IX.—A CONTRIBUTION TO THE DETERMINATION OF SEX, 
DERIVED FROM OBSERVATIONS MADE ON AN AFRICAN 
TRIBE.

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In *Uganda* and the *Egyptian Soudan*, which the Rev. C. T. Wilson and I published in 1882, the following sentences will be found at page 150, vol. i.,—“The female population (of Uganda) is largely in excess of the male, the proportion being about three and a half to one. This excessive preponderance of the females over the males is due to three causes:—

“I. Careful observation has established the fact that there are a good many more female births than male, and on taking the groups of children playing by the roadside there will always be found to be more girls than boys.

“II. The Waganda are constantly at war with one or other of the nations round them, and their battles, being hand to hand encounters, are fearfully destructive. In one engagement which came under my immediate notice, fifty per cent. of the Waganda warriors were killed, and, as they gained the day, the loss of their opponents must have been even greater.

“III. The rule with the Waganda, when they have taken a town or district, is to put all the full-grown men to death, and to take the children and women prisoners; and as the Waganda are almost always at war, there is a constant influx of women, who are distributed among the chiefs and successful warriors.”

In doing my part of the work on which these statements are made, I jotted down some figures, which I summarized in a paper I read before the Royal Society of Edinburgh on May 3rd, 1886, as follows:—“The result of inquiries made into the history of 300 pure Waganda women was that 291 had children, and of the first births 144 were males, 147 were females. Of 500 imported women into whose history I inquired, 482 had children—of the first births only 79 were males, and no less than 403 were females.”

These figures were rather startling to me, and set me wondering

1 “Notes on the Waganda, a Central African Tribe.”
how they might be explained. After a good deal of thought, I have come to the conclusion that there is only one possible explanation, and I propose, as briefly as possible, to set that explanation before you to-night, and trust that it may be of some little interest to the Fellows of this Society.

In order to avoid any misunderstanding, I must state that the notes on which I base my theory were made partly in Rubaga, the capital of Uganda, in part on a journey I made from Rubaga towards the Nile to the east of that place, and lastly, on my march from the capital to the northern frontier of Uganda, on my way home in 1879. I also made some other observations, which will serve as a control, in the Egyptian Soudan and on the east coast of Africa.

With the total population of Uganda, and with the excess of females over males, I have, on the present occasion, nothing to say, save to call your attention to the very marked difference found there when compared with the statistics of other countries, but this excess is, I think, fully explained in the quotation I made from Uganda.

In a paper by Sir R. W. Rawson, page 153, Bulletin l'Institut International de Statistique, tome i., 1ère et 2ème livraisons, année 1886, I find the following facts, viz., that in England and Ireland there are 49 males to 51 females; in Scotland there are 48 males to 52 females; in the whole of Europe, including Russia, there are 97·4 males to 100 females; in the United States of America there are 51 males to 49 females; as compared with 100 males to 350 females in Uganda.

In only four European states do we find an excess of males over females, viz., in Italy there are 100·5 males to 100 females; in Servia, 103·6 males to 100 females; in Roumania, 105·9 males to 100 females; and in Greece, no less than 113·1 males to 100 females.

In looking over my notes made in Uganda, I asked myself the question, How is it that so many of the women imported into Uganda bear such an excess of female children in their first pregnancies? for I found that among the pure Waganda women the excess of first female births was comparatively small, viz., 100 males to 102 females, as compared with 100 males to 510 females in first births from imported women; and that in subsequent pregnancies of these imported women a more equal ratio prevails, viz., about 100 males to 137 females, although this is a far higher ratio of female births than obtains in any European state.

The only theory which occurs to me, and which I confess seems to answer the question I have proposed, is that "the temporarily superior parent produces the opposite sex."

I must now proceed to explain how I think that this theory fits in with my facts.

The Waganda are a very warlike race; they are nearly
always at war with some of their neighbours; they are disliked and dreaded by all the surrounding tribes. It is their custom to kill all the grown-up males and very old women when they have conquered a village or district, and they lead away captive all the boys, young women, and girls. The boys are subsequently sold to the Arab slave-dealers; the girls and women are taken as wives. Now, with the exception of the great chiefs who command the army, no soldier is permitted to take a wife along with him to the war. The result is that, after the sack of a village, the utmost licence obtains, and the nights are spent in excess of every kind.

Now, looking at the condition of the men and women thus suddenly brought together, we find that the men are flushed with victory, are exuberant, and after having lived for many days on dried bananas, they partake freely of cattle killed for the occasion, and the native wine they have stolen aids in exhilarating them; but you must note that this native wine is not strong, and the alcohol it contains is very pure. The women, on the other hand, are frightened and sorrowful at the loss of their freedom, homes, and friends (for an African woman loves her home and friends as much as other human beings do). They are compelled to perform exhausting dances for their captors' amusement, and are then ravished, subsequently being compelled to take long marches to which they are unaccustomed.

The man, I hold, in this case is superior—mentally he is elated, physically he is in good condition. The woman is inferior—mentally cast-down and physically exhausted. What follows? An enormous excess of female children. Therefore in this case, at least, the temporarily superior parent produces the opposite sex.

Unless I am much mistaken, my control observations tend to uphold this theory, for I found that of the women captured by the slave-raiders in Central Africa, and brought down to the East Coast, either near Zanzibar or through the Soudan to the Red Sea, those who had been impregnated on the way usually produced female children.

In this case also the same factors are at work—the women compelled to long and exhausting marches, to bear heavy chains, yokes, and loads, water and provisions being scarce; the men well fed, and without care. In talking with Soudan slave-dealers, I was told in answer to my inquiries that, as a rule, only women who have previously borne children are impregnated en route, as the young girls are generally "sewn up." The slave-dealers said it did not matter about the older women, for they nearly always produce girls; so that, instead of having only one slave to sell, they have a woman and a female child.

I must next look at the condition of the women imported into Uganda after their arrival, and when they have been distributed to men as rewards for service in the field. Other factors now come into play, which may or may not uphold my theory.
Dividing the Waganda men into three classes, there are, first, the chiefs, who have large harems; secondly, men who have several wives (six to twenty); and lastly, those who have only one or two. This last class do all in their power to marry pure Waganda women. Why? Because the pure Waganda women elongate their labia minora, and the Waganda prefer such women, unless they can always have a fresh supply. They think that the result of the elongated labia is an increased desire on the part of the women, and hence an enhancement of their own pleasure. It is found as a consequence that in the families of the poorer classes the sexes are as evenly balanced as in Europe.

Among the other classes the men do undoubtedly commit great excesses, but their wives, if they are imported women, have all the hard work to do, and are therefore inferior. Against this, however, must be noted the fact that from the time they become pregnant they live separate from their husbands till such time as they have weaned their children, which is at about two years of age.

The ratio of female births after the first among these imported women is more nearly like that of pure Waganda women, but it is still far higher than in Europe, viz., about 100 males to 137 females. I can only throw out a hint as to a possible support of my theory in the examination of Europeans. I have not worked out this point fully, but I find that in the majority of cases in which a child is born in England under ten months after marriage in the higher classes after a "honeymoon" it is male; in the lower classes, and where there has been no "honeymoon," it is female. Why this should be the case is too obvious to specify.

Before concluding this paper I should like to call your attention to two other points of interest which are brought out by my observations:—first, the small percentage of women who appear to be sterile in Uganda. In 300 pure Waganda women observed, only 9, or 3 per cent., had no children. In 500 imported women observed, only 18, or 3·6 per cent., were childless, as against about 15 per cent. of women who, I believe, are sterile in England. The second point is the number of children born of these 800 women. Of the 291 pure Waganda women who had children, 74 had 1 child, 35 had 2 children, 140 had 3, 36 had 4, 2 had 5, 1 had 6, and 3 had 7. Of the 482 imported women who had children, 79 had 1 child, 260 had 2 children, 107 had 3, 37 had 4, 1 had 5, and 2 had 6.

Circumstances have prevented me from elaborating this paper as I should have wished. I give it for what it may be worth, for I am of opinion that any facts which an explorer can lay before the public should not be laid aside, but produced for the benefit of scientific men. I am well aware that a great mass of statistics must be brought together to prove any point. I have given what I possess, and hope others will do the same.