

tween the polypidoms there is an apparent affinity. The Crisiadæ are not unlike the Sertulariadæ, and it is still disputed whether some Gemmicellariæ appertain to this family or to the Flustra; the resemblance between the Sertulariæ and the Vesiculariadæ misled even Lamarck to their union under one genus; and their names would seem to imply that the framers of the genera *Alcyonidium* and *Alcyonella* believed them to be in a family relationship to *Alcyonium*. These are examples which prove the fallacy of outward characters; and how darkly the naturalist must grope his way who would walk through Nature's labyrinth without the ariadnean thread that the anatomist alone can give him! In the instance before us he has demonstrated that the resemblances indicated above imply no propinquity in their objects. The ascidian polypes the Creator has cast in the mould—not of the radiata—but of the mollusca,—yet with such a considerable variation as to mark their ordinal distinctness; for the *Mollusca Tunicata*—their nearest allies—are not protrusive from their cells as these polypes are; and this seeming slight discrepancy connects itself, perhaps of necessity, with a total change in the position and nature of their respiratory organs. Interior and immotive in the one tribe, they line, in a reticular pattern, the parietes of a sac capacious enough to contain a sufficiency of the aërating fluid; while in the other they clothe the exsertile tentacula in the form of cilia which must be placed outwards amid the circumfluent waters before they can play and fulfil their functions.

Notwithstanding the great diversity in the forms of the polypidoms of this order, there appears to be a very remarkable uniformity in the habit and structure of the polypes. The body lies doubled up in the cell (Fig. 39, *a, b.*), its oral extremity crowned with a circle of long filiform ciliated tentacula.\* From the centre of this circle the mouth opens into a sort of pharynx (Fig. 39, *a, 1.*) which begins the œsophageal tube, generally of

\* At page 34 the tentacula of the Ascidioida are stated to be *solid*: an error which Dr Farre enables us to correct. In *Alcyonidium*, “with an amplifying power of 200 linear,” “they are seen to be *tubular* throughout, and to have an aperture at each extremity; that at the base apparently communicating with a fine canal round the oral rim, which probably unites the tentacular canals into one circle.” *Phil. Trans. an. 1837, p. 406.* This is a structure very like that in the two preceding orders.