

has thick and muscular walls, whilst that on the left is separated from the rest of the organ by a distinct constriction, and its walls, like those of the median portion of the stomach, are thin and semitransparent. In front of this constriction its surface appears marked by numerous transverse striæ.

The thickening of the walls of the cardiac division is almost limited to its left (external) side, and arises specially from the strengthening of the muscular envelope of this region. The mucous layer of this cardiac sac is thick and spongy throughout. The muscular covering of the right (axial) side is not much stronger than that of the rest of the stomach.

The pyloric division has the form of an ovoid spiral sac (Pl. VI. fig. 2) united to the stomachal cavity by a broad neck. Its internal face is marked by a deep corrugation or depression (Pl. VI. fig. 3, *a*), which corresponds to a falciform prominence in the interior of the sac. The interior of the neck is smooth, but just where it passes into the pyloric cæcum immense folds of the mucous membrane commence, and become more and more strong and permanent, spreading in a slightly curved spiral over the surface of the internal sac (Pl. VI. fig. 4) and converging on its opposite face. The surface of the folds is itself marked by close-set oblique furrows. The junction between the pyloric division of the stomach and the intestine is marked by only a slight fold representing a pyloric valve.

To the right side of the cardiac sac in *Spirula peronii* is attached an elongated, recurved and whitish-looking, body (Pl. VI. fig. 3, *z*), with a glandular appearance, lying in the fold of the "peritoneum," from which arises the peduncle of the ovary; in *Spirula reticulata* this body was not seen.

The *liver* consists of two compact equal masses, a right and a left, which occupy the whole space left free by the otocysts, the salivary glands, and œsophagus, in the anterior half of the cavity of the body (Pl. III., *hp.*). Each of them is produced into a posterior lobe (Pl. VI. fig. 1), which with its corresponding lobe fills the pallial sac occupying the last chamber of the shell (Pl. V. fig. 1, *hp'*).

The two hepatic ducts run from the anterior to the posterior region of the body with the œsophagus (Pl. III., *hpd.*), the one passing behind, the other in front of, the left division of the stomach (Pl. VI. fig. 1); they unite and open into the pyloric appendage. After having reached the stomach each tube is furnished with a great number of villous "pancreatic" cæca (Pl. VI. figs. 1, 2). The pyloric sac of the stomach and the pancreatic appendages of the hepatic tubes are freely surrounded by a thin transparent membrane (Pl. III. *ptn.*), an invagination of the "peritoneum" or walls of the visceropericardial cavity into which they thus project.

The *intestine* is very short and relatively wide; it arises from the left half of the stomachal pouch. It passes downwards and forwards, on the left side of the spire of the shell, and gradually narrows (it terminates at the anus, which is placed at