A large species of this family has been found by Professor Francis S. Holmes, of Charleston, in the tertiary deposits of South Carolina. Other specimens, from the miocene of New Jersey, have been described by Dr. J. Leidy under the name of Chelone grandæva, and others still, from the green sand, under the name of Chelone ornata;[1] but, whether they belong to the genus Chelonia as now limited, or to Thalassochelys, or to Eretmochelys, is not yet ascertained.

SECTION IV.

COMPARISON OF THE GROWTH OF THE CHELONII WITH THAT OF THE AMYDÆ.

The investigation of the general form of young Emydoidæ, and a minute comparison with the adults,[2] has led to the result, that all Emydoidæ exhibit, when hatching, a circular form, which grows more and more elliptical with advancing age. This law of morphological development does not hold good for sea Turtles. On the contrary, they are much longer in proportion to their width, when hatching, and then grow gradually broader. The upper shield of Thalassochelys Caouana, when hatching, has a longitudinal diameter of 0m,045, and a transverse diameter of 0m,035; a fortnight after, the relation is 0m,046 to 0m,038; after twenty-one days, 0m,050 to 0m,042; and in the half grown, 0m,275 to 0m,250. This clearly shows a change from a longer to a broader form, just the reverse of what is observed in the Amydæ. How is this to be understood? Is the development of the form just the opposite in these two sub-orders; or is it, perhaps, that the Amydæ have already run through the form of the Chelonioidæ while in the egg, and appear now round when hatching, to grow again more and more elliptical? The inference from this last view of the case would be, that the Chelonioidæ only reach in their highest perfection, namely, in the adult state, (Thalassochelys Caouana,) the form which the Amydæ exhibit when hatching. This view is at least sustained by the facts which lie before us; but further comparisons, particularly of young Sphargididæ, must show whether this is the law. But, before considering more fully the evidence thus far collected upon this point, let us examine more minutely the peculiarities which our young Thalassochelys Caouana exhibits, at the time it is hatched.

As in the Amydæ, the head of the Th. Caouana, when hatching, is exceedingly large. The horn by which the eggshell is broken is a solid excrescence of the

[1] Proc. Acad. Nat. Sc. Phila., vol. 5, p. 329, vol. 8, p. 303.

[2] See above, Chap. 1, Sect. 4, p. 290 to 295.