

internal cavity is simple, without constrictions or septa. Among the NASSELLARIA they occur in the Monocyrtida (Pls. 51-54, 98), where they have received the name "Cephalis." A form of shell, essentially the same, is found amongst the PHÆODARIA in the order Phæogromia, more especially in the Challengerida (Pl. 99), Medusettida (Pls. 118-120), and Tuscarorida (Pl. 100), many of these latter closely resembling many Monocyrtida. Such monothalamous Cyrtoid shells occur much more rarely among the SPUMELLARIA (e.g., among the Prunoidea in *Lithapium*, *Lithomespilus*, *Drup-patractus*, Pls. 13, 14, &c.). Polythalamous Cyrtoid shells (Pls. 55-80) occur exclusively in the NASSELLARIA, and exhibit in this legion an astonishing variety of structure; they are distinguished from the monothalamous forms by the development of internal septa, or of annular incomplete diaphragms, which usually correspond to the external constrictions; their interior is thus divided into two or more communicating compartments. Among the polythalamous Cyrtoid shells may be distinguished three principal groups, the Stichocyrtid, Zygocyrtid, and Polycyrtid. Zygocyrtid shells are characteristic of the Spyroidea (Pls. 84-90), and are distinguished by a bilobate cephalis (cephalis bilocularis); the median sagittal ring, or a corresponding constriction, divides the shell into right and left compartments. Polycyrtid shells (Pl. 96) are peculiar to the Botryodea, and characterised by a multilobate cephalis (cephalis multilocularis). Stichocyrtid shells are those in which the primary cephalis remains simple, and new joints are successively added to its basal pole; such shells occur in the majority of the Cyrtoida. Secondary chambers are sometimes added in the other two groups (Botryodea and Spyroidea). When, as often happens in these polythalamous Cyrtoid shells, two or three distinct joints follow each other, the first is called the "cephalis," the second the "thorax," and the third the "abdomen" (Tricyrtida, Pls. 64-75).

124. *The Cirroid Skeleton.*—This is a very important and remarkable type of skeletal formation, which occurs exclusively in the legion NASSELLARIA, where it plays a very prominent part; its characteristic element is the "sagittal ring," a simple, vertical, siliceous ring, which surrounds the central capsule in its sagittal plane, and is specially differentiated in its basal portion. This "primary sagittal ring" whose vertical allopolar main axis coincides with that of the Monopylean central capsule embraced by it, is characteristic of all members of the order Stephoidea (p. 931, Pls. 81-83, 92-94); here it forms by itself the skeleton of the Stephanida (Pl. 81); in the Semantida (Pl. 92) it is combined with a horizontal basal ring, in the Coronida (Pls. 82, 93) with a vertical frontal ring, and in the Tympanida (Pls. 83, 94) with two horizontal rings, an upper mitral and a lower basal. In the great majority of these Stephoidea there often develop in definite places characteristic processes or apophyses, whose branches combine to form a loose tissue or an incomplete lattice-shell. This becomes complete in the Cyrtellaria, the majority of which retain more or less