

of the right hepatic lobe, while the termination of the œsophagus, and the glandular portion of the stomach, have a similar relation to the left lobe of the liver. The anterior portion of the vertebral border of each hepatic lobe lies in contact with the posterior border of the corresponding lung. The vena cava inferior pierces the right lobe of the liver before opening into the right auricle of the heart.

The hepatic ducts are two in number, one belonging to each lobe. Each measures about 3 inches in length, and opens separately into the small intestine. The right hepatic duct is provided with an enormous diverticulum or gall bladder<sup>1</sup> (Pl. XIII. fig. 5), while the left is destitute of any such appendage. The gall bladder is cylindrical in form, and measures  $3\frac{1}{2}$  inches in length. Its calibre diminishes slightly from behind forwards, the narrowest part of the sac corresponding to the point of junction of the gall bladder with the right hepatic duct. The junction takes place 1 inch from the commencement of the latter. The gall bladder extends as far back as the constriction which indicates the junction of the glandular and muscular portions of the stomach. It is superficially placed, lying immediately under cover of the abdominal muscles, and rests upon the coils of the small intestine, between the latter and the right margin of the stomach. The mucous lining of the gall bladder is perfectly smooth, and destitute of the reticulated arrangement met with in the mammal. The right hepatic duct, after its junction with the gall bladder, passes backwards, in front of the coils of the intestine, and, sinking into the interval between these and the right margin of the stomach, opens into the small intestine 4 inches from the pylorus.

The left hepatic duct of *Eudyptes chrysocome* is derived exclusively from the left lobe of the liver. It passes off from the posterior surface of the liver close to the junction of the right and left lobes. It follows a course parallel to that of the duct of the right side, and opens into the small intestine 2 inches from the pyloric orifice. Both hepatic ducts pass very obliquely through the intestinal wall.

#### *Variations in respect of the Liver.*

The deviations presented by the liver in the different species of Penguin from that above described in *Eudyptes chrysocome*, except in respect of size, are few and unimportant. As already observed, in *Eudyptes chrysocome* the left hepatic lobe is about one-third smaller than the right lobe. This holds good of every Penguin which I have dissected, with the exceptions of *Eudyptes chrysolophus* and *Spheniscus demersus*, in both of which the left hepatic lobe, although of slightly smaller size than the right, was relatively larger than in the other species.

<sup>1</sup> According to Reid (Proc. Zool. Soc., 1835, p. 147), in *Aptenodytes patachonica* the gall bladder "is inserted into the intestine without the intervention of any duct." Such is not the case in any species of Penguin which I have examined.