

Among neat cattle, there are often found instances of a curious admixture of the sexes, in what is called the *free-martin*. They occur in this way: When a cow has twin calves, one male, and the other apparently female, the male will grow up into a perfect bull, but the other is often of no sex at all, or rather of both. There is, to a certain extent, a development of both sets of organs, but each imperfect, and sometimes they will both admit the male and also attempt to associate with the female, but, of course, neither act is productive.

John Hunter remarks, in his *Animal Economy*, "There is one part common to both the male and female organs of generation in all animals which have the sexes distinct—in the one sex it is called the penis, in the other the clitoris; its specific use in both is to continue, by its sensibility, the action excited in coition till the paroxysm alters the sensation. In the female it probably answers no other purpose; but in the male it is more complicated, to adapt it for the purpose of conducting and expelling the semen that has been secreted in consequence of the actions so excited.

"Though the unnatural hermaphrodite be a mixture of both sexes, and may possess the parts peculiar to each in perfection, yet it cannot possess in perfection that part which is common to both. For as this common part is different in one sex from what it is in the other, and it is impossible for one animal to have both a penis and a clitoris, the common part must of course partake of both sexes, and consequently render the hermaphrodite so far incomplete; but those parts peculiar to each sex may be perfectly joined in the same animal, which will convey an idea of the truest hermaphrodite. Although it may not be necessary to constitute an hermaphrodite, that the parts peculiar to the one sex should be blended with those of the other, in the same way that the penis is with the clitoris, yet this sometimes takes place in parts whose use in the distinct sexes is somewhat similar, the testicle and ovarium sometimes forming one body, without the properties of either. This compounded part, in those animals that have the testicle and ovarium differently situated, is generally found in the place allotted for the ovarium; but in such animals as have the testicle and ovarium in the same situation, as the bird tribe, the compound of the two, when it occurs, will also be found in that common situation.

"The parts of the female appropriated for the purpose of supplying the young with nourishment are variously placed in different animals. In the horse, black cattle, sheep, and other gramivorous animals, their situation is between the hind legs; which is also the place allotted for the testicles of the male of this tribe, and probably of all those in which the testicles come out of the cavity of the belly. In the hermaphrodite, therefore, which has both these parts, the testicles must, to a certain degree, descend into the udder, though that cannot receive them so readily as the scrotum.

"The hermaphrodites which I have seen have always appeared externally, and at first view, to be females, from the penis being the part principally deficient, and there being an opening behind like the bearing in the female; and as the testicles in such hermaphrodites seldom come down, the udder is left to occupy its proper place. In animals, the female of which is preserved for breeding only, as sheep, goats, pigs, &c., these are generally kept, from their being supposed to be females.

"Among horses such hermaphrodites are very frequent. I have seen several, but never dissected any. The most complete was one in which the testicles had come down out of the abdomen into the place where the udder should have been (*viz.*, more forward than the scrotum), and though not so pendulous as the scrotum in the

perfect male of such animals, had all the appearance of an udder. There were also two distinct nipples, which, although they exist in the male, have no perfect form, being blended with the sheath or prepuce, of which there was none here. The external female parts were exactly similar to those of the perfect female; but instead of a common-sized clitoris, there was one about five or six inches long, which, when erect, pointed almost directly backward.

"I procured a foal-ass, very similar in external appearance to the horse above-mentioned, and killed it to examine the parts. It had two nipples, but the testicles were not come down, as in the above, owing perhaps to the animal's being yet too young. There was no penis passing round the pubis to the belly, as in the perfect male ass.

"The external female parts were similar to those of the she-ass. Within the entrance of the vagina was placed the clitoris, but much longer than that of a true female, it measuring about five inches. The vagina was pervious a little beyond the opening of the urethra into it, and from thence up to the fundus of the uterus there was no canal. The uterus was hollow at the fundus, or had a cavity in it, and then divided into two horns, which were also pervious. Beyond the termination of the two horns were placed the ovaria, as in the true female; but I could not find the Fallopian tubes. From the broad ligaments, to the edges of which the horns of the uterus and ovaria are attached, there passed toward each groin a part similar to the round ligaments in the female, which were continued into the rings of the abdominal muscles; but with this difference, that there accompanied them a process or theca of the peritoneum, similar to the tunica vaginalis communis in the male-ass, and in these thecae were found the testicles, but I could not observe any vasa deferentia passing from them.

"Here, then, were found in the same animal the parts peculiar to each sex, although very imperfect, and that part which is common to both, but different in each, was a kind of medium of that difference.

"Something similar to the above, I have seen in sheep, goats, &c.; but I shall not at present trouble the reader with a description of hermaphrodites in general, as it is a very extensive subject, admitting of great variety, which would make them appear a production of chance, whereas the intention of this account is to point out a circumstance which takes place in the production of hermaphrodites in black cattle, that appears to be almost an established principle in their propagation, and is perhaps peculiar to that species of animal.

"It is a fact known, and I believe almost universally understood, that when a cow brings forth two calves, one of them a bull-calf and the other, to appearance, a cow, that the cow-calf is unfit for propagation, but the bull-calf grows up into a very proper bull. Such a cow-calf is called in this country a *FREE-MARTIN*, and is commonly as well known among the farmers as either cow or bull. Although it will appear, from the description of this animal, that it is an hermaphrodite (being in no respect different from other hermaphrodites), yet I shall retain the term, *free-martin*, to distinguish the hermaphrodite produced in this way from those which resemble the hermaphrodite of other animals; for I know that in black cattle such a deviation may be produced without the circumstance of twins, and even where there are twins, the one male, the other a female, they may both have the organs of generation perfectly formed; but when I speak of those which are not twins, I shall call them *hermaphrodites*—the only circumstance worth our notice being a singularity in the mode



of production of the free-martin, and its being, as far as I yet know, peculiar to black cattle.

“This calf has all the external marks of a cow-calf, similar to what was mentioned in the unnatural hermaphrodite—viz., the teats and the external female parts, called by farmers the bearing; and when they are preserved by those who know the above fact, it is not for propagation, but for all the purposes of an ox or spayed heifer—viz., to yoke with the oxen and to fatten for the table. I need hardly observe here, that if a cow has twins, and they are both bull-calves, that they are in every respect perfect bulls, or if they are both cow-calves, they are perfect cows.

“It is known that they do not breed; they do not show the least inclination of the bull, nor does the bull ever take the least notice of them. They very much resemble in form the ox or spayed heifer, being considerably larger than either the bull or the cow, having the horns very similar to the horns of an ox.

“The bellow of the free-martin is similar to that of an ox, having more resemblance to that of the cow than of the bull. Free-martins are very much disposed to grow fat with good food. The flesh, like that of the ox or spayed heifer, is generally much finer in the fiber than either the bull or cow, is supposed to exceed that of the ox and heifer in delicacy of flavor, and bears a higher price at market.

“However, it seems that this is not universal; for I was lately informed by Charles Palmer, Esq., of Luckley, in Berkshire, that a free-martin having been killed in his neighborhood, from the general idea of its being better meat than common, every neighbor bespoke a piece, which turned out nearly as bad as bull-beef—worse, at least, than that of a cow. It is probable that circumstance might arise from this animal having more the properties of a bull than a cow, as we shall see hereafter that they are sometimes more the one than the other.

“Although what I have advanced, with respect to the production of free-martins, be in general true, yet, by the assistance of Benjamin Way, Esq., of Denham, near Uxbridge, who knew my anxiety to ascertain this point, I was lately furnished with an instance which proves that it does not invariably hold good.

“One of his cows having produced twins, which were to appearance male and female, upon a supposition that the cow-calf was a free-martin, he obligingly offered either to give it me, or to keep it till it grew up, that we might determine the fact. As I conceived it to be a free-martin, and was to have the liberty of examining it after death, I desired that he would keep it; but, unfortunately, it died at about a month old. Upon examining the organs of generation, they appeared to be those of the female, and perfectly formed; but to make this more certain, I procured those of a common cow-calf, and comparing them together, found them exactly alike. This made us regret that the animal had not lived to an age that might have determined if it was capable of breeding; for the construction of the parts, being to appearance perfect, is not sufficient of itself to stamp it a true or perfect female; as I can suppose that the parts being perfectly formed, but without the power of propagation, may constitute the most simple kind of hermaphrodite. It is, however, most probable that this was a perfect female, which is an exception to the common rule, and I have been informed there are instances of such twins breeding. If there are such deviations, as of twins being perfect male and female, why should there not be, on the other hand, an hermaphrodite produced singly, as in other animals? I had the examination of one, which seemed, upon the strictest inquiry, to have been a single calf; and I am the more inclined to think this true, from having found a

number of hermaphrodites among black cattle, without the circumstances of their birth being ascertained.

“Hermaphrodites are to be met with in sheep; but from the account given of them, I should suppose that they are not free-martins. I have seen several which were supposed to be hermaphrodites, but which were imperfect males, having the penis terminating in the perinæum, the orifice of which appeared like the bearing in the female. Such are not naturally stimulated to put themselves in the position of the female when they void their urine, so that when it passes the surrounding parts are wetted by it, and being covered with wool, and retaining the urine, keeps them continually moist, and gives the animal a strong smell. They are mentioned as both male and female.

“I believe it had never been even conjectured, notwithstanding all these peculiarities, what was the true nature of the free-martin; and from the singularity of the animal, and the account of its production, I was almost tempted to suppose the whole a vulgar error. Yet by the universality of the testimony in its favor—it appearing to have some foundation—I eagerly sought for an opportunity to see and examine them. I have succeeded in this inquiry, and have seen several, the first of which was one belonging to John Arbuthnot, Esq., of Mitcham, and was calved on his own farm. He was so obliging as to allow me to satisfy myself, first by permitting a drawing to be made of the animal while alive, which was executed by Mr. Gilpin, and afterward to examine the parts when the animal died. At the time the drawing was made of Mr. Arbuthnot's free-martin, John Wells, Esq., of Bickley Farm, near Bromley, in Kent, was present, and informed us that a cow of his had calved two calves, one of which was a bull-calf and the other a cow-calf. I desired Mr. Arbuthnot to request Mr. Wells to keep them, or let me buy them of him; but from his great desire of natural knowledge, he very readily consented to preserve both till the bull showed all the signs of a good bull, and when the free-martin was killed, he allowed me to inspect the parts.

“Of all the specimens which I have dissected, I shall only give the descriptions of those which point out most distinctly the complete free-martin, with the gradations toward the male and female.

#### MR. WRIGHT'S FREE-MARTIN, FIVE YEARS OLD.

“This animal had more the appearance and general character of the ox, or spayed heifer, than of either the bull or cow. The vagina terminated in a blind end, a little way beyond the opening of the urethra, from which the vagina and uterus were impervious. The uterus, at its extreme part, divided into two horns. At the termination of the horns were placed the testicles, instead of the ovaria, as is the case in the female. The reasons why I call these bodies testicles, are the following: First, they were above twenty times larger than the ovaria of the cow, and nearly the size of the testicles of the bull, or rather of those of the ridgil, the bull whose testicles never come down. Secondly, the spermatic arteries were similar to those of the bull, especially of the ridgil. Thirdly, the cremaster muscle passed up from the rings of the abdominal muscles to the testicles, as it does in the ridgil.

“There were the two bags placed behind, between the bladder and the uterus. Their ducts opened into the vagina, a very little way beyond the opening of the urethra; but there was nothing similar to the vasa deferentia.

“As the external parts had more of the cow than the bull, the clitoris, which may



be reckoned an external part, was also similar to that of the cow—not at all in a middle state, between the penis of the bull and the clitoris of the cow, as I have described in the hermaphrodite horse. There were four teats—the glandular part of the udder was but small.

“This animal cannot be said to have been a mixture of all the parts of both sexes, for the clitoris had nothing similar to the penis in the male, and it was deficient in the female parts, by having nothing similar to the ovaria; neither had the uterus a cavity.

MR. ARBUTHNOT'S FREE-MARTIN.

“The external parts were rather smaller than in the cow. The vagina passed on, as in the cow, to the opening of the urethra, and then it began to contract into a small canal, which passed on to the division of the uterus into the two horns, each horn passing along the edge of the broad ligament laterally toward the ovaria.

“At the termination of these horns were placed both the ovaria and the testicles—they were nearly of the same size, and about as large as a small nutmeg.

“To the ovaria I could not find any Fallopian tube.

“To the testicles were vasa deferentia, but they were imperfect. The left one did not reach near to the testicle; the right only came close to it, but did not terminate in a body called the epididymis. They were both pervious, and opened into the vagina near the opening of the urethra.

“On the posterior surface of the bladder, or between the uterus and bladder, were the two bags, called vesiculæ seminales in the male, but much smaller than what they are in the bull; the ducts opened along with the vasa deferentia. This was more entitled to the name of hermaphrodite than the other, for it had a mixture of all the parts, though all were imperfect.”

Human children have been born analogous to the drones among bees—that is, of neither sex. These children had no sexual organs whatever, male or female, external or internal. All those I have had accounts of were like the male in one respect, in having a penis, but it was used only as a urinating organ, and in no way whatever sexually. In a certain sense, therefore, they might be considered imperfect males, like the bee drones. None of these, so far as I know, ever attained maturity; had they done so, it would have been exceedingly interesting to note their development in other respects. Among the bees the drones are the real workers, and the existence of the community depends upon them.

It is possible that human beings naturally without sexual attributes, might attain great development in other ways, and be valuable to society. Such beings should not be compared with eunuchs, or with those who have lost sexual power, because they are entirely different. Their systems would never feel the effect of sexual stimulation, nor be influenced by sexual growth, and therefore would never experience any deprivation, like the eunuch and debauchee.

In such cases the whole force of development, ordinarily expended sexually, might be diverted to *brain growth*, and thus an intellectual giant result. Such cases, however, are so rare that it is of little use speculating about them, nor do we know of any means of producing them at will, were it ever so advisable to do so.

CHAPTER XXIV.

PART XIII.

MISCELLANEOUS TOPICS CONNECTED WITH  
MARRIAGE.