uppermost part usually includes a smaller or larger oil globule, the oleocyst (*co*). The physiological function of the somatocyst may be hydrostatic (as a float) and nutritive (as an accumulation of nutritive, strongly refracting albuminous globules). Its morphological nature is explained by the medusome-theory which compares it with the apical canal or original peduncular canal of a Medusa-person.

Trunk or Cœnosarc.—The common stem in all polygastric Calyconectæ is a long cylindrical and highly contractile tube, very long and thin in the expanded state, short and thick in the contracted state, when it is retracted into the hydrœcium. The cormidia are always ordinate, arranged in a single series on the ventral side of the articulated stem; they are separated by free naked internodes of equal length. Very rarely (in *Polyphyes*) the cormidia begin to be scattered. The number of the cormidia is in the smaller cormi ten to twenty (rarely less), usually forty to eighty or more, sometimes several hundreds. In the largest species (mainly of *Praya*) the expanded stem attains a length of more than a metre. The structure of the stem-wall is that usually found in the Siphonanthæ; the tubular fulcrum (or structureless supporting plate) is invested on its inner side by a thin layer of entodermal circular muscles, on the outside by a strong layer of exodermal longitudinal muscles; these are arranged, as usual, in parallel bundles along the lamellar radial folds of the fulcrum.

Cormidia.—The aggregation of different medusoid persons, by which the cormus of the Calyconectæ is formed, follows certain simple and regular laws, but is different in the two kinds of cormidia, which we distinguish as *Eudoxomes* and *Ersæomes*. The cormidia of the great majority of Calyconectæ are *Eudoxomes*, or in the free independent state "Eudoxiæ" or "Diphyozooids"; each Eudoxome is a twin-group, composed of two medusoid persons, a fertile and a sterile medusome. The sterile medusome is composed of a bract, a siphon, and a tentacle. The fertile medusome is represented originally by a single medusiform gonophore, but afterwards this is often replaced by a cluster of several gonophores.

The *Ersæomes* (or the monogastric generation of *Lilyopsis* and *Diphyopsis*) differ from the Eudoxomes in the fact that the primary gonophore loses its sexual manubrium, and is converted into a so-called "special nectophore"; its sexual function is replaced by a secondary gonophore. The Ersæome, therefore, is composed of three medusoidal persons, a sterile medusome (bract, siphon, and tentacle), a sterile nectophore, and a fertile gonophore. Afterwards the latter is often replaced by a cluster of several accessory gonophores.

The sessile gonophores of the Eudoxomes and Ersæomes attain sexual maturity, whilst attached to the trunk, in *Mitrophyes* and *Cymbonectes* among the Monophyidæ, *Praya* and *Galeolaria* among the Diphyidæ, probably in all Desmophyidæ and Polyphyidæ. This is not the case in the majority of Monophyidæ and Diphyidæ. Here the cormidia become detached from the common stem before reaching maturity, and swim freely