

laterally, by the fenestra rotunda. Here the investing mass (*iv.*) and the capsule (*au.*) are united, but their line of junction can be clearly seen.

Opposite the meatus internus, where the portio mollis (8) is entering, there is a rather large opening; it is below the 'middle of the overhanging side of the ear-capsule. This is the fenestra ovalis (*f.o.*), and it is closed by the dilated end of the columella (*co.*). At this part the quadrate (*q.*) is bent on itself at a right angle to form the roof of the tympanic cavity. Between its base and the columella (*co.*) the first cleft (*cl.* 1) is seen curved upwards, and dilated externally. The columella follows exactly this crescentic curve, and is, altogether, a quadrant. The tissue in the fenestra ovalis, surrounding the head of the columella (upper part of hyoid arch), is not yet chondrified; it becomes afterwards the stapedial end or "operculum" of the columella, which is at present only hyoidean.

In the branchial arches of the Selachians, and indeed of Fishes generally, the proximal piece, like the distal piece, is composed of two pieces,—a "pharyngo-branchial" above, and an "epi-branchial" below. The hyoid arch of *Chimæra*, *Acipenser*, and of many of the Batrachia, is subdivided in the same way, for indeed the hyoid is a branchial arch.

In Osseous Fishes, and in several kinds of Batrachia, the cartilage is not segmented, but the upper hyoid element has two bony centres—a proximal and a distal.

Here the most archaic and generalised condition obtains, for the "mediostapedial" part of the columella (*m.st.*) is separated by a joint from the stem of the orbicular "extra-stapedial" (*e.st.*). We shall see that the distal part of the arch is composed also of two pieces, so that at this great height above the low Cartilaginous Fishes, even the new specialisations have not touched the old morphological subdivisions.

The conformity of the Chelonian in its development to old patterns will show itself again and again as we proceed with this demonstration.

*Twenty-first Section.*—The basioccipital region (Pl. VII. fig. 1) is here cut off close to the condyle (*oc.c.*), and the enclosed notochord (*nc.*) is large. Between the basal cartilage and the auditory capsule there is a large space through which the ninth and tenth nerves pass out; the vagus (10) has been cut through beyond the ganglion, but the glosso-pharyngeal (9) is well shown with its long root growing out of the sides of the medulla oblongata (C 3), its large ganglion, and its stem.

The upper cervical muscles are shown, for the razor passed in a plane parallel with the axis of the neck; the auditory capsules are cut through where the ampulla of the posterior canal is imbedded (*p.s.c.*), and where the horizontal canal (*h.s.c.*) is ending in the vestibule. The scooped quadrate (*q.*) is cut through close to its end.

*Twenty-second Section.*—In this section (Pl. VII. fig. 2) the arch of the posterior canal (*p.s.c.*) is severed, and the sides of the occipital arch (*e.o.*) are seen at the front of a series of lateral cartilages—the neural arches of the neck. These end below in broad bases that enclose the mesoblastic (cartilaginous) sheath of the notochord (*n.a.,nc.*). Here the medulla oblongata (C 3) is seen passing into the medulla spinalis (*my.*)