

observed by Professor Turner to proceed from the superior maxillary division of the fifth ;¹ again, every demonstrator of anatomy has observed the descendens noni taking its origin from the vagus instead of the ninth nerve ; and the frequency of the accessory obturator and the accessory phrenic nerves is a fact of common knowledge. The Cetacea afford us a very striking illustration. The absence of functional hind-limbs and the massing of the muscles in the posterior part of the animal into four great columns, which are situated one upon each aspect of the spine, give rise to a corresponding adaptation of the nerves. Thus we find that the lumbo-caudal nerves, after giving off branches to the genitals and the abdominal wall, arrange themselves in four nerve-cords, which extend backwards upon the vertebræ to the tail. Each cord is developed in relation to one of the four fleshy columns.² The arrangement is peculiar to the Cetacea, and probably also the Sirenia.

THORACIC VISCERA.

The thoracic viscera were examined in each specimen that was put into my hands, viz., in the *Thylacine*, the *Dasyure* (*Dasyurus viverrinus*), *Cuscus*, *Vulpine phalanger* and *Phascogale*. I now propose giving a sketch of the peculiarities which were noted.

Pericardium.

In *Thylacinus* the pericardium is oval or fusiform in shape—considerably narrower behind than in front. Posteriorly the fibrous layer presents a slight attachment to the diaphragm, whilst anteriorly it is lost upon the coats of the aorta and great vessels. Two indefinite fibrous bands, the sterno-pericardiac ligaments, bind its lower surface to the upper aspect of the sternum. In addition to the usual vessels the fibrous pericardium is pierced, in front of the root of the left lung, by the left superior vena cava. The serous pericardium reaches the surface of the heart in the usual manner. There is, however, no trace of the vestigial fold of Marshall.

In the *Dasyure*, *Phalanger*, and the *Phascogale*, the fibrous pericardium presents no direct attachment to the anterior surface of the diaphragm. In *Cuscus*, however, a distinct fibrous band passed between these structures. This was not observed in the other animals. In other respects the pericardium of each agrees with that of the *Thylacine*.

Heart.

Owen considers the Marsupial heart to be distinguished by three leading peculiarities, viz., (1) a bifurcation of the appendix of the right auricle into two angular processes which embrace the root of the aorta ; (2) the absence of the annulus and fossa ovalis—a condition which doubtless points to the short intra-uterine life of the foetus, and (3) the absence of the terminal aperture, in the right auricle, of the “coronary

¹ Journal of Anat. and Phys., vol. i. ; and Proc. Royal Soc. London, 1868.

² Vide Cunningham, Spinal Nervous System of Porpoise and Dolphin, Journal of Anatomy and Physiology, vol. xi.