STERILITY IN WOMEN.*

BY

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By sterility we understand that pathological condition in woman which prevents her from conceiving in spite of normal sexual intercourse. It is not a disease in itself, but simply the expression of a number of symptoms, which are either due to certain derangements of the sexual organs or constitutional disturbances. The woman is thereby deprived of her proper standing in the economy; the climax of her physiological life, propagation of the kind, becomes an impossibility.

The psychical impression of this misfortune on the special individual varies in degree with the sensitiveness of the afflicted. At the beginning of married life this may not be looked upon as a loss in a good many instances, but sooner or later the time will come when the barren wife will feel the full extent of her wretchedness. Only the one thought fills her mind and hounds her day and night: Why cannot I be blessed like others?

This natural desire is as intensely developed in the wife of the poorest man as well as in her who lives in luxury; rank does not enter into this question. The happiest home loses its charm; the husband disappointed in his just expectations, harmony gives way to mutual discontent and unhappiness. Who has not seen such misery overtaking the most loving couple? Who has not extended his fullest sympathy to the unfortunate woman who struggles along from year to year to attain what nature cruelly deprived her of? It is touching to see the unlimited confidence with which this poor creature seeks the advice of her physician. In him she sees the saviour of her delapitating marital life; she expects relief for her tortured mind and cure for her debilitated condition.

What an enormous task confronts us! The conscientious physician feels his utter fallibility at no time more keenly than when he undertakes to solve this problem. The treatment of an affliction which is composed of so many disturbing factors, which only can be cured when all these derangements are success-

*Read before the New York Clinical Society, January 3, 1896.

fully removed, must necessarily be full of disappointments to the physician. How often do we find ourselves baffled in our best efforts? Yet, after all the reverses, one single cure is an ample reward. Appreciate the infinite blessing which you bring to the house of desolation, and you will be encouraged and ever ready to struggle, even with the most desperate cases.

As a relic from antiquity, when the process of fecundation was enshrouded in mystery, we find the idea still prevalent that when we speak of sterility, we have to attach the blame to the woman. Since fecundation has become a matter comparatively well understood, we find a change in this erroneous view.

We know that, considering this subject, we have to distinguish sterility in the female as well as in the male. The man who could formerly proudly boast of his infallibility as to his power of procreation, has humbly to admit his great share in this marital misfortune. We know that one-quarter of all the cases of sterility in wedlock have to be credited to the side of the husband. (Kehrer).

In olden times the position of the woman in barren wedlock was a most deplorable one. She had to carry the full blame of this unhappy condition. Varying with the degree of civilization, we see her exposed to all sorts of insults. She is looked upon as a being abnormally built, an anomaly of nature, despised by everybody. She is cast out from her home as a worthless creature. When Rachel at the feet of Jacob cries out, "Give me children or I must die," we find the sentiment expressive of her wretched sisters in misery.

In the middle ages her position was but little bettered. A barren wedlock was not considered binding; the husband had the right to select at pleasure a concubine to secure offspring.

The advance of modern science has brought light into this subject; although many points in the mechanism of fecundation still remain disputable, humane views, based upon scientific researches, have displaced rude speculation.

Before we enter our discourse, let us define as a fundamental point the wedlock, the matrimonium. It is the conjugal life entered into by man and woman for the purpose of propagation of the kind. As the result of such a union we see in due time the birth of a number of children at intervals of one to two years. The number of progeny varies somewhat in different races and nations, but is not proportionate to the period of sexual life of

the woman, which is calculated to be thirty years. By various influences, such as abstinence, prolonged lactation, abortion, the use of preventatives, death of husband, etc., etc., we see the number of children reduced to an average of five in civilized countries. According to Kisch and others we find the birth of the first child to occur between the eleventh to fifteenth month after entering marriage in the majority of cases. The pregnancies after the third year constitute only an insignificant fraction of the total number of conceptions, and it is shown statistically to be two per cent. We can speak therefore of sterility, when after the elapse of three years fecundation has not taken place. We term the sterility *absolute* when conception does not occur at any time, while we speak of *relative sterility* when one child is born, or at least one conception occurred, and no further pregnancy follows. The frequency of sterility is, according to Simpson, 12 1-2 per cent. for England; Hedin found 10 per cent. for Sweden; Prochownick, 9 per cent. for Germany; Rochard, 20 per cent. for France; Marton, 20 per cent. for Massachusetts.

Compared with other mammals, we find sterility to be of common occurrence in the human race. There are several factors which we can consider causes of this difference. In the animals we see the time of sexual activity restricted to the most opportune moment—the time of rut—when ovulation and menstruation coincide. The parts are in the best possible condition for conception, the congestion of the genital canal, as well as the alkalinity of the bloody secretion being most favorable for the preservation of the vitality of the sperm, so that we can calculate with certainty on conception after each copulation.

Furthermore, if we compare the anatomy of the ovaries and tubes of men with those of animals, we find in the latter mostly the simplest arrangement, in some cases the ovary being totally surrounded by the abdominal end of the tube.

In women, on the contrary, we meet with an apparatus which is most complicated, if not inadequate, for the purpose, as Henle says. The mechanism of ovary and tube must operate to perfection to allow the ripe ovum to enter the fimbrial end of the tube, so as not to become lost in the abdominal cavity.

In the human race cohabitation is indulged in mainly during the intra-menstrual period. Coitus during menstruation is of rare occurrence; even shortly after the secession of the menses,

we find in some a period varying from 7 to 12 days of total abstinence, religiously observed. Nevertheless, it is a well-known fact, that conception occurs most frequently after cohabitation during or the next days following menstruation. The observations of Hensen, based upon 248 cases, show that the greatest number of conceptions follows coitus fulfilled the first few days after menstruation; that the chances for conception during the flow become better the nearer the end of the menses is approached. The probabilities of conception before the onset of menstruation are of the rarest occurrence.

Civilization, luxuries of life, inactivity, are other factors which we must consider. According to Simpson, 16 per cent. of 1,252 marriages among the English aristocracy have been sterile. Ansel found only 8 per cent. among the class of well-to-do people. While in the latter category we find a rational way of living, we can look upon the first class as the exponent of deteriorating luxury and inactivity.

Temperature and climate influence conception in some degree. We also see the unmistakable action of the climate on the ripening of the sexual functions; in the tropical countries we find the menstruation to occur early, while it is much retarded in the cold zones.

European women in the warm climates lose their power of conception gradually but surely, according to Virchow.

Marriages among direct relations do not necessarily cause dimunition of fertility; but it is evident that repeated marriages amongst the members of one family produce increasing sterility and degradation of the vital forces in general. We meet the same phenomenon in animals (Inzucht). Loehlerts states that in 110 marriages in the House Habsburg-Lothringen, 33 per cent. have been sterile.

Mixture of human races does not increase sterility.

The want of *harmonie d'amour* (Virez) is a cause which was already spoken of by Aristotle as one of the factors producing sterility, but this does not prove to be so on closer scrutiny. We truly cannot speak of *harmonie d'amour* in a great number of unhappy marriages, and yet we find in many of them an exceptionally large number of children.

Dysparunia, the want of sexual appetite on the part of the woman, is often mentioned among the causes of sterility.

Duncan and Tilt assume that a certain degree of *libido* is necessary for the fruitful copulation, while Muller, Leopold and others, after diligent inquiries in this direction, state that this is by no means the case; that contrary, in a good many of the most fertile wedlocks a well-pronounced frigidity of the woman exists. I could state many pertinent examples from my own experience.

Sexual hyperactivity can produce sterility. The partially forced orgasms must have a deleterious influence upon the genital organs, leading to changes in the same, which cause absolute sterility. The well-known sterility of the prostitutes belongs to this category.

Nervous influences, fright, fear, and other emotions, can act as an impediment to conception; we usually see amenorrhœa coexisting. Adiposity develops often after the birth of the first or second child; we generally observe a diminished menstrual flow and perhaps partly suppressed ovulation. It is difficult to say how obesity acts as a hinderance to conception. The pressure of the intraperitoneal fat upon ovary and tube and the augmentation of adipose tissue about the external genitals may have the most to do with it.

Alcoholism, according to Duncan, produces sterility. Anæmia and chlorosis undoubtedly exert an unfavorable influence upon conception; this is proven by the fact that after amelioration of the state of health, pregnancy usually follows.

Diabetes, scrofula and tubercolosis must be considered as retarding agents to conception, the first two more so than the latter; not unfrequently do we see in tubercular patients abortion in the earlier months of gestation. The regularly repeated miscarriages and abortions in syphilitic subjects are well known, by the frequent repetition of the same we see gradually conditions established which lead to absolute sterility.

Severe illness hinders ovulation and acts as a temporary cause of sterility. Age of the woman is of the greatest influence upon conception. A marriage entered upon at a very early or late period of life mostly proves sterile. The woman shows from the twentieth to twenty-fifth year the greatest progenic faculty. Pfannkuch proves statistically that in marriages entered upon before the twentieth year, fecundation is retarded six months, compared with those unions formed after the twentieth year. An explanation we may find in the fact that the female genital organs

are not fully developed before that time, and that coitus under such circumstances may be accompanied by serious derangements. The fecundity decreases with the twenty-fifth year, and is considered as passed with the forty-fifth year. Nevertheless, there are many examples where women conceived in advanced years, after the menstruation had ceased for some time. Analogous to the persistency of ovulation during the time of lactation, when we know that most women have no menstrual flow, we can assume that ovulation may persist a long time after the menses have ceased. Fordyce Barker says there is no authentic case of pregnancy on record after the fifty-fifth year. Personally, I had opportunity to deliver two women, one forty-six, the other forty-seven years old. In the latter case the youngest child was ten years old, and the menses had become quite irregular for three years. Kennedy delivered a woman sixty-two years old; menses set in when she was thirteen years old; she had given birth to twenty-one children prior to that confinement. On the other hand, we find many cases in literature of an unusually early ripening of the female. Molitor saw pregnancy in a girl nine years, five months old; Kussmaul in a girl of eight years. I personally know of a girl of ten years now pregnant, in the fifth month. The cases of early pregnancy in the tropical zone and amongst wild tribes must be mentioned here. In British Guiana, Schomburgk saw mothers ten and eleven years old. Jong found on the island of Jamaica, where girls marry early, mothers of twelve years. The females of the Banganeses of Borneo marry, as Finke narrates, in their eighth or ninth year. They give birth to a few children only, so that it is a rare thing to see a woman become a mother after her twentieth year. The sexual life beginning early, comes to a correspondingly early end. We now and then meet with cases of premature menopause. Although unable to diagnosticate on physical examination organic disease of the ovaries, we see in comparatively healthy subjects the functions of ovulation come to a stop, persistent amenorrhœa following. In these cases, the menses made their apppearance usually rather late in life, and have been rather irregular. Everything points to a faulty development of the follicular elements of the ovary. The few follicles which have been present had apparently ruptured without the compensating regeneration of the same to follow. Such ovaries need not be atrophic to the examining

finger; on the contrary, they usually present nothing abnormal in their outlines. Repeatedly I have met with cases of early menopause—the youngest patient was twenty-three years old; menstruation lasted only three years. The ovaries were of normal size. No trace of prior trouble about the sexual organs could be found.

After having spoken of the general conditions, let us observe the changes which are liable to occur in the sexual organs, acting as an obstacle to conception of varying degree. The ovaries may be absent, as in a case described by Morgagni. This naturally involves sterility. Absence on one side, often observed, or of an undeveloped condition of the ovary, and the half of the genital tract belonging to it, does not interfere with the faculty of the other. Inflammatory changes in the ovaries, according to the nature of the infection and their duration, may be a hinderance to ovulation. We know that an acute oöphoritis interferes with ovulation, but our knowledge in this regard is rather limited, and does not allow a definite conclusion.

Chronic öophoritis must be considered as a main factor in the etiology of sterility. Although Kisch found among 200 sterile women only forty-six times evidences of chronic inflammation of the ovary, I am convinced that a much higher percentage comes nearer to the truth. This is the case especially in women living in large cities, where prostitution is flourishing and gonorrhœa infections are so very common.

In the severer forms of chronic oöphoritis we find the ovarian structure so much modified by the infammatory changes, that the process of ovulation becomes totally suppressed. Perioöphoritis has produced a thickening of the theca ovarii, so as to prevent the rupture of any follicle, which may have happened to ripen under such unfavorable conditions. The delicate mechanism between fimbriæ and ovary is deranged by peritonitic bands. A transmission of the ovum to tube has become next to impossible. In some of these cases we see after a while a permanent amenorrhœa established.

Cystic disease of the ovary is of frequent occurrence. The more pronounced, the more we see the process of ovulation interfered with by the pressure exerted upon the follicles in the cortical portion of the ovary. The result is a gradual disappearance of the follicular element, accompanied by total sterility. A

timely operation, puncture of the cysts, or excision of the cystic portion, is followed now and then by good results. Cases have been reported where pregnancy occurred after a long period of sterility, after the organ has been relieved of the tension. The same happy results were seen after excision, when only a small portion of healthy ovarian structure was left behind.

Cysts of the ovary, when not involving the whole organ, and when not bilateral, need not act as an impediment to fecundation. There may be a narrow zone of the cortical portion of the diseased ovary in a healthy state, able to produce ova, or the ovum may have come from the healthy ovary of the other side. A very interesting case came under my observation. A girl of fifteen was operated for a very large ovarian cyst of the left side. She married when nineteen years old, and conceived promptly. The confinement did not offer any difficulties. At the time of delivery I could feel nothing abnormal in the right ovarian region. Three years later she came to me presenting an ovarian cystic tumor of the size of two fists.

Absence of the Fallopian tubes on one or both sides, rarely observed, is usually accompanied by rudimentary development of the uterus, while the ovaries may be normal. A case illustrating this anomaly I met with a short while ago.

A young woman, twenty years old, bodily well developed, entered the hospital on account of amenorrhœa, neuralgic pains in the pelvis, recurring at monthly intervals, facial œdema and bleeding from the well-formed mammary glands. On inspection, I found atresia vulvæ, vulva and mons veneris otherwise well formed. The urethra patulous, so that the index could easily be inserted, bimanual examination per urethram and rectum revealed total absence of vagina, and only a trace of uterus bicornis. The ovaries appeared to be normal. Coitus has been performed without any discomfort to the woman, per urethram, for some time. I saw this same woman lately at a dispensary, where she entered to be treated for sterility. She had married, her husband being ignorant of the true state of affairs. The former symptoms still existed, but to a more moderate degree. The Fallopian tubes may be abnormally long and tortuous in their course, or their calibre may be compressed by the pressure of an abdominal tumor, or there may be a stenosis, even atresia, of the same. All these causes form a barrier to conception.

Of lesions, which may attack the tubes, salpingitis ranks first. Gonorrhœal, puerperal and tubercular processes are the main factors in its etiology ; the infection is usually bilateral. If unilateral, we see now and then conception occur; but, as a rule, we find abortion follows, partly on account of the adhesions formed about the diseased tube, partly because the lining of the uterine cavity has not fully recovered from the invasion of the pathogenic germs, and is as yet an improper nidus for the ovum. Catarrhal salpingitis, consisting of hyperæmia, hypersecretion and swelling of the tubal epithelia is an ample impediment to conception. The spermatozoids under those circumstances meet with almost insurmountable obstacles. The secretion, deleterious to the sperm by its chemical composition, is more or less profuse, has a natural tendency to drainage into the uterine cavity. By this flow the spermatozoids, having experienced considerable delay by the turgescence of the tubal lining, are carried along before they were able to reach the ovum. In cases where the inflammatory process has progressed to the formation of hydro or pyosalpinx, we have an absolute barrier to the entrance of the semen into the Fallopian tube by the occlusion formed at the ostium uterinum of the same. In old chronic cases, we find now and then conception to occur. There the affection has been one-sided, the virulence of the pus contained in the tube having been rendered inocuous by time, no new inflammatory invasion of the surrounding peritoneum having occurred, impregnation takes place through the comparatively healthy tube on the other side, and may terminate in full-term pregnancy. Noble has related cases pertinent to this point. He speaks of one case, where, shortly after delivery, peritonitis set in, which was due to the rupture of a large pyosalpinx, as was shown by the autopsy. Here the chances are very favorable for the occurrence of a tubal pregnancy, as I have had opportunity to observe in one case, where I found at the operation a tubal gestation of two months on one side, while the other tube was taken up by an old pyosalpinx containing three to four ounces of pus.

Absence or rudimentary development of the uterus involves, naturally, sterility, while malformation of the organ, such as uterus uni or bicornis, or uterus bilocularis, do not necessarily produce it. With the cases of uterus bilocularis we frequently meet a more or less developed septum in the vagina. I have seen such

a case, where after delivery this septum still persisted, not having formed an obstacle to the passage of the child. Congenital atresia of the uterus, or atresia following too energetic curettage of the organ, especially in the puerperal state, described lately by Fritsch and Küster, is followed by absolute sterility, while atresia of the cervical canal is amenable to operative treatment. Stenosis of the cervix, if not relieved, acts as an impediment to conception. In these cases we find a persistent catarrh of the mucous lining of the cervix and the corporeal endometrum and dysmenorrhœa. The mucous stagnates in the cervix becomes inspissated and forms a plug, which is in itself apt to prevent the entrance of the spermatozoids. The chemical composition of the secretion changes, becomes so strongly alkaline as to paralyze the vitality of the semen. In these cases we see the simple operation of curettage, preceded by divulsion of the cervix, followed sometimes by the most happy results. A more obstinate class of cases for treatment are those where endometritis is due to outside infection. Here we soon see conditions established which will preclude conception; especially is this the case when the endometritis becomes chronic. The mucous membrane of the uterus by the existing hyperæmia is rendered unsuitable for the implantation of the fecundated ovum; the profuse purulent secretion has a tendency to destroy the vitality of the ovum, and acts as a carrier of the same toward the cervical os, resulting in early abortion. In endometritis exfoliativa we see entire casts of the interior of the uterus expelled monthly. If impregnation had occurred, these would have been bound to take the ovum along.

In endrometritis polyposa the small polypi in the cervical canal may act as a mechanical obstacle to the entrance of the sperm. At the ostium of the tube these polypi may form an impediment to the ascending spermatozoids or to the fecundated ovum coming down the tube to the uterus.

Of neoplasms we see that carcinoma of the cervix and the body is surely a hindrance, but by no means as much as sarcoma. Fibromata and myomata, when they develop early in life, surely act as an impediment; nevertheless, it is astonishing to see the number of pregnancies which occur in parous women thus afflicted in the middle period of life. I need but to mention that this coincident may be most disastrous to the bearer. These tu-

mors all have a tendency to grow immensely under the increased blood supply and may form an unsurmountable hinderance at the time of delivery. Repeatedly I have been forced to perform Porro's operation under such circumstances; once the case was complicated by the presence of a cyst of the ovary of the size of an adult's head, besides the fibroid of the same dimension blocking the whole pelvic cavity.

An extensive cervical tear with ectropion is apt to keep up endrometritis indefinitely. This is partly due to the utrine hyperæmia, the uterus being unable to undergo proper involution, partly because the patulous cervical canal admits pathogenic germs from the vagina. The repair of such a tear preceded by curettage of the uterus is an almost infallible remedy against the sterility caused by this, provided that the trachelorrhaphy is properly done and that by contraction of the cicatricial tissue a stenosis of the canal does not result. For this reason I prefer to amputate the cervix in all cases presenting multiple tears.

Stenosis of the cervical canal often goes hand in hand with hypertrophy of the cervical portions of the uterus. I do not think that the occurrence of this malformation is as frequent as other observers claim. Marion Sims says that amongst 218 cases of sterility, he found this malformation 116 times to be the cause of non-conception. The remedy is amputation; but this should be done after careful intra-uterine measurement had been taken, as sometimes we find prolapse of the uterus co-existing. I once amputated a cervix 4 1·2 inches long, which protruded from the vulva of the young woman 2 inches.

In flexions of the uterus sterility is the rule, fertility the exception. Marion Sims was the first to recognize and demonstrate the importance of the malformation in this respect. By judicious treatment he obtained splendid results. His views, diagonal to those prevailing at that time, were the subject of animated disputes. Scanzoni especially opposed him vigorously; yet time has shown that Sims's observations were based upon indisputable facts.

A total flexion, when ante or retro, involves sterility; while a well-pronounced flexion may act as an impediment to conception only.

The displacements of the uterus forward are, according to Karl Meyer, much more frequent than the retro-displacements;

he found under 135 cases, 95 cases of the first and 40 of the latter variety. A version of the uterus is much less liable to act as causation of sterility. While we have in cases of flexion a mechanical obstruction at the point of flexion, we have a comparatively patulous canal in cases of version, offering no obstacle to the entrance of spermatozoids.

If sterility exists in cases of version, we find an explanation in the faulty position of the os, it being drawn high up in the vaginal vault, presenting many difficulties for the sperm to enter it. For this reason, we see a greater number of instances of sterility in cases of extreme anteversion than in retroversion, as the anatomical relation of the posterior vaginal vault allows the cervix to keep almost absolutely free from contact with the *membrum virile* and the ejaculated semen. Although I have stated that the prognosis in cases of extreme uterine flexion is unfavorable, I must say that only after repeated efforts we should discard these cases as incurable. The properly done curettage and straightening of the organ by means of temporary packing, or the judicious use of the uterine stem, has often proven of good result, contrary to expectation. When I mention the stem pessary, I refer to the aseptic instrument inserted into a uterus rendered aseptic by curettage and irrigation, the operation being followed by an antiseptic pack of the vagina. I am opposed, on the other hand, to the promiscuous use of intra-uterine instruments in ordinary office practice.

Flexions of moderate degree we often see overcome by the use of a properly constructed pessary. I have seen a number of instances, where sterility was existing for years, where the use of this instrument alone was fully sufficient to overcome the difficulty. Version, likewise, may be treated by pessaries, and if these are inadequate, by operative measures.

Prolapsus uteri can act as a causation of sterility when complete; hardly, however, when in its first or second degree. Thure-Brandt's method of massage may be tried for the relief of this condition. If not efficacious, ventro-fixation of the uterus and restoration of the pelvic floor may be necessary.

Of the abnormalities of the vagina which may act as an impediment to, or even exclude the possibility of, conception, we must mention first the congenital and the acquired atresia. The first affliction, which usually accompanies a faulty development

of the genital organs, is mostly incurable; the latter forms a hinderance which may be overcome by proper operative treatment. Stenosis of the vagina, usually due to cicatricial contractions, is amenable to treatment.

Prolapsus of the vaginal wall, recto and cystocele, seldom cause sterility. It is a different matter, however, when there exists at the same time an extensive tear of the perineal body. The reason for this acquired sterility we find in the fact that the semen cannot be retained in the vagina any length of time, on account of the suspended function of the sphincter muscles of the vaginal orifice. A repair of the defective parts is often followed by speedy conception.

Vesical and rectal fistulæ seldom permit fecundation.

In the first case, the acid reaction of the urine acts detrimental on the semen; in the latter, the entrance of fæcal matter into the genital tract may produce inflammatory changes, which are not conducive to the vital energy of the spermatozoids. But, besides this, we see a natural apathy on the part of the husband to perform the act of cohabitation, and in this way the woman may be doomed to sterility.

Catarrhal influence of the vaginal mucous membrane is a cause of sterility. The reason we find in the slow reaction of the vaginal secretion, and the fact that the profuse vaginal discharge will wash out the ejaculated semen from the vagina.

Atresia of the hymen is a malformation which, by the variety of conditions produced thereby, such as hæmato-metra and hæmato-colpos, calls for an early operative interference; it cannot, therefore, act as a barrier to conception. A rigid hymen may be temporarily hindering to cohabitation, but cannot prevent eventual impregnation. A young woman, twenty-three years old, came under my observation a short while ago, presenting an abdominal tumor. She had menstruated only once, when twenty-one years old. She noticed the tumor to grow within the last few months, and pretended to be ignorant as to the nature of the same. Unwill ingly she submitted to a local examination. I found the vulva closed by a dense hymen, presenting a pin-hole opening in its upper half. An examination, per rectum, was readily assented to. I found the sphincter ani abnormally patulous. The size of the uterus corresponded to a pregnancy of the sixth month, the hand on the abdomen receiving distinct impulse from the fœtus. I could not

detect an opening between rectum and vagina through which an impregnation could have occurred, and believe that the spermatozoids migrated through the narrow opening of the hymen, after the semen had been deposited near the external genitals. The patient was most indignant on account of my interpretation of the case; she was, nevertheless, delivered lately of a healthy child without great difficulties.

Urethral caruncles interfere with the proper execution of coitus; they are a source of great pain. When not removed, they may cause sterility, due to abstinence or faultily executed cohabitation.

Fissures of the anus, cicatrices after anus operations, may act as a temporary cause of sterility. A woman who underwent an operation for fistula in ano, consisting in free splitting of the anal orifice, complained of unbearable pain while performing coitus. I found a deep fissure as the result of one of the cuts, through the sphincter muscle; it required excision of the cicatricial tissue and union of the divided sphincter to relieve her.

Vaginismus is a collective term of a number of nervous conditions. It consists in a hyper æsthesia of the hymen and of the introitus vaginæ, combined with forcible involuntary contractions of the constrictor cunni and other muscles of the uro-genital and anal region. The attack is usually caused by an awkward attempt at coitus in neurasthenic and hysterical young women, but may also depend on a rigid, sensitive hymen, or some painful affection about the vulva. As this condition is mostly found among the newly married, they permit, by their bashfulness to speak of this delicate matter, a forced sterility to persist for indefinite time. A little instruction as to the proper procedure at coitus, a little surgical help, sets matters right in most cases.

Deformities, such as hermaphroditismus, hypertrophy of clitoris or labia, elephantiasis etc., need only be mentioned; according to the degree of their development, they may act as a barrier to conception.

I cannot close without devoting a few words to a condition which necessarily must find some consideration, when sterility and its etiology is under discussion. I refer to the sterility in the male, a defect which deserves our full attention, knowing what an important factor it forms in the causation of marital barrenness.

For the proper management of a case of sterility, it is absolutely necessary to convince yourself that the husband is in full possession of his procreative power. We must not forget the fact that while he is able to perform coitus, this does by no means imply that he thereby furnishes the necessary element for impregnation of the woman. *Potentia cœundi* is not identical with *potentia generandi*.

A microscopical examination of the semen is especially necessary in all these cases, where by examination of the female we did not detect any grave derangements. It is my habit of insisting on such an examination in every case of sterility coming under my care. Naturally, I see thus semen varying in strength, ranging from the normal sperm to the sterile product of azoospermia. The prognosis of the individual case of sterility is greatly influenced hereby; it would be absolutely improper to continue treatment of the female after we have convinced ourselves of the inability of the husband to regain his lost power of fecundation.

I have enumerated a series of the more important ailments and abnormalities, which may be a disturbing factor in the fulfilling the noblest calling of woman. The large number of derangements, which we have reviewed, must have impressed you with the importance of the affliction; they must have given you an idea of the manifold difficulties which we meet in treating the same. It is apparent at once, that in order to be able to contend with these numerous symptoms successfully, the physician must be a clinician as well as a surgeon. With proper circumspection and patience, by appropriate medical treatment and sound hygienic advice, a good many favorable results will be achieved, while in many cases surgical skill will eventually remove the barrier to domestic felicity.

39 West 52d St.

Stated Meeting January 3d, 1896.

G. M. EDEBOHLS, M.D., IN THE CHAIR.

"STERILITY IN WOMEN."*

A PAPER WITH THIS TITLE WAS READ BY

FRANCIS FOERSTER, M.D.

DISCUSSION.

DR. SCHMITT said that the opinion expressed in the paper concerning the sterility, both of women and men, could hardly be sufficiently emphasized. It should be considered the duty of every physician before treating a woman for sterility to ascertain the sexual faculty of the husband. The latter might be in robust health, and still be suffering from azospermia. The condition could only be discovered by microscopical examination of the seminal fluid. Conscience and prudence should lead the physician to make a microscopical examination of the semen before subjecting a woman to treatment or giving a positive prognosis regarding the sterility. In connection with this subject of sterility it might not be amiss to speak of the abuse of injections of carbolic acid and bichloride of mercury. The effects of acids on the spermatozoa, the speaker said, had been studied, with the

* See the POST-GRADUATE, February, 1896.

result of showing that acids retard the movements of the spermatozoa and gradually destroy them. Slightly alkaline solutions were found to stimulate the movements of the spermatozoa. For this reason it would seem to be proper, in a case of congenital sterility, to discontinue the use of injections of carbolic acid or of corrosive sublimate, substituting for them, in irrigations of the vagina, a slightly alkaline solution. French and German authors recommend the addition of phosphate of soda to the water used for such injections.

Dr. B. Gordon said that the etiology of sterility had been fully covered in the paper, but the treatment seemed to have been less thoroughly considered. In his opinion, sterility was a symptom of many diseased conditions, and the result of defective development, both of the male and the female. For this reason a complete consideration of the treatment would involve the covering of the main portions of gynœcology and a study of genito-urinary diseases in the male.

Among the more common causes of sterility met with in daily practice might be mentioned narrowing of the cervix and endometritis. By curettage, or the use of caustics, an endometritis might sometimes be cured and the sterility relieved. Dilatation, and in some cases discission of the cervix, was, of course, the proper remedy in the other condition. Correction of a malposition of the uterus was another method of relieving sterility.

Dr. Fivey said that in the paper anteflexion had been noted as a more common cause of sterility than retroflexion. This had been his experience also. Where sterility had existed for a given period, and he could trace the dislocation of the uterus to habitual constipation, measures for the relief of this condition incidentally relieved sterility. Another very important point touched upon in the paper was the acquired endometritis resulting from the injudicious use of local measures in the endeavor to relieve the sterility. In his opinion, we should postpone as long as possible in such cases the introduction of a sound. It was a common and very bad habit of many practitioners to endeavor to ascertain the position of the uterus by the introduction of a sound. He believed that many cases of sterility could be traced to this habit of unnecessarily introducing a sound into the uterus. It would be better to resort to rectal examination than to rashly make use of a sound in these cases.

THE CHAIRMAN said that owing to the completeness of the paper it would be impossible to add anything to it additional to what had already been mentioned by preceding speakers, although certain points might be emphasized or presented in a somewhat different light. The only point that had been apparently omitted was the question of artificial impregnation, originated, he believed, by Dr. Marion Sims, and carried out by him and a few followers. At the present time, nothing at all was heard of it; mention of this would have made the paper still more complete.

DR. FOERSTER, in closing the discussion, said that he had intentionally omitted a consideration of artificial impregnation. It had been first introduced by Marion Sims, and had since been taken up by several English physicians. It was a very disagreeable topic, and the results of this practice were very poor. He did not think it would ever be generally adopted. It seemed to be a subject hardly fit for consideration in public. The point made by Dr. Schmitt, regarding the use of acid injections, was well taken. It was his practice in such cases to make use of injections of sterilized water, or occasionally of sea-salt water. The latter, he believed, was sufficiently alkaline not to interfere with the vitality of the sperm. It had been his experience that constipation kept up retroflexions indefinitely, and on the relief of the retroflexion by removing the constipation, sterility was often cured at the same time.