known Aspidophorous or other Polyzoon, except as regards the lophophore, the structure of which approaches in certain respects that of *Cephalodiscus* and *Rhabdopleura*. The only trace of the buccal shield is the epistome, which in this species appears to be represented by the two peculiar hypodermic organs with the external apertures, which probably subserve a sensory function.

Branchial and Circulatory Systems.—In the structure of the branchial tentacles, as just mentioned, a common plan pervades *Cephalodiscus* with its allies and this form, since the basement-tissue and the hypodermic investment are similar, though it must be borne in mind that other types present a close resemblance. These branchial tentacles appear to arise from a region corresponding to the collar-region of *Cephalodiscus*. Moreover, the blood-vessel contained in each filament, and the great trunks in the vascular space at the base in *Phoronis*, are diagnostic. Further, the blood-vessels have distinct and highly contractile walls in every case, and the contained red nucleated corpuscles are remarkable. This system therefore differs from the lacunar arrangement at the base of the plumes in *Cephalodiscus*.

Digestive System.—This closely corresponds in arrangement with that in the Aspidophorous group of the Polyzoa, as well as with the latter in general. The various parts of the apparatus, its minute structure, the approximation of mouth and anus, are all features common to the group. Moreover, it is not easy to see on what grounds Mr. E. B. Wilson[1] has assumed that the flexure of the gut in *Phoronis* renders it probable that a primitively straight form by the force of a tubicolous habit has become bent, and the anus by and by conveniently fixed near the mouth. The illustration he takes, viz. *Sabellaria*, does not seem to have much weight, for there are many other tubicolar annelids in which a very different condition exists, yet the curvature of the tail, according to Mr. Wilson's hypothesis, would be equally necessary. This author further states that the resemblance of *Phoronis* to the Polyzoa is an entirely secondary one, and "a result of strictly tubicolous life." The habit, therefore, seems to account for various features. The nature of the food and the mode by which it is obtained agree with the condition in the Aspidophora. No gill-slits, however, have yet been recognised in *Phoronis*.

Nervous System.—This occurs as a hypodermic development bounded internally by the basement-tissue, very much as in *Cephalodiscus*, though it is double in *Phoronis*, apparently in connection with the two great branchial whorls, and the intrusion of the nephridia and median anus. In minute structure it is similar to that in *Cephalodiscus*; but in addition to the central masses, there are two posterior cords which proceed for a short distance along the body-wall, and then, spreading out under the lateral hypoderm, disappear. The absence of a large anterior region (as in *Cephalodiscus*), and the fusion of the parts at the tentacular base, are probably in connection

[1] *Quart. Journ. Micr. Sci.*, vol. xxi. p. 210, 1881.