greater part of the thickness of this endodermal layer, consist of round nucleated masses of clear protoplasm, while those which lie directly on the walls of the cavity are ciliated, and overlaid by a thin layer of free protoplasm, through which the cilia pass, and which has the faculty of emitting pseudopodia.

In *Tubularia indivisa* also, and in *Corymorpha*, the endoderm of the stem is composed of many layers of round cells. These would form a solid mass, filling the cavity of the stem in these Hydroids, were it not that the endoderm is here traversed by numerous longitudinal canals, which run parallel with the axis, anastomosing with one another here and there, and opening above into the gastral cavity of the hydranth. These canals represent the simple cavity which extends through the axis of the stem in other Hydroids, for there is here no axial cavity in the stem, its place being taken by a large and clear-celled modification of the more peripheral portion of the endoderm.

In *Monocaulus imperator* the endoderm of the stem is traversed as in *Tubularia indivisa* and in *Corymorpha* by longitudinal anastomosing canals (Pl. III. figs. 1, 4); but here a wide, continuous cavity runs through the whole length of the axis.

The nutritive cavity of the Hydroida is generally dilated in the body of the hydranth, so as to form the proper stomach, and then the body of the hydranth with its included cavity contracts towards the mouth into a conical, or in some cases, a trumpet-shaped, proboscis or *hypostome*.

In many species of *Tubularia* and other Hydroids which form the section Gymnoblastea, the endoderm of the hypostome is thrown into longitudinal ridges, mostly four or five, which project into its cavity, and then passing downwards become in the stomach broken up into several branches, which soon lose themselves on the general endodermal lining.

These endodermal ridges, which are also well developed in the nearly allied order of the Siphonophora, were first pointed out by von Koch,[1] and have been since noticed by many observers, but more especially by Hamann,[2] who adopted for them Haeckel's term "tæniola," a term, however, which Haeckel uses in a different sense, applying it to the prominent gastral ridges which are characteristic of the Scyphistoma or polyp form of the Acraspedal Medusæ.[3] Hamann attributes to the endodermal ridges of the Hydroida a high systematic value, and regards their presence as the true grounds on which the Gymnoblastic Hydroids admit of being separated as a natural group from the Calyptoblastic forms.

This, however, is assigning to them an importance greater than they can fairly claim. They are by no means absolutely constant either in their form or their presence in the Tubularians. In *Tubularia indivisa* they are represented by pendulous pyriform lobes

[1] G. v. Koch, Vorläufige Mittheilungen über Cölenteraten, *Jenaische Zeitschr.*, Bd. vii. p. 512, 1873.
[2] O. Hamann, Der Organismus der Hydroidenpolypen, *Jenaische Zeitschr.*, Bd. xv.
[3] Ernst Haeckel, Das System der Medusen, Jena, 1879.