Monstruation

habr ned 9 ovol
30.10.19... slujby

no večernj ojaz
Menstruation

No field of physiological inquiry has been more cultivated in late years, than that of Reproduction. It has proved very extensive, but in part has been passed over, unlooked at, and unexamined. And in none other, has the harvest been so abundant and varied. Chemistry, itself struggling into existence, has been employed in the investigation, and with great success. But of all other sciences, Comparative Anatomy has been of most service, as it has been most extensively used. And it, with the aid of the Microscope, has almost revealed to us, that wonderful
process. The human formation, has, with their aid, been traced from the meantime, all up to its full development. Details in the chain are still wanting; the completed picture is not yet presented to our view; but its chief and permanent characters, are now before us, and future enquiries, will the doubt fill in and perfect, what yet is wanting. The knowledge attained of this subject, has been arrived at, by investigating all its parts, and their phenomena. And the more fully and completely these are yet studied, so much the more, will the whole process be brought to light, and extended.

Penetration is a part of Reproduction, and stands on the threshold of all our enquiries into it. The study of its phenomena has thrown much light on, and materially aided in perfecting the views already obtained into its secret processes. It is thus, intimately connected with Reproduction, as part with the whole. But also, on its own account, it occupies an important place in Physiology, and its
disease stated in pathological science. And, though a subject of great difficulty, it is one of interest and practical importance. On these accounts, we have selected it as the subject of this paper. And though we can do little more, than briefly and perhaps indistinctly relate, some of its more characteristic phenomena, still we trust that its consideration by us has not been unattended with benefit to ourselves.

To make use of a definition involving the theory, we consider menstruation to consist in a peculiar action of the female generative organs, by which a quantity of blood is thrown off at certain periods, and which, as it occurs at monthly intervals, has been called the Menstrual or Menstruous flow.

The period of life, at which it first commences varies considerably in different individuals. It occurs in some early, and in others later in life, but is usually held to mark the age of puberty, or that period, when the female is rendered capable of reproduction. A variety of causes has been sought for to explain these diversities.
in the time of its first occurrence. And facts have been adduced which seem, more or less, to give support to them. They are referred to causes operating from without, as climate, civilization etc., and to causes operating from within, such as Race, Family etc. But to what extent, any or all of these operate, remains still a question to be determined by certain influences, e.g. hereditary tendencies, mental or bodily, have to distinguish families, and separate them from those around, while more general, but still distinguishing, are groups or units, e.g. races. One race, differs from another in mental and bodily peculiarities. And it is possible, that these peculiarities may extend even to the extent of descent from the more general question of family, e.g. what peculiarities have been found characterizing families. But the question of this has been frequently, or nearly so, been found. And it appears merely a plausible supposition, or it remains merely a plausible supposition, but still a reasonable one. For as Dr. Bell (think
Mr. Robertson (Edin. Med. Journ. 1832) is inclined to put great faith in National Customs, as influencing the early appearance of the bataemoria. And what by others has chiefly been attributed to climate, has according to him, in a great measure, been caused by early marriages and debasing customs. And he doubts the moral condition of the female has much to do with its early occurrence. So, where national customs have much for demoralizing tendency, their prevalence is early begun. This has been particularly remarked among those Hindu tribes among whom early marriages prevail (see Edin. Med. Journ. 1830). And it derives confirmation from certain classes in our own country. In cities, and especially in workshops, where males & females constantly associate, this function is known to develop more early, than in the country, or under contrary circumstances.
Admitting this as an undoubted influence, still we must admit that menstruation is much influenced by climate. It has been long held, that the hotter the climate, the earlier the development of this function and the colder the climate, the later its appearance. Mr. Robertson has shown that this cause has been much exaggerated, but to a considerable extent it still remains true. Dr. Ellis recent inquiries into this subject confirm this. He finds that while the mean age of menstruation is in Calcutta 12 years 6 months, in London 14 years 9 months, it is in Copenhagen 16 years. He adds however that the maturing influence of heat, is complicated by the influence of cold. Such complications, in all questions of vital statistics, will exist. Three years of age will of necessity be in conjunction at the same time, throwing difficulties into the question, and making the result occult.

A similar difficulty presents itself in the determination of the question. Whether the menarche begins more early in the town than in the country? According to Brière de Boismont (quoted Edu. M. E. L. O. 25), the average of first menstruation in Paris was 14 years 6 months, whilst in the
country, it was 12 years 10 months. This difference is not very marked, and consequently, not much can be laid in regard to it. But allowing it to exist, it can be explained by the fact, if there being more association of the two sexes in the one place than in the other. The habits of the one class differ from those of the other, so consequently the difference may be included under Mr. Robertson's view, in regard to National Customs.

Lastly, the early appearance of the Menses has been ascribed to the effect of civilization. And when we consider the influence, this has on the body generally altering it considerably from its original type, making it more subject to disease, and no doubt modifying its functions in many respects, it may also influence the period of puberty. Rowson (see that of 171 of the poor; 135 of the Middle; 143 of the upper classes, the mean age of first Menstruation was 16 years, 10 months; 14 years, 8 months; and 13 years, 8 months, respectively. This proves at least, that those brought up in the life of luxury indulging and general indulgence, have this function sooner in exercise, than those reared up in hardship and self denial. We see in his Statistics, a
gradual progression in extent of time, from perfect luxury
indulgence and their consequences, down to labour, penury
or, and might be inclined to refer to these, as the causes
of its early or late appearance.

The whole of this subject is complicated, and more
extended investigation is required, before much later
judgment can be had in regard to it. In the whole,
from all that we can gather, we are the more in-
clined to adopt Mr. Robertson's views. That there is
a variation as to the time of its first occurrence
existing everywhere. And that it is not so much
earlier in hot climates, nor so much later in
cold ones, as has been supposed. And again that
it is much influenced by national customs. This
is strikingly shown in an extract from the Delta
Monthly Journal which we here transcribe. In
a missionary country of Asia, where the laws
permit, and custom favours marriage at an
age, still within infancy, we find, that the
Muses are established at an early age; whilst
in another country of Asia, more missionary
than the former and having a warmer climate,
but where infantile marriage is totally pro-
hibited, the Muses do not appear till a more

Thus then, the period of the first occurrence of the
menstrual palsy in different individuals, and in dif-
ferent countries, depending on constitutional causes
which we cannot penetrate--influenced by race,
family, climate, &c. and above all by national
customs.

We have met with a table of Mr. Robertson's, in which
the ages at which four hundred and fifty females
first began to menstruate are given:

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<th>Year</th>
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<tr>
<td>11th</td>
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<td>12th</td>
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<td>14th</td>
<td>85</td>
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<td>15th</td>
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And from a table of four thousand females Dr.
Whitehead (On Sterility and Abortion) finds the
average age of the first menstruation to be
15 years and nearly 6 months. Most menstrua-
ted in the 14th, 15th, and 16th years.

Instances of the very early, as well as late appearance
of the catamenia, are given in books on this subject.
Examples are mentioned of its occurrence at the
age of nine years, and Dr. Churchill quotes a
A case of a child born with marks of puberty, and in whom the catamenia appeared at three years old, and were afterwards regularly discharged. Again, it has been deferred to an unusual period, or has come on only after repeated pregnancies, or has made its appearance only during pregnancy, though doubt has been expressed in regard to this last, whether it was true menstruation.

The period of the commencement of the catamenia, varies as much as that of its commencement. It generally lasts about thirty years of the life of the female, beginning at puberty, and ending about forty or fifty years ago. As a general rule, it is held that the earlier their appearance, the sooner will be their termination, and that on the other hand, where they began late in life, they often last much longer than usual. According to some, the cause of this is true. Many causes here too operate, those which have formerly been mentioned as influencing their early occurrence also influence their final cessation. Besides this, many other peculiar to each individual, such as the time of life, the first becomes a Mother, the number and kind of pregnancies, acquired
habits of living very all come to bear, more or less on the
final drying up of this flow. According to Mr. Robert's
they continue as late as the power of conception, but
this too has been denied. From another table this
be found, that
In my women, the Catamenia finally cease at their
respective ages:
In 1 at the age of 35 years. In 26 at the age of 34 years.

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<td>4</td>
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<td>48</td>
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<td>7</td>
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This table exhibits a wide range, giving how
seen, this result, that must cease between 45
and 50 years. But it has been known to
take place before 30 years, and is not infrequently
as the table shows continued beyond 60 years.

Three cases of the early or late cessation are
not to be regarded as affording evidence of
remedies, unless the constitution suffers at the same time.
Thus far, but imperfectly, we have advanced into this subject. Imperfectly, because in the first place, the question is one of difficulty, and but little is, with certainty, known in regard to it. Authorities differ so much among themselves, and their statistics are often conflicting; and besides, these statistics are made up of too limited numbers, in many cases, as to leave us little to decide, what influences are in operation in producing early menstruation, and what be called influences, are left out of view. Without dwelling however on this subject, we next proceed to the consideration of some of the more immediate phenomena of menstruation itself.

In Animals, as in plants, the reproductive system is the last completed. All the other organs advance progressively and steadily in development on to their full size and form. But at the period of puberty, a great & sudden advance is apparently taken by those of generation, and which seems also to influence the general development of the whole body. For at this period the chest becomes more expanded; the breast prominent, and uterine system generally in a state of great activity. And with these,
Changes, the whole contour of the body, is altered. Nature
with a cunning, curious care, so models the female
form, that what but a short time before presented
want of symmetry, and proportion, the low
figure, and untrained movements of
the girl, are changed in the course of a few
months, into the finished form and manners
of conscious womanhood. The menstrual flow is
gradually ushered in a proof of her new condition.
At the first period, the discharge does not pre-
sent the appearance of the true menstrual fluid.
It is often for the first two or three menstrual
courses, merely a thin mucous fluid, with or
without traces of blood, resembling the discharge
which issues from the higher mammalia, at
the period of heat. But this in time, gives
place to the true discharge of blood; though at
each period, an increased mucous discharge takes
place at the same time.

These changes, which usher in puberty, and es-
specially the first menstrual courses, often take
without any attendant or previous menstrua-
tion on the part of the female. And it is stated
(Churchill on Diseases of Women) that in a perfectly healthy female, the Cataracta ought to be, and are thrown off, without concomitant suffering. But in this country at least, and probably from the effects of civilization, this is not in a great proportion of cases, the rule. Disordered states of sensation and function, precede, or accompany its appearance. These may vary or be in different individuals. Generally the individual is languid, listless, and inclined for sleep; the appetite is fastidious, and the bowels irregular. There is a peculiar, rather strange state, produced from want of sleep, and often an irritability of temper. Or the symptoms are more severe, as excessive languor, drowsiness, and local pains, as severe headache, but especially pains about the loins and thighs, denoting the local changes going on within. The skin and its secretion become altered in appearance, and increased in amount. There is a peculiar dark shade over the countenance, and especially underneath the eye, said to be characteristic of some individuals. The perspiration has a peculiar, and more powerful, richness.
are enlarged and often painful. These and other symptoms mark the progress, or point out the advent of first menstruation. As the flow is established, they generally diminish, or entirely cease. They occur, or not, at each recurrence of the period, varying in intensity as individual. Sometimes all these symptoms, especially the local pains are present, and yet for the first two or three menstrual periods, the flow does not take place, and this occurs even in healthy persons. But generally in these cases, there is an increased flow of menses, following the resolution of the pain.

The menses are generally held to occur during the whole fruitful period of a woman's life, or as long as the ovaries are in a condition fit for the performance of their function. They occur every twenty eight days, or at the interval of a lunar month, except during pregnancy or lactation, when generally, they are absent. Often however the interval is shortened to the period of three weeks, and in a small proportion, their recurrence is irregular, while again, they are in others extended beyond the normal period.
And these deviations have been noted as frequently incidental, and they often do occur, without any symptoms showing a pathological condition.

The quantity of blood discharged, and the duration of the flow, varies at each menstrual period, and in different countries, as well as in different individuals. They are said to be greater among residents in warm countries, and among individuals of luxurious habits, and also in famers, than among those of colder climate and individuals unused to bodily exertion (beware). According to Heller, six to eight ounces, is the average amount. The ancients estimated it much higher, and probably with reason, for as we have stated, climate exercises great influence on the amount discharged. The actual amount for reasons very obvious, has not been determined. It is generally estimated in this country, from three to eight ounces, and the duration of the flow, from three to six days.

There has been considerable difference of opinion in regard to the qualities of the discharge. According to many, but those more chiefly older writers, it consists of blood deprived of its mixture. This
Their case from observing that the fluid, did not coagulate like blood, taken from any other part of the system. And besides, some analyses of it, as those of Simon, exhibited an entire want of fibrine; while other analyses showed that fibrine was present, but in less quantity than in ordinary blood. Dr. Carpenter states, that the batemential discharge appears normally to consist of blood deprived of its fibrine, the fluid being composed of serum, in which the corpuscles are suspended, and being readily distinguishable from true blood, by its want of power to clot. And when clots are found in it, a morbid condition of the secreting surface must be inferred. But the red corpuscles are now held by physiologists to elaborate the fibrine, though opposed to Dr. Carpenter's view, and if they actually do so, fibrine must be present in the discharge. These analyses are probably true which prove the fibrine in less quantity, for the blood is diluted with the secretions of the mucous membrane, which are also the cause of its non-coagulability. For this has been shown to depend on the trickling tiny streams,
the mixture of this, with the acid secretions of the mucus membranes of the uterus and vagina.

And when the blood is got before this admixture as upon a speculum, or from the uterus of women who have died during their course, it coagulates readily. It also then presents an alkaline reaction like ordinary blood. (Whitehead.) It has besides been seen coagulated on the surface of the uteri in the bodies of women who have suddenly died, during menstruation (Beber, Edin. Med.)

During menstruation, the usual mucus secretion is also increased in amount, and Mr. Whitehead has pointed out its good effect in diluting the menstrual blood. For were this to coagulate in the uterus, there would be great difficulty in its expulsion, and it might remain and decompose in its cavity. The discharge has nothing deleterious in it, as was once supposed, but consists during its occurrence has been known to give rise to syphilis. (Dr. Bennett's Clinical Lecture). This may have given rise to the notion, and besides been the origin of this malady. (18.)

With reference to the seat or source of the Menstrual
discharge, there has also been a difference of opinion.

Some have maintained that the regimen is the best. But this view is now exploded. The menses sometimes take place from it, mistaken for the Menstrual secretion, or the effect of alteration. It may or does take part in the general con-

ception of the sexual organs, during this period, but it has never itself, been seen to yield the discharge. In those cases where the discharge takes place only at pregnancy, it is difficult to conceive how it could escape from the cavity of the uterus. But vertices are not vomiting, tending to prove that it does so. (Whitehead.) Still it is more likely that the uterine cavity are the proper leads of it, under this condition.

Another opinion ascribes the discharge to the rupture of a Graafian follicle into the Fallopian tube. But this is extremely improbable, for the quantity of blood discharged in this way is too small to constitute the Menstrual dis-

charge. It is more likely that the blood in the Graafian follicle - the greater part at least - remains and undergoes these changes in colour and consistence, which are known as
the Corpus Luteum. —

The normal seat of the discharge is the internal surface of the uterus, the fundus as well as the uterine of the ovary. On examining the internal uterus organs during a menstrual period, the uterus appears rounded, more vascular and swollen. the ovaries and Fallopian tubes are also swollen and vascular, and the whole appear more turgid with blood. the mucous membrane appears darker softened thickened. It looks as if injected with blood and is generally covered with the

menstrual discharge. This has so often been seen, in a variety of circumstances, issuing through the ovary, that little doubt can now be entertained as to the proper source of the discharge. And in cases of inversion of the uterus, the blood has actually been seen distilling from the vessels. (Haller). The mucous membrane itself is partly abscessed for numerous epithelial slabs are found in the secretion. This may go on in a

pathological condition, and become detached
A mass, constituting one of the forms ofamenorrhoea. The uterine surface, then, is the proper
seat of the breeches in the normal condition of the
healthy female. But as the ancients say, "be
stimulus ubi flatus," its source is occasionally
changed. The causes for this are unknown, but
are generally referred to special or other nervous
irritations.

According to Dr. Hacket all haemorrhages which
belong to the Constitution are apt to wander
from their seat. It seems especially true
of this, as it is probable the one, which sug-
gersted the idea. Nearly all parts of the
body have been elected for getting rid of
this discharge. And when any one part
has been once selected, it is observed, that
its services are very likely to be again as-
greed upon. Neither can this be peculiarly char-
ged upon Venereal Benomination. For in
nature as in Persons, the wrong path once
taken, leads generally to its repeated a-
doption. For, let haemorrhage, or diseased
placenta, mark one pregnancy, and there
is a probability of their recurrence.
Vieious menstruation, just as the early or late appearance of the menses themselves have frequently been observed as hereditary.

There seems some ground for the supposition, that some irritations nervous or chemical or act as causes of this abnormal discharge. We find, for example, uteri, or various lines, become active, enlarge and emit a profuse discharge often bloody, when menstruation is or should be in progress, and which heal up again during the interval. These lines seem to act as irritants, attracting towards them the blood which was destined for expulsion by another channel. The vesicles having to them become enlarged and continue permanently in that state. So when the menstrual crisis comes round, these lines by their action as strong stimuli determine the blood toward themselves. The same occurs during lactation - the Mammas determine the blood to them, and no menstrual flow takes place. These irritations would seem to prevail over that excited in the uterus and to flow to the part most strongly.
stimulated, this stimulus may, or may not be the case, and it must be
reconsidered, that it would be difficult to find
variations for every part which has been
denied as seriously yielding this flow.

We do not stop to mention all the various
ways of this function. So numerous are they
and so various as regards facts and
organ, that much space would be con-
sumed by their bare recital. The nostrils,
mouth, neck, lungs, nipples, umbilicus,
head of the elbow, bladder, hemorrhoids
have all yielded this discharge.

We now pass to the cause and
Nature of menstruation. And on this point
much has yet to be learned. Various
hypotheses have been advanced to account
for the discharge, and the periodicity of its
occurrence. The old idea in regard to
the operation of a ferment in the blood
and to the influence of the moon, have
prevailed with the age which gave them
birth. Others, and these last so absurd
have replaced them, and some of these
also have ceased to be reckoned as probable explana-
tions of the phenomena. It has been ascribed
to a general plethora, a condition which is
supposed necessary, at this period, for fully
prolonging the reproductive system. But this
condition does not account for the flow, at
the regular interval of twenty-eight days, and
from the internal surface of the womb. This is
at the same time burdened with the difficulty
of feeding the plethora, in every case, to exist.
It does influence the quantity discharged,
but it still leaves the cause of this discharge
undetermined. There is a local dis-
mination of blood periodically to the
generative organs, and part of which es-
capes by the uterus, but this is an
effect, and not the cause. Of this pecu-
lar flow for the uterus, cannot be regarded
as an intermittent spring. It does not
act on this principle, filling itself and
then flowing over, in another succession.
Another hypothesis is, that the "menstrual
fluid" is a local secretion, connected with
the elimination of secretory matters from the
Uterus and Maternal Blood. The discharge is now
never a true haemorrhage, a resolution of coagulated
veins, and presents none of the characters of
a secretion. It differs in nothing from healthy
blood, save in being diluted with the secretion
of the surfaces over which it flows.

It has again been looked upon in the light
of an accessory respiratory organ. And the
recreations of Andral and Baranet, have fur-
ished some curious and interesting facts.

In connection with this view—They find
that the quantity of Carbonic acid exhaled in
increases proportionately in both sexes up to the
period of puberty; when in females the quantity
abruptly ceases to increase, and remains station-
ary, so long as they continue to menstruate.

Then however, Menstruation having ceased, the
exhalation of Carbonic acid begins again to
increase; and then again diminishes with
the advance of years, as in Men. Should
Menstruation temporarily cease at any time,
the exhalation of Carbonic acid immediately under-
goes an increase, precisely as at the final
expiration of the uterus; And during pregnancy.
The excitation increased in like manner." (Quoted from Dr. Carpenter's Physiology. "We are not supplied with any probable cause for these facts. They seem to prove, that the menstrual blood does convey out of the system, the carbonic acid which would otherwise be excreted. But explain this how we may, still this cannot be looked upon as the peculiar office of Menstruation.

Most of these views stand more or less in the light of hypotheses. They do not sufficiently account for the cause of Menstruation, which the Theory that stands prominently forth at the present day, professes to do. This is called the Volar Theory of Menstruation. It is comparatively of recent origin, though put forth some considerable time back, and hinted at even earlier.

According to this Theory, the condition which gives rise to Menstruation, are certain in the ovaries. The ovaries are glands, situated behind the broad ligament of the uterus, and their function is to form ova. They correspond to analogous organs
In the Male— the testes. And the union of the
vessels of both, are necessary for the pro-
duction of new beings. They are covered by
a reflexion of the peritoneum, the posterior
layer of the broad ligaments. Each consists
of a fibrous stroma, in which vessels, of
various sizes, and varying numbers, ascend
the spermatic vessels, are lodged. These vessels
or follicles, are filled with an albuminous
fluid, and contain the ova, with its ac-
fendage of various kinds. They are stat-
ted everywhere throughout the substance
of the ovaries, but as their development, and
that of their contents, proceed, they advance
to the surface; there rupture, and discharge
their contents into the Fallopian tube, which
at this time forms a continuous tube
with the ovary. These ovaries then are
as necessary for the female in regard
to reproduction, as the testes are to the
Male. They are indeed, considered to be,
of all others, the essential parts of the
female generative system; the other organs
being looked upon as merely accessory,
as they are not found in a large proportion of the animal kingdom. It is to these organs then, that the phenomena of menstruation, according to this theory, are to be referred. May further, it is to them, that all the changes which take place at puberty, in the uteri, pelvis, mammae, or general system are especially due. These organs exercise their function periodically; they mature and discharge their ova, at certain definite periods, and these the menstrual. There is a vital turgescence, a determination of blood to them at these periods. Their excitation is extended to the generative organs generally, and the uteri become congested also, with blood. This proceeds until the ovule gives way and then we have the true menstrual discharge. There is a difference of opinion as to the precise period the ova are thrown off, but it is held that blood turgescence is due to the excitation of the ovaries when engaged in the performance of their function. So then, this discharge is but an accompaniment of another action.
— one of the phenomena, and not an essential one either. This theory has simplicity to plead in its favor. It affords us to a cause, though it merely removes the question of periodicity, one step farther off— it is a theory, which one would wish the true, but necessarily involving, as it will do, so many changes in our views of ethereal physiology and especially pathology, it must be carefully supported by facts, ere it can be implicitly accepted.

It is, in the first place, maintained, that before puberty or the first menstruation, no traces of follicles having burst are ever seen in the ovaries.

The formation and discharge of menses from the ovaries, have been long known to take place, independently of sexual connection, in the Orang-souls animals. This fact is spoken of, by Harvey, and very likely was known from time immemorial, as it has descended as the popular belief. It has recently been established, that the same occurs in Mammalia generally, and even lately proved
to take place in the human female also (Pitcher's
Herzogia, London Medical Gazette). These facts u-
main now undisputed. But the statements
of authorities, are conflicting in regard to the
period this first occurs. Dr. Pitcher states
that the ovaries even in foetal animals con-
tain ova, and the ovaries of new-born infants
and children are occupied, sometimes numer-
ously by coopean vesicles, and he has been
able to detect ova contained in them. And even
during this period, he appears, that there
is a continual rupture of the vesicles, and dis-
charge of ova. These observations, then, show
that the ova are discharged at all ages. But
he states, that at the period of puberty there
is actually a marked change, which takes
place, in the mode in which the vesicles
discharge their contents. The ovaries now
receive a much larger supply of blood, and
the ovaries show a great increase in bulk
and vascularity, so that, when they ap-
pear on the surface of the ovary, they present
themselves as firm form turgid elevations, the
discharge of their contents leaves a much
laryngeal cavity, and is accompanied by an effusion of blood into this cavity." He denies, however, "that this change necessarily occurs simultaneously with the first appearance of the catastricmias, even where the conditions, which obtain, in the period before puberty, are extended into that of menstruation." There must, however, be a great change in those even after puberty. Those thrown off before this period, in all probability, could not be unpregnated, so as to give rise to new beings. Nor does this view militate much against the Pelar theory, for he has stated sufficiently enough, changes in the ovaries and ovaries, at the period of puberty to account for their exciting menstruation. Apart from statements that through the changes in these do not occur simultaneously with the first appearance of the catastricmias, maybe owing to the fact, that this was not completed fully or that the excitation in the ovaries was not sufficient in the first instance to cause the menstrual discharge. And according to Hacbevski, "the discharge is but the essential
Phenomena of menstruation—that women have become pregnant who had never menstruated)—though the discharge, attracting the heat of the sun, is in that case simply renewed, yet a great number of these occurrences (Bliss—Muller's Physiology).

These cases of the hysterical are regarded by the supporters of the ovarian theory as exceptional ones. They are looked upon as incomplete ovarian acts, while though they excite the uterine act, yet insufficient to cast off an ovum, or to conceive. On the whole we require more evidence on these points, before this theory can be sufficiently established.

It is again maintained, that the discharge of the ovum occurs only during the menstrual period. It has been proved, especially by the labors of Hitzig, that in mammals, the ovaries discharge their contents during the period of heat or rut; thus observing a periodicity in the act. For in all the instances, in which the Graafian vesicles have been found presenting the appearances of recent rupture, the animals were at the time, or had recently been in heat.
that it is only during these periods, that they permit
the males and become impregnated. Bischoff v. leged the two states, that and menstruation, as
perfectly analogous - the essential character of
both being according to these, the maturaton and
 discharge of ova. In both they say there is a
state of the constriction of the lateral ova
sympathising with the ovaries at the time
of the highest degree of development of the
Eccamer follicle; and menstruation is
only the crisis of this state of Conception.

There is unquestionably a strong analogy between
these two states. The dissimilarity of the
 discharge is no argument against the view
for the discharges are not dissimilar, even in
this, that one proceeds to a greater degree than
the other. And there is a probable reason
for this, in the difference which exists in
the uterus of the human female from that
of the lower animals. It is muscular
in the one, and becomes more and more con-
gested with blood, while in the other it
is membraneous, and hence, merely the
discharge of mucous. The difference of periodic


of the organs in Human females, as compared with
the Mammalia generally, may have something
also to do with the difference of the discharge.
And again, according to Kaciberski, the
discharge attending the heat, is in most cases
simply blood, not a long account to know, it
consists chiefly of blood. And in women even long
the commencement and end of Menstruation, the
blood is mixed with an increased flow of
pus, and with epithelium, thrown off from the
Mucous surfaces of the sexual passages. There
seems then, every reason to believe that
these two states, heat or Menstruation, are
essentially analogous. There is also on
this account, a strong ground furnished for
the belief, that it is during the Menstrual
period, that are are cast off, as it is
now established, that this takes place in
heat. And many instances have
now occurred, of females dying during
Menstruation, whose brains have pre-
-sented a condition of vascular supe-
-rior with suppuration of the gastric
membranes, past or in progress. They say now
amount to too many, for being regarded as merely coincidences. And when we take this along with the well ascertained fact, that when the ovaries are absent in the female, menstruation never occurs, or when removed by operation, it immediately ceases, and the female assumes many of the characters of the male. At again, what is still more striking, when the ovaries is absent and ovaries present, every symptom of menstruation has been present except the discharge. All these instances tend to prove that menstruation, depends on the presence and healthy performance of function by the ovaries. And when taken along with the many examples of improved females, in those dying during menstruation, they seem to confirm the idea, that it is during the menstrual crisis that we are discharged. The proof has not yet been discussed in the Fallopian tube, the cavities of the body, and the comparative large surface of its tube, have as yet rendered all efforts unsuccessful. The discovery of this would lend another strong proof too
support of this doctrine. Still this view though extreme is probable has not yet been sufficiently established; for according to Dr. Buchan, thrombus may be cast off, often in the intervals between the Menstrual periods. There is still a want of more evidence on the subject.

An argument taken from analogy, that sexual desire is strongest at the epoch of Menstruation in women, as it is at that of heat in dogs; has been affirmed and denied. It is an old idea, it seems, as observations were made to this effect by Hippocrates and were confirmed by Berkeley and Hales. It was a belief reduced to practice, for Johnes after Menstruation appears to have been frequently recommended as a cure for sterility, and according to Dr. Barrettius, frequently with success.

The question has been put in a right point of view by Bichoff. He maintains that at the period of heat in the lower animals the female is in a state of general suffering and will not permit coitus, until the stage of congestion is abated, by its sub-

ence into the Menstrual discharge. And
that the human female after Menstruation is
pressured finds herself well, and more than
ordinarily disposed for sexual intercourse. So
in this respect too, there is a perfect re-
semblance.

And this theory has been further confirmed
by the facts stated by Macbarchie. He gives
the details of fifteen cases, in which the dater
of Conception could be accurately fixed, and the
time of the last appearance of the Calunci,
known; and, in all but one of them,
the correspondence between the two periods
was very close. Even in the exceptional case
the Calumenia made their appearance shortly
after Conception, which took place at about the
middle of the interval between the two
regular periods. (Carpenter). According ther-
Conception may take place two or three days
before, or ten days after Menstruation. But
this view has been known to give rise to
feloces.

Anomaly then, and many facts ascertained
by different authorities, of the Menstruation
and discharge given at Menstrual periods, furnis

Many proofs that menstruation is just an effect of ovulation. Another fact in support of this is that menstruation ceases when the proper function of the ovaries cease. We say, proper, for D. H. Huxley maintains that the Graafian vesicles are formed in the ovaries from the earliest period of childhood to the most extreme old age, but that in old age, they become as they were before puberty, but fully developed. And we know that as the general rule, menstruation does mark the period of procreation.

Such is a brief, imperfect and but superficial view of the Ovarian theory. It is not yet altogether established, but is on the way for being so, and for being regarded as the proper explanation of menstruation.

Admitting its truth, we come to inquire what is the purpose of the menstrual secretion? It would really seem to be, as Dr. Power expresses it, "an imperfect attempt at the formation of the decidua." This can be no doubt at least, that it is a determination of blood to the uterine, for the purpose of preparing it, for undergoing the changes.
which it would do, were the ovule impregnated.
For in the first place, menstruation prevents
many of the signs of pregnancy. It is said that
menstruation in a healthy woman ought to
take place, without pain, or uneasy sensations.
But though this may be true, still it may
happen in most females this is not the case.
We have pregnancy itself also, in some cases
producing rise to uneasiness, or emotions on the
part of the female. But this is not the case
in most. All we maintain amounts only to
probability. It is, that menstruation and
pregnancy in their effects upon the constituc-
tion, present many similar symptoms. The
vascular system seems to undergo considerable
change; the actual quantity of blood seems
increased; the vagina and uterus are more
vascular, and the secretion of mucus increased
in both conditions. In both again, there is
a disposition to headache, a flushing of the face
in the nervous system, become hypertonic, and
other nervous arrangements, as epilepsy itself
occur sometimes, or other affections of the
stomach, as iritations, vomitings. In the cancer
In the second place, there is some proof afforded by pathology as to this being the purpose of menstruation. It is a physiological state, but one which is nearly allied to a pathological one. We see this in the symptoms so often attending it. The blood is thrown off in the frequency with which the healthy balance is so often upset, in one way or another. And arguing from a pathological
pathological to a physiological condition: this mem-
brane, the thickened mucous layer of the interior,
would seem to be merely an excess of a physiological
action. Dr. Carpenter says: "The essential condition
of menstruation itself would appear to be the
increased turgescence of the vessels of the lining, and
the appearance on its internal surface, of much
plenty of deciduous villous vessels, which may
remain for at least two weeks. It is evident,
that this is a preparation for the formation of
the Decidua." It cannot however dwell
on this subject.

The Curie theory of Menstruation, will have
an important bearing on the pathlogy of the
genital organs, and if established will throw
great light on it. Its good effects have
already shown themselves, in its reference to
the Curie. Many of these pathological states,
it is important, in reference to treatment for
sterility, in some cases of this condition. It
is important to the Accoucheur, as giving more
certain data from which to calculate the dura-
tion of pregnancy, and is indeed extremely
useful for this purpose. It refers some degree
As some examples of Amenorrhea we will take the cases of Amenorrhea due to their true seat. And many others may yet be taken, particularly referred to these also. The applications of this theory to practical medicine are yet few. As doubt, in comparison to what they will yet be.

In conclusion we will take a rapid glance at some of the pathological conditions of Amenorrhoea. They have by pathologists been divided into Amenorrhea, Dysmenorrhea, and Menorrhagia. The absence of the discharge constitutes Amenorrhoea. And this is of two kinds: Retention or Nonformation of the discharge, and Suppression after it has once been performed.

The circumstances under which they occur are various. Retention may arise from anatomical stasis, for which no other reason can be assigned. Often, however, it proceeds from congenital deficiency or absence of the organ. Many instances of this kind have been related. Or again, it may proceed from absence of the uterus, or occlusion of its orifice when the organ itself is present. Or again, it may arise from the slow development of the ovaries and uterus; or, the absence may
be connected with no apparent imperfection of the
organ, but be the consequence of some irregularity
in the local determination of the blood, as in
Vesicular Menstruation. In these examples the
pelvic from occlusion of the ovarian ovarian
there is often no secretion shall, or the secretion
may be performed and retained in the cavity
of the uterus. In many cases after the
impediment has been removed, the discharge
has commenced in its normal periods.
Retention may also arise, from the want of
Constitutional Effort, or the part of the Ovaries.
In this case the determination of blood to the
uterus is not uniform, but takes place only
partially, and the fluid in consequence dis-
charged. In this manner, all the symptoms
of Menstruation, have been present at the
regular period, but the discharge. But it
is which produces this want of consti-
tutional Effort, that is, why the determina-

"...
sufficient to determine the blood in sufficient quantity.

Suppression again, is the disappearance of the Catamenia, after they had once been performed. It may be immediate, that is, when they are in the act of being discharged, or they may be wanting at the next Menstrual period. Suppression, is produced by physical and Mental Causes. Of the former, fatigue, exposure to cold, especially of the feet, or generally to currents of cold air, determining the blood to the interior are frequently mentioned as Causes (Deuced). Of the latter, powerful mental Emotions, such as fear, have had the effect of suddenly suppressing the flux, while in the act of being performed. Other Causes have also been mentioned as producing Suppression. Certain Medicines, as Cepaeum, bloodletting a Mercurial cause or have all been accused of producing amenorrhea, from this cause. And no doubt, all diseases which interfere with the robustness & proper strength of the body by diminishing the amount of blood, or take away portion of it, to other places, will interfere with
the proper performance of the Menstrual discharge, such as Pethitis, Leucorrhoea and various chronic discharges.

The second pathological state is Amenorrhoea, painful or difficult Menstruation. This is seen, in this chapter, whether the discharge be defective as is most generally the case, or profuse. It is divided into inflammatory, neurogenic & mechanical dysmenorrhoea. Some cases of this state are remarkable in the formation and discharge of Membranes, the thickened membranes lining the uterine. The causes are much the same as those previously Amunorrhoea— at least some of those that produce the latter.

The third and last form is Neurology, or excessive Menstruation. This is made to include, the return of the Menstrue too frequently, or too copiously— Italic omits a variety of causes, and may exist with various states of the system, being however generally connected with chronic ulcers, as polypi, ulceration or tumors of veins of various kinds projecting into the free surface of the womb. These briefly are the states or conditions of the Menstrual flow recognized as Pathological.
Their treatment of course varies, according to the cause producing them. In the event, however, as it would fill up more space, it take more time than we can command.

... we here conclude a very imperfect and superficial account of the phenomena and cause of perpetual motion. The subject is difficult, and the time which we had allotted to it insufficient. We end it in, with its many imperfections, claiming indulgence for its performance.

James H. Cooper