

body:¹ this layer here follows the bend of the head for a short distance, thus forming a double layer with the amnios in this region; but suddenly (Pl. 9d, fig. 1, a^3) it leaves the track of the amnios, and, forming an angle, (Pl. 12, fig. 3, a^3 , $3a$, a^3) changes its course, passing more directly forward to join the amnios again (Pl. 9d, fig. 1, d) on its centrifugal passage after the last bend above.

Soon the amnios ceases to follow the surface of the body, and may be seen forming bridges (Pl. 12, fig. 6, 9, $9a$, 10, $10a$, $10b$) across the sinuses between the prominent portions of the body, evidently under a high tension, if we may judge by the rapidity with which it contracts when cut in these places. This tension is not due to its being filled with fluid, for it is not yet closed over on the back; but the amnios is evidently kept in this state by the curved body striving to straighten out, which it does the moment it is set free from its restraint. By the time the eyes, the ears, a slightly saccular heart, the branchial fissures, a well developed vascular area, and all the vertebræ but those of the tail, have become prominent features of the embryo, the amnios is nearly closed over, (Pl. 12, fig. $10a$, a^3 , a^4) by the gradual contraction of the anterior, posterior, and lateral dorsal folds.

Up to this time the body has hung partly supported by the amnios, and partly by the peripheric attachment of the subsidiary layer. In a view from below, (Pl. 12, fig. 10,) the amnios (a^5) appears like a narrow halo extending over the whole length of the body and forms an aperture below, (o , o .) similar to that above the back; but the sides of the aperture are not yet within the width of this region of the body. There are two peculiarities to be considered in the formation of the amniotic sac. The first is, that its closing over, above the back, does not take place along an extended line, but by an approximation of its edges towards a point, around which it gradually contracts, till the stratum that envelops the body is attached to the greater bulk of this membrane by a mere hollow neck, which, finally, is severed by the further constriction and union of the edges of the aperture. As would naturally be expected, as a consequence of this proceeding the outer peripheric portion also closes its aperture, and thus forms a continuous closed sac, lying just within the embryonal membrane, which, as we have already pointed out, follows closely every curve and angle of this layer, and consequently shares in the formation of these double saccular envelopes. The other peculiarity of the amnios is, that its folding upwards and concentrically is totally independent of all pressure from the allantoidian sac, which at the present time has but just begun to develop, though it eventually encroaches upon this region, following closely upon the surface of the already complete amniotic envelope. At the time of this change in the relations of the smaller inner, and the

¹ See p. 536.