

The consistency of the fresh albumen of Turtles' eggs is much greater than in Birds; so much so that the shell and shell membrane may be stripped off, if removed before absorption is far advanced and the yolk and surrounding glairy envelope remain unchanged, and may even be taken up in the hand without sustaining any injury. It is also a very easy matter to strip off several layers, one after the other, even down to within one or two strata, or sometimes to the very last, which lies close to the yolk, without disturbing the latter in the least; in fact, these innermost layers of albumen seem to have considerably more consistency than those exterior to them.¹

Upon making a transverse section of the thickness of the albumen, the edge of the out presents the appearance of several concentric layers divided by dark lines; the distance of the latter from each other, and consequently the thickness of the former, varying according to the region of the mass to which they belong. If in a round egg, (Pl. 9b, fig. 6,) the strata (*a*) are equal throughout; but in an oval one (Pl. 9b, fig. 3) they are thickest near the ends of the egg, (*a*), and gradually thin toward the shorter axis, (*c*), at which point they attain to the minimum of thickness. Their number seems to vary according to the species; for instance, in *Chrysemys picta* there are six or seven, in *Cinosternum pennsylvanicum* about ten, and in *Platypeltis ferox* ten, etc. Further research is needed to ascertain how constant these numbers are in different species. Each stratum is composed of a clear, glairy albumen, in which minute, highly refracting, granular bodies of a more or less oval shape are densely packed and arranged in lines (Pl. 9b, fig. 3a, 6a); and these lines, as they are successively nearer and nearer the borders of the layers, approach each other, so that finally contact ensues between them; and hence their combination produces the dark zones. It is at these dark zones that the layers of albumen separate when peeled off. Where the strata grow thin, in oval eggs, the lines of granular bodies are closer together, (Pl. 9b, fig. 3a, 6a,) throughout the thickness of the layer, than elsewhere. It is further remarkable, that in oval eggs the albumen may be pulled off in layers transverse to the long diameter more readily than otherwise. Perhaps this is owing to the uniformity of its density in that direction, whereas it constantly changes toward the projecting ends of the egg.

When the albumen begins to be absorbed into the yolk sac, these strata are

¹ The above statements may be most fully sustained by opening the eggs of *Chelydra serpentina*, *Osothea odorata*, *Cinosternum pennsylvanicum*, *Nanemys guttata*, *Chrysemys picta*, *Glyptemys insculpta*, and *Cistudo virginica*. We have not examined so closely our Western and Southern species in this re-

spect, nor have we made any experiments respecting the temperature at which the albumen of Turtles coagulates; but would take this opportunity to refer to the interesting paper of Messrs. Valenciennes and Fremy upon the physical and chemical properties of the Turtle's egg. *Comptes-Rendus*, 1854, vol. 38.