

wall (*p.cl.*). In the hinder section of the notochord we see that all the three cartilaginous elements are fused into one ascending plate; these, although non-segmented, answer to the neural arches and mesoblastic sheath of the notochord in the spine. It is evident that the axis of the cranium did bend over between this plane and the plane of the last section (fig. 5); now we shall see whether or no the cranium at its base follows the infolding of the mid-brain, and how far the fore end of the notochord comes short of the organic end of the fore-brain. That vesicle is turned downwards, so that its organic end is below, and even a little backwards in its direction, so that the optic vesicles are very near to the original or organic end. But in the fourth stage the fold of the head was very large (Pl. II. fig. 4), and the notochord (*nc.*) ran up high into the space behind the post-clinoid wall (*p.cl.*); afterwards, in this stage, it is relatively scarcely half as high as the cartilaginous wall (or upturned basis cranii), yet it has become much more deflected at its tip (Pl. III. figs. 4, 5, *p.cl.,nc.*). This and the next section throw a beautiful light upon the condition of the notochord near and at its fore end, and of the prolongation of its secondary or mesoblastic sheath.<sup>1</sup>

All the characteristic structures of the notochord are seen in the hinder section (Pl. VIII. figs. 6, 6*a*, *nc.*), but in the fore- or down-turned part there is nothing but hyaline cartilage, with crescentic corpuscles arranged concentrically, mesoblastic, like the rest of the sheath, behind; thus the notochordal sheath is prolonged beyond the chord itself, which loses itself in front in this secondary coat.

The head is so much bent that even here the section is made through the upper part of the auditory capsule and the enclosed anterior canal (*au.,a.s.c.*).

*Seventh Section.*—This section (Pl. IX. fig. 1, 1*a*) throws still further light upon the behaviour of the basal elements of the chondrocranium, as they come near to the organic end of the head.

This section is partly near and partly below the base of the orbito-nasal septum; in front, the prenasal rostrum (*p.n.*) or fore-growth of the "intertrabecula" is cut through, where it turns downwards; the median bar is then narrower, then thickens, and becomes narrower, twice over, before it reaches the pituitary space.

At this low level the trabeculæ are only in sight at two places, viz., behind, where they become condyloid to articulate with the base of the "wall," and in front, where they form two short rounded "cornua" (*tr.,c.tr.*) a little way within the nasal region; in front of these "horns" the median bar alone exists. Part of the nasal wall (*n.w.*) is cut through in this section, and the cavities are shown on a plane lower than that of the external nostrils.

Part of the Gasserian ganglion and the stem of the second and third branches

<sup>1</sup> For Mr Balfour's description of the notochord, see his "Elasmobranchs," pp. 74, 138, &c., pl. vi. figs. G, H, I, where the downward curve of its apex is shown. In *Chelone*, as in the *Selachians*, it is thus true that "anteriorly the termination of the notochord cannot be seen, it can only be traced into a mass of mesoblast at the base of the brain, which separates the epiblast from the hypoblast" (p. 75). What change the prochordal part of the mesoblastic sheath undergoes in *Chelone* will be understood by the descriptions now to be given.