

ring), and between these three girdles (perpendicular one to another) remain wide open fissures of the shell or "gates" (*Pylæ*). The beginning of the shell-building is the same as in *Larnacilla*, the most simple form of Larnacida. From a quite simple medullary shell, a spherical, subspherical, ellipsoidal, or lentelliptical central chamber, arise two latticed wings, opposite on the poles of the transverse axis (*Monozonium*). Both wings are short and wide hollow fenestrated tubes, the axes of which are parallel to the principal axis. Therefore they form together with the central chamber an elliptical transverse girdle. This first girdle becomes crossed by a second lateral girdle; from both poles of the transverse axis arise latticed wings, which unite on the poles of the principal axis, therefore the minor axis of this second larger ring is the major axis of the first smaller ring (*Dizonium*). Between the two crossed rings remain four wide open gates. Now follows the development of a third sagittal girdle, arising from both poles of the principal axis and overgrowing the four gates. But as this third girdle is larger than the second, four other larger gates arise between the two (in planes perpendicular to the former four gates). Now we have the characteristic and most important trizonal shell (*Trizonium*), composed of three elliptical lattice-girdles of different size, perpendicular one to another, and enclosing a simple central chamber. If the four gates of this *Trizonium* become closed by lattice-work, it passes over into *Larnacilla*, the most important ancestral form of the Larnacida.

This most significant "trizonal shell," either incompletely latticed in *Trizonium* (with four open gates), or completely latticed by fenestration of the four gates, in *Larnacilla*, is to be found in far the greater part of all Larcoidæa, representing the medullary shell, which is overgrown by an outer cortical shell. In many Larcoidæa, in which this "*Larnacilla*-shell" is absent, it is perhaps lost by phylogenetic reduction, or retrograde metamorphosis.

The same process of triple girdle-building, by which the typical *Trizonium*-shell or *Larnacilla*-shell is produced (Haplozonaria), is repeated once or twice in the larger forms of Pylonida. The first system of three girdles (perpendicular one to another) becomes overgrown by a second system of the same formation in the Diplozonaria, and this becomes overgrown by a third system in the Triplozonaria; in the highest genus of this group, *Pylozonium*, we find not less than nine girdles (three systems, each of three girdles). Till now only one genus of the whole polymorphous family was well known, *Tetrapyle* (with five girdles, three of the medullary, two of the cortical shell). If the gates between the girdles remain open, all these forms must be regarded as Pylonida; if the gates afterwards become closed by a network, they pass over into other families.

The fourth family of the Larcoidæa is the Tholonida, distinguished by the polythalamous shell being composed of a certain number of roundish or hemispherical chambers (domes or cupolas), which surround a primordial central chamber in quite regular disposition, lying opposite in pairs on the poles of the three dimensive axes.