

In consequence of the elongation of the head, the brain (Pl. 23, fig. 3) is also more straightened, especially the olfactory lobes and nerves, (*c-c'*), so that from the Schneiderian membrane (*c'*) to the cerebellum (*e*) there is a long and pretty uniform curve. The olfactory lobe (*c*) is much more enlarged, and seemingly at the expense of the hemispheres (*a*). The hemispheres (*a*) are on a level with the corpora quadrigemina (*b*). The optic lobes, (*k*), in following the elevation of the hemispheres, are raised considerably above the floor of the fourth ventricle (*p*). The floor of the fourth ventricle (*p*) is much thicker, and the whole ventricle is proportionably larger and broader, than heretofore. The vascular covering (*g'*) of the medulla oblongata contains more bloodvessels. The entrance to the ear may be recognized externally as a large dark spot just behind and above the corner of the mouth (Pl. 18a, fig. 1). At the tip of the upper jaw there begins to appear a slight protuberance, (Pl. 18a, fig. 1,) the nature of which will be better understood in future stages.

Besides the distinctly developed pulmonary artery, (Pl. 24, fig. 10, 10a, 10b, *h'*, *h''*), already mentioned, the heart has now a complete valvular apparatus (fig. 10b, *vo*, *vl*) between the auricles (*h³*, *h²*) and the ventricle, (*h⁴*) and a large venous sinus (fig. 10a, *vs*). The extent of the vascular area is variable, in some instances covering a large portion of the yolk, (Pl. 15, fig. 7,) and in others not more than one half (Pl. 15, fig. 8, 8a, 9) of its surface. The lungs are now many-chambered (Pl. 20, fig. 4, 4a); the partitions are traversed by bloodvessels, (*b*, *b'*, *c'*), and new channels of blood are being hollowed in the younger partitions (*a'*). The allantois extends as far as the edge (Pl. 15, fig. 8, *i*, fig. 8a, fig. 9) of the vascular area, where it bends upon itself and passes upwards and follows the inner contour of the shell very closely. The characteristic parallel bloodvessels enable one to follow very easily the foldings of this organ (Pl. 14, fig. 13; Pl. 15, fig. 8, 8a, 9).

The skin of the neck has strong folds, (Pl. 15, fig. 9,) indicative of the retractility of the head, which the embryo possesses in a marked degree. This, consequently, indicates the existence of active retractor muscles of the head and neck. Indeed, when the egg-shell is removed, young *Chelydras* of this age already snap fiercely at any thing that is brought near them.

In a phase but slightly more advanced than the last, the protuberance at the end of the upper jaw (mentioned above, line 13) is here (Pl. 16, fig. 1; Pl. 25, fig. 10, *bk*) prolonged into a very prominent, sharp beak, covered by the soft and thick epidermis. The eyes are partially covered by movable eyelids (Pl. 25, fig. 10). The terminal joint of each toe (Pl. 25, fig. 12, *b*) is covered with a distinct and thick, transparent layer, (*a*), resembling horn. The bones of the fingers (*d*) are broader at the ends than at the middle. The bloodvessels of the feet are well