

disc (Pl. 11, fig. 6a, and Pl. 9e, fig. 2) shows at once the nature of this change, and at the same time discloses a thickening at the part (Pl. 9e, fig. 2,  $a^2$ ; Pl. 11, fig. 6a,  $a^1$ ) where the depression occurs, and also that the subsidiary layer (Pl. 9e, fig. 2,  $o^1$ ) follows this depression. By this time the yolk mass has begun to recede from this spot, and is replaced by the albumen which has filtrated through the several walls and layers around the yolk. As yet, however, the albumen (Pl. 11, fig. 1a; Pl. 9e, fig. 2,  $al$ ) occupies but a small segment of the yolk sac. The next older phase has brought the wings of the depression nearer to one another, so that the central part of the latter is bounded, on the side next to the disc, by what resembles a cone confronted by the approximated horns (Pl. 11, fig. 2,  $a^1$ ) which bounded the formerly lunate hollow. By this time, too, the opposite end (Pl. 11, fig. 2,  $a^2$ ) of the disc has become considerably depressed, yet not like the other end, ( $a^1$ ) but simply by curving down, while keeping its contour outwardly arched; the right and left sides also are slightly folded in, in a downward direction, carrying with them a broad strip of the neighboring space, and thus forming a deep annular depression all round (Pl. 11, fig. 2,  $c$ ).<sup>1</sup>

<sup>1</sup> Among the eggs which were retained in the oviduct by a female in confinement beyond the usual time of laying, we have found some remarkable instances of monstrosity.

We will first mention one found in the egg of *Malacoclemmys palustris*. As the embryo normally develops, the caudal hood, as just stated, commences to form almost immediately after the cephalic hood, but in the instance before us (Pl. 11, fig. 7,  $a^2$ , 7n,  $a^1$ ,  $a^2$ , 7b,  $a^1$ ,  $a^2$ ) the head is strongly bent upon itself, whilst the caudal end (fig. 7b,  $a^2$ ) is not folded in the least. The back of the embryo is also more arched (fig. 7b) than in the normal state.

Another instance, of much more extreme disparity between the two ends of the embryo, was found in the egg of *Ozothea odorata*. The embryo, instead of having its normal round or broadly oval form, suddenly narrows behind to half its anterior width, and then terminates in a rounded end (Pl. 11, fig. 9, 9a, 9b). Here again the cephalic hood alone has developed, and that, too, far beyond the bounds of normality. After having bent upon itself as is usual, a portion of the head along the axial line has continued to push still further back in the form of a blind sac, till it has reached the posterior end of the embryo (Pl. 11, fig. 9, 9b). Seen from above, (fig. 9.) the blind sac ap-

pears broader behind than at its mouth, and in a longitudinal section (fig. 9b) we see that it is quite flat, and proceeds in a straight line from the head to the tail, and also that the back of the embryo is much more arched than in the preceding case. We have also made a cross section of this embryo, just behind the head, (Pl. 11, fig. 9a,) in order to display the transverse arch of its back and the flatness of the whole width of the blind sac, and the manner in which its mouth expands sideways and joins the more peripheric part of the embryonic disc. It will be noticed in this transverse section (fig. 9a) that the sides of the embryo are rather suddenly bent downwards; but at the caudal end there is no folding, (fig. 9), notwithstanding the highly developed character of the cephalic hood.

In another instance, (Pl. 11, fig. 8, 8a.) the embryo of this same species exhibits the normal oval shape, but otherwise resembles the last in the mode of its development. The blind sac, however, is cylindrical, and does not reach more than three quarters of the way toward the caudal end (fig. 8). At the mouth of the blind sac there is a furrow on its upper side, (fig. 8a.) which might be mistaken for the primitive furrow, but it is probably a longitudinal fold.

In another egg, of *Malacoclemmys palustris*, the embryo appears, at the first glance, perfectly normal