ventral) axis, determining the height of the shell, has on its dorsal (or upper) pole the apex or highest point of the dorsal valve, on its ventral (or lower) pole the apex or lowest point of the ventral valve. The two poles of the frontal (lateral or transverse) axis are equal and are determined by the two parapylæ of the capsule, and the corresponding points of the shell-fissure between both valves. Usually the main-axis is the longest, the frontal axis the shortest, and between both the sagittal axis.

In regard to the three dimensive planes which are determined by these three axes, perpendicular to one another, they are rarely of nearly equal size (as in some subspherical species), usually the sagittal plane (separating the right and left halves of the body) is the largest; the cinctural or equatorial plane (separating oral and aboral halves) is the smallest, and the frontal or lateral plane (separating dorsal and ventral halves) is intermediate in size. The relation of the three perimeters of these three planes corresponds to that proportion; the sagittal perimeter (in which the keel of the compressed valves lies) is the largest; the cinctural or equatorial perimeter (separating the anterior phæodium and the posterior central capsule) is the smallest, and the frontal or lateral perimeter (in which the fissure between the valves lies) is intermediate in size.

The general form of the single valves is very varied in the different species, in the majority boat-shaped or hat-shaped, more or less laterally compressed, in a few forms hemispherical. In *Conchopsis* (Pl. **125**) and *Conchoceras* (Pl. **124**, figs. 15, 16) the lateral parts of the valves (right and left) are vaulted, whilst their median parts are so strongly compressed that they form a sharp sagittal keel, and then the shell in the dorsal or ventral view appears spindle-shaped (Pl. **123**, fig. 8*a*; Pl. **125**, fig. 8). Often the frontal margins of the valves are somewhat constricted (Pl. **124**, fig. 7).

The junction between the two valves of the shell is always loose, but not so loose as in the two following families. In the Cœlodendrida and Cœlographida the two valves are either perfectly free and separated by a frontal zone of jelly, or in very loose contact on the frontal margins. In the Concharida, however, the margins of both valves seem to be usually in contact, and their connection is effected in a double way. In the subfamily Conchasmida (comprising the genera *Concharium* and *Conchasma*, Pl. **123**, figs. 1–6) the lateral margins of both valves are smooth, not dentated, and fit one into another like the two parts of a box, or like the two valves of a Diatom (*Navicula*). In the second subfamily, however, Conchopsida (comprising the five other genera, Pls. **124**, **125**), the lateral margins of the valves are dentate, usually provided with a series of numerous strong conical teeth, and the teeth of both valves so catch into one another, that their union is rather firm (like the margin of the shells of *Tridacna*, *Pecten*, and other Lamellibranchiata). Besides, a more solid junction is often effected on the posterior or aboral part of the margins, which we shall call the hinge. Here often peculiar strong teeth catch one into another, and in the majority of species