

The Hydræ are found in fresh and, perhaps, also in salt waters, but the former species only have been examined with care, and are the objects of the following remarks. They prefer slowly running or almost still water, and fasten to the leaves and stalks of submerged plants by their base, which seems to act as a sucker. The body is exceedingly contractile, and hence liable to many changes of form: when contracted it is like a tubercle, a minute top or button, and when extended it becomes a narrow cylinder, being ten or twelve times longer at one time than at another, the tentacula suffering changes in their length and diameter equal to those of the body. "It can lengthen out or shorten its arms, without extending or contracting its body; and can do the same by the body, without altering the length of its arms: both, however, are usually moved together, at the same time and in the same direction."—The whole creature is apparently homogeneous, composed of minute pellucid grains cohering by means of a transparent jelly, for even with a high magnifier no defined organization of vessels and fibres can be detected. On the point opposite the base, and in the centre of the tentacula, we observe an aperture or mouth which leads into a wider cavity excavated as it were in the midst of the jelly,* and from which a narrow canal is continued down to the sucker. When contracted, and also when fully extended, the body appears smooth and even, but "in its middle degree of extension," the sides seem to be minutely crenulated, an effect probably of a wrinkling of the surface, although from this appearance Baker has concluded that the Hydra is annulose, or made up of a number of rings capable of being folded together or evolved, and hence, in some measure, its extraordinary ability of extending and contracting its parts.† That this view of the Hydra's structure is erroneous, Trembley has proved;‡ and the explanation it afforded of the animal's contractility was obviously unsatisfactory, for it was never pretended that

* Pallas denies this. "Ab alimento recepto cavatæ, inquam, haud enim Hydræ corpus naturaliter intestini instar cavum crediderim. Totum solidum et medullare, pro admoto alimento, ceræ instar, digitum admittentis, cavari concipio parenchyma et alimentis insinuatissimè circumfundere. Qui alias per longitudinem dissecta Hydra, illico qualibet portione deglutire, et cavo clauso alimenta condere posset? quod tamen observare rarum non est." Elench. Zooph. 27, 28.—For a view of the Hydra's stomach see Tremb. Mem. pl. 4, fig. 7, copied by Roget in his Bridgew. Treat. ii. 74, fig. 241.

† "The outward coat is white like the arms, and made up of minute *annuli* or ringlets, that double in the midst, and can, occasionally, be folded close together, in the manner of a paper lanthorn."—Hist. of the Polype, 25.

‡ Mem. 27.