

face of the walls. These granules frequently become loosened, and are borne along in the circulation, and others keep up a constant quivering motion, as if disturbed by the agitation of some neighboring body. The general rosy tint of the community is due to the presence of these brownish-red granules. The outward opening of the chymiferous canal is above, and constitutes the mouth, serving also for the exit of refuse matters. It is situated at the apex of a conical eminence, which projects considerably beyond the region of the tentacles. The border of the mouth, and the cone itself, is perfectly smooth (Pl. XVII. *Figs. 9, m, 11, m, and 11^a, m*), and free from appendages of any kind.

The prehensile organs, or tentacles (Pl. XVII. *Figs. 2, l, 9, l, and 11, l*), have evidently a spiral arrangement, upon the head, but according to what order or combination cannot be absolutely determined, on account of the protean shapes which the head assumes. From all appearances, however, the † arrangement is probably the order in which the tentacles are disposed. This agrees also with the numbers in which the tentacles are developed; first, two appear, then two more, next, four more, making eight in all, and these last being duplicated, make sixteen, the highest number usually observed. These being arranged upon the † formula would account for the cross-like appearance that frequently prevails in their disposition. The fact that the first two tentacles are developed apparently opposite to each other (Pl. XX. *Fig. 4, l*), seems to confirm this view.¹ Although the tentacles are developed in geometrical proportion, commencing with two, next four, and then eight, &c., yet they are not, nor need they be, arranged on the head symmetrically, in the order of their development, since the growth of their base of attachment, may modify their apparent connection. Again, in all probability the tentacles, besides being not exactly opposite in the beginning, do not originate, in the first instance, simultaneously with each other. Owing to their great contractility and the variable shape of the head, it has not been possible, so far, to determine their exact relation to each other, as may be done with the rigid and fixed parts of a plant. The axis of the tentacles is solid, and does not, therefore, admit the circulation of the chymiferous fluid into their interior, as is the case with the tentacles of the free Medusæ budding from these Hydroids. The globular tips of these organs serve, chiefly, to seize the prey, being filled with a multitude of lasso-cells (Pl. XIX. *Figs. 2, f, 3, f, 5, and 5^a*), from which the long lasso-threads shoot out, and coil around their victim, whilst the lower tapering part of the tentacle serves to embrace and force into the mouth whatever may be caught. The contractility and extensibility of the tentacles is remarkable; at one time they stretch out as

¹ See Alexander Braun's "Das Individuum der Pflanze," in the "Abhandlung der Königlichen Akademie der Wissenschaften zu Berlin vom Jahre, 1853."