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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 promulgator.

In considering this function, a description of the anatomy of the organ that performs it is indicated; but I shall most 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 favors the escape of catamenia and also of the poletes.

The uterine is composed of these tunics, the peritoneal, which is external does not cover the womb throughout its whole extent, but simply invests the funicles and body; the second, or middle constitutes the proper texture of the womb,
great contrariety of opinion exists regarding this tissue. Some affirm it to be a texture sui generis; others that is essentially muscular.

This discrepancy as it contains only to the uninjured 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; firstly, the secretion of mucous, 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 offices is incompatible with the simultaneous performance of either of the others; when the molimene menstruale is established the
secretion of mucus is suspended, and when the womb is impregnated, the secretion of mucus and of the calaminia 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 accompanied by certain signs that are easily recognized. First, there may be enlargement of mammae, and unusual plumping 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 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 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 exagereate, 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 their 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 uterine; and, that during this state of the organ, a simple hemorrhage occurs; and, that this constitutes menstruation. But this conflicts with the old maxim nibi irritatia nibi fleuntes: as the blood in this case seems to be diverted from the point 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.
Furthermore: the disorders of
menstruation afford us some
evidence of its being a secretion. Amenorrhoea, one of the afflictions 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 excudation of lymph may occur and become organized and thereby produce an effectual bar to the menstrual flux. Dysmenorrhoea, an other
affliction 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 function will be impaired. Cases are reported where in suppression of the menses, a fluid identical with the uterine secretion has been eliminated from other tissue than the uterus; and the suffering consequent upon such derangement is 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 inquisitiveness 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 instrumentation. 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 menstruation 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 occurrence.
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 quietness. 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 emunctory, 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 occurrence 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.