

is rapidly regenerated, and in which the animal is concealed as in a sheath ; in the other case there is a membrane present which cannot be stripped off, and which gives the surface a rough, bark-like appearance ; this has received the very unsuitable name of "epidermis." In fact, we have to deal with a cuticular formation. In the most simple cases, where the epithelium does not bear cilia, it is covered loosely by a thin, irregular fibrous membrane, outside which is a layer of mucus, traversed by all sorts of foreign bodies (Pl. VIII. figs. 1 and 6). This cuticular secretion rarely becomes a broad, stratified mass resting firmly on the epithelium, and recalling completely the cuticula of the worms (Pl. XII. figs. 1 and 2).

The wall can also be traversed like the pedal disk by furrows, which run in a longitudinal direction from the base to the border of the oral disk, and likewise correspond to the septa.

The possible presence of "cinclides" must finally be taken into consideration ; this is the name applied by Gosse (*Actinologia Britannica*, 1860) to openings in the wall through which water and the acontia, which we have still to describe, can be ejected from the inside of the body. Such cinclides can be observed in *Calliactis parasitica*, even in spirit specimens, where they are arranged in a circle at a little distance from the pedal disk. In other cases, on the contrary, we see that acontia issue from the interior of the living animal through the wall, but it is impossible to find performed openings, even if we take a protruded acontium as guide. Whether the opening is difficult to find out, or whether it is not performed, but arises afresh each time by rupture, as v. Heider assumes, must still be regarded as an open question. That is a point which essentially lowers the systematic value of the cinclides. Gosse has certainly made light of the question, and assumed the presence of cinclides wherever he noticed the passage of the acontia, even though he did not find any openings. Such a method of treatment, however, can be properly carried out only in the living animal, as spirit material leaves the question undecided.

The oral disk is furnished on both sides with muscular fibres, running radially on the ectodermal side, circularly on the endodermal ; the latter are connected immediately with the muscular fibres of the wall, with which they form a continuous layer. Whilst the endodermal muscular fibres possess no further interest, and comport themselves, so to speak, in the same manner throughout, the development of the ectodermal muscular fibres is subject to numerous variations, which, like the nature of the sphincter, can be turned to good account for more accurate determination of the species. In all cases we must distinguish whether the muscular fibres maintain their original place in the epithelium, or whether they have passed wholly or partially into the mesoderm. We must, moreover, pay attention in the first instance to whether the muscular lamella is smooth or pleated, and in the second instance to the form and arrangement presented by the mesodermal bundles of fibres.