6. Previous observers (M'Intosh, Lankester, &c.) have been led to assume the affinity of *Phoronis* to *Cephalodiscus* and *Rhabdopleura*, this conclusion being based on such features as the relations of the adult lophophore to the mouth and anus.

It must be noted, on the contrary, that *Phoronis* is not known to possess any representatives of the notochord, gill-slits, collar-pores, and proboscis-pores of *Cephalodiscus*, whilst there is no evidence of the existence of a collar body-cavity in the former. It appears to me that a renewed consideration of *Phoronis*, anatomically and developmentally, can alone settle the question of the possibility of an affinity between it and *Cephalodiscus*.

The remarkable larva of *Balanoglossus* described by Weldon (*loc. cit.*, fig. 3) is in some of its features by no means unlike Actinotrocha. Such features are the general form of the præ-oral lobe and trunk, the absence of the notochord and gill-slits, and the existence of only three divisions of the body-cavity. These are (1) the unpaired cavity of the præ-oral lobe, and (2) the two cavities of the trunk-region. In the absence of these cavities and of the notochord and gill-slits Actinotrocha differs from the larval *Balanoglossus* described by Bateson. It cannot, however, be denied that the difference between the tentacles of Weldon's larva and those of Actinotrocha is very considerable, if not fundamental.

The relation between *Cephalodiscus* and *Rhabdopleura* is in need of further elucidation. In spite of the great resemblance between the lophophores and epistomes of the two genera, many of the most important structures found in *Cephalodiscus* are not known to exist in *Rhabdopleura*, and there does not at present appear sufficient justification for the removal of *Rhabdopleura* to the Hemichordata, although the balance of evidence might perhaps be in favour of so doing.

I do not think that the above considerations are in any way calculated to strengthen the view that *Phoronis* and the Polyzoa are nearly related. The result of the examination of *Cephalodiscus* appears to me to show that this genus (and *Rhabdopleura* also ?) must be entirely removed from the Polyzoa. If this is the case, it is obvious that any affinity which may be shown to exist between *Cephalodiscus* and *Phoronis* can in no way affect the question of the relationship of the latter to the Polyzoa.