

## IMPOTENCE AND STERILITY.

By FREDERICK A. LEUSMAN, M. D., CHICAGO.

### I. (IMPOTENCE COBUNDI.)

Epictetus urged men so to purify their imagination that at the sight of a beautiful woman they should not even mentally exclaim, "Happy her husband." In a study of impotence we will find it profitable to make an attempt to assume this attitude of reverence and self-containment advised by the famous stoic. The aggregation of cells called the human organism, a result of potency is born into this world, grows and grasps, some more, some less, reproduces itself and then, with or without chloroform or posthumous fame, departs to reappear in new forms. The basis of civilization rests on the marriage tie, the security of the latter depends to a large degree on potency, aside from socio-economical considerations. What is life without a home; what is home without a wife, and what is a wife without potency? There is not any too much known about the problem called life, nor are we any too well informed on the problem that forms the subject of our study tonight. By potency we mean the ability of man to intromit with ease his penis in a state of erection into the cavity of the vagina and there to exercise the act of copulation for a time long enough to not only experience the sexual orgasm,

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accompanied by the ejaculation of the seminal fluid, but also long enough to precipitate the sexual orgasm in a manner satisfactory to his partner, the final immediate result being a happy state of relaxation, contentment and repose, without even traces of exhaustion. Man becomes potent at fifteen or sooner, and remains so up to the sixty-fifth year or longer. Inherited constitution, environment, habits, freedom from masturbation and sexual diseases, moderation and intelligence displayed in his daily routine of living being the important factors as to how long he may retain his potency. It may safely be presumed that potency should die with the man, not sooner, if the man was born right, if his ancestors have not cheated him out of his birthright of a sound constitution, and if he has lived properly. The number of times that a normal man should be able to perform the sexual act and feel better for it, we may infer, will always be an individual question. The young man between twenty and forty may exercise coitus, assuming a normal constitution and normal ways of living, once every twenty-four hours, at some periods even twice a day, and feel better for it. When coitus is had only at intervals, many healthy men effect intercourse six and more times in a long night without feeling the worse for it. Prudence, as well as consideration for his partner, commands here as elsewhere a moderate use of the faculty, because moderation is a virtue necessary to happiness and preservation of our functions. A man who keeps a *mens sana in corporo sano*, and has himself well in hand, should have no more intercourse than is necessary to prevent strong sexual longings from interfering with his repose and work. Old men indulge once a month or less often, although there are some old men who lean to a greater frequency.

An erection may arise through activity of the cortex cerebri, or from stimuli reflected on the erection center at the fourth lumbar vertebra through distention in the semen-producing organs, or by means of direct excitation of one or more of the sexual organs, especially the glans. Innervation is transmitted through the ilio-inguinal, pudic nerves, and *nervi erigentes*, representing the cerebrospinal system, while branches of the hypogastric plexus furnish connection with the sympathetic.

The center for erection in the spinal cord is, however, controlled by the dominating vasodilator center in the medulla oblongata, as shown by the occurrence of an erection and the presence of seminal fluid in persons who have been hanged. As the psychical disturbance which accompanies anger or shame is followed by dilatation of the

blood vessels of the face and head, so when attention is directed to the sexual centers there is an action upon the *nervi erigentes* arising from the third and fourth sacral nerves (the *nervi erigentes* also supply the longitudinal fibers of the rectum).

When the impulse to erection is obtained, smooth muscles present in the trabeculae of the cavernous spaces relax under the inhibiting action of the *nervi erigentes* and the blood spaces have now an opportunity to distend to their utmost capacity by the increased supply of arterial blood. The process of erection is further aided by the action of the *ischiocavernosus* that raises the member, while the *bulbocavernosus* and *transversus perinei profundus* muscles nearly, but not totally, prevent the return flow of the venous blood. Fibers from the cortex cerebri and, perhaps, the cerebellum connect with the erection center, carrying motor and inhibitory impulses. The sensuous feelings of the orgasm are probably received through Krause's genital nerve corpuscles, causing or increasing the erection by reflex action.

The course of the sensuous as well as the sensory fibers runs in the dorsal nerves of the penis. Ejaculation results from peristaltic contractions of the *vesiculae seminales*, and the *ductus deferentes*. Rhythmical contractions of the *ischio* and *bulbocavernosi* muscles eject the seminal liquid. The ejaculatory center is in close relation to the erection center; it, however, can operate independently, as ejaculation without erection.

A man may succeed in copulation even with a slightly damaged prostate, but not without the presence of at least one testicle. Castrates soon lose the potency remaining immediately after operation. Disease of the seminal vesicles does not apparently interfere greatly with coitus.

It is customary to classify the causes leading to impotency, and such efforts are helpful in so far as they enable us to pursue a systematic study of the subject leading to a wider view; yet in practice such classification is of little value, partly from our inability to demonstrate the relationship of the lesions found to the case in hand, and partly on account of the mixed aspect of his troubles shown by the seeker for relief.

We will here briefly remember our congenital inheritancy as to the faults and virtues of our constitution, with its subdivisions of anatomical defects, as absence, deficient and excessive development of the penis, or parts of its structure, as the *frenulum*, *hypospadias*, *epispadias*, *ectopia vesicae*, under-development of prostate or testes,

hermaphroditism, etc., fall in this class, as a rule, more than unfortunate from a therapeutic view point as well.

Acquired physical defects of a permanent nature accrue frequently from trauma resulting in the partial or total destruction of the organs essential to erection, or else interfering with their innervation.

Neoplasms will naturally occupy a group by itself, that may or may not be of easy relief.

Phimosis and varicocele will also be enumerated singly, because they both may be congenital or acquired; also, their relation to impotency is, in the majority of cases, of a somewhat doubtful nature.

Hydrocele and hernia, if of large dimensions, can be arraigned as causes and lend themselves to brilliant cures. Among the common local causes of loss of potency, perhaps the most common are prostatic congestion and inflammation in its various stages; also prostatic and testicular atrophy. Prostatic inflammation leading to impotency, while one of the most frequent, is at the same time one of the most hopeful forms, from a therapeutic point of view, provided the condition is attended to before prostatic atrophy and a paralytic condition of nerves has definitely set in.

Stricture of the urethra occupies here a field open for discussion. My experience joins the school of those that teach it to be a cause, hence favorable to prognosis.

During the prodromal stage of acute diseases, sexual desire frequently reaches the stage of satyriasis, to be followed later in the disease and frequently outlasting convalescence by temporary impotence.

Chronic diseases furnish a prolific crop of causes, as obesity, the so called anemias, tuberculosis, syphilis, Bright's disease, diabetes, and diseases of the central and peripheral nerve apparatus, particularly also in their later stages. Even here recoveries, as in nephritis, lasting for a long time, have been seen by the writer. A class by itself is that taken by neurasthenia and psychic impotence, instances giving a rich opportunity for the successful display of therapeutic resources and tact. Loss of the power of erection is but rarely caused by drugs, as alcohol, tobacco, morphine, cocaine, iodine, arsenic, lead, mercury, unless these poisons have been taken in doses strong enough and for periods long enough to undermine the body in toto.

Neurasthenic impotence, that chronically unstable condition of the nervous system, has its play with improvements, changes for the worse, and all sorts of variations. It sometimes ultimately leads to

a cure, or, failing in that, to what is named paralytic impotence, a hopeless status most often reached by confirmed masturbators, sexually weak persons, excessive sensualists and insane people. Paralytic impotence, however, has been observed to occur as a congenital variety. In such cases there was never present a condition of irritability of the sexual centers, nor even libido sexualis, despite otherwise the very best of health and well developed genitalia. Cases like this furnish the sexually frigid persons, whose continency can not be ranged as a virtue.

Psychopathia sexualis (perverse sexual sensation) as a cause of impotence by right occupies a chapter by itself, but will hardly be of interest in this discussion.

Excessive venery rarely leads to impotence, at least much less frequently than masturbation; the latter is also a common cause for spermatorrhea.

Gonorrhoea, masturbation and coitus reservatus first lead to prostatitis, then by easy stages to impotence.

Pathological pollutions, i. e., too frequently recurring seminal emissions, are, as a rule, a symptom of one or more of the conditions mentioned before, but they furnish frequently a key to the diagnosis.

Eulenburg holds that a pollution is no more to be considered as normal than a cough or vomiting, and that even the so called normal pollutions originate really in some unusual and exceptional irritation, which may be comparatively light, but which acts upon the center of ejaculation. Pathological pollutions have been defined as a motor neurosis attended by a spasmodic contraction of the seminal vesicles, while spermatorrhea\* is said to depend on a paresis of the ductus ejaculatorius, or structural alterations of the semen-carrying routes. Pollutions are said to be physiological when they occur but once to four times in the month, when the individual feels better for them and not fatigued.

DR. F. A. LEUSMAN, 100 State Street, Chicago.

Dear Doctor—In answer to your request as to the frequency in which I find spermatozoa in the urine, I have carefully looked over my records of urinalysis for the last eight years, amounting to nearly 10,000 complete chemical and microscopic analyses. This includes all the work I have done in this line (a) in the clinical laboratory of the late Dr. Charles W. Purdy, (b) in the laboratory of Drs. William E. Quine and William H. German, and (c) the work I have done independently.

In the urines from males spermatozoa were present in 2.50 per cent of cases. In the urines of females spermatozoa were present in .40 per cent of cases. In the urines of males where spermatozoa were found upon successive examinations, .45 per cent of cases.

Very sincerely yours,

CARL JRENAEUS.

103 State Street, March 22, 1905.

There are those that hold that a man either copulates or masturbates. Whether many men are truly continent or abstinent, without being masturbators, is not generally known. Kraft-Ebing, in speaking of the psychoses and neuroses, induced by sexual abstinence, believes that there is much less danger from sexual intercourse than from the constant struggle that takes place particularly in the neurasthenic subject between the desire for intercourse and the effort to restrain himself and remain continent.

Vecki would not allow pollutions to exist in any case, for they could have only one or two things as their cause: Either they prove a real want that is not satisfied, or they are symptoms of some disease. In the former case the individual concerned should do his utmost to obtain his share in the enjoyments of life; in the latter case the sufferer ought to seek help, as it is his duty to do so.

Absolute continence as a cause of impotence must be judged to be rare, since almost all so called continent people are masturbators.

Abnormalities of the thyroid, thymus and suprarenal glands as to their structure or function must be mentioned as a cause of impotence.

The diagnosis has in some cases to discover that there is impotence, a sometimes difficult trick. Nor is it much easier to range the case in hand under one of the foregoing heads. The diagnosis must determine that there is impotence, and then take stock of the totality of the patient in question. The state of the nervous system, constitutional diseases, local diseases, disturbed functions are sought after, and the findings of careful history-taking are joined to factors elicited by thorough-going physical diagnosis, local palpation, endoscope, bulbous sound, cystoscope, and microscope. By correlating all such findings, an approximate diagnosis may be ventured and treatment be applied accordingly.

The prophylaxis will refer to the problem of sanitary marriages, instructions of the young and old in personal and sexual hygiene, general physical and sexual examinations of all school children. The latter will more than duplicate the benefits that are now accruing to children from proper examinations of their perceptive faculties. The prophylaxis will endeavor to prevent masturbation and infection with venereal diseases. It will further make efforts to substitute proper rational ideas of morality and virtue in place of superstitions and false beliefs.

As to the principles of treatment, but little need be alluded to. Cases that show no evidences of local disease in the urethra,

prostate, vesicles, epididymis, testicles, rectum, etc., and they are perhaps the far lesser number, require, with few exceptions, no local treatment. Otherwise it would seem to be good policy to remove local disease, so far as possible, like anomalies of the frenum, phimosis, varicocele, strictures, hydrocele, hernia, hemorrhoids, and other surgical affections as a preliminary to the treatment in general. Somebody has said that impotence is as certain a result of lust as indigestion of over-feeding; therefore, none of the channels, none of the expedients resorted to for the gratification of lust can ever strengthen or restore the power impaired by lust. Lust is not the attribute or characteristic of health. By lust he means excessive sexual craving. The lust disease is the enemy as it is the result of civilization. In the main, its causes are ungratified sexual desires, or excessive venery, and abnormal sexual practices. Bad company, salaciousness in literature, art and on the stage, insufficient and improper exercise, lack of work and chances for wholesome out-of-door recreation, indulgence in alcohol, tobacco, excessive meat diet, spices, etc., are able aids. Lust is a disorder, the pathological result of pathologic hygiene. It is as abnormal as the delirium of fever. Virility, a normal appetite with regard to sex and powers to gratify that appetite can not be made the slave of lust, for lust destroys virility.

As to drugs, they are frequently of great service in properly selected cases, as an adjuvant or even as a placebo at times; beyond that experience has proven them not to contain specific or miraculous powers. The all important part is played by a practical and sanitary regulation of the daily life and habits of the patient with strict individualization. Guyon's instillations with Arg. nitrate, argyrol and collargol are the most easily applicable and very efficient remedies in cases depending on prostatitis. Electricity in its various forms, general and local, intelligently applied, in association or alternating with all the other means, is of undoubted merit. Hypnosis and suggestion in the hands of the expert are of signal value in almost all cases, especially those of psychic impotence. As to ligature of the dorsal vein and suspensions of the spinal cord, information seems but meager in the literature. Excision of a part of the vasa deferentia has been proposed in cases of spermatorrhea.

A strong indorsement must be given to hydrotherapy; a cold daily sitz bath is a wonderful agent, especially if employed in association with all other forms of treatment applicable to the individual case.

Special merit claims the mention of alcohol and tobacco, two drugs to be absolutely prohibited in neurasthenic cases.

Mantegazza says: "Modern prostitution is the product of Christian virtue, which wants a perfect man, and the animal instinct which drives the man into a woman's arms."

Very little is generally known about organo-therapy. Their effect is coincidental or suggestive at best. Brown-Sequard's testicular extract and Pochl's spermin enjoy with the framer of the phrase a condition of innocuous desuetude.

Of course, oxygen has been inhaled. No doubt now the X-ray\* high frequency and phototherapy in general is working overtime in this field, and we shall find no fault with them if the balance of the therapy does not suffer neglect.

Mechanical appliances like erectors, sledges, etc., are said to be in use even by bankers and physicians themselves, who declare that they are better than nothing.

The writer has no experience with suction apparatus or passive congestion by means of rubber tubing. There may be merit in their employment, both on account of the massage they give to the organ, as well as their psychic effect. Travel without intelligent medical supervision and treatment will not do as much good as with such advantage.

The cure here, as elsewhere, ultimately comes from within. True principles as, for instance, represented by the Rev. Dr. Washington Gladden, in his fight with Rockefeller, the representative of expediency, will win in the end.

## II. STERILITY (IMPOTENTIA GENERANDI).

The secretion of the genital glands, called the semen, is the composite product of the physiologic activity and changes in form of the cells lining the spermatogenic route, beginning at the seminiferous tubules and finishing up with the meatus urinarius externus. The function of Littre's and Cowper's glands is perhaps of a more preparatory nature in that it renders the urinary passages free from acid, while the testicles, ampullae, seminal vesicles and prostate furnish what is known as the seminal liquid. The ampullae and seminal vesicles contribute probably the largest amount of the total seminal quantity; their sago-like secretion, stickiness, odorlessness and color-

Halberstaedter (Berl. kl. Woch., Jan. 16, 1905.) by experiments and autopsies on rabbits previously submitted to the action of the X-rays has shown that the Graafian follicles had completely disappeared in fifteen days. Albers-Schoenberg has called attention to the fact that in male rabbits and guinea pigs whose abdomens had been X-rayed an azoospermia was gradually developed.



lessness, noncoagulative and neutral reaction furnish a fluid of a heavier specific gravity than water; it contains polyhedral epithelial cells, isolated leucocytes and sago-like shining granular bodies. The prostatic fluid, alkaline in reaction, is of a milky, opalescent color and peculiar odor, containing a large number of lecithin bodies, finely granular and epithelial cells, amyloid and hyaline bodies and Boettcher's crystals. The testicular secretion, as found in the seminiferous tubules is a white, doughy, thickish mass, consisting for the most part of spermatoblasts, the mother cells of the spermatozoa; the latter are first found fully formed when reaching the rete testis; they do not become mobile till they are mixed with other sexual secretions, as the contents of the seminal vesicles or prostate. The average amount of a single ejaculation is about a teaspoonful, accommodating 2,000,000 to 3,000,000 of spermatozoa. The only reliable test as to their fructifying quality is their motion. They are said to travel 0.06 m.m. a second, which is not quite four inches an hour. Acids, water and cold soon stop their movements and kill them, while the addition of warm, normal saline solution tends to preserve their life. Hausmann found spermatozoa to live in the human vagina one week, Duehrssen three weeks. Ahfeld kept them alive in an incubator at the body temperature for over a week. Spermatozoa have been found from the ages of fourteen to ninety-six years (Casper). Failure to produce offspring is due to absence of sexual organs or their lack of ability to generate all the essential elements of semen, or due to pathological secretions contaminating and poisoning the fructifying substance, or the fault lies with congenital or acquired structural alterations in one or more locations of the seminal passages, interfering with and misdirecting the seminal current.

Azoospermia, absence of spermatozoa from the sexual secretion, is one of the all important causes of sterility. Azoospermia may result from want of development or even absence of the seminiferous tubules, or embryological malformations like epispadia and hypospasia deposit the seminal product in the wrong place, if they don't altogether prevent its escape; or, again, inflammatory affections of the prostate ampullae and seminal vesicles so poison the secretions of the organs named as to incapacitate or kill the spermatozoa; or, perhaps, a debilitating general disease undermines the function of the sexual organs as well.

The therapy is zero when nondevelopment or atrophy of the testes is the cause; epispadias, hypospadias and urinary fistulae very frequently furnish opportunities for brilliant and successful surgical

intervention. An easy surgical cure is obtained in cases of shortened frenum, a condition similar to that found in the tongue-tied baby. Strictures of the vas deferens have been successfully remedied by resection and making an end to side anastomosis between it and the lumen of the globus minor, after previously testing the remaining lumen of the vas deferens with a probe. Strictures or cicatricial tissue contractions affecting the lumen of the ejaculatory ducts from within, or their caliber by pressure mechanically or structurally from without, are for the most part beyond the present resources of our art. Prostatitis, however, vesiculitis and ampullitis lend themselves to a more hopeful view. Treatment directed here to the underlying pathological conditions, especially if guided by judgment, experience and skill, frequently leads to satisfactory results. The prognosis of sterility due to general diseases depends on that of the disease in question.

By aspermatism we understand absence of ejaculation; it may be congenital, as from malformations, or acquired, as by trauma or disease. As a rule, it is due to an organic lesion, as phimosis or urethral stricture. The prognosis depends on the seat and character of the obstruction, and whether relievable by surgical measures.

Temporary aspermatism has been classified as psychic, atonic and anesthetic. The latter variety, but rarely occurring, rests on an anesthetic condition of the glans penis, the sensory nerves have lost their acuity. If acquired, as by conditions consecutive to ulceration and cicatricial contraction, we may look for some relief through the faradic brush.

Atonic aspermatism is a loss of the normal excitability of the lumbar ejaculating center. *Potentia coeundi*, pleasurable sensations, *libido sexualis* are normal, but there follows no ejaculation. In the acquired forms, the more frequent variety, the prognosis will be favorable to the extent that we can stop bad habits, arrest the progress of diseases and remove their effects. In practice we will find that the treatment is that of masturbation, rest of the genitals and nervous system, the cold sound, bromides and aperient pills at night, diet, etc. Later, central and local stimulation if necessary. Psychic aspermatismus, a form in which sexual intercourse is followed by ejaculation only in connection with certain persons, is hardly amenable to treatment, and it suffices to diagnosticate the causes leading to it, as aversion, suspected infidelity and other cerebral activities interfering with the culmination of the act. We observe that pyosperm and haemosperm not necessarily lead to sterility, as

everyday examples prove. We will also mention here that the microscope has shown that frequently repeated intercourse may lead to temporary azoospermia, a condition soon relieved by sexual rest. This may be one of the explanations of the poor having more children than the rest. We have thus seen a man may be both potent and productive, the normal status, or he may be potent but sterile, or productive but impotent; or, again, he may be both impotent and sterile.

### III. IMPOTENCY AND STERILITY IN THE FEMALE.

It is probable that 50 per cent of the sterile marriages are due to defects in the man. For the balance we have to hold the woman accountable. Potency in the woman refers to her ability to enjoy the sexual embrace and to make the latter likewise enjoyable for her partner. All women in a state of health, from fifteen to sixty or over, with physiologically and anatomically normal sexual organs, are fond of coitus, less so, as a rule, than men, but yet sexual congress is one of the needs of their organism that has to be reckoned with. The extent to which her libido sexualis is lacking as compared with man's is perhaps more than made up by her greater desire for offspring. Impotency or sterility, aside from embryological defects or general diseases, are always the expression of local pelvic disease. The dislike for the act, except from dislike for certain persons or abnormalities of the mind or nervous system, or general diseases, results from inflammatory processes or neoplasms affecting the uterus, tubes and ovaries or neighboring organs, like the bladder, rectum and Bartholini's glands. Pain caused while having sexual relations prevents, or at least interferes with her orgasm, and a woman's memory soon associates in her mind, in place of a pleasurable recollection, a painful impression with the sexual act. So springs up the so called frigidity. It has been observed that girls that have masturbated are apt to become sexually frigid as well as women burdened with overwork, or after having suffered the lesions incidental to childbirth. Sexual instruction is the treatment for the masturbator as well as surgical attention to the prepuce of the clitoris, leucorrhœa and its causes, etc.; while perineorrhaphy and trachelorrhaphy and the removal of offending inflamed organs, like uterus or tubes, restores the potency of women that had children. It is strange to observe that removal of the uterus or ovaries or all these organs has but little effect on the sexual longings of woman, and no effect except for the better, in case of their being diseased. When both

ovaries or both tubes or the uterus are removed, sterility naturally ensues.

A widow past sixty, referred to the writer for surgical aid for her troubles, caused by a prolapsed uterus that protruded beyond the vagina, with consequent difficulty in coitus, expressed herself as highly gratified with the results of her hysterectomy and her newly regained ability to now again be in a condition of potency. Impotency ostensibly or apparently plays a lesser role in women; in reality it is of equal importance. Domestic felicity is a mutual affair, the happiness for both parties, among other things, depends on mutual concessions and forbearance, but potency and productiveness on both sides are essential to prevent fornication, other bad practices and divorce.

Gonorrhoea is probably the most common and the most difficult to cure of all causes of impotency or sterility. Of course, excessive venereal indulgence, excessive child bearing, excessive nursing, excessive general cares are destructive of all a woman's forces, potency included, and a husband, sensible and jealous of his wife's care, will bear himself accordingly. Knowledge of sexual matters, moderation and good judgment are here as much in demand as on other occasions.

Woman needs, like man, rational moral training, practical instruction in general and sexual hygiene at about fifteen, protection from infection with gonorrhoea before marriage by proper and continual chaperoning—parents must not leave the parlor when the young man calls; they need protection from being infected by the newly acquired husband, by a mutual exchange of a clean bill of health, sexual especially; they further need protection from infection by husbands or others by being informed of the ban that nature's law has placed on promiscuous sexual intercourse. They are told of the more than suspicious character of a slight pain experienced while passing water and a disagreeably stained urethral or leucorrhoeal discharge. Let wife and husband understand the great dangers of licentiousness, the absolutely sure and easy way of diagnosing infection as soon as noticed by means of the microscope.

Our views must not be allowed to reach that stage when it seems to men that no more progress is possible, because our ancestors have laid down the perfect rule of life, which it would be sin to alter by way of reform. We must refrain from instilling in our children's minds the belief in superhuman powers.

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