the posterior limit of the central nervous system, it is intelligible (from the relations of the base of the operculum just explained) that the operculum is seen, in the section, to spring from a region of the body quite near to the dorsal surface. It is, however, clear that the operculum is merely a free fold of the posterior border of the collar-region, containing a portion of the collar-cavity, and that it is therefore exactly comparable to the operculum described by Bateson in *Balanoglossus*.

On each side of the body is found a well-marked "collar-pore" (fig. 3, *c.p.*), consisting of a very short canal whose walls are formed of narrow, closely arranged epithelial cells, and opening on the one hand into the cavity of the collar, and on the other to the exterior, the external openings of the pore being overhung by the base of the opercular fold. Both in the structure and in the position of these canals, *Cephalodiscus* resembles *Balanoglossus* to an extent which is almost inconceivable, except on the hypothesis of some genetic connection between the two genera.

A further *Balanoglossus*-feature possessed by *Cephalodiscus* is the existence of a pair of well-marked gill-slits (fig. 3, *g.s.*) opening to the exterior immediately behind the collar-pores, and so far as I have been able to make out from an examination of the buds, apparently developed as outgrowths of the "pharyngeal" region of the alimentary tract. The relation of these slits to the collar-pores is precisely the same as that of the first pair of gill-slits of *Balanoglossus* to the collar-pores of the latter. Unlike *Balanoglossus*, *Cephalodiscus* possesses no more than a single pair of gill-slits, but it must be remembered that the young *Balanoglossus* remains for some time in a similar condition (*i.e.*, with but a single pair of gill-slits), and that Bateson has assumed the existence of an ancestor of *Balanoglossus* in which no metameric repetition of the gill-slits had taken place.

Fig. 4 illustrates the relation of the structures in the proboscis-stalk, which—as in *Balanoglossus*—is a constricted region by which the proboscis itself is connected with the rest of the body. The completely separated collar-cavities are clearly visible, as well as the unpaired proboscis-cavity. The notochord is a slender rod, possessing a fine lumen, and is supported by the mesentery, which forms the division between the two halves of the collar-cavity. I am not at present certain as to the existence or non-existence of Bateson's "proboscis-gland" in this region of the body.

The lophophoral arms are deeply grooved on their ventral surfaces, and these grooves are continuous with shallower furrows (*gr.*), which pass along the ventro-lateral portions of the collar, on either side of the proboscis-stalk, as far as the region of the mouth. If, as can hardly be doubted, the tentacles are ciliated, it may be assumed that a current of water passes in the living animal down these grooves into the mouth, into which the current is directed by means of the opercular flap developed from the posterior border of the collar. It is probable that the gill-slits are, in this case, of great importance to the animal. The two lateral currents which have just been supposed to enter the mouth would doubtless introduce large quantities of water into the pharynx. The water would