

and the multitude of external apertures, thus suffice to place the little ciliated animals in favourable circumstances as regards food, especially when the nature of their surroundings is taken into account.

Body-Wall.

In *Rhabdopleura* two layers of the body-wall were clearly distinguished by Professor Allman, who had not the material aid which sections give the younger inquirers. He called them ectocyst and endocyst, the latter "a very delicate membrane." Professor Sars, subsequently, with fresh specimens at his disposal, denied that there was any endocyst "(unless we consider the glassy skin, which closely surrounds the digestive apparatus, to be an endocyst), consequently also no perigastric fluid." Professor Ray Lankester, again, from the examination of living examples, recently observes of *Rhabdopleura* that "the tissue which bounds the body-cavity consists of fusiform cells tapering into fine fibres, sometimes branched." He further figures the structure of the body-wall in optical and in transverse section, the coat formerly mentioned having within it apparently a basement-membrane with ciliated enteric cells projecting from its inner surface. In whatever way this form is considered, the structure of its body-wall very much differs from that of *Cephalodiscus*.

I am unable from the mode of preparation of the examples (in spirit) to say much about the pigment of the surface of the skin, but in some numerous specks of a reddish-brown colour are still visible over the entire surface (Pl. II. fig. 1); while, as already mentioned, the buccal disk almost always presents the dull reddish band. In all probability it is brightly tinted in life. In this respect it approaches the condition in *Balanoglossus*; thus *Balanoglossus kowalevskii* has a white proboscis, a brilliant red-orange collar with a whitish line round the operculum, while the rest of the body is orange-yellow.

Externally the surface is probably covered in life by a delicate ciliated cuticle, but this cannot be differentiated in the preparations. The same difficulty is met with in the cuticular tissues of the Nemertean. A decided difference is thus apparent between *Cephalodiscus* and *Loxosoma*, in which the cuticle is considerably developed. What remains is a well-marked layer of hypoderm (Pl. VI. fig. 2, *hp*) of the usual granular, glandular structure. The coat just mentioned attains its greatest thickness at the base and on the pedicle, but this may be partially due to corrugation from contraction. In this layer are the numerous pigment-corpuscles and gland-cells, which latter do not readily stain with carmine. It is bounded internally by a basement-layer, which is thin dorsally, but better marked ventrally, especially behind the mouth, for the layer of longitudinal muscular fibres now forms an additional coat in this region, and rests against the basement-layer. Like the hypoderm the latter passes over the pedicle at the posterior end of the body, and both are often thrown into wrinkles from contraction. The body-wall