

way, to a calcareous support formed by themselves, which is called by Lamouroux, Lamarck, and other continental writers, their *Polypary* ;* and they are none of them locomotive except the last order.

4. The polypes of the *second* Order, the sheathed polypes of Lamarck,† as the most important and interesting of this class of the animal kingdom, I wish to leave last upon the reader's memory. I shall, therefore, next make a few brief observations upon those sponges and alcyons that have no tentacles, and form the *fourth* Order. These are included by Lamarck amongst those just mentioned, but they appear not properly to belong to them, and to have a still more simple organization. In this tribe, as was before observed, nutrition seems carried on by a kind of systole and diastole, the sea water being alternately absorbed and rejected by the tubes composing the substance of the sponge, they having no organs to collect their food in any other way.‡

* Fr. Polypier.

† Polypi vaginati.

‡ The animal nature of sponges is still disputed by some writers or eminence, although from many circumstances of their history they are generally regarded as belonging to the department of the zoologist. In its recent condition the fibrous texture of which a sponge consists is entirely coated with a delicate film of a glairy semifluid mucus, that constitutes its living portion, and corresponds in its nature and functions with the semi-gelatinous crust or cortex of the higher polypes, whereby the more solid skeleton or polipary is produced. That a vital action is observable during the life of the sponge is now universally admitted, the water in which it lives passes continually into its interior through the countless minute orifices of its porous surface, and is again ejected in continuous streams through larger apertures provided for the purpose. The cause of such an influx and efflux of the surrounding element is still unknown, that it is carried on by a kind of systole and diastole, as stated in the text, is disallowed by all who have studied these creatures in their living state, not the slightest power of contraction being discernible in any part of their structure, even when their substance is lacerated or irritated by the application of chemical stimuli.—T. R. J.