chambers appear sometimes rather regular (fig. 26, *lr*); but in other transverse sections (more proximal and oblique, placed nearer to the auropyle, fig. 25) the number, size, and form of the radial chambers is rather different, owing to the ramification and arrangement of the separating radial septa. Near the auropyle this arrangement is so symmetrical that the form of the transverse section is quite bilateral (fig. 25).

The fulcrum of the outer as well as of the inner wall of the aurophore arises between the radial septa in the form of numerous smaller and larger crests which project into the cavities of the radial chambers, and these crests are covered by high folds of the entoderm. The form of the canal-system of the aurophore becomes very complicated by further development of these entodermal folds, and in the largest specimens examined assumes the shape of a spongy system of irregular lacunæ. The great internal surface of the entodermal epithelium, thus produced, together with the extraordinary size and glandular appearance of its high cylindrical cells (fig. 27, *d*), make it probable that the great mass of air contained in the pneumatophore is secreted by the lacunar system of the aurophore and conducted into the cavity of the pneumatocyst by pores, which pierce the inner wall of the aurophore.

Pistillum (Pl. V. figs. 24–26, *lp*).—The peculiar body, which fills up the cylindrical central cavity of the aurophore, and which we call provisionally pistillum, is a very remarkable organ, the true morphological signification of which cannot be fully recognised without knowledge of its development. It seems not to be comparable with any structure known hitherto in other Siphonophoræ (except perhaps the tapetum endocystale of the Physonectæ?), and is a singular production of the Auronectæ. The comparison of the sagittal section of the aurophore (Pl. V. fig. 24) with the transverse sections (figs. 25, 26) informs us that the pistillum is a cylindrical tube, with a very thick wall and a narrow axial canal (*la*). Its wall is composed of three different strata, the inner of which is epithelial (*le*), the middle muscular (*lp*), and the outer cuticular (vagina pistilli, *lf*). The narrow axial canal of the aurophore (figs. 24–26, *la*) runs in its middle part nearly horizontally; its proximal or inner part is turned obliquely upwards and opens into the cavity of the pneumatophore by the auropyle (*li*); its distal or outer part is turned obliquely downwards and opens externally by the aurostigma (*lo*). The simple epithelium (fig. 28, *le*) which lines the axial canal (*la*) is composed of small cubical cells, and seems to be a direct continuation of the exodermal epithelium; both are in continuity at the thickened lips of the aurostigma (fig. 24, *lo*). The main mass of the pistillum is composed of prolonged fusiform cells which have the greatest resemblance to spindle-shaped muscle-cells (fig. 28, *lm*). All these spindle-cells run parallel one to another and to the axis of the auroduct, and their oblong nuclei (fig. 28, *ln*) have also the same direction. The protoplasm of the spindle-cells is finely granulated, opaque, yellowish, and sometimes it seems to be transversely striated. Therefore the entire mass of the pistillum (besides the axial epithelium) seems to