

AN
INAUGURAL DISSERTATION

ON

Menstruation

SUBMITTED TO THE
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BY

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In obedience to requirement I now proceed unceremoniously to the discharge of a duty, imposed upon every candidate for graduation; and as there has been no topic allotted to me for consideration, I have taken occasion to make choice; and, really selecting a subject amid the varied ones is apparently as difficult as selecting the elements for the essay.

I have chosen menstruation for my theme, not in consequence of my having any original deductions based upon my own experience and observation, but I will state what I conceive menstruation to be; and in doing this, I will have inevitably to refer to some of the theories that have been proposed

regarding this important function,
This subject, has probably elicited
as much discussion as any other in
the medical world; and, equally as
many vague and unphilosophic
theories have been promulgated regarding
this function as any other: some
of them, need no comment; as
they have long since been exploded
and vanished with their promulgators.
In considering this function, a
description of the anatomy of the
organ that performs it is indicated;
but I shall not enter into the
minutia of the apparatus.

The uterus, is of a pyriform shape
situated in the pelvis with its
base above and its neck below.
In this position of the organ

nature seems to have anticipated her ends; this being the most favourable position for the performance of its functions; it favours the escape of catamenia and also of the foetus

The uterus is composed of three tunics, the peritoneal, which is external does not cover the womb throughout its whole extent, but simply invests the fundus and body; the second, or middle constitutes the proper texture of the womb, great contrariety of opinion exists regarding this tissue. Some affirming it to be a texture sui generis; others that it is essentially muscular. This discrepancy appertains only to the unimpregnated or quiescent

uterus, for it is demonstrable beyond all doubt that muscular fibres do exist in the gravid womb.

The internal coat which is the most important in relation to menstruation is composed of mucous membrane which lines the whole cavity of the uterus, and, to this membrane is allotted a triple function; first, the secretion of mucus, secondly, the elimination of the catamenia, and, thirdly it forms a nidus upon which the ovum is deposited for maturation and development.

The existence of one of these ~~for~~ offices is incompatible with the simultaneous performance of either of the others; when the molimen menstruale is established the

secretion of mucus ~~is~~ is suspended,
and when the womb is impregnated
the secretion of mucus and of the
catamenia are set aside.

The age of puberty is announced
in the female by the establishment
of the menstrual flux, which
is so characteristic of the female.

This discharge is preceded and
and accompanied by certain signs
that are easily recognized.

First there may enlargement of
mamæ, and unusual plumpness
with a marked change in the voice;
in short there is a change in the
whole individual. It is then
that modesty is strikingly manifest.
The age at which menstruation most
usually sets in is fifteen years;

though it is said to vary in different climates. In cold regions it is later; whereas in tropical climates it sets in earlier.

The age at which it most usually ceases is forty five years; though the same variation exists regarding the cessation as the inception of this function. It exists as long as there is a capability of reproduction in the individual, and subsides with the procreative power.

One of the earliest indications in the female of a susceptibility to the fecundative influence of the male, is the establishment of menstruation; though some modern writers do not regard it as indicative of the procreative power;

or that it is not an essential
prerequisite to conception.

They assert that a woman may
conceive before the appearance of
the catamenia. Those that they
regard menstruation, suppose
that it is merely incidental,
or, an occasional accompaniment
of ovulation. They do not
regard it as constituting a special
or distinct function in the female
economy. This is the doctrine
inculcated by some modern
authorities: but it will inevitably
meet with opposition;
and, justly, for, it ~~is manifestly~~
is manifestly evident that
they have erred from what is
true. It is a fact worthy

of consideration, before receiving
the doctrines of other minds;
that promulgators of theories are
disposed to exaggerate, and we
are liable to err in following
them. Such is their enthusiasm
that to sustain their hypotheses,
they transcend the bounds of
observation and truth.

The old doctrine regarding
menstruation; affirming it to
be a distinct function; a
uterine secretion; as instinctive
in the female; as constituting
one of her chief characteristics;
is, I think, more in
accordance with sound logic
and observation, than any
other; and I believe the major

part of practitioners and experimentalists if interrogated in relation to this subject, the response would be in accordance with the latter view. It is said that the efficient cause of menstruation is ovulation, or, the development and discharge of ova; or in other words, that the motor influence is situated in the ovaries. The only rational evidence in favour of this theory, is, the removal of the ovaries of a solitary woman which resulted in suppression of the menses. In this operation, a portion of the nervous and vascular

supplies of the uterus might have been cut off; or, it might have induced a pathological condition of the uterus that was incompatible with menstruation.

We know that the nervous and vascular influences are requisite for the integrity of any organ; and the perfect performance of its function. It is a fact easily demonstrated, that if the blood and nervous influence be withheld from a member, the part, thus impoverished perishes or becomes atrophied; and consequently, incompetent for the performance of its function. And if any viscus be deprived of the same

sources of life, its function consequently ceases; or is imperfectly performed.

From these considerations, I think, that a single operation of removing the ovaries followed by cessation of menstruation, does not justify us in the conclusion, that the efficient cause of menstruation is resident in the ovaries. I think the most rational view of the subject, is that if the ovaries are at all concerned in menstruation, they are merely accessory to the uterus, and not entirely dominant.

From this remote situation,

and from there not being that degree of continuity between the uterus and ovaries, that is requisite for close sympathy, I am disposed to believe that there cannot be so great an influence exerted by them upon the uterus, as is asserted to be.

Who would think of attributing to the influence of the liver, or some other neighboring organ the cause of the gastric secretion; yet, we might with the same propriety affirm; that the liver controlled the secretion of the stomach, as, to say that the ovaries controlled the

menstrual flux. Ovarists tell us, that about the time an ovum is being discharged, the vesicle that contains the ovum about to be liberated, becomes the seat of irritation; and radiates such an influence, as to superinduce hyperemia of the uterus; and, that during this state of the organ, a simple hemorrhage occurs; and, that this constitutes menstruation.

But this conflicts with the old maxim *ubi irritatio ibi fluxus*; as the blood in this case seems to be diverted from the point of irritation.

The physical properties of the

menstrual product, go far to prove that it is a secretion. It is affirmed though that it is identical with pure blood; but it is unlike blood abstracted from the general mass through a wound, in its not possessing the property of coagulation, and its peculiar odour which is unlike pure blood, and its resisting putrefaction, and also, unlike ordinary blood in not separating into two parts when exposed to the atmosphere. It is also less soluble in water, than ordinary blood.

Harthorn; the disorders of menstruation afford us some

evidence of its being a secretion. Amenorrhoea one of the affections to which the female is subject, is said to result from different conditions of the uterus.

First it may result from anemia, in which condition, all the functions of the human organism are imperfectly performed, The uterus under such circumstances does not receive the elements from which the menstrual fluid is formed, and the nervous influence that is requisite to excite it to secretion. In a secretory organ these constitute indispensable agents.

The great nervous centres are dependent upon the blood for their integrity; and when they fail to receive their normal supplies of this fluid, they consequently cease to radiate their influence which is indispensable to the maintenance of healthy action in the organism.

Amenorrhoea may also result from hyperemia of the uterus; which, ^{may} develop inflammation; in which condition, an exudation of lymph may occur, and become organized; and thus produce an effectual bar to the menstrual flux.

Dysmenorrhoea, an other

affection from which the female suffers, is said to be dependent upon inflammation for its production.

Let any other organ become affected in like manner and its functions will be impaired.

Cases are reported where; in suppression of the menses, a fluid identical with the uterine secretion has been eliminated from other tissues than the uterus; and the suffering consequent upon such derangement, is ^{not} alleviated by any vicarious discharge. Nothing short of the establishment of the uterine secretion is adequate.

As to the efficient cause of menstruation but little is known.

It is still gloomed in mystery that probably never will be dissipated.

But such is the restlessness and inquietude of physiologists, that they may never cease their research and investigation, till they have dispelled this gloom, and set forth the subject in its true light.

Menstruation is purely a physiological act; as much so, as utero-gestation. Yet we may in examining the theories of recent date, infer, that the uterus during menstruation is in a pathological condition.

It is admitted that the uterus during gestation is performing a natural function, and in a normal state; still we might with the same propriety affirm, that it was in an abnormal condition during the performance of this natural function, as to assert that the uterus was in an abnormal state during the menstruous period.

The *molimen menstruale* is periodical in its recurrence; and this we may affirm of gestation. I think we may go so far, as to say, that the functions of most of the organs of the body are periodical in their recurrence.

All have their intervals of rest, and observe some regularity in their recurrence.

The heart which is apparently constantly in action, is said to have its intervals of rest.

The stomach is not constantly employed in the execution of its office.

It is only under the influence of its appropriate stimulus; food; that it acts, and it is necessary that it should be taken at regular intervals, and these, sufficiently long for the stomach to have its periods of rest and quiescence. And when this regularity is not observed,

there is a violation of this law of periodicity, which is manifested in a derangement, or, suspension of its function.

The uterus is not constantly developing foetuses; but this function is periodical.

The menses are also periodical in their recurrence,

The vegetative force in the female organism may elaborate a material that should be eliminated monthly, in order to preserve the general system in a normal condition, and the uterus becomes the excretory, through which, it is to escape: and this

material may be its appropriate stimulus which excites it to secretion.

It is asked why this periodicity in the recurrence of the catamenia? We might ask, why the prevalence of this universal law of periodicity of nature?

The cause is unknown, and remains for the author of nature alone to reveal. I think we may, with as much prospect of success in the treatment of the disorders of menstruation, regard it as a secretion, as to look upon it as a uterine hemorrhage.