

velum by a narrower cylindrical portion (*f*), which only lay in part within the plane of the sections. This connecting portion, changing its direction, could be followed across the muscular mass throughout the whole of the adjacent portions which I felt justified in removing for the purpose of making sections.

The central mass and its prolongation are surrounded by a layer which exhibits numerous nuclei, is especially delicate in front of the central mass, and forms a sheath which completely separates the latter from the surrounding tissues, that is, from the muscular mass (*g*) of the cephalic velum.

How, then, are we to interpret these different parts of the eye of *Guivillea*, especially the homogeneous sub-epithelial layer and the central mass with its prolongation? for the epithelium and the reticulated connective tissue which separates the central mass from the more superficial tissues do not at first sight present anything special or inexplicable.

1. The sub-epithelial homogeneous layer. This is the sub-epithelial connective tissue, which, like the epithelial portion which covers the eye in Molluscs, has become transparent, and forms the layer to which Hensen gave the name "pellucida." It surrounds the whole ocular mass in front and at the sides, and forms the deep portion of the cornea.

2. The central mass and its prolongation. There can be no doubt as to the import of the prolongation which is given off from the central portion of the eye, and is continued with a constant diameter into the depths of the cephalic mass; it is the optic nerve.

The central mass, continuous with this last, is the retina, whose anterior margins have joined after the complete disappearance of the refractive parts (the crystalline and the vitreous body). This is a modification somewhat similar to that which has taken place in *Proteus*.<sup>1</sup>

Finally, the common envelope (*d*) of the central mass and its prolongation is simply the sheath of the optic nerve continued round the ball of the eye to form a "choroid."

The non-functionality of the organ of sight has quite changed the structure of these parts of the eye of *Guivillea*. The cellular elements have completely disappeared from the mass of the retina, and the transformation of the latter has extended to the adjoining portion of the optic nerve, in which the fibrillar structure no longer exists. The percipient elements then have entirely disappeared, both from the retina and from the terminal portion of the optic nerve; the connective substance between these elements alone persists, and forms the entire homogeneous and structureless mass of that part of the organ of sight in *Guivillea*.

<sup>1</sup> Semper, Die natürliche Existenzbedingungen der Thiere, Bd. i. fig. 20, p. 96; transl. Animal Life, Internat. Sci. Series, p. 78