

larval tentacle, which in consequence of the ventral umbrellar cleft has been shifted centripetally to the base of the gastral tube. The primary umbrella itself (*Protocodon*) has in consequence of this unilateral development become bilateral; it develops in the Calyconectæ (or Calycophoridæ) into the primary swimming-bell, in the other three orders (Physonectæ, Cystonectæ, and Auronectæ) into the pneumatophore. The "swimming-bladder" arises here again as a gland-like invagination of the ectoderm, not however *centrally* in the apex of the exumbrella (as in the Porpitaridæ), but in an *excentric* position. The primary siphon (*Protosiphon*) persists in the monogastric Siphonanthæ as a single stomachic tube; while in the polygastric forms it develops into the stem from which all the other persons of the colony proceed by lateral budding. The whole structure of the Siphonanthæ, as well as that of their Siphonula larvæ, suggests the closest relationship with the Anthomedusæ, and especially with the family of Codonidæ. Only in these Anthomedusæ do the reproductive elements develop in the entire gastral wall (as in the manubrium of the gonophores in all the Siphonanthæ), without hint of radial divisions. Among the Codonidæ, however, the subfamily Euphysidæ (particularly *Hybocodon* and *Amphicodon*) is of especial importance. Here only do three of the four primary tentacles of the umbrellar margin disappear, and one alone remains to attain a proportionately greater development. In this way the bilateral modification of the umbrella is determined. This origin of the Siphonanthæ is also corroborated by the marked tendency of many Anthomedusæ to form Medusæ by direct budding from the gastral tube (*Codonium gemmiferum*, *Sarsia siphonophora*, &c.). Since these Euphysidæ develop from Tubularian polyps of the genus *Corymorpha*, the latter are probably to be regarded as the older ancestral forms of the Siphonanthæ.

CORM AND CORMIDIA.

All Siphonophoræ are pre-eminently characterised by the development of a stock (corm or colony), that is to say, of an individual organism which is composed of several polymorphic persons (*zooids* or "individuals proper"). The laws and modifications of this compositeness or colony-formation have been as yet but slightly investigated, though they are undoubtedly very interesting and important. I distinguish in the first place simple and multiple colonies. The simple colony (*Cormus simplex*) consists of a single centralised group of persons, as in all Disconanthæ and in the *monogastric* Siphonanthæ. The compound or multiple stock, on the other hand (*Cormus compositus*), is formed from the union of several individualised groups of persons, or "groups of individuals scattered upon the stem,"—the *Cormidia*. Such colonies are represented by the *polygastric* Siphonanthæ. Each cormidium usually represents, in its general composition of several polymorphic persons, a simple stock, and is in most cases monogastric. There are, however, polygastric cormidia, e.g., *Apolemia*, *Salacia*, *Physalia*. In all