

ular bodies, which, in the shell-membrane, become the components of the fibres. Each granule has the appearance of being composed of three or four superposed concentric coatings, reminding one of the structure of starch granules. Now, what these apparent layers are has not been ascertained; but it does not seem possible that they should be the result of refraction, for that, as far as we know, would not produce more than one dark band, or a central dark spot, whilst here we perceive at least two bands within the outline and a central cloudiness, so that we feel justified in saying that in all probability they are concentric concretions. But this needs further investigation.

The thickness of the shell membrane varies greatly: in some species it attains to a very great crassitude; while in others it amounts to hardly one third the extent of the first. Thus, in *Thalassochelys Caouana* (Pl. 7, fig. 30) it is more than one half thicker than in *Chelydra serpentina*, (Pl. 7, fig. 24-26; Pl. 9a, fig. 43, c, d,) but with a quite thin and friable shell; whilst in *Gypochelys Temminckii* (Pl. 7, fig. 27) the shell membrane equals that of *T. Caouana*, but the shell is as thick as that of *C. serpentina*, and rather more dense than the latter, the calcareous nodules being more closely packed together.

*Chelydra serpentina* (Pl. 7, fig. 24-26) has the next thickest membrane, (Pl. 9a, fig. 43, c, d,) being almost two thirds as thick as in *Thalassochelys*, and a shell (a) equal to that of *Gypochelys*. *Enys Meleagris* (Pl. 7a, fig. 26, and 27) and *Xerobates carolinus* (Pl. 7, fig. 28, and 29) have a membrane of about the same thickness with *C. serpentina*; but the shell of *E. Meleagris* equals that of *C. serpentina*, while that of *Xerobates* is more than one half thicker than in these two species, and far more dense and brittle.

*Glyptemys insculpta* (Pl. 7a, fig. 15-17) and *Ptychemys concinna* (Pl. 7a, fig. 20-23) also have shell membranes as thick as the last; but the shell of *Ptychemys* is two thirds as thick as in *Chelydra*. *Graptemys geographica*, (Pl. 7a, fig. 28-30,) *Nanemys guttata*, (Pl. 7a, fig. 7-10,) and *Cistudo virginea*, (Pl. 7, fig. 10-14,) have shell membranes hardly as thick as in *Chelydra*, and the shell half that of the latter.

*Cinosternum pennsylvanicum* (Pl. 7, fig. 1-6) has a shell membrane two thirds as thick as in *Chelydra*; its shell, however, nearly equals, in this respect, that of *Xerobates carolinus*, but is more dense and brittle than the latter.

*Chrysemys picta* (Pl. 7a, fig. 1-3) has a shell membrane and a shell equal to one another, as regards thickness; and both together only equal the shell membrane of *Chelydra*. The shell membrane of the egg of *Platypeltis ferox* (Pl. 7, fig. 2) is about equal to that of *Chrysemys*; but its shell is much thicker, about one sixth thicker than that of *Chelydra*.

The shell membrane of our *Ozotheca odorata* (Pl. 7, fig. 7-9) is much the thin-