

brain, optic nerve, and retina all in one. We shall return to its further consideration presently.

Immediately within the pigment is a clear, firm, faintly granular material, exhibiting no definite structure, and occupying the posterior two-thirds of the eye-cavity. Although corresponding in position within the rod-layer in the Alciopod's eye, yet from its general appearance and absence of structure it is in all probability only vitreous, so that the rod-layer of the retina is quite unrepresented in the eye of *Genetyllis lutea*. In one section only an appearance suggesting the rods was seen, but this may possibly have been due to fine folds (see fig. 6, *a*). In many of the sections the entire pigment-layer with clear substance still adhering to it has become detached from all its other connections (Pl. XXXIII A. figs. 6 and 8).

In one section there is a deposit of a coarsely granular, coagulated substance resting in the form of little heaps on the inner surface of the vitreous. It has no definite shape, but suggests, from its general appearance and position, a refractive substance of the nature of a lens. Possibly it is semifluid during life.

A horizontal section through the middle of the fundus of both eyes enables us to understand the relations of the nervous matter in this situation. We then observe that there is one large medial ganglion, having a large lateral lobe on each side projecting, as above mentioned, into the fundus of the corresponding eye. The central or medullary portion of the ganglion consists of molecular material and small nucleated cells, while at the periphery or cortex there are large, well-formed ganglion-cells with distinct nuclei and occasionally indications of nucleoli (Pl. XXXIII A. fig. 1, *c*). On employing high powers, very delicate fibrils are visible at the junction of the cortical and medullary portions, which seemingly run from one lobe to the other. As will be readily understood from the bilobular shape of the ganglion, it is only from sections through the immediate neighbourhood of its centre that its structure can be duly appreciated. The nearer we approach the periphery in our sections, the more we have the appearance of two distinct ganglia. Thus in a section through the anterior part of both eyes, we have a thick fibrous structure dividing the two lobes, directly continuous with the previously described junction of the sclerotic coats of the two eyes. This ganglion must be regarded as a fused condition of the two cephalic ganglia normally present in this position in the Annelida.

The vessels seen in sections of the sclerotic in the median line are disposed differently in different preparations. In sections nearly through the centre of the globes, we find one or two small oval spaces on each side of the middle line (Pl. XXXIII A. fig. 1, *a*). If the anterior part be divided, however (Pl. XXXIII A. fig. 4), we find only one space corresponding to a median vessel cut across. Thus probably the dorsal median vessel splits into two or more lateral branches over the prominence of the inner sides of the eyeballs, to meet again anteriorly and form a ventral median vessel.