

relations of which will presently be pointed out more satisfactorily. The subsidiary layer partakes also of the curvatures of the body, following closely its lower surface, as formerly (Pl. 9e, fig. 4 and 4a,  $n$ ,  $n$ ,  $o^1$ ); but, instead of bending up with the amnios over the head, the sides, and the tail, it extends almost in a direct line (Pl. 9e, fig. 4 and 4a,  $a^3$ ,  $a^4$ , and Pl. 11, fig. 5a,  $a^3$ ) to the outer edge of the area pellucida, (Pl. 9e, fig. 4,  $d$ , 4a,  $d$ ,) and there, meeting the germino-amniotic layer, (Pl. 9e, fig. 4,  $a$ , and 4a,  $a$ ,) follows it closely all over the yolk mass. This conduct of the subsidiary layer causes the embryo to appear as if winged, (Pl. 11, fig. 5a,  $a^3$ ,) when viewed from below. Ever since the albumen began to filtrate into the yolk sac, the subsidiary layer (Pl. 9e, fig. 1,  $o^1$ ) has been growing thinner; yet not rapidly, but only at such a rate that it is now (Pl. 9e, fig. 4, 4a,  $o^1$ ) reduced to about three fifths of the thickness it had in the beginning.

Making another advance of from ten to twelve days, we come to an embryo in which the amnios, both in its cephalic and caudal part, has progressed pretty far up, on the back (Pl. 12, fig. 1,  $a^1$ ,  $a^2$ ; Pl. 9d, fig. 1,  $a^1$ ,  $a^2$ ). The primitive furrow has become a deep channel, (Pl. 12, fig. 1,  $e$ , 1a,  $e$ ,  $e^1$ ; Pl. 9d, fig. 1,  $e$ ,  $e^1$ ,) forming, at the head, quite a large cavity, (Pl. 9d, fig. 1,  $e^1$ ,  $e^2$ ,) closed at one point ( $e^3$ ) by the arching over and uniting of its walls. Along the back, however, this gutter is still open (Pl. 9e, fig. 5,  $e$ ; Pl. 12, fig. 1,  $e$ ; Pl. 24, fig. 13,  $e$ , fig. 13a,  $e$ ); its lower floor (Pl. 9d, fig. 1,  $e^1$ ; Pl. 9e, fig. 5,  $e^1$ ) has broadened, and the whole is curved upwards into a round, cylindrical form, the thickness of which is considerably increased; but its edges, (Pl. 9d, fig. 1,  $e$ ,  $e^2$ ; Pl. 9e, fig. 5,  $e$ ,) although considerably turned inwardly, remain at a slight distance apart, and are still continuous by a sudden reduplication with the immediate and more peripheric part of this layer, (Pl. 9e, fig. 5,  $p$ ,) which has thickened also, but thins out toward the area pellucida ( $e$ ). At the posterior half of the embryo, this furrow, which may now be recognized as the initiatory phase in the formation of the spinal marrow, and of its enlargement, the brain, has not become so deep nor so narrow, (Pl. 9d, fig. 1,  $e$ ; Pl. 12, fig. 1,  $e$ ; Pl. 24, fig. 13,  $e$ , 13a,  $e$ ,) but is yet a very broad channel, which gradually grows shallow backwards, and its sides become less elevated, till its lower floor is continuous, in the same horizon, with the space about it; so that a considerable part of the caudal portion (Pl. 9d, fig. 1,  $e^1$ ) of the embryo is not yet endowed with a special spinal nervous system.

The broad band (Pl. 9e, fig. 3,  $f^1$ , fig. 3a,  $f^1$ ,  $f^2$ , etc.) mentioned in former pages, which separates from the subsidiary layer, ( $o^1$ ) has now (Pl. 9d, fig. 1,  $f^1$ ; Pl. 12, fig. 1,  $f^1$ ; Pl. 24, fig. 13,  $f^1$ ) become very much thickened centrally, but thins out laterally, and presses closely against the floor of the spinal tube