

radially from the apical centre of the float and surround it like meridional arches (fig. 40). Sometimes eight stronger equidistant radial muscles are developed (fig. 33). The fulcrum, or the supporting gelatinous plate, is a hyaline and structureless cartilaginous lamella 0·2 to 0·5 mm. thick; it is twice as thick in the peripheral as in the apical part of the float. The fulcrum is pierced (mainly in the basal periphery) by a variable number of simple or branched radial cords, which connect its inner and outer epithelium. They are partly solid apophyses of the entoderm (fig. 30, *d*₁), partly nutritive canals; sometimes these canals seem to open on the outer surface of the pneumatocodon. The stratum of ring-muscles which lies inside the fulcrum is thinner than the outer layer of radial or longitudinal muscles; but sometimes the circular muscles are also well developed, and effect a horizontal annulation of the float. *Stephonalia* (Pl. VI. figs. 32, 33), which exhibits outside eight strong radial muscle-bands, is distinguished also by a peculiar development of parallel muscle-rings on the inside of the pneumatocodon. The entodermal epithelium which lines the inside is always composed of large cylinder-cells (fig. 30, *d*).

Pneumatossaccus.—The air-sac, or the inner (originally invaginated) wall of the pneumatophore, is of the same form as the somewhat larger surrounding pneumatocodon (or the outer wall), separated from it by the pericystic cavity (fig. 24, *ps*), and connected with it by the above-mentioned numerous trabeculæ. The inner wall is much thinner than the outer, and composed of three plates only, viz.—(1) the entodermal epithelium composed of high cylinder-cells (Pl. V. fig. 24, *d*₁); (2) a rather thin, but firm and elastic fulcrum (the structureless supporting plate, fig. 24, *z*₁); and (3) the exodermal epithelium composed of much smaller cells (fig. 24, *e*₁); this inner surrounds and produces the pneumatocyst.

Pneumatocyst.—The air-flask of the Auronectæ is a thin but firm and elastic cuticle, secreted and surrounded by the pneumatosac, therefore of the same form and size. It has no apical stigma, as in the Cystonectæ, but is everywhere closed, except at the single basal opening, which we call aurophyle (Pl. IV. fig. 16, *li*, seen from above; Pl. V. fig. 24, *li*, seen in the sagittal section). This aurophyle lies excentrically in a small circular dimple on the dorsal base of the pneumatocyst, in its sagittal axis. The periphery of this dimple (foveola aurophylæ) marks the internal boundary between the pneumatophore and the attached aurophore. The chitinous plate of the pneumatocyst seems to be continued directly into the vagina pistilli (*lf*). Compare below.

Aurophore (Pl. IV. figs. 15, 16, *l*; Pl. V. figs. 24–28; Pl. VII. figs. 39, 40, 48, *l*).—The aurophore or air-bell of the Auronectæ is a peculiar and most remarkable organ, wanting in all other known Siphonophoræ; it seems to be the modified umbrella of a medusome, or a peculiar medusoid person, which was originally a modified nectophore, and adapted to the production and emission of the gas contained in the large pneumatophore. The form of the aurophore (*l*, Pl. I. fig. 1; Pl. III. figs. 13, 14; Pl. IV. figs. 15, 16) is roundish, nearly globular or somewhat pear-shaped; it is attached by a broad