

on either side is the strong cylindrical *rhinophore* (ophthalmophore), which is exsertile, and bears an eye on its outer end; at the sides the frontal shield is prolonged into a tentacle. In the middle line, at the hinder end of the body, on the under surface of the mantle edge, generally at its base, is the *pneumostome*, the lung-aperture; below this, and above or at the root of the short tail is the *anus*. Along the right side of the body runs the *female genital furrow*, which is ciliated during the life of the creature; it commences in front of the anus, and is prolonged as far as the region of the opening of the so-called *foot gland*, which lies in the median line, above the anterior margin of the foot. At the hindermost extremity of this furrow lies the *female genital opening*; the *male* aperture is at the upper side of the frontal shield, nearer the middle line or below the right rhinophore. The *foot* is large and generally broad.

The *central nervous system* resembles that of other Pulmonates, as do the sense-organs; the remarkable dorsal visual organs, proper to this group, are formed on the type of the vertebrate eye.—The bulbus pharyngeus and tongue are like those of other Pulmonates; jaw-like organs are found only exceptionally (*Onchidium boreale*). There are three stomachs—an anterior, a masticatory, and a posterior (a kind of psalterium). The *liver* is also divided into three portions—an anterior (-upper), an inferior, and a posterior (-upper). The *intestine* is very long. The *lung cavity* is at the hinder end of the body, and extends to the right upwards; it opens nearly always in the median line, through the short respiratory tube with its aperture (pneumostome). On the walls of the lung cavity is the renal organ, which appears to open within it close to the respiratory tube.¹ The pericardium lies in the body-wall.—The hermaphrodite gland is made up of two halves, and is of the usual structure. The hermaphrodite duct forms only a very small or no special ampulla. The anterior genital mass (mucous and albuminiparous glands) is short and more or less rounded. The vesicula seminalis is large, roundish, and opens at the base of the duct of the mucous gland; this last duct opens within or at the hinder end of the female genital furrow. The vas deferens first takes its way along the mucous duct, and with it enters the side wall of the body, and then bends forward and becomes much thinner, and is enclosed within the body wall,²

¹ V. Jhering has, as is well known, divided the order Pulmonata (Vergl. Anat. d. Nervensyst. d. Moll., 1877, pp. 225–239, and Ueber die system. Stell. von Peronia. die Ordn. Nephropneusta, Jh., 1877) of Cuvier into two orders—the Nephropneusta (*Helicoidea*) and Branchiopneusta (*Limnoidea*). He agrees with Milne-Edwards (Leç. s. la phys. et l'anat. comp. t. ii., 1857, p. 91) in regarding the lung of the first-mentioned as morphologically the dilated termination of the renal organ (or cloaca) of the marine Ichnopoda; and the lung of the second group as the equivalent of a branchial cavity, from which the branchiæ have disappeared. Semper (Einige Bemerk. üb. die Nephropneusten v. Jhering's. Arb. aus dem zool. zoot. Inst. in Würzb., Bd. iii., 1877, pp. 480–488) has brought forward considerable evidence against this, which has hardly been weakened by a later work of v. Jhering's (Ueber die system. Stellung von Peronia und die Nephropneusta, 1877, pp. 30–32).

² Other Pulmonata show the same course of the vas deferens. In *Veronicella* (*Vaginulus*) the condition is similar, but the part imbedded in the musculature is shorter, because the place where the vas deferens is imbedded in the skin lies, together with the vulva, about the middle of the side, and not at its end, as in *Onchidium*. A similar condition is also found in the Auriculacea and Lymnæacea, in which also a portion of the vas deferens, but much shorter than in *Onchidium*, is imbedded in the body-wall. Cf. Semper, *loc. cit.*, p. 251.