

mal, that the absorption of albumen should change from the place where it began and go on afterwards near the end of the shell, as is the case when the eggs were laid obliquely in the nest, as we have mentioned above. However, in this latter instance, the development of the embryo does not appear to be hindered. From these facts, we can very readily see that the longer curve of the oval egg corresponds, in a general way, to the sides of the globular egg, which run parallel with the longer axis of the animal.

The absorption goes on encroaching successively upon the more inner layers of albumen, till all have been pierced in the part which lies above the embryonic disc, and the much enlarged yolk sac touches the shell. There is a considerable degree of regularity in regard to the rapidity with which the albumen is resorbed. At the time it begins to infiltrate into the yolk sac and to occupy a space below the embryonic disc, the cephalic hood has just begun to form (Pl. 11, fig. 1, 1a; Pl. 9b, fig. 1, 4, 4a, 5, 7, 7a). Sometimes, however, the cephalic hood does not appear till the yolk sac is almost one third filled with albumen (Pl. 9b, fig. 2, 2a). In the oval eggs of Cinosternoida, so far as we have observed, the yolk sac becomes half full of albumen before the sac itself loses its globular shape, or the cephalic hood begins to form, or any change comes over the embryonic disc (Pl. 9a, fig. 41, 41a). Soon after this, however, the yolk sac (Pl. 9b, fig. 3, *y*) elongates slightly towards the ends of the egg, and becomes broadly oval as the albumen (*a*¹) continues to be absorbed. When the yolk sac is one third filled, (Pl. 11, fig. 3a,) the cephalic and caudal hoods are quite deep, and the primitive furrow has just appeared (Pl. 11, fig. 3, *b*) at the cephalic end of the embryo. Sometimes the primitive furrow has not appeared, (Pl. 11, fig. 4,) even when the yolk sac is nearly half full of albumen (Pl. 11, fig. 4a). By the time all the layers of albumen have been pierced (Pl. 9c, fig. 2) by the absorption of their substance, and the yolk sac has become more than half filled with albuminous fluid, and its upper side touches the shell, (Pl. 11, fig. 5b, 5c,) the head of the embryo is much bent upon itself, (Pl. 9e, fig. 4,) and the primitive furrow (Pl. 11, fig. 5, *b*, 5a, *b*) extends along more than one half the length of the cerebro-spinal axis. Judging from the large amount of clear fluid already within the yolk sac, a portion of the yolk must have become liquefied, since the infiltrated albumen alone could not take up so much room.

There remains considerable albumen to be resorbed after this period. After rising so high as to touch the shell, the yolk sac has nothing further to absorb directly from above, and therefore the remainder of the albumen must enter at the side and below. This goes on till, by the time the process is finished, the shell is filled by the distended yolk sac. At what time all the albumen becomes infiltrated into the yolk sac we cannot say definitely, since we have not traced