A DESCRIPTION
OF THE
ORGANS OF GENERATION
OF A
HERMAPHRODITE SHEEP.

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Received Jan. 11th.—Read Jan. 25th, 1859.

I AM indebted to Mr. Paget for the opportunity of examining these organs.

During life this sheep was regarded as an ewe.

The whole of the external organs are not attached to the specimen; but, from the description given, there is no reason for doubting that they presented the characters of those of an ordinary female.

The external orifice leads into the vagina, beyond which is the uterus, with its two horns, as in the female.

In the place of the ovaries, each surmounted in its whole length by an epididymis and by the termination of the corresponding uterine horn, are two testes.

In shape and aspect these testes are precisely similar to those of an ordinary male, but very much smaller—perhaps not more than one fourth of the size of the fully developed male organ. A section presents to the naked eye the ordinary appearance. Its minute structure is also that of a natural testis (*see* Plate II). The only important difference which a careful examination detects, is the absence of any traces of spermatozoa.

On either side of the vagina is a well-formed seminal vesicle, which opens, in common with a tube to be presently described, into its anterior wall. The urethra, from the bladder in front, after running for some distance in the substance of the anterior wall of the vagina, opens into it, between one and two inches from the vulva.

With the exception of the testes, whose relations are precisely those of the ovaries, the epididymes, and the seminal vesicles, the organs differ from those of the ordinary female only in the following minute details.

In the female, when the uterine horn reaches the ovary, it suddenly tapers to a point, from which a fine, convoluted Fallopian tube, about two inches long, is continued over the ovary, but not in contact with it; only connected to it by the peritoneal fold—the broad ligament.

In this specimen the uterine horn terminates, as usual, in a fine tube, much longer than natural, which commences in connexion with the epididymis at the inner extremity of the testis. It is continued, bound closely to the epididymis, over the whole length of the testis from the inner to the outer extremity, connected to it by a fold of the tunica vaginalis, and passing beyond its outer extremity for more than two inches, it turns back upon itself, and, suddenly enlarging, passes over the testis a second time, from without inwards, as the horn of the uterus. Thus the slender terminal portion of the uterine horn has the same relation to the epididymis as the commencement of the vas deferens holds to that body in the male.

The body which surmounts the testicle, in shape and

relation to that organ corresponds exactly to the epididymis. It, however, exhibits no structure beyond that of condensed areolar tissue. It is connected at its inner extremity with the termination of the uterine horn before noticed, and from its outer extremity—the thickest portion—proceeds a delicate cord or tube, which, closely connected with the under surface of the uterine horn, passes down to the fundus of the uterus. When it reaches that organ it suddenly increases considerably in size, and passes through its anterior wall, and that of the vagina, parallel with its fellow from the opposite side, as a well-developed tube; and finally opens in common with the corresponding seminal vesicle.

Where the epididymis commences, at the inner extremity of the testis, a process, about an inch and a half long, springs from the testis like a commencing epididymis, and is composed of imperfectly developed convoluted tubes, imbedded in areolar tissue, but it terminates in a blind extremity; and the portion I have already described as the epididymis has no connexion whatever either with this process or with the testis, beyond being bound to them by cellular tissue and membrane.

The uterus is altogether smaller than that of the female; it measures two inches in length instead of three, and its walls are thinner, especially in the lower half of its body, the walls of which, in the female, are here very firm and coarsely rugous. The rugæ of this uterus are much finer and more delicate than those of the ordinary female; but the distinction between uterus and vagina is most strongly marked and indicated by a well-developed os.

The horns of this uterus are more slender than in the female, and at least twice the length. The surface of the mucous membrane of the horns and upper portion of the uterus is smooth and uniform, and there is no appearance of those circular or oval glands which are so abundant in the mucous membrane of the horns of the female uterus, and which, from their prominence and the layer of black pigment capping each, are such remarkable objects.

The vagina is exactly half the length of that of the female ; three inches instead of six.

The urethra, also, is half as long ; one instead of two inches.

The seminal vesicles are each an inch and a half in length.

This case is remarkable for the complete union of such perfect male and female organs. It will be observed that it belongs to that class of hermaphrodites of which the first of the three free-martins described by Hunter, Mr. Wright's free-martin, is an example. In this case, however, "the vagina terminated in a blind end, a little way beyond the opening of the urethra, from which the vagina and uterus were impervious." Moreover, Hunter says of the bodies he calls testicles, "When cut into they had nothing of the structure of the testicle. Not being similar to anything in nature, they had more the appearance of disease;" and "there was nothing similar to the vasa deferentia." (Hunter's Works, vol. iv, pp. 41-2.) I will not trespass upon the attention of the Society by comparing or contrasting this case with other recorded examples which more or less resemble it, for the inquiry would be neither instructive nor interesting. But, for some of such cases, I would refer especially to Dr. Simpson's elaborate essay on Hermaphroditism, in the 'Cyclopædia of Anatomy and Physiology.'

Of course this animal was really a male. The knowledge we already possess of the early development of the organs of generation, of the changes they subsequently undergo, and the relation of the different organs of one sex to those of the other, will, I think, go far to explain the production of such a monster as this one. At the same time, it illustrates the original unity of type, and affords additional evidence of the true homology of the individual organs in the male and female.

Fig. 2.

Fig. 1.