

THE STOMACH.

As already remarked, it is impossible, owing to the gradual transition from the œsophagus to the stomach, to decide, on the strength of a merely external examination, where the former ends and the latter begins. An inspection of the interior of these organs, however, enables us to fix the position of the anterior border of the proventricular glandular patch, and this border sufficiently indicates the separation between these two portions of the alimentary canal. This border corresponds pretty closely on the exterior of the viscus to the posterior border of the left lobe of the liver. From it to the posterior extremity the stomach measures 4 inches in length. The transverse diameter of the glandular portion of the stomach, measured externally, is $1\frac{1}{2}$ inches, and that of the muscular portion, both in respect of longitudinal and transverse measurements, is the same. The stomach extends from the posterior border of the left hepatic lobe obliquely backwards and to the right, its posterior extremity occupying the middle line of the abdominal cavity immediately in front of the globular cloaca (Pl. XVI. fig. 9). To the right of the stomach are the coils of the small intestine, as well as the gall bladder, while on the left the stomach lies in contact with the abdominal wall. The stomach is cylindrical in form, except at its posterior extremity, where it is somewhat flattened from above downwards, and is attached to the vertebral column by a double fold of peritonæum or meso-gastrum. Externally it is divisible into two portions, (Pl. XIII. fig. 3), an anterior, ovoid in form, which, from the fact that it contains the proventricular gland may be named the *glandular* portion, and a posterior of much smaller size, which presents on either surface a slight indication of a central tendon, from which the muscular fibres composing its walls radiate as from a central point. The latter corresponds to the gizzard of other birds, and may be termed the *muscular* portion of the stomach. These two portions when the viscus is empty are separated externally by a well-defined constriction. Immediately behind the pyloric orifice the muscular portion of the stomach dilates into a small pouch-like diverticulum, which lies to the right side of the viscus.

On opening the stomach by means of a longitudinal incision carried along its left margin, its two portions (Pl. XIII. fig. 4) are seen to present very different characters. The anterior or glandular compartment is lined by a soft succulent mucous membrane, which on the right side of the stomach is raised above the surrounding level through the presence of a well-defined patch of subjacent proventricular glands. This patch does not form a continuous belt of uniform breadth, as in the majority of aquatic birds, but is triangular in form, and is confined to the right wall of the stomach. The base of the glandular patch corresponds on the inside of the stomach to the constriction which externally separates the glandular and muscular portions of the organ, while its apex is directed forwards towards the mouth. From base to apex the proventricular gland