

among Acalephs, in the Ctenophoræ generally. I have never observed hermaphrodites among Echinoderms.

McCrady has described facts which he considers indicative of a fissiparous multiplication of the Ctenophoræ. What I have seen of the persistence of parts of the body of Ctenophoræ has rather appeared to me as indications of the protracted vitality of disconnected parts of these animals. When injecting Ctenophoræ, I often had occasion to make incisions into their spherosome, and I have always been struck with the power with which these wounds were closed up, by the contraction of the surrounding cells, but never observed a healing process. I have often cut Ctenophoræ and other Acalephs into halves, or into smaller segments, without materially interfering, for some time at least, with the manifestations of their vitality. *Idyias* cut into halves in any direction continued to live in my jars as long as uninjured specimens. I even once saw half of an *Idyia* close over a small *Bolina* and digest it, its cut edges overlapping its prey. It seemed to me, sometimes, as if mutilated individuals fared even better in confinement than entire ones. I am certain that this is the case with larger *Discophoræ*. I never succeeded in preserving large specimens of *Cyanea* entire in my tanks for more than two days; but, after cutting off all their long tentacles and their oral appendages and dividing the disk into halves or quarters, I have often preserved such segments for weeks, swimming about as if uninjured, when entire specimens caught at the same time would die and decompose in one or two days. But I never saw the slightest trace of reproduction of lost parts.

In order to avoid the difficulties which, in describing species, might arise from a strict adherence to a nomenclature based upon homologies, it would seem advisable not to use the expression *vertical axis* or *vertical diameter* to designate the main axis of the Radiates in general; for the very obvious reason, that that axis is oblique in a very large number of Echinoderms, as, for instance, in the Spatangoids. I would, therefore, prefer the use of the word *actinal axis* or *actinal diameter*, as expressing the axis which unites the actinal and the abactinal poles. The diameter which passes through the longer diameter of the actinostome and corresponds to the *longitudinal diameter* of the Spatangoids had better be called *caeliac diameter*, because it is not, obviously, the longest diameter; though in all Radiates, in Polyps as well as in Acalephs and Echinoderms, it trends in the direction of the digestive cavity, or of the main cavity of the body. The name *caeliac*, moreover, does not imply the necessity of distinguishing the anterior and posterior ends of a longitudinal diameter, which in Acalephs do not differ, as they do in some Echinoderms. For the diameter which, homologically speaking, I have designated as the *transverse diameter*, I would prefer the name of *diacaeliac diameter*, as it stands in rectangular relation to the *caeliac diameter*.