

renewed water. Hence the current within the tubes of some polypidoms which has been noticed : it is the movement of the nutrient fluid which has found its way from the alimentary sac to the surface of the body, where it is subjected to that agent which alone can fit it for the purposes of life.

Amongst zoophytes there is no distinction of sexes, but every individual appears to be capable of producing reproductive buds or gemmules, or even eggs.* For the production of these, there is, in the opinion of some good observers, a peculiar organ or ovarium in all the ascidian tribes, and it is certain that their eggs are always generated within the polype cell. There are appropriate productive organs also in the Helianthoida and Asteroida, in the former situated between the ligamentous dissepiments which radiate from the mouth to the base, between the stomach and the skin ; and in some of the latter attached to the membranous dissepiments in the abdominal cavity, while in others the gemmules appear to sprout from every part of the abdominal cavity, and of the tube continuous with it. On the contrary, there is no local generative organ in any Hydroida—all are “ full of reproductive life :” in the Hydra germs, similar in all respects to the substance of the body, sprout indiscriminately from every part of the surface ; in the Tubulariadae they pullulate from underneath the tentacula where they may frequently be observed in clusters, and, in both of these families, the germs are naked or uncovered. But in the extensive family which embraces the Sertularia and all its subgenera, the gemmules, attached in general to a central placenta, (which is but a continu-

* “ These corpuscles differ from true ova and seeds, which are ripened by fecundation, inasmuch as the substance of which the new being is formed is not, as ova and seeds are, enclosed in a special envelope, which is separated from them at the moment of the development of the germ, and inasmuch as the formation of the new individual is owing to the entire substance of the reproductive corpuscle.”—Tiedemann’s *Comp. Phy.* 42.—“ In the present state of our knowledge, however,” as Dr Allen Thomson well remarks, “ the distinction between an ovum and a sporule (or gemmule) must be admitted to be somewhat arbitrary.”—*Cyclop. of Anat. and Phys.* ii. 434.

In reference to the asexual character of Zoophytes it seems proper to mention in this note, that Spix and M. Delle Chiaje consider the Actiniae to be bisexual or hermaphroditical, (*Blainv. Actinol.* p. 79) ; and Raspail has hinted that a similar doubleness may be the property of the Alcyonella.—*Mem. sup. cit.* p. 112. Nothing has yet been advanced to give these opinions a probable aspect.