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DETERMINATION OF SEX BY THE DATE OF CONCEPTION.

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WHILE studying the reproductive organs in the microscopical laboratory of Dr. Carl Heitzmann, of New York, last winter, Dr. Heitzmann advanced the following theory in regard to the determination of the sexes. The ovum represents the female element, the spermatozoa the male. We know that it requires only a few spermatozoa, perhaps a single spermatozoön, to impregnate an ovum. If an ovum becomes impregnated by a few spermatozoa the female element will be in excess and the result will be a female. If, on the other hand, a good many spermatozoa impregnate the ovum the male element will preponderate, and a male will result. Now, if an ovum is high up, that is in the ovary or at the fimbriated extremity of the Fallopian tube, probably only a few spermatozoa will come in contact with it. But if the ovum is low down then many spermatozoa come in contact with it.

If menstruation and ovulation are dependent the one on the other, as many authorities affirm, then the situation of the ovum may be determined by the menstrual period. During the interval between the periods the ovum is in the ovary. Just before the flow begins the ovum may be on the surface of the ovary or in the fimbriated extremity of the Fallopian tube. As menstruation goes on the ovum descends, and the flow may entirely cease before the ovum is discharged. Then it is low down in the Fallopian tube or even in the uterus itself.

Now if coition takes place during the interval between two periods, or just before menstruation begins, the ovum being high up, only a few spermatozoa pass up the Fallopian tube and reach it; but if coition is just after menstruation, then the ovum is within the reach of many spermatozoa.

Stock breeders understand this. If they want a female they put the two sexes together at the beginning of the rutting period, but if a male is desired they wait until the female has been in heat some time.

During my term of service in the Boston Lying-In Hospital I had several opportunities of testing this rule, and have collected twenty these which bear it out.

I excluded those cases where there seemed to be any doubt at all in regard to the statements, and all married women, except three where the exact dates were given.

In twelve cases the data were obtained before delivery, and in all these the sex was predicted correctly.

In looking over the records of the hospital I found five cases which were noted as single connections, and the dates given. In all these the result conforms to the theory. In three instances the data were not

obtained until after delivery. Two of the cases were in the hospital when I came on duty, and the other was kindly furnished by Dr. W. L. Richardson from his private practice. The cases are as follows:—

I. A. S., twenty, single, primipara. Catamenia last seen June 18, 1877. Connection June 20, 1877. Delivered of a male child March 19, 1878. Data obtained after delivery.

II. A. McK., twenty, single, primipara. Catamenia seen the end of May, 1877. Connection a few days after the flow had ceased. Delivered of a male child February 28, 1878. Data obtained after delivery.

III. Dr. Richardson's case. A married woman, who desired not to have children, was told not to have connection until a week after the flow had ceased, nor within a week of the next period. She had connection the ninth day after she stopped menstruating, and became pregnant. She was delivered of a female child. Data obtained after delivery.

IV. S. S., twenty-six, single, primipara. Catamenia April 1, 1872. Single connection April 5, 1872. Delivered of a male child. Taken from the hospital records.

V. M. G., eighteen, single, primipara. Catamenia March 29, 1873. Single connection April 13, 1873. Delivered of a female child February 10, 1874. Taken from the hospital records.

VI. M. R., eighteen, single, primipara. Catamenia last seen July 16, 1873. Single connection two weeks before (July 4th). Delivered of a female child May 9, 1874. Taken from the hospital records.

VII. W. C., twenty-two, single, primipara. Catamenia January 11, 1874. Single connection just after. Delivered of a male child October 14, 1874. Taken from the hospital records.

VIII. S. Y., eighteen, single, primipara. Catamenia June 30, 1874. Single connection July 4, 1874. Delivered of a male child April 21, 1875. Taken from the hospital records.

IX. M. W., nineteen, single, primipara. Catamenia last seen during last week of May and first week of June, 1877. Had connection on two successive nights two weeks after the flow had ceased. Was delivered of a female child March 9, 1878. Sex was predicted.

X. M. H., twenty-three, single, primipara. Catamenia last seen June 24, 1877. June 29, 1877, had a single connection. Was delivered of a male child March 23, 1878. Sex was predicted.

XI. E. D., twenty-one, single, primipara. Catamenia last seen June 20, 1877. Single connection July 4, 1877. Delivered of a female child March 30, 1878. Sex was predicted.

XII. M. H., eighteen, single, primipara. Catamenia last seen June 18, 1877. Single connection a few days after flow ceased. Delivered of a male child March 23, 1878. Sex was predicted.

XIII. A. L., twenty-one, single, primipara. Catamenia last of July, 1877. Connection the day the flow stopped, and twice afterwards during the month. Was delivered of a male child April 1, 1878. Sex was predicted. The prediction was made in this case because symptoms of pregnancy appeared immediately after the first connection. This was a small child, probably born at the eighth month.

XIV. K. W., twenty-two, single, primipara. Catamenia stopped July 4, 1877. Single connection July 15, 1877. Delivered of a female child April 15, 1878. Sex was predicted.

XV. S. M., nineteen, single, primipara. Catamenia last seen during the first week of June, 1877. About the time of the next period, namely, July 4, 1877, had connection and "no show." Delivered of a female child April 3, 1878. Sex was predicted. Conception took place just before menstruation.

XVI. From Dr. Richardson's private practice. A married woman, who having had one child desired no more. She was very careful to have connection only just half way between two menstrual periods. She was delivered of a female child in May, 1878. Sex was predicted.

XVII. F. W., nineteen, single, primipara. Catamenia last seen August 1, 1877. Connection a few days after. Delivered of a male child May 3, 1878. Sex was predicted.

XVIII. H. D., twenty-one, single, primipara. Catamenia appeared July 25, 1877, and lasted one week. August 5, 1877, that is, four days after they ceased, had a single connection. Was delivered of a male child May 4, 1878. Sex was predicted.

XIX. C. L., thirty-two, married, third child. Catamenia last seen August 15, 1877. Her husband, "a traveler for a firm," came home August 26, 1877, and stayed until September 12, 1877. She has not seen him since. Was delivered of a female child May 18, 1878. Sex was predicted.

XX. A. B., twenty-four, single, second child. When fourteen years old she was seduced and had a child, since which time she has been insane. On the 17th of September, 1877, she came to Boston, from the Worcester Insane Asylum, with her mother to see the procession. She was lost in the crowd, and the next morning found in a house of ill-fame. She menstruated last from August 26 to September 1, 1877. Was delivered of a female child June 8, 1878. Sex was predicted.

I am aware that this theory conflicts with most, if not all, of the accepted theories on the subject of conception, and that the cases here presented are too few in number to establish any exact rule, but it certainly seems to me that the results obtained are extremely interesting and would warrant a further investigation of the subject.