THE

CINCINNATI MEDICAL OBSERVER.

CONDUCTED BY

DRS. GEO. MENDENHALL, JOHN A. MURPHY, AND R. B. STEVENS.

vol 1

[redacted] JANUARY, 1858. No. 1.

ORIGINAL COMMUNICATIONS.

ART. I.—*Conception—A paper read before the Medical Society of Vienna*, by DR. GRENZER; translated and read before the Cincinnati Academy of Medicine, by DR. WM. KRAUSE. Published at request of the Academy.

Since the discovery was made, that the maturation and separation of the ovula of man and the other mammalia does not depend on coition, a new era commenced in the history of human generation. The old observation, that about the time of menstruation, especially immediately after it, women are most apt to conceive, was proven with sufficient exactness by Bischoff but a few years ago. There exists, however, some doubts how long a time the human egg remains capable of impregnation, and whether there is really a time between two menstrual periods, during which the woman is absolutely incapable to conceive. Bischoff and others, as we all know, answered the latter question in the affirmative, and speculation has already seized upon this physiological doctrine, in order to instruct laymen how married people may protect themselves against an excess of matrimonial blessings, and unmarried ones against the blame, attached by society to illegitimate pregnancy. Among other productions of this kind, a pamphlet appeared in 1850 at Hamburgh, edited by a firm selling popular books, wherein the author, a Dr. Roemer, relying on Bischoff's proposition, that the conceptibility of the human ovulum lasts from 8 to 12 days, after which time it is

lost, unhesitatingly asserts it as a fact, that a woman, having sexaul intercourse 12 or 10 days before her time, cannot be got with child.

Subjecting this doctrine to a closer examination, we find it too general, for, even where the period of menstruation is four-weekly, i. e. where the period returns every 28th day, the incapability of conception would be, at most, confined to a few days.

The points to be considered in such an investigation are the following:

1st. The duration of the menstrual period each time.

2d. The time when Graaf's vesicle bursts and when it is left by the ovulum.

3d. How long the ovulum remains capable of being fecundated.

4th. The period of life assigned to the male seminal filaments within the female genitals; and

5th. The catamenial type.

According to experience, 4 or 5 days must be taken for the average duration of the menstrua.

During this time, as a rule, some matured Graaf's vesicle bursts, and the ovulum which it contains takes its exit. This latter, according to Bischoff, usually happens toward the end of the catamenial period, though it must be admitted that in this there seems to be no regularity, for the post-mortem examination of women, dying during their menstrual period, showed at the same time vesicles fully matured, as well as others ready to burst or even open and emptied. Corte, for instance, found a fresh corpus luteum on the first day of menstruation.

With respect to the time which an ovulum may remain capable of being impregnated, Bischoff believes it to last from 8 to 12 days, until it has left the tube fallopii. For, after that time, having reached the cavum uteri or the uterine extremity of the tube, it has changed so much, being covered, with many mammalia at least, by so thick an albuminous layer, as to render the fecundating influence of the seminal threads impossible. In the majority of cases, therefore, the sperma is likely to reach the ovaria themselves where it comes in contact with the ovulum, while this is leaving the ovarium or immediately after; for Bischoff,

Wagner, Barry and others saw the seminal threads within the ovula of sluts and female rabbits. It is, therefore, beyond any doubt, that a connexion some days before menstruation commences, may be atttended by conception, because according to observation on animals, the seminal threads preserve their mobility and fecundating power within healthy female sexual organs for from 6 to 8 days. Some physiologists go so far even as to regard the ante-menstrual period of 4 to 8 days the most favorable for conception, the semen, then, having sufficient time to penetrate to the ovaria before the vesicle has burst, so as to embrace the recently exposed ovulum immediately within the fertilizing power of its systematic filaments. The more turbid condition of the external and internal or uteri, moreover, as also the freedom of the cervical canal during the menstrual period from the mucous, by which it is usually obstructed, must necessarily favor the entrance of the sperma into the cavum uteri.

Considering all these circumstances, it will follow that, whenever sperma reaches the ovaria 8 to 12 days after the catamenial period, or about 6 days before it, conception can take place. Accordingly a regularly menstruated woman, being pure for 23 days, would be incapable of conception the 13th, 14th, 15th, 16th, and 17th day after her menstruation. Her capability of conception would be restored from the 18th day, because, up from this time, semen ejected into the female organs of generation, could remain active up to the next catamenial period.

Hence we may safely infer, that the remark of Hirsch, who considers conception not dependent on the time when connexion is had; but solely on the periodical maturation and separation of the ovula is utterly without foundation. Hirsch cited the Jewesses as a factical proof of the unbounded possibility of conception of women. These, in accordance with their religious law, have to wait for 7 pure days after their menstruation is over, before they are at liberty to resign themselves to connexion, and yet these women are distinguished by their fertility. What regards the single instance, particularly mentioned by Hirsch, where a gentlewoman became pregnant after a single cohabitation on the 22d day after her menstruation, it is to be presumed, as in other similar cases, reported by reliable observers, that an ovulum, de-

tached during the next catamenial period, was impregnated by semen injected some days previous to its appearance.

If, therefore, at the present state of our knowledge it is to be presumed that a woman menstruated regularly every 4 weeks is free from the possibility of conception only for four or five days, no absolute sterility would be found to exist even for a few days, with women whose menstruation returns on the 19th, 20th or 21st day. Such being generally known to be the case with a great number of females in the full enjoyment of health, it will be sufficient to briefly animadvert to the statistical tables of Schweig, according to which in 500 cases menstruation made its regular appearance on the 19th day in 7, after 20 days in 11, after 21 in 11, 9 times after 22 days, etc. Now, let us assume that the period lasts from 4 to 5 days, that the ovulum, after its detachment, lives 12 days, and finally, that a cohabitation, had 4 to 6 days before the next menstruation, may prove efficient, then we will have to count in the average 18 days, during which a possibility of conception is given, i. e. just as many days, as, being free from the menstrual flow, elapse between one catamenial period and another, if this be used to return at intervals of 3 weeks. Females of such a period, therefore, would be no time incapable of conception.

It will appear from these remarks, that all these cases, meant to refute the theory of menstruation adopted by us, do not prove anything. To explain those instances where conception took place in the midst of two menstrual periods, it is neither necessary to presume the precocious separation of an ovulum, caused by connexion, nor to return to the old, but justly obsolete doctrine, which makes the detachment of the ovulum depend on cohabitation. Should, however, Graaf's vesicle burst sometimes too late after the menstrual flow has ceased, and Bischoff himself admits this sometimes to be the case, while in other instances the ovulum may be precociously matured by coition, which does not at all appear improbable, then the number of women, sterile at least for a limited space of time, would be lessened still more considerably.

A longer time of absolute incapability of conception, however, would be found to exist where the menstrual periods succeed each

other at large intervals. Schweig's tables, made up of 500 observations, show in this respect the following proportion:

The catamenial return

in	11	cases	after	35	days.
"	3	"	"	36	"
"	3	"	"	37	"
"	5	"	"	38	"
"	4	"	"	39	"
"	2	"	"	40	"

We need, however, a larger number of reliable observations, in order to settle a question equally important to science and human society in general. Above all the question must be answered, whether there really exists, with the human female, between the menstrual periods an interval during which a complete connexion cannot be attended by conception, or whether such a temporary sterility exists only with women of four-weekly periods, or where it is of the three-weekly type, and so forth.

Such numbers as are required to solve these problems, can not be furnished by a single person. It is no difficult task, however, for men who devote their life to the investigation of the laws of nature and its phenomena. I request you, therefore, gentlemen present, to regard my words as preliminary to a general call on the profession, to make observations on this subject, by way of experiment, and carefully to collect them. As the manner of systematically experimenting is generally acknowledged to be the only one in the natural sciences, but especially in physiology, leading most surely to accurate results, as the most important discoveries have already been made in this way, why should you be unwilling to take a part in a physiological experiment, which, far from being disgusting, combines in an incomparable manner the useful with the sweet, *utile cum dulce?* And does it not at the same time serve for determining a question all the important bearings of which can hardly be foreseen? We do not at all want to imply that only physicians and men of the natural sciences in general shall take an active part in these experiments. Though their interest in the subject especially will be desirable, yet it would suffice, if they could affirm the correctness of other observations or persuade married people whose veracity does not admit of doubt, to assist in the solution of our problem. There is no-

body, but a physician who penetrates most deeply into the secrets of married life—more apt to be a guide in and collector of, such observations. On this account, I direct my call mainly to you, my colleagues.

These experiments, however, shall serve also to throw light on another dark chapter in gynæcology, to wit: to arrive at more satisfactory results or scientific grounds, with regard to the duration of pregnancy.

'The normal term of utero-gestation has not been determined at all so accurately as seems to be presumed by a great many persons. It can not be denied that our science possesses on this point some highly valuable observations, among which are to be named those of Hamilton, Montgomery, Murphy, James Reid, Cederschjold, Devilliers fils, and particularly the latest ones of Berthold and Veit. Nevertheless, the number of correct observations are still too limited to afford such a satisfactory answer as we have received regarding the time of bearing of cows, mares, sheep and rabbits by the valuable researches of Tessier, Spencer and Krahmer. This only seems to be certain, that also with men the duration of pregnancy varies considerably, and at the present state of our knowledge, it would perhaps approach nearest the truth, to set it down between 270 and 290 days, mostly 280. There remain, however, a great many other questions to be answered, for the settlement of which, the number of good observations heretofore made and reported, are wholly insufficient; for instance, on what causes does the different duration of pregnancy depend, on the intervals between the catamenial, as has been assumed by some, so as to shorten or prolong the time of bearing according to their less or more frequent return, or are other unknown and accidental causes at work; again, is the four-weekly period to have appeared, during pregnancy, exactly ten times, or does, after Berthold, labor begin, when the ovaria prepare themselves for the tenth time for menstruation? All these are yet obscure things, which can be illustrated only *viribus unitis*. Above all, it would be indispensable to know the days on which the last ten periods made their appearance before conception took place, and how many days the catamenia used to flow each time. The difficulties, however, being too great, of gaining correct in-

formation from women on these points, and it being more particularly important to learn something certain about the capability of conception between two menstrual periods, we had better content ourselves with the particulars of the last menstruation. Lying in hospitals is the least suited for the collection of exact observations pertaining to the solution of our question, because those seeking assistance in those places, usually are the least apt to give reliable information. Science, therefore, but especially forensic medicine and human society generally, would profit the most, if by other means a larger number of correct observations could be gathered with regard to the days on which a coition, attended by conception, took place.

In fine, I dare not leave it unmentioned, that Rudolf Wagner, in his remarks supplementary to Leuckart's instructive article on generation, makes the following propostion: If the father be older than the mother, more boys are born than girls, and this proposition seems to increase with the age of the father being more advanced. This proposition is based on the statistical labors of Hofacker and Sadler, which put it indeed beyond all doubt, that the relative difference between the age of the parents exercises a perceptible influence on the sex of their children, however difficult it may be to give a physiological explanation of this highly interesting fact. Also in this respect the experiment recommended by us, could furnish useful information, if age and constitution of the parents as well as sex and development of their children were not overlooked, but faithfully recorded.

To attain the object desired, it appears, however, indispensable to proceed according to one common method, strictly to be observed, for which I beg leave to offer the following rules:

1. None but healthy married people, enjoying procreative power and belonging to different classes of society, are to be invited, confidentially, and under promise of strictest discretion, to engage in those experiments. Those having already proven their fertility by the generation of one or several children, will appear particularly well fitted. Newly married people, however, are by no means to be excluded, provided their coition be complete, that is, the penis be received in the vagina some depth before ejaculation ensues. It will deserve especial attention, whether the wo-

man is free from vaginal, or uterine catarrh, or other diseases of the genital organs or not.

2. Married people fulfilling these conditions, have to promise, especially the husband, not to have connexion, except on the 13th, 14th, 15th, 16th and 17th day after the menstrual flow one or several times.

3. Should pregnancy not follow this coition, the experiment is to be repeated at one of the same days after the next period.

4. If, then, no conception take place, coition is to be exercised after the 3d catamenial flow after the 18th day, until the premonitory symptoms of the next menstruation appear.

5. The same must be repeated, if also this cohabitation should prove ineffectual during the next succeeding monthly course.

6. If even then no conception has been effected, connexion is to be had on one of the first days after the menses, and this is to be repeated again and again, until pregnancy is the result.

The following points are to be specified:

1. With regard to the parents:
   - a. the age of man and wife;
   - b. the constitution of either;
   - c. the class and occupation of the husband.

(It would not of course correspond with the common laws of decency, to have a name and residence mentioned of these, willing actively to participate in our experiments).

2. With regard to the menstruation of the woman:
   - a. how many days do her monthly courses continue?
   - b. did they usually flow sparsely, moderately, or profusely?
   - c. how many days did usually elapse between two successive periods, being free from the excretion of blood.

3. With regard to the last menstruation:
   - a. on what day of the month did it commence?
   - b. on what day of the month did it cease?

4. With regard to the coition:
   - a. on what day of the month was it exercised?
   - b. did pregnancy follow it or not?

5. With regard to pregnancy:
   - a. what were its first symptoms?
   - b. did the menses cease at once, or reappear one or several times?

In the latter case, what was their quantity, color and quality, compared with its usual properties?

c. did any disease of any account complicate the pregnant condition?

d. on what day of the month were the first movements of the fœtus felt by the mother?

6. With regard to birth:

a. on what day were the first pains felt?

b. on what day and at what hour was the child born?

7. With regard to the child:

a. whether living or dead;

b. its sex;

c. its size, (according to what measure?)

d. its weight, (according to what weight?)

e. the signs of its complete maturity, or in case it was prematurely born, the signs of premature birth.

Under the head of special remarks are to be placed abortion, expulsion of a mole, extra-uterine pregnancy, deformities of the child, anomalies of delivery, etc.

The observations made are, clearly written and sealed, to be sent in, postage prepaid, in the month of August, 1858, to the care of Dr. Grenser, Director of the Lying-in Hospital at Dresden.

All the observations reported, and the results gained by them, will be communicated at the next meeting of German physicians and the cultivators of the natural sciences, in the autumn of 1858. At the same time the names of all those having furnished contributions and serving, therefore, will be duly published.

Art. II.—*Case of inoculation for the cure of Granulations and Corneitis.* By E. Williams, M. D., Cincinnati, Ohio.

Mrs.—— aged about 38, of vigorous constitution and healthy parentage, consulted me on the 19th of last September. She stated that some twelve months previously she was attacked by an inflammatory affection of her eyes which, from her accounts of the symptoms, I supposed was *puro-macous conjunctivitis.*—This opinion is corroborated by the fact that her husband had been laboring under that disease for some time before she was