B, with four radial spines (Tetraplagida and Tetraplectida); C, with six radial spines (Hexaplagida and Hexaplectida); and D, with numerous (seven to nine or more) radial spines (Polyplagida and Polyplectida). The last three subfamilies have arisen probably from the first triradial subfamily, by a secondary increase in the number of rays.

The important signification of the triradial structure, recurring in the most different groups of NASSELLARIA, has been already pointed out sufficiently by myself and by R. Hertwig. But the triradial Plectoidea offer also another interesting relation of this characteristic structure, some simple forms of this order appearing nearly identical with the isolated triradial spicula of certain Beloidea (Thalassosphærida and Sphærozoida). Even some more complex quadriradial and sexradial forms of the latter reappear in exactly the same shape also in the former. This identity may be perhaps an important indication of true affinity (compare below).

The simplest and probably the most original kind of triradial structure is exhibited by the genera *Triplagia* and *Triplecta* (Pl. **91**, figs. 2, 7). Here three equal radial spines lie in one horizontal plane and are united in a common central point at equal angles, so that three lines connecting their distal ends form a regular equilateral triangle. Simple triradial spicula of the same regular form are also found in many