

such an anatomy could be detected in the tentacula, which, however, are equally or more contractile. These organs encircle the mouth and radiate in a star-like fashion, but they seem to originate a little under the lip, for the mouth is often protruded like a kind of small snout: they are cylindrical, linear or very slightly tapered, hollow and roughened, at short and regular intervals, with whorls of tubercles which, under the microscope, form a very beautiful and interesting object; and I have thought, when viewing them, that every little tubercle might be a cup or sucker similar to those which garnish the arms of the cuttle-fish.* Trembley has shewn us that this is a deception, and that there is really no exactness in the comparison.† The tentacula are amazingly extensible, from a line or less to one or, as in *H. fusca*, to more than eight inches; and “another extraordinary circumstance is, that a polype can extend an arm in any part of its whole length, without doing so throughout, and can swell or lessen its diameter, either at the root, at the extremity, in the middle, or where it pleases: which occasions a great variety of appearances, making it sometimes terminate with a sharp point, and at other times blunt, knobbed, and thickest at the end, in the figure of a bobbin.” We naturally enquire how this wonderful extension is made,—by what power a part without muscularity is drawn out until it exceeds by twenty or even by forty times the original length? The dissections of Trembley have proved beyond any doubt that the body is a hollow cylinder or bowel, and that the tentacula are tubular and have a free communication with its cavity;‡ and in this structure, combined with the loose granular composition of the animal, we find an answer to the question. Water flows, let us say by suction, into the stomach through the oral aperture, whence it is forced by the vis a tergo, or drawn by capillary attraction, into the canals of the tentacula, and its current outwards is sufficient to push before it the soft yielding material of which they are composed, until at last the resistance of the living parts suffices to arrest the tiny flood, or the

* Pallas has the same suggestion. Elench. 26. See also Roget's Bridgew. Treat. i. 182.—Baker says that “two or three pretty long hairs” issue from each of the papillæ or tubercles, p. 36; and Trembley has figured a short hair issuing from some of them, Mem. 62, pl. 5, fig. 3. This appearance of hairs is, I presume, produced by the glutinous secretion from them being drawn out into fine lines and drying on the glass. The tentacula probably adhere to foreign bodies principally by means of a mucous excretion, and being as it were engrained into the microscopic interstices of the body to which they are applied.—Tremb. Mem. 46.

† Mem. 108.

‡ Ibid. 123—5; and 263.