B. The columellar muscle of *Cavolinia longirostris* (Pl. II. fig. 3). This muscle is not inserted in the middle line of the dorsal side of the shell but at the right hand angle of its truncature.

C. The central nervous system of *Limacina* (Pl. I. figs. 7, 8). We have already remarked that in this genus the ganglionic elements of the visceral commissure are united into two asymmetrical masses: the right large and the left small. This asymmetry is easily explained by the fact that the "abdominal" ganglion (the fused posterior visceral ganglia) has united with the "supra-intestinal" ganglion (right anterior visceral); the cause of the union is that in the asymmetrical Thecosomata it is the right-hand half of the visceral portion which is the best developed, that side of each set of organs having alone persisted. On examining the central nervous system of the Cavoliniidæ it is seen on the contrary that the left-hand portion of the single ganglionic visceral mass, or the left half, if the two halves are distinguishable, is the larger (*Cuvierina*, Pl. III. fig. 1); this latter mass encloses the abdominal ganglion and the subintestinal (left anterior visceral), and in fact gives origin to the nerves of the "abdominal" ganglion, which arise in *Limacina* from the large right ganglion. Thus the abdominal ganglion has followed the viscera which it innervates (genital gland, kidney, heart, &c.) in their rotation from right to left (regarding the animal from the ventral surface).

It is impossible, then, to deny the existence of this rotation converting the Limacinoid type into straight Thecosomata, or the descent of these latter from the coiled Thecosomata.

In the Cymbuliidæ the rotation has not been so complete as in the Cavoliniidæ. The pallial cavity is not so decidedly ventral, its aperture being less symmetrical, a little oblique and more open towards the right side (Pl. III. fig. 7), showing clearly that it has originated on this side and been displaced towards the left. Besides, the anus has been transported not so far to the left as in the Cavoliniidæ, and is situated only a little to the right of the middle line. The shield (pallial gland), like the orifice of the pallial cavity, is still asymmetrical (Pl. III. fig. 8), as in the Limacinidæ, and not symmetrical, as in the Cavoliniidæ.

Supposing, then, for a moment, that the cephalic portion has remained immovable, the visceral portion of the Cymbuliidæ has made a little less than a half rotation about its longitudinal axis. From this point of view, then, the Cymbuliidæ are a little less specialised than the Cavoliniidæ.

The phylogenetic relations of the different genera of Thecosomata may be expressed graphically by means of the following table:—