differs from the cylindrical, claviform, posteriorly-directed foot of the Lucinidæ. Here the principal part of the foot is directed forwards, swollen, and terminating in a point; behind this part is a byssal aperture (Pl. II. fig. 4, *e*).

The mouth (*a*) is bordered anteriorly and posteriorly by two rather narrow lips (*b*), which are continued on each side in small, bifid, labial palps (Pl. II. figs. 3, 4, *c*).

There is only one branchial plate (*g*) on each side, as in *Lucina*. This organ is triangular in form, and has no dorsal "appendage." It is fixed by its anterior edge, and by the beginning of its dorsal edge, to the base of the dihedral angle formed by the union of the mantle with the visceral sac.

Behind the foot the recurrent or internal laminæ of the two gills are united to each other by a membrane (Pl. II. fig. 4, *h*), which joins their dorsal edges. The common posterior extremity of the two gills is united at the separation of the anal aperture from the great branchio-pedal aperture (Pl. II. fig. 3, *r*), so that the pallial cavity is divided into two distinct spaces,—a large, ventral, infra-branchial space (the branchial chamber, properly so called); and a small, dorsal, posterior, supra-branchial space (anal chamber), into which the anus opens, and which communicates with the exterior by the anal aperture; while the inferior or branchial chamber communicates with the exterior by the great pallial, ventral, branchio-pedal aperture.

This division of the pallial cavity is present in a certain number of other Pelecypoda; but in several of these, such as *Mya*, *Pholas*, *Pliodon*,[1] &c., the separation is absolute, while in others (*Unio*, *Anodonta*,[2] those with one siphon like "*Cryptodon*" *moseleyi*, *Myochama*,[3] &c.) there persists between the posterior portion of the visceral mass and the gills a narrow opening by which the two chambers communicate with each other.

In the same way, in the "*Cryptodon*" alluded to above, one can pass a probe introduced at the anal aperture through a similar opening into the ventral chamber (Pl. II. fig. 4, *k*).

It may be remarked, that in many forms with two siphons this division into two chambers does not exist, and that, as the posterior extremity of the gills does not become united to the partition between the two siphons, these both open into the great undivided pallial cavity (Tellinidæ, Donacidæ, Psammobiidæ, &c.).

Deshayes[4] makes out that the gills of *Lucina*, which are similar to those of "*Cryptodon*" *moseleyi*, have two laminæ, corresponding to the two branchial plates of the typical Pelecypoda. The gill of *Lucina* and *Cryptodon moseleyi* does indeed

[1] Paul Pelseneer, Notice sur les Mollusques recueillis par M. le Capitaine Storms dans la région du Tanganyka, *Bull. Mus. Roy. Hist. Nat. Belgique*, t. iv. p. 117.

[2] Woodward, A Manual of the Mollusca (1856), fig. 171, *b*; Ray Lankester, Mollusca, Encycl. Brit., 9th ed., vol. xvi. p. 686, fig. 124, 5, *g*.

[3] Hancock, On the Animal of Myochama Anomioides, *Ann. Mag. Nat. Hist.*, ser. 2, vol. xi., pl. xi. fig. 1, *f*.

[4] Remarques sur l'organisation des Lucines, *Comptes rendus*, t. xx. (1845) p. 1794; Traité élementaire de conchyliologie, t. i. part 2, p. 767.