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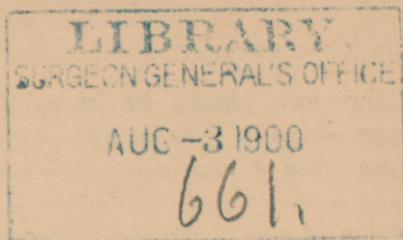
Hermaphroditism

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REPRINT FROM VOLUME I
Gynecological Transactions
1876

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HERMAPHRODITISM.

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CASES of malformation of the genital organs, in which there have been doubts as to the sex of the individuals, have been placed in two categories: those in which the external organs have been affected, where only an external examination has been possible; and those in which a post-mortem examination has revealed the actual presence of the organs of both sexes in the same individual. The first class of cases are infinitely more numerous than the second, and it has been roughly designated as "spurious hermaphroditism," a term, the very composition of which is enough to condemn it. These cases are nearly all mere arrests of development, in no way resembling cases of true bisexuality except to the inexperienced observer, a small minority being cases of over-development, or hypererchesis. The use of the term "spurious hermaphroditism" ought, therefore, to be discontinued.

In all cases of malformation of the external genitals, when the sex is doubtful, it is a good rule to assume that the child is a male until the contrary can be shown, for in this way lamentable mistakes may be avoided. By the time a male arrives at the age of marriage, he will have learned, from the education which all men go through soon after puberty, whether or not he has marital capacity; and if he finds that he has not, he will not attempt to enter married life. But the majority of women enter the married state with but a very hazy notion of what its functions are, a misfortune to which many of their special diseases may be attributed. If

a. malformed male, therefore, should be brought up as a woman, he might enter — and in very many instances actually has entered — the state of marriage utterly unaware of his misfortune.

Cases of extroversion of the bladder, a deformity which occurs much more frequently in male than in female children, have been set down as one of the forms of spurious hermaphroditism, which renders the determination of the sex difficult. But in those cases where it really is difficult, the arrest of development is so great as to render any question of marriage quite impossible. So, also, we may dismiss the cases where the penis has become adherent to the scrotum, or otherwise severed by integument, for such cases will reveal themselves at puberty, and no greater misfortune will have been experienced than an error of nomenclature.

The real difficulties occur in the third class, where the deformity is due to an arrest of development, causing incomplete closure of the genital raphé. These malformations are, in fact, a reversion of type to those classes of animals in which there is a cloaca, or common outlet for the genito-urinary apparatus and the intestinal canal. The two folds, which are developed from the walls of the cloaca early in the life of the human embryo, unite more or less imperfectly, and the results vary according to the degree of the imperfection. Thus, if the first pair of folds do not unite, the cloacal arrangement of the bird is returned, whilst if the second folds remain separate anteriorly from the pelvic portion, the separate arrangement of the urinary and genital canals seen in females, where the vulva only forms the common canal, is established. The sexual differences, so far as the external genitals are concerned, date from this point ; the organs of the male, by which the genito-urinary track is continued through a common tube from the pelvis, being formed by a further union of the anterior folds. Other changes of course take place on the surfaces of the Wolffian bodies, where the same structures are developed into ovaries or testicles, as the case may be. If, then, we have testicles formed in the abdomen, whilst the anterior cloacal folds do

not unite further than their pelvic portion, we have a product which is the kind of spurious hermaphroditism now under consideration.

When a case of this kind presents itself, its most striking feature is a median cleft with two lateral eminences, which look exactly like the orifice of a vagina bounded by its two labia. At the anterior commissure is a stunted penis, which may be mistaken for a hypertrophied clitoris. But if the structures be examined carefully, there will usually be no difficulty in determining that this fissure is merely the open urethra, the supposed clitoris being grooved in the same way that the glans of the penis is in hypospadias. If there be a cloaca, the nature of the case is beyond doubt; and this is also the case if testicles can be found in the cleft scrotum, the halves of which represent the labia. But in many of these cases the testicles either do not descend at all, or do so only incompletely, and they must therefore be searched for carefully in the inguinal canal. If they are not to be discovered, then, having found the urinary orifice, a separate genital canal must be looked for, and unless it can be demonstrated, the suspicion must be entertained that the child is a male. But it must be borne in mind that there is a peculiar union of the labia minora (cellular atresia, to be afterwards described) which may completely hide the genital orifice. I have been three times called in to give an opinion on the sex of children, when this cellular atresia of the nymphæ constituted the whole difficulty. When this condition exists, there is always a space behind the urinary orifice which is suggestive of its existence, and a touch of the knife will decide it at once, without the possibility of doing mischief. If, after this, no genital orifice can be discovered, let the patient be considered as a male; for, if brought up amongst males, but little harm can come to him. If, however, an individual were brought up amongst girls, who turned out to be a semi-competent male, no end of mischief might accrue, as is amply proved in the case of Madelaine Mugnoz, the nun of Ubeda, who suffered death for rape.

I was consulted in the case of a prisoner, in the . . .

prison, who was confined on the male side, and who for thirty-seven years had passed as a male, but I detected a small, yet quite distinct genital canal behind the urinary orifice, which was decisive of the person being a woman. I obtained a photograph of her naked, and the outlines of the figure, having the wide pelvis, narrow chest, and in-turned thighs, quite confirmed my opinion. No appearance of menstruation had ever been noticed, and she had never entertained any partiality for either sex, — facts, probably due to an infantile condition of the internal organs, as marked as that of the external. The facts were fully placed before her, but she begged of us never to reveal her secret, and she served out her time as a male convict. She was of strong and robust frame, so that no harm was done.

Deformities of the external genitals of female children are much less complicated, and less likely to lead to mistakes than those already described. Only two varieties of malformation have been described as of importance, that in which the clitoris is abnormally enlarged, and that in which the cervix uteri is elongated and protrudes. I have now in my possession a preparation of a newly-born child, in which the cervix is protruding from the vulva nearly a centimeter, but I can hardly imagine such a protrusion being mistaken for a penis, save by a very careless and hasty observer. Even in the case of Marguerite Malaun, described in the "Philosophical Transactions" of London for 1686, where the cervix is stated to have been seven inches long, we can only accept the mistake as being due to the credulity of the observers.¹

Abnormal development of the clitoris has come under my notice several times, and in a young infant it certainly has a startling resemblance to the small organ of a male child, on superficial examination; but the separation of the labia at

¹ From the *Transactions of the Royal Society*, vol. iii., p. 356, I translate the following: "The member (penis) is well formed, except that it has no prepuce, and that there is no appearance of testicles. The menstrual blood also flows from its orifice. After having consulted Messieurs the Vicars General, we made him dress himself as a man!"

once reveals the orifice of the genital canal behind that of the urethra. If cellular adhesion of the nymphæ should co-exist with enlargement of the clitoris, a combination not impossible, but hitherto unrecorded, unless we accept the anomalous case recorded by Arnaud in his "Dissertation sur les Hermaphrodites" (p. 265), as an instance, a mistake would be possible; but all doubt would certainly be removed at the first occurrence of menstruation, as it was in Arnaud's case. Even with this combination, however, a scratch with the surgeon's knife would at once remove all possibility of error.

If the law of evolution embraces all organized structures, and its details have now been so fully worked out that we may assume that it does, we must accept Darwin's theory of the descent of man. This acceptance at once becomes the explanation of the occasional occurrence of bisexual vertebrates, and consequently of true hermaphroditism in human individuals. Conversely, the occurrence of such malformations may be offered as one amongst the many proofs, which are being accumulated from every quarter in favor of Darwin's theory, for they must be regarded as reversions of type. In the vegetable kingdom the majority of the species are bisexual, though modern investigations have shown most ingenious contrivances to secure the advantages of cross-fertilization. Even in the more complex organisms of the animal kingdom, bisexuality is met with as high up as the Nudibranchiata, whilst in the next sub-order, the Prosobranchiata, most of the groups are unisexual. In the Cephalopoda, where other great advances in structure are indicated, unisexuality is the rule. From this point, a symmetrically double body is introduced into the schema, though it is met with also in the insecta, and the sexual organs are double, one in each half of the body. But as in the insecta, where unisexuality is the rule, hermaphroditism occurs with some frequency; so it does in the lower vertebrates, the frequency of the malformation diminishing, until in man true hermaphroditism is found very rarely. In all cases of hermaphroditism in animals, where unisexuality of the individuals is the rule,

the doubly sexed organs are always imperfect, even in insects ; and in most of the cases recorded in birds, there has been on the male side only a convoluted seminal tube, and no testicle ; so that the tube might have been taken for an aborted oviduct, had it not been, as in one of Simpson's cases,¹ for the coincident presence of the characteristic epithelial appendages of the male. In Simpson's second case, I do not think there was any evidence of true hermaphroditism.

The human testicle and ovary being developed from the same blastema, and being really the same organ, it is not surprising that occasionally reversions of type should occur, so that an immature testicle should appear on the one side and an imperfect ovary on the other. According to Simpson, the ovary in these cases appears generally on the left side. This distinguished author has collected from many sources a large number of cases, the descriptions of some of which are not above suspicion, but in others, especially that recorded by Dr. Banon, in the "Dublin Medical Journal," for 1862, the facts are beyond dispute, for the examination of the textures of the gland on either side by the microscope, completely established that one was an ovary, and that the other was a testicle, though both were so immature as to contain no perfect products. There was an imperforate penis, the urethra opening at its root, and behind this a genital canal, closed by a perfect crescentic hymen, a fact which at once removes the case from the classes of spurious hermaphrodites already described. This genital canal led up to a small, well-formed uterus, with normal relations to the bladder, rectum, and peritoneum, and having at its left corner a perfect Fallopian tube with a corpus fimbriatum. In relation with this there was an ovary. There was neither tube nor ovary on the right side, but a testicle containing the characteristic tubercles, and provided with an epididymis and vas deferens. Simpson calls this true lateral hermaphroditism ; and he further describes what he calls true transverse hermaphroditism,—that is, where the internal organs, testicles,

¹ *Encyclop. Anat. and Physiol.*

or ovaries are alike on the two sides, but the external organs represent appearances somewhat like those of the other sex. But it is not clear in any of the cases he quotes that the malformation was anything more than an extension of the characters of spurious hermaphroditism; and as the glandular element must always be considered as the chief element of sex, it is not a philosophical proceeding to say that both sexes are represented unless both a testicle and an ovary are present. Even when the clitoris is perforated by a urethra as far as the glans, the condition is only that seen normally in the *loris gracilis*.

In Simpson's third variety, to which he gives the name of "true double or vertical hermaphroditism," he describes the presence of a gland of each sex as present on both sides, or, as he says, "actual sexual duplicity." Without denying the possibility of such an occurrence, I must say that I think it very unlikely; and I have no hesitation in saying that none of the cases he quotes justifies the establishment of this variety. The most complete record is the case recorded by Vrolik; and he distinctly states that neither in the structure which he supposed to be testicle, nor in that considered to be ovary, did he find a trace of histological evidence of the nature of the gland. Mere anatomical position goes for nothing in such a case, for the ovary descends sometimes in the same way as does the testicle, for it also has a gubernaculum. It must also be borne in mind, that occasionally appendices both to testicle and ovary are met with, giving the appearance as if the individual had three, or even four testicles or ovaries. If such a condition were met with in a hypospadiac male, who had at the same time an enlarged prostatic utriculus, as many of the cases quoted by Simpson undoubtedly had; and if at the same time the testicular appendix did not descend with the true testicle, the appearances would be exactly as described in most of Simpson's cases, and yet there would be not the slightest reason for the statement that both kinds of glands were present. The only satisfactory test is that of microscopic examination, and so far the evidence goes to show that there is only

one kind of true hermaphroditism, that in which there is an ovary on the one side and a testicle on the other.

The cases lately reported by Leopold, of Leipsic, and C. E. Bluderhill, of Edinburgh, being clearly cases of descent of undeveloped ovaries into the inguinal canal, are instances of hypererchesis.

