The Concharida, the bivalved shell of which is simple, and without tubular apophyses (Pl. **123–125**), possess a relatively small central capsule, which usually fills up only the third or fourth part of the shell-cavity. This is the aboral or posterior part, on the apex of which both valves are united by a ligament in some Concharida (Pl. **123**, figs. 8, 9). The oral or anterior part of the shell-cavity (usually two-thirds or more) is filled up by the phæodium, and this is usually bifid, being divided by a frontal constriction into two wings or lobes; the dorsal wing is hidden in the upper valve of the shell, the ventral wing in the lower valve; both wings are usually united only by a small central bridge, and this bridge of the phæodium is pierced in its centre by the proboscis of the astropyle (Pl. **124**, figs. 6, 10; Pl. **123**, figs. 8, 9).

The Cœlodendrida have a different shape (Pl. **121**). Their bivalved shell is relatively small and tiny, and bears on the two poles of the sagittal axis two conical apophyses or galeæ, from each of which three or four very large, dichotomously branched tubes arise. The central capsule fills up the cavity of the bivalved shell almost entirely, and the voluminous dark phæodium envelops both to such an extent that the shell and the enclosed capsule are often hidden in it completely. Therefore I arrived in my first description of *Cœlodendrum* (1862, *loc. cit.*) at the erroneous conclusion that the capsule lies outside, not inside the shell. The first accurate figure and description of its structure was given in 1879, by Hertwig (*loc. cit.*, p. 99, Taf. x. fig. 3). The central capsule (*v*) is here separated from the bivalved shell (*m*) only by a very small distance, and the oral part of both is hidden in the phæodium. I find, however, in the majority of the numerous preparations of the Challenger collection, the volume of the phæodium much greater, and it often envelops the entire shell.

The Cœlographida, finally, have a phæodium of the most remarkable shape, since in their bivalved shell a peculiar reserve store or magazine of phæodella, which we call the "phæocapsa" is developed for it (Pl. **126–128**, *g.t.m.*). The bivalved shell has in these most perfect PHÆODARIA a structure similar to that in the Cœlodendrida; but they differ from the latter in the stronger development, and greater differentiation of the two apical galeæ, and the large hollow tubes arising from them. These two helmet-shaped cupolæ, the galeæ (*g*), which arise from the two valves on the poles of the sagittal axis, are in the Cœlographida usually larger than the valves themselves, and are not closed, as in the Cœlodendrida, but open by a tubular apophysis at their base, the nasal tube or rhinocanna (*t*). The apex of the galea is connected with the open mouth of the rhinocanna by a single or double frenulum (*b*). The two nasal tubes or rhinocannæ (a dorsal and a ventral) lie in the sagittal plane of the body (and run from the base of each galea along the anterior convexity of the valve to its oral margin. Here is placed the proboscis of the astropyle, between the two opposed mouths of the rhinocannæ (Pl. **128**, fig. 2). The phæodium is usually hidden entirely