

vein.”<sup>1</sup> It appears to me that only one of these features can be considered as being a universal distinction in the Marsupial heart, and that is the total absence of any landmark pointing back the early communication which exists between the auricles. In *Thylacine* and *Dasyure*<sup>2</sup> there is not the slightest approach or tendency to a cleavage or bifurcation of the appendix of the right auricle, and in all the animals I examined the great cardiac vein (*i.e.*, the vein which in the human heart expands into the coronary sinus) entered the right auricle by an independent opening placed in the upper part of the auricle by the side of the orifice of the right anterior vena cava.

In *Thylacinus* (Pl. IX. fig. 1) the heart is narrow, elongated and pointed. The *right auricle* is very capacious, and its appendix, whilst it shows no indication of bifurcation, is peculiar on account of its great breadth. On opening into the cavity of this auricle we notice that the walls of the appendix alone present muscoli pectinati. The walls of the atrium are perfectly smooth and even. In addition to the minute apertures of the venæ Thebesii, and the small mouths of a few anterior cardiac veins which open directly into the auricle, there are four large venous openings—two in front, and two behind. Those in front are the orifice of the right anterior vena cava (which has the same position as that of the superior vena cava in man), and the orifice of the great cardiac vein which lies at a slightly lower level, and to its inner side. The latter presents a gaping mouth towards the cavity, and both are totally destitute of valves. The two posterior openings are (1) that of the posterior vena cava which has the usual situation, and (2) the opening of the left anterior vena cava which is placed between the orifice of the posterior vena cava, and the auriculo-ventricular opening,—it occupies, therefore, the same position as the coronary aperture in the human heart. The auriculo-ventricular opening readily allows two fingers to be passed through it into the cavity of the right ventricle.

*Right ventricle.*—The cavity of the right ventricle falls short of the apex of the heart by fully an inch and a half. The conus arteriosus is very pronounced. In the interior of the ventricle the columnæ carneæ are scarce and are altogether absent in the conus arteriosus, and at the apex of the cavity. The muscoli papillares are disposed in two groups, *viz.*, one upon the septum near its anterior margin, and the other upon the anterior wall of the ventricle near the right sharp margin of the heart. In connection with each there is a moderator band. That passing from the base of the septal muscle to the anterior wall is very delicate, whilst the other, which stretches between the base of the anterior muscle and the septum, is remarkably strong. Indeed, we might look upon the anterior musculus papillaris as arising by two equal parts, one from the septum, and the other from the anterior wall.

<sup>1</sup> Notes on the Anatomy of the Wombat (Proc. Zool. Soc. 1836, p. 51); Comparative Anatomy and Physiology of Vertebrates, vol. iii. p. 517; Cyclopædia of Anatomy and Physiology (Marsupialia), vol. iii. p. 306.

<sup>2</sup> In his paper upon *Dasyurus macrurus* (Proc. Zool. Soc., 1835, p. 8) he makes no reference to a bifurcated condition of the right auricle. He only says—"The right auricle rose high above the left. Both auricles had smooth short appendices."