

projects but little, as it is largely bent forward (see fig. 4, C 3), and the cerebellum (C 3a) is only rudimentary at present. Comparing this head with that of the last stage, it is seen how rapidly the permanent form is being assumed, and how fast the various folds of skin—eyelids, superorbital ridges, lips, &c.—are growing. The upper third of the head is not at present protected even by cartilage (see section Pl. III. fig. 5).

(c.) *Lower view of head.*—Below, we see that the maxillo-palatine folds have coalesced with the fronto-nasal fold (compare Pl. III. fig. 3, with Pl. II. figs. 2, 3) to form the upper cheek, in which afterwards the maxillary and jugal bones appear laterally, and the premaxillaries in front.

There is still a large cleft in front between the eyeball and these two conjoined folds; this is part of the original “lacrimal cleft” (*l.cl.*, see also Pl. II. figs. 2, 3); the nasal cleft is near the well-rimmed nasal aperture and passage (*e.n.*). The eye, behind, rests on a cushion of thickening tissue, which overlaps the ball almost to the iris; this is the large lacrimal gland (*l.g.*). Round the ball the upper and lower lids are now clearly seen (figs. 1–3).

A comparison of the head in this stage with that of the last will show how rapidly the generalised “Sauropsidan” head has been transformed into the specialised head of a Chelonian.

(d.) *Vertical section of head.*—A vertical section of the head, both with the brain *in situ*, and also with it removed (Pl. III. figs. 4, 5), helps much to elucidate the nature of the metamorphosis that has taken place in so short a time as between my fourth and fifth stages.

The cavities of the brain vesicles are decreasing rapidly; the hemispheres (fig. 4, C 1a) form the foremost part of the brain; the hind-brain (C 2) looks upwards and backwards, and is becoming very solid; and the hind-brain has, above and in front, some convolutions that form the rudiments of the cerebellum (C 3, 3a).¹

The folded form of the mid-brain gives rise to a large space which now looks upwards and backwards, and which contains some very important parts soon to be described.

The optic and olfactory nerves are solid,—the former was tubular, and the latter will have a cavity, when the olfactory tract or vesicle is formed and has communicated with the nerve.

The infundibulum (figs. 4 and 4a, *inf.*) is forming, but like the pituitary body (*py.*) is still imperfect; moreover, these two bodies are at present quite separate from each other.²

The chondrocranium (Pl. III. fig. 5) is now at its greatest perfection, and it has

¹ In this section the cortical matter of the brain is shown as partly severed from the medullary part, which is due to the tearing action of the razor.

² The structures here shown on the face of a solid section will be largely illustrated by figures taken from the transparent sections made in three directions.