Conception

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Conception, or the impregnation of the ovum by the positive contact of the male sperm, whence results a new being, is a most important and complex subject, possessing an amount of interest hardly conceded to any other subject on account of the many changes which the part concerned in it undergoes during and after impregnation, and especially because so results are a new being fashioned in every particular like ourselves, and obedient to the same laws and impulses. Regarding the process itself in the human female very little is known, and this little principally from the observance of phenomena presented either before or after Conception had taken place. But from observing the same phenomena in the lower animals and from experiments on these animals, tending to show the changes which take place at the time, and which, for obvious reasons cannot be or very seldom if at all, made the subject of investigation in the human female, a certain number of facts, admitted to be such by all observers, have been gathered tending to a right understanding.
of the phenomena presented, or giving a firm 
framework for theories perfectly consistent with 
all known phenomena. 
The whole subject of Conception rests so 
far beyond the limits of this paper, but 
there are two questions especially important, and 
to which I intend to restrict myself. (1st) 
I. When does Conception take place? 
II. Where does Conception take place? 
We shall find these, although these questions are to a 
certain degree distinct, yet, they bear such a 
close relation to one another, that in answering 
the one you glide insensibly into arguments for the other. 

Noting, as briefly as possible, the organs, their 
anatomical structure, and the functions per- 
formed by them, as far as they bear upon the 
subject of this paper, I shall then state the 
facts already made clear, and bearing on the pro-
cess of Conception and proceed, upon the above 
framework, to answer the two questions which 
will in fact comprise the subject of this paper.
The special organs of generation in the female are the ovaries, Fallopian tubes, uterus, and vagina. The male organs are the testes and ducts, vesiculae seminales, penis with the urethra, prostrate gland, and some other small glands. Regarding the male organs all that need be noticed here is that a fluid is secreted, the semen, containing spermagone, which during the act of coition is ejected from the urethra into the vagina of the female, and ultimately reaches the ovum and impregnates it, constituting the process of conception.

Of the female organs—the ovaries are two bodies placed one on each side of the uterus and at the back of the broad ligament by which they are covered. They have two coats—a peritoneal, and a proper fibrous coat. The substance of the ovaries consists of a vascular stroma in which are lodged a number of small vesicles named Graafian vesicles. Each vesicle contains, besides its fluid content, a small spherical body about the 1/20 of an inch in diameter. This is the ovum, the ripe egg, and which being impregnated by its...
development gives rise to the future being
for the further developments of the ovum
after impregnation a receptacle is provided.

The uterus, leading from the upper part of which, on either side is a tube - the Fallopian tube - which opens into the abdomen by a fimbriated extremity, but at certain times this extremity is applied over the ovary and receives the extended ovum, for which it forms a passage to the uterus. These tubes perform other important parts in the process of conception, which will be noticed as we proceed.

The period of puberty in women is indicated by a copious and continuous discharge from the uterus, and marks the commencement of the time as which they are capable of conceiving. This discharge, as a general rule, occurs once every month, and is ushered in by symptoms more or less severe. Hence this function is called menstruation. Although the discharge takes place from the uterus, yet it has been found that where the uterus is wanting, or has been removed, the ovaries...
Being present, the menstrual insculpin has been present, that where the ovaries have been present, congenitally absent, or have been removed, or have been disorganized, menstruation is absent or ceases. Coincident with the commencement and cessation of menstruation we find corresponding organic changes in the ovaries. From these facts, we may conclude, that although the uterus is the seat and its lining membrane the secreting agency in the process of menstruation, yet the impulse or stimulus upon which the process depends is in some way or other derived from the ovaries.

From the observations of Raciborski, Pucher, Bischoff, and once by many other observers, it has been proved that the phenomena of heat or aus in mammalia, and the period of menstruation in the human female are comparatively identical. As this period approaches, the changes which have been observed to take place in the ovaries are the following: The Graafian vesicles previously in the centre, move towards the surface of
the ovary, and at the same time increase in size. An influx of transparent fluid occurs in one or more vesicles, distending and ultimately causing rupture, not only of the coats of the vesicle or vesicles themselves as their least resisting part, which corresponds to the surface of the ovary, but by their pressure of the wall of the ovary also. Before this rupture takes place, the fimbriated extremity of the Fallopian tube grasps the ovary over the mature vesicle, so that, when it bursts, the same contained in the vesicle is delivered into the Fallopian tube. The coverings of the vesicle, and part of its contents, being left behind to form a Corpus luteum. These facts prove that rupture of Graafian vesicle and extraction of ovum take place at the menstrual period independently of Coition. For the impregnation of the ovum positive contact, and perhaps union is required between it and the spermatyza of the male by which the changeability of its constituents would seem to be increased and a change of phenomena evolved, each link of which
conditions. This which is to follow and ends in the production of the new being. The fertilizing power of the semen would also seem to determine the direction of development, and by doing so impress upon the new individual the visible atrophy of its own individuality when does Conception take place?

We have seen that at each menstrual period a Graafian vesicle becomes mature and bursts, liberating its ovum into the Fallopian tube; and also that the period of menstruation in the human female is identical with the period of heat or estrus in the mammalia generally. Conception in relation to time is then the question. By collating and arranging the facts, and carefully observing the phenomena arising therefrom, and giving to each its proper place and value I have no hesitation in arriving at the conclusion that ovules only become mature and are liberated at a menstrual period and that when Conception does take place these own alone can be impregnated. Some of the arguments in support of this view are the following...
of them will be found to have an important bearing on the great question to be discussed in this paper.

1st. The investigations and experiments of Blandeau, Hansemann, Brachoff and Rabbktki have proved that as the period of heat in mammalian ova are discharged from the ova in independent of the influence of the male, and these ova have been found in the Fallopian tubes.

In all instances in which Graafian vesicles have been found, presenting the appearance of recent expulsion, the animals were at the time, or had recently been in heat; and that on the other hand, there is no authentic and detailed account of Graafian vesicles having been found expelled in the intervals of the period of heat, and that female animals do not admit the male, and never become pregnant, except at those periods.

2nd. Human females are incapable of being impregnated before the age of puberty, i.e., before the first menstruation. After that
period Graafian vesicles recently captured have frequently been seen in ovaries of dying or women who could not have recently been impregnated, and in a few cases the ova have actually been discovered in the Fallopian tubes, although from their minute size they have often escaped detection. In all cases in which ovarian follicles have been found, independently of sexual intercourse, the women were menstruating at the time, or had very recently passed through the menstrual state, and this appears to be the only time at which the vesicles and ova arrive at maturity, and then to be discharged at such times only. The recent Corpora lutea of menstruation have never been found in the same ovary with Corpora lutea of Pregnancy, no matter how soon after conception they had been searched for. J. D. C. Salton in his prize essay says, It is probable that all Corpora lutea follow the same course as eggs, and not until impregnation has taken place and development commenced do those changes occur in the unfertilized ovule, which
characterize the True Corpora Lutea of Pregnancy, to the period of pregnancy as a general rule is laid down as 260 days, 10 lunar months, or 9 Calendar months and 7 days from the last menstruation. This period is found to be pretty generally correct, allowing a few days either way, many more being found under than over this time; thus bring the period of conception still nearer to the last menstruation.

Further, the term 'successful Coitus' seems to be used by authors to express something for which they have no data. Coitus when it is succeeded by impregnation is 'successful,' but in any other particular it does not differ from ordinary coitus. Why then, may I ask, should a Graafian follicle, at an interval between menstruation, take on an action calculated to bring it to a fit state for impregnation after one coitus more than after another—and why also should the Fallopian tubes pass the ovary at that time in preference to after any coitus?—The above questions are suggested by the way in which authors hold that conception
can take place at any time attempt to per-
over them difficultly by using a term signifi-
ing certainly a fact in its proper place but
something incapable of proof in the way
they use it. The changes in the ovaries and in
the portion of the Fallopian tubes have never
been seen to occur except at menstrual
periods and from facts quoted I believe do
not occur at any other time. Further,
unless the ovaries spontaneously take on an
action calculated to thin their coats and
also those of the ovaries so as ultimately
to cause their atrophy we have an obstacle
to conception taking place from the thick-
ness of the coats of the ovaries (b) the
peritoneum and proper fibrous) completely
opposing access of the spermatic corpuscles
to the Graafian ovaries and consequently
to thin contain ova. We have seen al-
ready that actual contact between the sperm
and ova is necessary to impregnation.
As regards the time at which ova are liberated
from the ovaries nothing definite can be
stated but actual observation on mammals,
during the period of heat—lead up to the belief that this may take place in the human female either shortly before, during, the flow or shortly after menstruation. The case would seem to be the more probable when it takes place during the flow or even shortly before, the ova instead of being retained in the Fallopian tubes may find their way directly to the uterus, and be carried away by the discharge, thus accounting for impregnation not taking place infrequent as these periods.

It is argued against the view put forward in this paper that impregnation of ova may take place one, two, or even three weeks after menstruation, and before that time the ova of menstruation would have perished. That prolonged cases do certainly happen there is no doubt, but the question may be asked: Was the time of conception rightly known? But I may also ask: Can anyone tell how long an ovum may retain its vitality in the Fallopian tube? Can they say that under favorable circumstances, even without impregnation, it may not retain its power of becoming further developed under
a proper stimulus many days after its expulsion from the Graafian vesicle. These cases when they do happen, are not very frequent—exception to the general rules already laid down. Again the ovum may not have been liberated until the end of menstruation, or even a short time after it had ceased, or the ovum be of shorter duration than a month. I have had, as patients, three women, who menstruated regularly to a day, every three weeks, and one was able to name the exact day of conception, from menstruation not appearing as the regular period, which would have happened about 24 hours after connection with her husband, who had just returned home after a long absence. Many cases delayed much longer may be explained by the Graafian vesicle becoming mature, and liberating its ovum shortly before menstruation would have come on, and the ovum having become unin-}

pregnant, effectually put a stop to the dis-
charge. Such a case as this lasts perhaps a fortnight, and even three weeks beyond the natural period of pregnancy.
Where does Conception take place?

After what has been said on the first question, the present one need not detain us long, as none of the facts and arguments brought forward then go to establish the question now before us.

The ovaries, Fallopian tubes, and uterus have each been upheld by different authorities as the place where the spermatozoa of the male come in contact with and impregnate the ovum. But the uterus is the scene of conception, as well as of future development, is interlarded by very few, indeed all observation of phenomena in relation to time tends to the conclusion that this organ is only a receptacle for the development and nutrition of the foetus, and again facts in the progress of development of the ovum would seem to render conception in the uterus impossible.

The Chorion, a covering of the foetus in foetus on the ovum in its descent through the Fallopian tubes, yet is it doubtful whether a chorion or something like it is not found on an unimpregnated ovum. The Membrana decidua...
It is formed before the ovum reaches the uterus, and the decidua reflexa covers that body as soon as it enters the cavity of that organ, and these changes do not take place in the uterus until conception has taken place. Again, as soon as these changes begin to take place, the Cowper's ulcers become plugged up by a thick secretion from the glands, thus preventing the entrance of any bodies into the uterus. Lastly, as Churchill says, it is difficult to determine the period (even if it be regular) at which the ovum arrives in the uterus. The thing appears certain, that several days elapse from the moment of impregnation.

We have before traced the Anatomy of the ovum up to the point of its fixation or fusion from the ovary, principally in relation to ovulation and menstruation, and also shown how it bears upon the question of Conception in point of time. If what has been brought forward in support of the first question be true, and I believe it is, then it cannot be denied that Conception in the great majority of cases takes place in the Fallopian tubes, as
ova are liberated from the Graafian vesicles, and consequently from the ovaries at Menstrual period, independently of coital intercourse, and these ova afterwards become impregnated. "Chiniscus further says: "No observer has yet discovered spermatogonia penetrating the ovaries, and it is even doubtful whether they have ever been seen at the upper part of the Fallopian tubes. That Conception cannot take place while the ovum is enclosed in its vesicle, and this again within the ovary, I fully believe, from the physical impediment to the penetration of the spermatogonia, but as soon as the ovum, by aperture of its containing vesicle, becomes so placed that the spermatogonia can come in contact with it, conception may take place at any time. But generally the ovum is lodged in the Fallopian tube before it becomes impregnated. In some cases, it is impossible to deny that impregnation did not take place in the ovaries themselves, as in those very rare cases of extra-uterine pregnancy, where the ovum instead of descending
to the uterus has despaired, and become developed in the ovary. These cases however are very easily explained on the principles already laid down. As the ovum is ripe, a vehicle becomes mature and bursts, and the sperm through the coat of the ovary not being sufficiently large to allow the sperm to escape, although large enough to permit the entrance of spermatozoa, the ovum becomes unpregnated, and undergoes development in its abnormal situation.

All the facts brought forward, both anatomical and physiological, and all observations on the changes that take place during the performance of the functions peculiar to the several organs of generation tend to the conclusion that Conception as a fine- grain rule, takes place in the Fallopian tubes. In what part of the tubes, or whether in any one part in preference to another I am not prepared to state. There is reason to believe that it may take place at any part, especially above the middle of the tube, and that where spermatozoa come
in contact with the ovum there. Conception
seems

By the law in medicine that "the greater the excitement, the greater the subsequent collapse," we may explain many cases of sterility in females independent of any organic change in the organs of generation, or any incapability of becoming pregnant on the part of the female. This is well shown in the well known, or comparative sterility of prostitutes.

When from excessive labor, mental_distress, or anything tending to keep the nervous system in a state of excitation, the organs of generation participating in this excitement, an excess of vitality is imparted to the ovum, and then contains vessels for the time, so that although ova are liberated at each menstrual period from the Graafian vesicles, yet, from excess of vitality when in the vesicle, or deficient nutrition in the same, they may be received into the Fallopian tubes in such a condition that they perish in the uterine

the spermatic corpuscles of the male
can reach them. This is further borne out by the fact that prostitutes, after abandoning their course of life for some time, are very liable to become pregnant immediately on returning to it; and this same class of females generally become pregnant once in the very early part of their career. Women also, subject to excessive sexual indulgence, and Guthrie's clients, after living a lewd manner for some time, have become pregnant immediately on returning to their husbands. Also in those cases of sterility arising from debility, a course of tomes, exercise, and a trip to a watering place. By reviving the health, has often been the means of producing an heir, when all other means had failed.

It seems to me that the supporter of the doctrine that menstruation over six are the only ones capable of impregnation have ever in rebutting the time during which there over may remain their vitality in the Fallopian tubes independently of impregnation. Reasoning analogically from the law of poly-
cell growth in other parts. I see no reason why an ovum, if it retain its vitality in the Fallopian tube, ready to develop itself on the application of the proper stimulus (3), the spermatic fluid, or even that stimulus being applied, still remain inactive until more directly favoured by the state of the surrounding parts. We know that eggs can be kept for a length of time, and then be hatched when placed in proper circumstances, even as hares or Why then not a human egg? The spermatozoa of the male, under favourable circumstances, retain their vitality for more than a week. Why not the ovum of the female under like circumstances, especially when they are in contact with healthy living tissue from which, by simple mechanical means they may obtain nourishment enough to maintain their vitality for some time. From what we know of simple cell growth it is probable that when an ovum is contained in the Fallopian tube, and does not become impregnated, it
perishes either from excess of nutrition by endosmosis, binding the cell, or from defect  
of nutrition by endosmosis withdrawing its  
contents and shriveling it up. These states  
will depend much upon the condition of  
the part with which it lies in contact,  
and consequently will determine the length  
of time during which it may retain its  
viability.

The above are mere hypotheses, but judging  
from analogy I cannot see why the  
same mechanical changes may not take  
place in an ovum, as in an ordinary  
cell situated in other parts. Indeed the  
ovum is the true type of a cell, and its  
subsequent development only points  
out the manifest changes that cells may  
undergo in the progress of growth.

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I intention original thinking argf

in barcefin not before cansto
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up to & drop + bible and pass at
successful control

I & he can't lay me in forfeited
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