

Diporaspida in the same way as the Dyosphærida from the Monosphærida among the Sphæroidea; in that case the smaller inner lattice-sphere (medullary shell) would be the primary, and the larger outer sphere (cortical shell) the secondary; this latter shows forty primary aspidal pores like those of the Diporaspida. The possibility is not excluded, however, that the small inner lattice-sphere of the Phractopeltida is a secondary product. The three remaining families, which must be regarded as descendants of the Diporaspida, form together a single phylogenetic series, and are separated from the primitive group mainly by the fact that the original spherical form of the lattice-shell has been modified into one distinguished by an elongated equatorial axis (the hydrotomical axis); hence the Prunophracta (pp. 794–859). The ellipsoidal Belonaspida have arisen directly by hypertrophy of the two opposite equatorial spines of this hydrotomical axis (p. 859, Pl. 136, figs. 6–9; Pl. 139, figs. 8, 9; perhaps they have also arisen directly from the Amphilonchida). In the lentelliptical Hexalaspida (Pl. 139) all six spines which lie in the hydrotomical meridian plane (two equatorial and four polar) are very strongly developed, the remaining fourteen being rudimentary. Finally, in the Diploconida the two conical sheaths of the two opposite hydrotomical equatorial spines are so predominant that they take the chief part in the formation of the hour-glass-shaped shell.

178. *Phylogeny of the Nassellaria*.—The legion NASSELLARIA or MONOPYLEA is so clearly characterised by the peculiar porochora, which closes the osculum at the oral pole of the monaxon central capsule, and by the podoconus connected with it, that there can be no doubt that phylogenetically it represents an independent stem (§ 8). This stem is only connected at its base by means of *Cystidium* and *Nassella* with *Actissa* and *Thalassicolla*, the stem-forms of the SPUMELLARIA. This stem is monophyletic, inasmuch as all its members may be derived without violence from the skeletonless Nassellida (*Nassella*, *Cystidium*, p. 896, Pl. 91, fig. 1).

179. *Origin of the Nassellaria*.—The Nassellida (p. 896), which may naturally be considered as the common stem-group of the NASSELLARIA, are most nearly related among other Radiolaria to the Thalassicollida, and in both these skeletonless families the simplest forms, *Cystidium* and *Actissa* correspond; on the other hand, those which have arisen from them by the formation of alveoles in the calymma (*Nassella* and *Thalassicolla*) also correspond. The origin of the simplest Nassellida from these primitive Thalassicollida may be explained by supposing that the numerous (formerly evenly distributed) pores of the capsule membrane became obliterated in the upper (apical) half of the central capsule, whilst in the lower (basal) half they became correspondingly more strongly developed; hence the porochora was formed at the oral pole of the vertical main axis, and a differentiation of the endoplasm proceeding from this gave rise to the characteristic podoconus. Both these organs still at present exhibit very various degrees of progressive development.