

There is, moreover, positive evidence as to the presence of a delicate nervous plexus, situated just outside of the basement membrane already alluded to, and which, judging from the available fragments, is present throughout the whole length of the animal. The transverse sections also show that a second nervous plexus may be presumed to be present just outside the inner layer of circular muscles. The details of this will be discussed hereafter when considering the nervous system.

Passing forwards along the lateral nerve-stems we find them in every section fixed to the subjacent muscles by semicircular fibres indicated in figs. 7 and 8 on Pl. III. Anteriorly the stems pass insensibly into the brain, which, as a mere thickening of the lateral stems, has as yet only attained to a very low degree of differentiation. In this respect the brain much resembles that of *Carinella*, from which, however, it differs in a very important point, viz., the presence of a posterior lobe into which penetrates a ciliated duct ending blindly and communicating with the exterior.

This posterior lobe is situated, as is the anterior one, outside the muscles of the body-wall (Pl. VI. figs. 1-3), the inner channel is coated by a ciliated epithelium, differing in texture from the surrounding nerve-cells. The latter, however, can hardly be sharply distinguished from adjacent cells of a more indifferent character, and belonging to the lower strata of the integument.

The muscular elements partaking in the formation of the body-wall are kept distinctly apart from the tissue, which we have described as the integument, by the homogeneous membrane above mentioned. Below this membrane we find a thin, circular, muscular layer (Pl. XI. figs. 1, 2,  $\beta$ ), then follows the much thicker layer of longitudinal fibres ( $\alpha$ ), and finally an inner layer, thinner again, of circular fibres ( $\delta$ ). The comparative thickness of these two latter layers throughout the œsophageal region may be gathered from Pl. II. fig. 5. In the two circular layers the fibres appear to be more closely set than in the longitudinal. In the outer circular layer the direction of all the fibres is, however, not perpendicular to the body-axis, a very regular network of other fibres which have their direction at an angle of  $45^\circ$  both with the longitudinal and the transverse axis, being closely interwoven with this layer. These are, however, not massive enough to form a distinct layer by themselves. The homogeneous intercellular substance, which is also present here between the bundles of muscular fibres, and which stains very distinctly with picrocarmine, is of course best visible when the bundles are widest apart. Such a portion is figured in Pl. III. fig. 6. This intercellular substance is also seen to be again traversed by radial fibres passing between the two circular layers; nuclei are, moreover, present both in the intercellular substance and enclosed along with the bundles of fibres.

Within the muscular body-wall are lodged—(1) the proboscis and its sheath; (2) the intestine; (3) the blood-spaces; (4) the nephridia; and (5) the generative sacs. The space not occupied by any of these is entirely filled up by a tissue, which I will call the gelatinous tissue, and regarding which more ample details will be given in the chapter