

attribute to the several (morphological) organs of these persons the same individual value (*e.g.*, to the single protective bracts and capturing filaments); is furthermore wrong in denying an extensive secondary multiplication and dislocation of these organs; and finally is especially at fault in regarding the primary medusoid larva as a merely *kenogenetic* embryonic form, and, by ignoring the palingenetic value of the latter, in interpreting the Siphonophoræ as "swimming Hydropolyp colonies" comparable to Hydractinia.

MEDUSOME THEORY.

The new theory of the organisation of Siphonophoræ to which I have been led by my investigations on their comparative anatomy and ontogeny may be briefly designated as the *Medusome Theory*. It seeks to incorporate the elements of truth in the two views above described, but to avoid their errors. The principal positions of this restatement may be briefly resumed:—

1. The primary larva, which arises directly from the gastrula of the Siphonophoræ, is always a simple Medusa; it may be more or less kenogenetically modified, but always retains a predominant palingenetic import, and is explained by the immediate derivation of the Siphonophoræ from Hydromedusæ.

2. The primary medusiform larva of the Siphonophoræ appears in two essentially distinct forms, as a *Disconula* and a *Siphonula*, and since this distinction is associated with essential differences in the resulting Siphonophoral colonies, the class may be legitimately divided into two legions or subclasses,—Disconanthæ and Siphonanthæ.

3. The first legion, or Disconanthæ, including the single order Chondrophoridæ or Porpitaridæ, develops from a regular and octoradial Medusoid larva (*Disconula*), retains the original corona of marginal tentacles throughout life, and produces the persons of the colony by annular budding from the subumbrella.

4. The second legion, or Siphonanthæ, on the other hand, includes all the other Siphonophoræ (Calycophoridæ, Physophoridæ, Pneumatophoridæ, Aurophoridæ); its primary larva is a bilateral Medusa (*Siphonula*), which is distinguished by a ventral umbrellar cleft and by the possession of a single tentacle; it forms the persons of the colony by one-sided linear budding from the stomach-wall or manubrium.

5. The primary larva of the Disconanthæ (*Disconula*) is to be regarded as the ontogenetic recapitulation of a common primitive octoradial ancestor (*Archimeda*), and its phylogenetic origin is probably to be sought among the Trachomedusæ (Trachynemidæ, Pectyllidæ).

6. The primary larva of the Siphonanthæ (*Siphonula*) is to be regarded as the ontogenetic recapitulation of a common primitive bilateral ancestor (*Protomeda*), and its origin is probably to be sought among the Anthomedusæ (Codonidæ, Euphysidæ).