communicate freely with one another. The anterior compartment is continuous with the rectum, and receives the fæces, while the posterior compartment, separated from the anterior by the fold above described, forms a sort of transversely elongated diverticulum or *cul-de-sac*, into the blind extremity of which open the ducts of the urinary and genital organs. The apertures of all these ducts in the male (Pl. XVII. fig. 7) are situated on the extremities of nipple-shaped eminences. In the female (Pl. XVII. fig. 8), on the other hand, these eminences are only three in number, and of these two are of larger size than the third. The two larger correspond, as in the male, to the openings of the ureters, while the smaller papilla, which is not provided with any aperture, indicates the position of the extremity of the right or aborted oviduct. The oviduct of the left side communicates by means of a narrow aperture with the uro-genital *cul-de-sac*, and is not provided with any papillary eminence.

Behind the globular cloaca the gut diminishes in size, to form the anal passage, which opens externally at the anus. The mucous membrane of this portion of the gut is thrown into longitudinally arranged rugæ. Between the cloaca and the anal passage is a transversely placed fold of mucous membrane, which is limited to the upper wall of the passage. This fold separates the apertures of the urinary and genital ducts in front from that of the bursa fabricii behind. The modifications presented by the bursa fabricii in different species I shall describe presently. Meanwhile, I may observe that its aperture of communication with the anal passage presents the form of a transversely elongated slit, and is not defended by any valve.

The description above given of the interior of the cloaca, shows that the Penguins agree with the majority of birds in so far as the structure of this portion of the gut is concerned. Mr. W. Forbes,[1] in an instructive paper on the bursa fabricii in birds, shows that in the great majority (excepting the Struthionidæ) the cloaca is divisible into three distinct chambers, which correspond respectively to the rectal, urino-genital, and anal passages above described. The position of the terminations of the urinary and genital ducts, as well as of the aperture of the bursa fabricii, he found to be similar in the very numerous species which he examined. The accuracy of these observations I have now been able to confirm in respect of every species of Penguin which I have examined.

The anal passage is provided with three muscles, two levatores and a sphincter.

The levatores ani (Pl. XVII. fig. 6) are two riband-like muscular bands, described by Gervais and Alix[2] under the name of "releveurs de l'anus." Each *arises* from the posterior border of the ischium, close to the posterior or free extremity of the pubic bone, and passes backwards to be inserted into the lateral surface of the anal passage, and to a small extent into the posterior wall of the globular cloaca. Each of these muscles,

[1] On the Bursa Fabricii in Birds, Proc. Zool. Soc. Lond., 1877, p. 304.
[2] Ostéologie et Myologie des Manchots, p. 16.