

parallel in the life-history of *Cephalodiscus*, not even an embryonic approach occurring in either form. The anus in *Balanoglossus* is posterior and terminal at all stages. The relations of the dorsal and ventral surfaces in the two forms are also at variance. Buds again, are unknown in either *Phoronis* or *Balanoglossus*, and in both the eggs are very numerous and small, whereas in *Cephalodiscus* they are few and very large.

The main resemblances between *Cephalodiscus* and *Balanoglossus* lie in the structure of the skin, the presence of three body-cavities (disk, collar, and body proper), the proboscis or disk-pores, collar-pores, gill-slits, and rudimentary notochordal structure, and they are of a most interesting and suggestive character; and as Mr. Harmer, whose valuable researches on the Entoproctous Polyzoa are well known, has most ably studied these features and formed independent conclusions, I have thought it best to give his views in his own words as an Appendix. These will show how difficult it is in some cases to draw clear lines of distinction—so intimately are the several characters, in apparently diverse groups, blended. In a former paper<sup>1</sup> I had observed with regard to *Phoronis* and *Balanoglossus*—“If indeed the branchial skeleton supporting the vessels (of *Phoronis*) were thrown in, and arranged at the sides of the anterior region of the body, so that the water would enter by lateral slits to aerate the circulating fluid, and the digestive canal enlarged and attached as a single tube to the body-wall, a form resembling *Balanoglossus* would be indicated.” It has to be borne in mind also that Alexander Agassiz thought that the latter resembled the Tunicates from the nature of the gills and their mode of formation, in opposition to the views of Kowalevsky and others, who placed its affinities with the Annelids proper.

Perhaps *Balanoglossus* may at present be ranged near the Aspidophorous group of the Polyzoa, for though Metschnikoff's view that it approaches the Echinoderms rests on the remarkable fact that in *Tornaria* the original evagination from the gut is on the left side, just as in Asteroid larvæ the water-vessel is developed from the left primitive diverticulum (Bateson), yet there are stronger reasons for associating it with other groups as above mentioned.

<sup>1</sup> *Proc. Roy. Soc. Edin.*, Session 1880–81, vol. xi. p. 217.