spiral, while it is entirely destitute of the barbs or spines which constitute so characteristic a feature in the typical thread-cell.[1]

It is scarcely possible to avoid suspecting that these capsules with their associated structures, differing as they do from ordinary thread-cells, are destined for the performance of some sensory function.

The claviform tissue which is developed in the deeper parts of the ectoderm, and which is as we have seen in intimate relation with the muscular layer, is obviously comparable with the caudate cells of Kleinenberg's neuro-muscle layer, and its deep position in the ectoderm will scarcely detract from the weight of this comparison when we bear in mind that the necessary stimulus may be carried to it through the cells which form the thin layer of ectoderm with which it is covered. There can be little doubt that the rod-like tissue into which the stalks of the capsules may be traced is a special modification of this claviform tissue, while it forcibly recalls the nerve-rods in the sense organs of higher animals. Though all the necessary connections of the parts have not yet been demonstrated, we see enough to make us believe that it is at least probable that the various structures here associated represent an apparatus for the reception and transmission of impressions received from without.

Another very exceptional condition is seen in the presence of a well-marked layer of circularly disposed muscular fibrillæ, which are developed in the ectodermal coat which lies immediately on the generative mass in the gonophore of *Myriothela*, and by contraction of which the contents of the gonophore on attaining maturity are expelled.

3. *The Mesosarc.*

Attention was first called to the existence of this layer in the Hydroid body by Reichert, who described it under the name of "Stützlamelle."[2] It is in its normal condition a perfectly hyaline structureless membrane which everywhere intervenes between the endoderm and the ectoderm, entering the tentacles along with these layers, and forming a cul-de-sac in the summit of each. It not only separates the peculiar chorda-like endodermal tissue of the tentacular axis from the surrounding ectoderm, but sends off at the base of the tentacle a layer which separates the chorda-like tissue from the proper digestive endoderm. The longitudinal muscular fibrillæ of the ectoderm lie in close apposition with its outer surface. Its thickness may in some places be seen to be traversed by very delicate fibrils, which run vertically to its surfaces and form a connection between the two body layers, ectoderm and endoderm, which it separates from one another.

In *Monocaulus imperator*, the gigantic Tubularian brought up by the Challenger

[1] Jickeli has described in *Hydra* certain small thread-cells whose filament on ejection remains coiled in a way very similar to that here seen.

[2] Carl B. Reichert, Über die contractile Substanz und ihre Bewegungs-Erscheinungen, Berlin, 1867.