

which form a delicate network, and in some places the strands of this net are curiously curled (Pl. X. fig. 13).

I have found in the horizontal membrane (a part of the wall of the branchial sac) a number of small scattered pits, sometimes placed singly, and sometimes united in twos and threes (Pl. X. fig. 15). These are just visible to the eye (Pl. X. fig. 9, *br.s.*), and look like small openings, but they are really small imperforate sacs, the walls of which are thinner than the rest of the membrane; and they may possibly be the representatives of the perforations or stigmata in the ordinary Ascidian branchial sac. Over the general surface of the membrane is a layer of squamous epithelium (Pl. X. fig. 16), the cells of which are rounded or polygonal in form; while on the margins of the little pits the cells become nearly rectangular in surface view (Pl. X. fig. 17), and fusiform in profile (Pl. X. fig. 18). Possibly this altered epithelium bordering the depression may represent the line of ciliated cells round the edges of the stigmata in the normal branchial sac.

The nervous system, the subneural gland, the dorsal tubercle, and the neighbouring muscle bands are shown in fig. 11. The ganglion, which is placed upon the anterior dorsal part of the visceral mass (Pl. X. fig. 10, *n.g.*), is triangular in shape (Pl. X. fig. 11, *n.g.*), and has nerves prolonged from each angle. The subneural gland is a large elliptical mass which extends from the front of the ganglion to half-way up the dorsal tubercle (Pl. X. fig. 11, *s.gl.*). It is apparently the spherical thin-walled body taken for a sense-organ by Moseley. The dorsal tubercle has a spoon-shaped opening leading into a narrow duct which is lost on the lower surface of the subneural gland. The neighbouring muscle bands are arranged in a symmetrical manner round the ganglion, as shown in fig. 11.

A somewhat irregular opaque line is visible on the anterior surface of the body showing through the clear test (Pl. X. fig. 6, *en.*). It runs from near the branchial aperture in an oblique course ventrally, and to the left side. This is produced by an elevation on the inner surface of the anterior half of the branchial sac, which I believe represents the endostyle of other Tunicata. If this be the case, it does not correspond to the short endostyle described by Moseley as placed upon the nucleus, and in my specimen I failed to find any trace of an endostyle in that position. This may be one of the points of difference if these two specimens belong to distinct species of *Octacnemus*. In Moseley's form only the posterior part of the endostyle may have been retained, while in my form only the anterior half is found (see Fig. 11, p. 93, *end* and *end'*).

The visceral mass lies loosely in the interior of the dorsally placed projection of the body (Pl. X. fig. 9), and can be easily withdrawn from it. It has occurred to me that possibly Moseley's specimen had been distorted while coming up in the trawl, and that the visceral mass had become displaced. If that be not the case, then the two