

seen, ascending on one side of the tentaculum and descending on the other. (Fig. 70.) All the cilia appear to commence and to cease their motions at the same moment. The constancy with which they continue would seem to exclude the possibility of their being the result of volition; and they are, therefore, more probably determined by some unknown physical cause, dependent, however, on the life of the animal. But so retentive are they of the power of motion, whatever may be its cause, that if any one of the tentacula be cut off, its cilia will continue to vibrate, and will propel it forward in the fluid for a considerable time, as if it had become itself an individual animal.

A question arises with regard to the constitution of these zoophytes, similar to that which has been proposed with regard to trees, namely, what limits should be assigned to their individuality? Is the whole mass, which appears to grow from one root, and which consists of multitudes of branches, proceeding from a common stem, to be considered as one individual animal, or is it an assemblage or aggregation of smaller individuals: each individual being characterized by having a single mouth, with its accompanying tentacula, and yet the whole being animated by a common principle of life and growth? The greater number of naturalists have adopted this latter view, regarding each portion, so provided with a distinct circle of tentacula, as a separate animal, associated with its neighbours in the construction of a common habitation, and contributing its quota to the general nourishment of this animal republic. As the determination of this question involves the consideration of the function of nutrition, I shall postpone its farther discussion to a future part of this treatise. As far, indeed, as regards the mechanical condition of animals which are so completely stationary, it matters little, whether the whole mass be regarded as one individual animal, or as an aggregate of distinct individuals. But the question becomes of some importance when applied to detached zoophytes, such as *Pennatula*, which are formed of a multitude of polypes connected with a common stem, but which float at liberty in the sea.