

of the perineural cartilage. They are immediately applied against the buccal bulb¹ and ramify at the back of the brachial ganglia (Pl. V. fig. 3, *a*).

The posterior glands in *Spirula peronii* are placed dorsally, immediately behind the cartilaginous capsule, and in front of the liver, extending on each side of the œsophagus (Pl. III. *p.sl.*).² They are almost the same length as the auditory capsules, at the dorsal face of which they are found (in Pl. V. fig. 1, these glands are for the greater part hidden by the liver, and the small portion visible is not lettered).

An unpaired median salivary duct opens in front of the "tongue," upon the floor of the buccal cavity (Pl. VI. fig. 6, *sd.*); it could not be followed as far as its posterior extremity, but, by analogy with other Dibranchiates, it may be affirmed that it is the unique duct of the posterior salivary glands.³

The *œsophagus*, commencing at the posterior extremity of the great buccal mass, is directed backwards and traverses the central nervous system with its cartilaginous capsules (Pl. III. *œ.*). As far as the nervous system it forms a concave curve backwards (ventrally), then it recurves in the inverse sense, and after having traversed the nervous œsophageal collar, it passes ventrally backwards, between the posterior salivary glands and the lobes of the liver, then between the great lateral muscles it follows the median line near the ventral face; afterwards, having attained the level of the first whorl of the shell, it turns abruptly, almost at right angles, and, dilating a little, terminates in the right or cardiac half of the stomach, by a narrow opening (Pl. VI. fig. 3, *ca.*). This last is bounded on the left side by a slightly elevated ridge, the continuation of which borders a shallow groove in the wall of the cardiac extremity of the stomach. This terminal dilated portion of the œsophagus has thick and glandular walls, so that it forms a sort of rudimentary "proventriculus."

The *stomach* is divided into two chambers: right or cardiac (stomach properly so-called) and left or pyloric; these two divisions are separated by a constriction in the anterior wall. The cardiac chamber (Pl. VI. figs. 1-3, *cr.*) projects into the portion of the visceropericardial cavity which is situated to the right of the septum formed by the whorls of the shell; the pyloric chamber or appendage (Pl. VI. figs. 1-3, *ps.*) sinks into the opposite half of this latter cavity, the middle portion reposing on the walls of the body which covers the shell. When the stomach is open, it is seen that each of its divisions forms a sort of great compartment; that on the right side is subcylindrical, and

¹ As in the Cœgopsids (example, Fig. L, *x*), where they are partly hid under the superficial musculature of the bulb. We know that in the Myopsids this anterior pair is very greatly reduced and intrabulbular.

² In *Spirula australis* they are, according to Owen, fusiform upon almost all their length (*Ann. Mag. Nat. Hist.*, ser. 5, vol. iii. pl. ii. fig. 10).

³ The glands called posterior are then the anterior, from the morphological point of view, since their tube opens more in front than those of the glands called "anterior." The two pairs of salivary glands of Cephalopods correspond exactly to the two pairs existing in the Amphineura, where one of the two also opens before the radula (subradular glands of *Chiton*) by a single duct (Neomeniidæ).