

two aboral spines are developed, the caudal horns (a dorsal and a ventral); these are very large in *Conchoceras* (Pl. 124, figs. 15, 16). But a peculiar and most interesting kind of junction is effected in some Concharida by a true ligament between the valves (Pl. 123, figs. 8, 9; Pl. 125, fig. 2). This ligament is always placed on the aboral hinge, is of dark brown colour, and is not dissolved by mineral acids unless long applied. It may preserve the connection of the posterior parts of both valves, when their anterior parts are removed one from another, just as in the Brachiopoda. I observed this interesting ligament mainly in the genus *Conchopsis*, but not in all species, and it is not yet certain whether it is a constant organ in these and some other Concharida.

In the majority of Concharida the lateral margins of the two valves project slightly inwards into the cavity, and in some species of *Conchopsis* these inner borders are so broadened that they form a broad, horizontal, fenestrated inner shelf, comparable to the deck of a boat or to the velum of the Hydromedusæ or Craspedotæ (Pl. 125, fig. 9). In this case the velum surrounds the ovate aperture through which the two lobes of the central capsule (dorsal and ventral) enter into the cavity of both valves.

The mouth of the shell lies on the oral pole of the main axis, and is therefore opposed to the aboral hinge. The two valves are here usually more or less emarginate, so as to form a transverse mouth with an upper and a lower lip (Pl. 124, figs. 6, 7, 11). The form of these two lips is often very different and characteristic of particular species (Pl. 124, figs. 3, 15, 16). The mouth remains in many species constantly open, even when the frontal fissure is closed (figs. 7, 16). Since the centre of the shell mouth lies in the prolongation of the proboscis arising from the operculum of the central capsule, probably the main stream of sarcode, issuing from the latter, becomes protruded by the former.

Apophyses of the shell (besides the teeth of the margins) are completely wanting in three genera, *Concharium*, *Conchellium*, and *Conchopsis* (Pl. 123, figs. 1-4, 7; Pl. 125). The four other genera possess free apophyses or spines, which we call horns. They are probably important as the beginnings of those large hollow tubes which are characteristic of the two following families, Cœlodendrida and Cœlographida. We distinguish two different forms of horns, apical horns on the poles of the sagittal axis, and caudal horns on the aboral pole of the main axis; the former probably correspond to the sagittal tubes and the latter to the caudal tubes of the two following families. Apical horns are found in a single genus only, *Conchonia* (Pl. 124, figs. 10-14). Here either on one pole or on both poles of the sagittal axis a horn is developed, usually curved backwards. Sometimes the base of this conical horn is inflated and fenestrated, and may represent the beginning of the formation of the galea or apical cupola of the Cœlodendrida.

The two caudal horns are opposite on the aboral hinge of the shell, one arising from the posterior end of each valve. Usually they are short and thick, pyramidal, the