

words, that the structural features of the animals represented as belonging to the class of *Acalephs* are not only homologous to one another, in a general way, for this would only prove that they belong to the same branch of the animal kingdom, but that they are homologous in the strictest sense, which will prove them to be members of the same class, if special homologies are really a criterion of class affinities.

The animals which I have considered above as belonging to the class of *Acalephs* are the *Ctenophoræ*, the *Discophoræ*, the *Hydroids* proper, and the *Siphonophoræ*, within the limits ascribed to these groups by most authors. I have no hesitation in referring all these to the *Acalephs*; nor do I think there can be any doubt left that *Hydra* and the *Tabulata*, still referred to the class of *Polyps* by Milne-Edwards, also belong to that of *Acalephs*. To these I would further add the *Rugosa*, a type of *Corals* first recognized as distinct by Milne-Edwards, and referred by him to the class of *Polyps*. Respecting these last, some uncertainty still remains, since they are all fossil, and their affinities can only be inferred from the structure of their solid parts. As to all the other groups, the evidence that they belong to the class of *Acalephs* seems to me satisfactory, though it is not throughout of the same kind. For instance, the evidence that the *Ctenophoræ* are *Acalephs* is altogether anatomical, and chiefly based upon the special homologies of their parts: it receives no additional confirmation from Embryology, as the young at birth are already very similar to the parent, and do not exhibit those complex relations which we observe in other *Acalephs*. The affinities of the *Discophoræ*, *Siphonophoræ*, and *Hydroids*, on the contrary, are established upon embryological as well as anatomical evidence.

Beginning with the *Ctenophoræ*, we have first to sift the arguments brought forward to support their connection with the *Mollusks*. The idea that the *Ctenophoræ* are allied to the *Tunicata*, and especially to the *Salpæ*, was first suggested by Quoy in the *Zoölogy of the Astrolabe* (vol. 4, p. 36), and afterwards more fully developed by Vogt in his *Zoölogical Letters* (vol. 1, p. 254), where he represents them as a distinct class, intermediate between the *Bryozoa* and the *Tunicata*, which are themselves also considered as distinct classes. The ground upon which they are brought to the branch of *Mollusks* is chiefly their bilateral appearance; and it is there stated, that, with the exception of their glassy transparency, they have not one trait of their organization in common with the *Acalephs*. Such an assertion, from a naturalist to whom science owes important contributions to our present knowledge of an extensive and most intricate group of *Acalephs* (the *Siphonophoræ*), cannot be passed unnoticed. That *Bryozoa* and *Tunicata* are bilateral animals and truly belong to the type of *Mollusks*, is unquestionable; and that the *Ctenophoræ* share the peculiar consistency of their body as fully with the *Salpæ*