

off a strong gastro-hepatic artery above, which divides into several branches within the region of the cardia, for the supply of the stomach and the livers; the intestinal arteries and the posterior œsophageal artery are very strong. The main aorta is prolonged forwards to the region of the central nervous system, and then gives off the *aorta posterior*, accompanied on each side by two nerves; this enters the lower side of the anterior genital mass, then divides into numerous branches, and is prolonged backwards as the artery of the hermaphrodite gland. The anterior prolongation passes as the short *aorta anterior* between the pedal and pleural ganglia, and divides into (1) the pedal artery, which subdivides into an anterior and posterior branch which supply the foot, and into (2) the artery of the bulbus pharyngeus, which is prolonged forwards in the usual fashion, giving off the lingual artery, and a small branch to the foot gland.—The atrium of the heart receives the blood that has been arterialised in the lung by the *pulmonary veins*. The blood which enters the lung does so by means of the two *sinus laterales (circumpediaei)* and the *sinus pediaeus medianus*, into which the strong rete venosum of the foot empties itself; these large sinuses are in direct communication with the body cavity (by means of minute apertures in their walls), which forms a large *sinus venosus*, the two main divisions of this are united by fine pores in the septum lying between them.

The *lung* is of oval form (Pl. V. fig. 20), fastened above and on the outer side to the body-wall; the anterior wall passes into the pericardium. The length of the lung is 15·5 mm. by 10 mm. in breadth and 6 mm. in height; the outside is even. When opened the length of the cavity was 13 mm., the breadth 5·5 mm., and the height 5 mm.; the height and the breadth increased at the anterior and posterior extremities. The left wall and the left part of the lower wall of the cavity are smooth and yellowish in colour, and not covered by lung tissue. This latter covers the walls of the lung everywhere else (fig. 20), and is black; its free wall is spongy and reticulate; the structure of the lung appears to be precisely similar to that of other Pulmonata.<sup>1</sup> The *respiratory tube* (fig. 20, a) is short, about 4 mm. long, with fine longitudinal folds.

In the black lung tissue, and contrasting with it by its yellowish-white colour, is the *renal organ* (fig. 20), which measured 2·75 mm. in breadth. Its structure is as usual; the *urinary chamber*, which extends through the axis of the organ, is of rounded angular form and rather wide. I did not succeed in following the duct to an opening in the lung-cavity, nor did I find the renal syrinx, which certainly must have been present.<sup>2</sup>

The hindermost part of the visceral cavity is filled by a firm three-sided body, broader in front than behind (Pl. V. fig. 26, a; Pl. VI. fig. 12, a), which is 17·5 mm. long and 14·5 mm. broad by 11 mm. high. The anterior end was blunt and somewhat faceted; the hinder

<sup>1</sup> Semper, Beitr. zur Anat. und Phys. der Pulmonaten, *Zeitschr. f. wiss. Zool.*, Bd. viii., 1857, p. 370.

<sup>2</sup> Semper (*Arbeiten*, &c., Bd. iii., 1877, p. 485, Note) has observed the renal syrinx in *Helix* and *Vaginulus*. In a specimen of *Unchidium tumidum*, S., from Singapore, I found at the upper attachment of the atrium of the heart, enclosed in the spongy kidney tissue, a small organ with folds on the inside, covered with long cilia; this is certainly a *renal syrinx*.