

parts are strictly homologous to those of the *Acalephs*, they bear no resemblance to those of *Mollusks*. I have purposely selected, for this comparison, one of the *Ctenophoræ* in which the bilateral symmetry is most prominent, that the bilateral appearance may not seem intentionally lessened. In our *Bolina alata* seen from above (*Fig. 49*), there appear eight rays, diverging from the centre: these are formed by the eight rows of locomotive flappers which extend, like meridians, upon the sides of the body. Under these flappers extend eight chymiferous tubes, which are symmetrically radiate in their arrangement, like the ambulacral rows upon the sides of a *Sea-urelin*. But this is not all. These tubes are also homologous to the radiating chymiferous tubes of the ordinary *Medusæ*, and to the ambulacral system of the *Echinoderms*; and while they bear only a general homology to the latter, they have the most special homology to the radiating tubes of the *Medusæ*. In both they arise from the main cavity of the body; in both they diverge from that centre towards the periphery; in both they connect through anastomoses at the periphery; in both they carry the nutritive fluids to all parts of the body; in both they are accompanied by the sexual organs; while neither *Bryozoa* nor *Tunicata*, nor any other *Mollusks*, have such radiating tubes. In the *Ctenophoræ*, as in the other *Acalephs*, the digestive cavity is hollowed out of the mass of the body, with the single difference that the abactinal end of that cavity is freed from the spherosome in *Ctenophoræ*, while it is not so in the other *Acalephs*. The *Bryozoa* and *Tunicata*, on the contrary, have a distinct alimentary canal entirely free from the walls of the body, and provided with two openings; besides which *Tunicata* have a heart and a gill, and muscular bundles arranged symmetrically upon the two sides of the body. Fuller evidence of the bilateral structure of the *Bryozoa* and *Tunicata*, and of their typical difference from the *Ctenophoræ*, could hardly be desired.

Assuming, then, that the *Ctenophoræ* are genuine *Radiates*, it remains to be seen whether they form a class by themselves, as not only *Vogt*, but also *Leuckart* and *Gegenbaur*, will have it, or whether they are only members of the class of *Acalephs*: for I hold that naturalists have no more right to please themselves in the limitation of the classes, than in the limitation of genera and species, or any part of a systematic exposition of the relations of animals; and that their task should simply consist in ascertaining, upon clearly defined principles, what nature teaches us respecting these affinities. They may, no doubt, disagree in the application of these principles; but a purely arbitrary classification is no longer admissible. The validity of every group proposed hereafter by an investigator must be discussed before it is admitted or rejected; and the principles upon which the discussions are conducted will themselves become more precise, and be settled more firmly by these discussions.