

forms are represented in it. I allude to the wonderful class of the Rhizopoda, or Ray-streamers, to which the lime-shelled Thalamophora and the flint-shelled Radiolaria belong. (Compare Chapters XVII. and XVIII.)

It is self-evident, therefore, that Wagner's theory is quite inapplicable to all these non-sexual organisms. Moreover, the same applies to all those hermaphrodites in which every individual possesses both male and female organs and is capable of self-fructification. This is the case, for instance, in the Flat-worms, flukes, and tapeworms, further in the barnacle crabs (Cirripedia), in the important Sack-worms (Tunicates), the invertebrate relatives of the vertebrate animals, and in very many other organisms of different groups. Many of these species have arisen by natural selection, without a "crossing" of the originating species with its primary form having been possible.

As I have already shown in the eighth chapter, the origin of the two sexes, and consequently sexual propagation in general, must be considered as a process which began only in later periods of the organic history of the earth, being the result of differentiation or *division of labour*. The most ancient terrestrial organisms can have propagated themselves only in the simplest non-sexual manner. Even now all Protista, as well as all the countless forms of cells, which constitute the body of higher organisms, multiply themselves only by non-sexual generation. And yet there arise here "new species" by differentiation in consequence of natural selection.

But even if we were to take into consideration the animal and vegetable species with separate sexes, in this case too we should have to oppose Wagner's chief proposition, that