with the modification of the nervous system. Moreover, the ganglion in the hood or præoral lobe of Actinotrocha has been lost in the metamorphosis.

The peculiar organs situated above the mouth, and in connection with the second branchial series, may possess a sensory function, though it is probable also that the thickened hypoderm at the bases of the various branchial whorls may perform similar service. The remarkable mesenteric (hypodermic-like) folds, and their extensions in the spaces just behind the central nervous system, appear likewise to have allied functions. It is probable that the functions of the former may be made more manifest by further study. It seems to be much less developed in the young than in the adult. Should internal apertures at any stage ever be found, their homologies with the collar-pores of *Cephalodiscus* and *Balanoglossus* would be interesting.

Body-Wall. — The structure of the body-wall externally approaches that of *Cephalodiscus*, both in regard to its thick glandular hypoderm, its basement-tissue, and the abundance of its secretion for the formation of a tube. In some respects it also resembles that of *Balanoglossus*. On the other hand, its muscular system shows a great advance on that of *Cephalodiscus*, the stalk of the latter alone presenting similar powerful bands. The somewhat pennate arrangement of the longitudinal muscular bands in *Phoronis* quite differs from that of its allies.

The *Body-Cavity* appears to show only two divisions, an anterior and a posterior, the latter having a corpusculated fluid in its interior. *Phoronis* would therefore seem to have undergone considerable modifications. The posterior body-cavity is divided by various mesenteries, and largely occupied by radiate muscular fibres and connective-tissue. The connection of the vascular spaces in front with the tentacles may be held as indicative of some affinity with the collar-spaces of *Cephalodiscus*, which (spaces) can likewise be traced into the tentacles. There is room for further researches in this region of the body at various stages of development, and especially the post-larval.

In regard to the *Reproductive Organs*, *Phoronis* is better known than either *Rhabdopleura* or *Cephalodiscus*, and the development and life-history have been more or less completely outlined. *Phoronis* is conspicuously hermaphrodite. The interesting resemblance of its larval form (Actinotrocha) to the larval form of *Balanoglossus*, discovered by Mr. Weldon, have been alluded to by Mr. Sidney Harmer, and indicate how complex the relationships of such forms are. The latter author thinks it probable that since the oviducts of *Cephalodiscus* do not open into the body-cavity, the collar-pores rather than these may be the homologies of the nephridia of *Phoronis*. If, however, an aperture were found on each side into the body-cavity between the mouth and the nephridia—even in the young animal—this view would require modification.

On the whole, then, on comparing *Phoronis* with *Cephalodiscus* and its allies, we miss the proboscis; while the collar and trunk are more or less fused. There are no gill-slits. The nervous system seems to be placed in a region probably homologous