

sphincter to the investing epithelium of the sponge (ectochone), and an inner which extends from the sphincter to inner limits of the cortex (endochone). The endochone is more frequently absent than present; its existence depends on the position of the chonal sphincter; if this lie in the same plane as the inner limit of the cortex there will of course be no endochone. I think, therefore, the distinction between ecto- and endo-chone may as well be suppressed, the existence of an endochone when present being expressed by the statement that the chonal sphincter is situated at such and such a level within the fibrous layer of the cortex. In some cases, however, the terms ectochone and endochone will be met with in the descriptive part of the Report.

Beneath the cortex and lying in the choanosome there occur in many sponges large lacunar cavities, into which one or more, usually more, of the chones open, and from which the incurrent canals take their origin. These cavities are the subcortical crypts.

The homology of the chones and subcortical crypts has not yet been investigated; Vosmaer¹ has thrown doubts on the equivalence of the chones of different families, and Marshall² has suggested that the subcortical crypts are equivalent to subdermal cavities. The subject is a difficult one, but in two cases, which are probably typical, the evidence seems fairly clear.

Type 1. *Stelletta phrissens*.—In very young examples of this sponge the choanosome is to be seen distinctly folded within a thin investing ectosome or dermal layer, no more advanced in character than say that of *Tetilla pedifera*; the outer sinuses of the choanosomal folds represent both subdermal cavities and incurrent canals, for these are not at this stage differentiated from each other. In more advanced specimens the ectosome, still bearing the same relation to the incurrent sinuses and the choanosome, is converted into a comparatively thick cortex which consists chiefly of collenchyma, faced on its inner surface by a layer of fibrous tissue (Pl. XVI. fig. 20). Large cylindrical canals traverse this cortex and give rise to the chones of the adult sponge; while the subcortical crypts arise from the incurrent sinuses, and are clearly homologous with the subdermal cavities of *Tetilla* and other sponges. The chones on the contrary are clearly of independent origin, secondary cavities formed within a cortex, which may be regarded as produced by a centrifugal growth of a simple dermal membrane. At



FIG. VI.—Longitudinal median section of a young *Stelletta phrissens*, showing the choanosome folded within the cortex; o, oscule.

¹ Bronn's Klassen u. Ordnung. d. Thierreichs, Porifera, p. 126, 1887.

² Zool. Jahresber. Neapel, p. 186, 1880.