cranial bar (prenasal cartilage), which curves down into this lobe. In many Vertebrata this lobe contains both the paired and single elements of this fore part of the cranial floor; in this type only the single rod (Pl. II. fig. 5, *p.n.,i.tr.*), the other bars ("cornua trabeculæ"), stopping short of this region.

Without further dissection than the removal of the lower part of the post-oral folds several important things can be seen (Pl. II. fig. 3).

The double oral cleft has been laid open at the angles; behind and within these the Eustachian openings of the first post-oral or tympanic cleft (*eu.*) are seen; they are wide apart, and crescentic, with the concavity on the outer side. They are in this view evidently comparable with the pre-oral chinks.

These latter spaces, both open on each side, over the fore part of the oral recess; between them the palate is carinate ("vomerine region"), and half-way behind the fronto-nasal fold an open space appears, into which the oral lining has grown, as an indrawn, tubular recess.

This peculiar diverticulum is the rudiment of the *pituitary body;* it stands on the debatable ground where the hypoblast and epiblast meet, but according to the best observers is formed from the latter layer of the blastoderm (see Balfour's Elasmobranchs, p. 189).

The upper view (Plate II. fig. 1) shows the size and front position of the mid-brain (C 2), the oblique position of the huge eyeballs (*e*), the superorbital folds (*s. ob.*), and the three tracts covering the hind-brain (C 3), whose upper part is very thin, and thinly covered with skin.

Also we see the auditory sacs (*au.*), the tympanic region (*co.*), and the occipital and cervical muscle-plates. In the halved head, vertically cut (fig. 4), we see the effects of the cranial flexure at its uttermost degree of development; the sigmoid flexure of the hind-brain, the looped form of the mid-brain, and the low position of the fore-brain.

In these hand-sections the razor separates the cortical from the medullary matter of the brain, which thus forms a coat that might be mistaken for the membrano-cranium.

The floor of the hind-brain (C 3) is thick, but its roof is thin; in front, over it, the cerebellar folds (C 3*a*) are forming.

Also the mid-brain is folded forwards and backwards, within, whilst at its middle it stretches over a large vertical space in which ascend the posterior clinoid wall (*p.cl.*), and the notochord (*nc.*); down it the third nerve descends to the orbital muscles; the interspaces are filled with a gelatinous stroma. The highest part of this cavity in the folded mid-brain is acute, behind that it is rounded, where the swelling base of the hind-brain retires as it ascends to the cerebellum.

The fore-brain (C 1) has developed median vesicles, and three pairs of vesicles.