filled by allowing the urine to accumulate. For this purpose he injects sometimes as much as forty ounces of water. He then punctures the bladder just above the pubes with an ordinary trocar, leaving the canula in the bladder during four, five, or six days. At the end of this lapse of time, the parts traversed by the canula having become consolidated, a tubular tract is formed, through which, on removal of the canula, a soft rubber catheter can readily be passed into the bladder. This is permanently secured in place by means of a perforated plate of hard rubber, through the central opening of which the catheter protrudes, being fastened to the margins of the orifice by means of a pin; the plate itself is kept in place by a belt, the extremities of which are fastened to the ends of the plate. Such an apparatus is, however, not indispensable, as means of retention can easily be improvised in various ways, the simplest consisting in the use of a long pin which traverses the catheter transversely at its point of evergence above the pubes, and across the ends of which strips of adhesive plaster are placed.

XII. LESIONS OF THE ORGANS OF REPRODUCTION.

Balanitis—Hydrocele—Impotence—Masturbation, (Self-Abuse, Onanism,)—Orchitis (Epididymitis)—Spermatorrhœa—Varicocele.

BALANITIS.

AUGUSTE CULLERIER, OF PARIS.

When it is possible to uncover the glans, make three or four dressings a day with a piece of fine linen or lint, (inserted between the glans and prepuce,) wet with one of the following

ASTRINGENT SOLUTIONS:

484. ℞. Argenti nitratis, gr. iij–ivss.
Aquæ destillatæ, f.℥iv. M.

485. ℞. Aluminis, ℈ij–iv.
Aquæ rosæ, f.℥iv. M.

486. ℞. Acidi tannici, gr.xv–xxx.
Vini aromatici, f.℥xj.
Aquæ rosæ, q.s. ad f.℥iv. M.

487. ℞. Tincturæ iodinii, ♏xv–xxx.
Aquæ destillatæ, f.℥ix. M.

SILAS DURKEE, M. D., BOSTON.

The best topical application in this disease for slight abrasions and small patches of apthæ is the following:

488. ℞. Liquoris sodæ chlorinatæ, f.℥ss.
Aquæ, f.℥vij. M.

This solution is to be applied on pieces of lint between the prepuce and the glans, three or four times a day.

If the erosion be considerable, and the puriform exudation copious, an astringent lotion may be appropriate, thus:

489. ℞. Zinci sulphatis, gr. ij.
Acidi tannici, gr. iv.
Glycerinæ, f. ʒ ij.
Aquæ, f. ʒ iv. M.
Apply with lint.

Simple *lime-water* will frequently effect a cure.

Balano-posthitis requires most frequently only local treatment. When, however, the inflammation tends to become phlegmonous, and threatens to terminate in gangrene, it is well to subject the patient to a severe regimen, and to the use of antiphlogistics, diet, repose, general baths, demulcent drinks, saline purgatives, etc. In order to combat gangrene, order:

490. ℞. Camphoræ, ʒ ss.
Extracti opii, gr. iij.
Moschi, gr. vijss. M.
For forty pills. From six to ten a day.

The penis should be wrapped up in compresses, moistened with the following strongly opiated solution:

491. ℞. Extracti opii, ℈ ij.
Vini aromatici, f. ʒ iij.
Aquæ rosæ, f. ʒ vj. M.

After the inflammation has subsided, lotions and intra-preputial injections, with the solution given above, should be resorted to.

Dr. Edward R. Mayer states that in balanitis the best local application one can use is a decoction of *Hydrastis Canadensis*, or, preferably, a solution of the muriate of hydrastia in glycerine.

DRS. VAN BUREN AND KEYES.

If the prepuce can be retracted, simple balanitis may be speedily relieved. Cleanliness is of the first importance, but soap should not be used. Warm water, to which a disinfectant may be added if needed, will remove all the discharges. After washing, the parts should be gently dried by touching them with a soft cloth, and dusted with a mixture of finely-powdered calomel and calcined magnesia, or with calomel alone. If the ulcerations are deep, iodoform is preferable. A piece of lint or old linen, cut so as to be just large enough to cover the surface of the glans, is now to be moistened in one of the following lotions:

492. ℞. Vini aromatici, f. ʒ ij–ʒ ss.
Aquæ, f. ʒ j. M.

Or:

493. ℞. Pulveris opii, ʒ j.
Aquæ bullientis, f. ʒ vj.
Dissolve and add,
Liquoris plumbi subacetatis, f. ʒ j.
Filter and cool.

Or:

494. ℞. Aluminis exusti, gr. v–x.
Aquæ, f. ʒ j. M.
For a lotion.

The linen so moistened is laid around the glans, leaving the apex and meatus uncovered; and finally, the prepuce is pulled forward to its natural position. This dressing is to be repeated twice or four times daily, according to the amount of the discharge.

In some cases the prepuce cannot be retracted: in this event, its *cul de sac* should be thoroughly washed out with tepid water by means of a syringe with a flat nozzle, every two or three hours; and each time after the cavity has been cleaned, a mild solution of carbolic acid, or enough of any of the lotions above mentioned to distend the prepuce, should be gently thrown in, retained a moment, and then allowed to escape. If they cause smarting, their strength should be reduced.

In case the prepuce is much inflamed, rest, position and evaporating lotions locally, should be used in addition to the above measures. If the inflammation runs so high that sloughing of the prepuce appears imminent, it is better to relieve the tension by slitting up the dorsum; but if chancroid be present, inoculation of the wound is inevitable, and the operation should be postponed to the last moment.

In chronic and inveterate balanitis, or where constant relapses follow insignificant causes, *circumcision* affords a certain cure. All the unhealthy thickened inner layer of the prepuce should be removed. When this is not feasible, relapses may be rendered less frequent by

the observance of the strictest cleanliness and by the persistent daily use of one of the following lotions:

495. ℞. Acidi tannici, ʒj.
Glycerinæ, f.ʒj. M.

Or:

496. ℞. Alcoholis, f.ʒj.
Aquæ, f.ʒij. M.
For a lotion.

The same treatment applies to *herpes præputialis*.

HYDROCELE,

PROFESSOR JAMES SYME, F. R. S. E.

This eminent surgeon condemns in the strongest language all other proceedings in hydrocele than that of injection, and all other injections than *iodine*. With this properly done, he was *invariably* successful.

In order to secure the undoubted efficacy of the treatment, it must be done with strict attention to the following circumstances: In the first place the patient should *stand* while the sac is tapped, in order to let the water be drained off completely. Then f. ʒij of Edinburgh tincture of iodine (iodinii ʒ iiss, alcoholis O ij,) should be injected unless the tumor is either very large or very small, when there may be a corresponding increase or diminution of the quantity employed. And lastly, a rough shake of the scrotum should diffuse the injected fluid over the whole surface of the cavity.

The pain which ensues is generally slight and transient, hardly requiring any confinement; and at the end of two or three days, the swelling having attained its height, begins to subside, so that it speedily disappears.

This operation is applicable to all the forms of hydrocele, whether it be the ordinary one of water in the tunica vaginalis, or a collection of fluid in the spermatic cord, or that peculiar condition named

Spermatocele, which has been commonly regarded as not amenable to injection.

MR. FORNEAUX JORDAN, BIRMINGHAM.

This able surgeon remarks (in the *Lancet*, Jan., 1876,) that in boys and men there are occasionally encysted hydroceles of the testis, or the cord, which continue to increase in size, or in which treatment is urgently requested, In such cases, except in early infancy, acupuncture or the use of a fine trocar often fails to cure. The walls of the cysts are usually thin, and collapse so much when their contents are withdrawn that the injection of a fluid is uncertain. The end of the canula may be outside the cyst, and the iodine solution be consequently injected into the connective tissue at its exterior.

In such cases the following is a reliable method of treatment: The cyst being well isolated, made tense, and brought near the surface, the surgeon passes through its centre a stout needle, armed with silk, and leaves the threads hanging. The fluid quickly oozes away, especially if a little traction be made on the threads. He then, at one opening, wets the threads with *iodine liniment* (liniment because the quantity required is so limited,) and draws the threads so as to leave moistened portions within the cyst. A little gentle friction will help to spread the iodine thoroughly over the lining membrane of the cavity. An hour later freshly-moistened portions may again be drawn through if the cyst be large, or if other methods of treatment have failed. On the other hand, in a very small cyst, a single thread, moistened and kept in one hour, will suffice.

In the *Union Med. de Canada*, Dr. Lubin states, that observing the frequent lumbar pain consequent upon the use of the ordinary injections in this affection, he was led to use a formula similar to the following:

497. ℞. Tinct. iodinii comp., f.ʒ iij.
Chloroformi, f.ʒ ijss. M.

In a number of cases in which this mixture has been used, no pain whatever followed this injection.

Dr. Francis Labat has lately described the good results obtained in the cure of congenital hydrocele by injections of *alcohol* according to Monad's method. The following plan is pursued (*Thèse de Paris*, Nov. 19th, 1877): With a subcutaneous injection-syringe, one gramme of the serous matter contained in the hydrocele is evacuated, and one

gramme of alcohol injected with the same syringe. In the meantime, pressure is made on the inguinal canal, and prolonged some minutes after the alcoholic injection.

Prof. HUTER and other German writers have recently highly extolled *carbolic acid* in a one or two per cent. solution. According to this surgeon there is no pain whatever, either during or after the injection; a patient took a walk immediately after, and would not stay at home on the second day. On the fifth day there was no swelling or tenderness, and the hydrocele could be considered cured. This plan of treatment, therefore, surpasses all the previous ones in painless and radical cure.

Dr. WAGNER, of Königshütte, recommends, as preferable to the usual procedures, the following plan: By means of a Pravaz veterinary syringe, which will hold about five grammes, the liquid of the hydrocele is to be completely aspired. When the syringe is filled, the needle having been removed, it is to be emptied and re-applied as often as necessary, until every drop of the liquid has been removed. As soon as this has been accomplished, from five centigrammes to a gramme of a one per cent. solution of carbolic acid is to be placed in the syringe (previously disinfected), and slowly injected into the sac of the hydrocele, manipulating this a little after the point of the needle has been withdrawn. One *seance* should suffice, as the mothers are unwilling to allow a repetition; and care should be taken to previously ascertain that the liquid of the hydrocele has ceased to have any communication with the abdomen.

THE HYDROCELE OF INFANTS.

Dr. SAINT GERMAIN, of Paris, believes that it is not advisable to subject an infant with hydrocele to even the simplest operation, until a trial has been made of a saturated solution of *muriate of ammonia*. Compresses dipped in such a solution should be applied. Sometimes an erythema, even slight vesication, may be caused, but the part may be covered with powder, and the cure is not retarded.

Prof. D. HAYES AGNEW is accustomed, in such cases, to order frictions with an unguent:

498. ℞. Ammonii muriatis, gr. xx–xxx.
Adipis, ℥j. M.

For an unguent. To be thoroughly rubbed over the part twice each day for three weeks.

Should this not succeed in producing absorption, he punctures the tumor and drains off the liquid, and carrying through the sac one or two silk strands, allows them to remain in position about thirty-six to forty-eight hours, that is, until they have produced considerable inflammation, but not enough to endanger the peritoneum.

Electrolysis has been used, with decided success, in hydroceles. Drs. BEARD and ROCKWELL remark that the great end to be accomplished is not the withdrawing of the fluid, which can be done with the ordinary trocar, but the stimulation of the membrane of the sac so that absorption shall take place, and that the fluid shall not again collect. Many of the failures that have occurred in the treatment of hydrocele, have been owing to a misapprehension of this fact.

The method is to introduce the needles into the tumor at opposite sides, and so deep that the points nearly approach each other. The needles are then attached to from three to six elements of a galvanic battery. The application should be made for five or ten minutes. One, two or three applications usually suffice to complete a cure.

Dr. ULTZMANN, of Vienna, in an article in the *Wiener Medicinische Presse*, 1876, concludes, from a series of experiments on cysts of the tunica vaginalis and ovaries, that the electrical current has no power of causing absorption, and that the results obtained with it are due to other reasons. Hydroceles of the size of the fist may be often made to disappear after one application.

The process he adopts is as follows: The insertion of the needle causes a slight mortification along the line of puncture, which prevents healing *per primam*. By this channel the fluid of the cyst escapes drop by drop, infiltrating the scrotum, and being absorbed by the clothing. This purely mechanical process is favored by the development at the negative pole of the oxygen gas, which drives out the fluid; but it takes place only in cysts which contain serous or sero-albuminous fluid. If the cyst-fluid be thick, it will not flow out through the puncture. As a matter of course, moreover, the needle must pass through the cyst-wall; and, in case the cyst contains blood or decomposing pus, like many ovarian cysts, the procedure is dangerous, because the fluid, in oozing out, may cause acute peritonitis. This occurred in one case, and necessitated immediate tapping. ULTZMANN asserts that the chemical composition of a fluid is absolutely unaltered by the electrical current.

His applications were conducted with a Leclanché battery of twenty-

four cells, whose negative pole—a needle of gold or platinum—was thrust into the cyst; and whose positive pole—a sponge-holder—was placed on the skin. The sittings, of twenty to thirty minutes' duration, were had every second or third day.

IMPOTENCE.

DR. THOMAS HAWKES TANNER.

The act of copulation may be rendered impracticable in man by a variety of causes, some of which can be readily removed, some removed after more or less treatment, while others again are wholly incurable. In examining any case, therefore, it is necessary to discriminate carefully their etiological moments. They may be summed up as follows:

1. *Absence* or want of *development*, *malformation* or *mutilation* of the penis or testes.—These are, usually, hopeless cases, though sometimes malformation may be remedied by surgical procedures.

2. *Mental Influences.*—Violent emotion, excess of passion, over-excited and especially long-repressed desire, want of confidence, timidity, anxiety, hard study, grief, disgust, all may deprive the person temporarily of his powers. These causes can all be removed, and their treatment calls rather upon the tact and skill of the physician, than upon his knowledge of the materia medica.

3. *Acute Diseases.*—Not unfrequently after fevers and other severe diseases the sexual organs remain feeble long after the general health is restored. These are proper cases for the exhibition of those nerve tonics whose especial action is upon the generative organs. The prognosis in young and middle-aged men is generally favorable.

4. *Injuries to the Cerebellum.*—Falls, blows and other injuries on the back part of the head are sometimes followed by loss of generative power. Such cases are generally incurable, and are apt to be followed by atrophy of the testes and penis.

5. *Injuries and Diseases of the Spinal Cord.*—Certain injuries and diseases of the cord, such as hemiplegia, locomotor ataxia, progressive muscular atrophy, etc., remove the power to copulate owing to deficient erections, although desire may remain and semen continue to be secreted.

6. *Anaphrodisiacs.*—The excessive use of tobacco impairs digestion and weakens the nervous and muscular systems; opium-eating acts in the same way; the frequent use of bromide of potassium, camphor, lupulin, and some other substances, diminishes both desire and power.

7. *Abuse of the Function.*—This may be by excessive sexual indulgence, or onanism, thus removing the power of erection. Proper regimen and a tonic treatment will generally restore such cases.

8. *Obesity.*—The excessive accumulation of fat weakens the sexual power.

9. *Prolonged Continence.*—The non-use of the function diminishes its activity, and may result in producing inability. Such cases, when otherwise healthy, are usually readily amenable to treatment.

10. *Abscess* or other acute disease of the *prostate gland.*

11. *Diabetes.*—It is not rare to find impotence supervene in advanced diabetes. Of course the prognosis is most unfavorable. Impotence is often also one of the first signs of approaching diabetes; and whenever individuals are met with who, previously virile, become weak and impotent, without coinciding disease, especially of the spinal marrow, diabetes will usually be found to be the cause.

12. *Atrophy of the Testes* following mumps or syphilis.

In addition to these various causes, Sir JAMES PAGET remarks that all sexual desire and power may cease in apparently healthy men, without apparent cause, at unusually early ages; thus, he has known cases where it has completely disappeared as early as thirty-five or forty years, even in men who had never masturbated and rarely had sexual intercourse.

SIR JAMES PAGET.

The more common cases of impotence are those due to nervous disorder or to mental defect; and the impotence which is complained of or dreaded without any real reason, is more common still.

Some of these mental and nervous defects hinder or interrupt erection; some prevent emission; some are only occasional; a few are habitual or even constant. They may be cured, if at all, by means addressed to the nervous system; but they are all hard to cure—as hard as it is to cure stammering, whether in speech or in any other function.

If a man has sexual organs, including the prostate, not manifestly diseased or wasted, and has erections and occasional nocturnal emissions,

and any sexual desire, the surgeon may be very confident he is not impotent from any other cause than a mental or nervous one. A full and free statement that the presumed impotence is merely a nervous phenomenon will often relieve anxiety, and with it the trouble itself.

A sensible man, who has only been ignorant on sexual subjects, who can understand evidence, and who is ready to believe those who are most likely to tell him what is true, will be cured when the truth is told. At the opposite extreme, the worst class of sexual hypochondriacs are almost incapable of cure; they will believe nothing hopeful; and they will be dull to all common sense statements.

DR. SAMUEL W. GROSS, OF PHILADELPHIA.

This surgeon has pointed out that sexual debility and impotence may result from stricture and inflammation of the curved portion of the urethra, brought about by the injurious habit of masturbation (*Medical and Surgical Reporter*, May 5th, 1877.) He remarks that reduced sexual power, from whatever cause it may arise, is one of the most distressing of maladies; and is, therefore, entitled to the deepest sympathy and consideration on the part of the honest practitioner, by whom, unfortunately, it is rarely discussed.

From the intimate connection which exists between the urethra, the prostate, the seminal vesicles, the ejaculatory and the deferential ducts, and the testes, it is not surprising that lesions of that passage should exert a powerful effect upon the functions of generation, whether that effect be due to the extension of morbid action through continuity of structure, or to reflex action. Hence, it is that many persons affected with urethral disorders, suffer from more or less marked disturbance in their sexual powers, amounting, in some instances, to impotence, or inability to copulate, either from incapability of intromission or premature ejaculation, both states being associated with imperfect or transient erections.

The particular form of impotence resulting from *stricture*, is associated with inflammation and hyperæsthesia of the posterior portion of the urethra.

In the majority of the cases that come under observation, the trouble is due to subacute or chronic inflammation and morbid sensibility of the membranous and prostatic portions of the urethra, but particularly the latter locality, and is always associated with deep-seated stricture, which is generally of large calibre. These lesions are traceable, in the

larger proportion of instances, to masturbation. Thus, in fifteen of nineteen cases he records, the sexual difficulty arose from the effects of urethritis, produced by onanism; while in only four was it dependent upon the localization of gonorrhœal inflammation.

These data are not only of the utmost practical value, but they are interesting, as they show that masturbation affects the sexual powers by inducing a state of constant congestion and undue excitability of the urethra, which terminates in inflammation and the formation of a coarctation in its curved or fixed portion. All authors upon self-pollution recognize the fact that the mucous membrane of the prostatic urethra is in an irritable or morbidly sensitive condition; but they overlook the co-existence of a stricture, and ascribe to this habit but little influence in its causation. This most important factor in the origin and maintenance of impotence, has not been sufficiently appreciated; an oversight for which one can only account by the defective means of exploring the urethra which have been, and are still, usually employed. Instead of resorting to the soft exploration bulbous bougie, which is the only instrument with which dilatable strictures, above the medium size, can be accurately determined, the majority of general practitioners still adhere to the use of the ordinary flexible bougie, or metallic catheter, which, in many instances, fails to detect a coarctation, which is the sole cause of many functional disturbances of the genito-urinary tract.

These cases of sexual debility may be divided into four classes:

First. Those in which the erections are imperfect or feeble, and ejaculation too precipitate, but in which sexual desire remains, and intercourse is possible, although incomplete.

Second. Those in which desire is not abolished, but the power of erection is lost, and coitus impossible.

Third. In these there is neither desire nor ability to copulate, but hypochondriasis is superadded; and this mental impotence is often beyond remedy, after the lesions upon which the sexual trouble depended have been removed. In the milder forms of the affection, indeed, the physician is most frequently consulted on account of the fear on the part of the patient, lest he may not be able to consummate the venereal act; but the mind is rarely so seriously affected that he is not open to conviction on this point.

Finally, there is a *fourth* class of cases, in which relative impotence apparently arises from diminished reflex excitability of the spinal cord,

This condition, which is characterized by retarded emission, is probably very rare.

The treatment of these various forms must look toward the local urethral constriction and toward the general condition of the system.

When the subject is robust and plethoric, mild antiphlogistics are indicated; while in anæmic patients, tonics, of which a combination of quinine, tincture of the chloride of iron and tincture of nux vomica is one of the best, will be required. *Bromide of potassium*, in full doses, can never be dispensed with, since it fulfills the triple object of correcting the acidity of the urine, overcoming the sensibility of the urethra and blunting the venereal appetite. When the local lesions have been relieved, its use should be discontinued, and remedies given to strengthen the sexual functions. The bowels should be kept in a soluble state; the diet should be simple and unstimulating, condiments, alcoholic and fermented drinks being avoided; heating exercises and clothing should be discarded; chastity in thought and action should be encouraged; and, finally, when the prostatic hyperæsthesia has disappeared and the sexual vigor is returning, the patient should be advised to marry. When the infirmity has advanced to hypochondriasis, the case is almost hopeless.

Of topical measures none has afforded such good results as the introduction of the *conical steel bougie*, at first every forty-eight hours, and afterwards every day. After the first few insertions it should be immediately withdrawn, but as the sensibility of the urethra diminishes, it should be retained for four or five minutes, and its size be gradually increased. As adjuvants, the local application of mild solutions of *nitrate of silver*, *acetate of lead*, or *tannin*, are useful, as are also cold hip-baths, enemata, and douches to the perinæum. If the disease proves obstinate, as it is liable to do when the prostatic or ejaculatory ducts are involved in the morbid action, the application of the solid *nitrate of silver* may be demanded. Under similar circumstances, flying *blisters* to the perinæum are of service.

The foregoing measures will usually suffice to overcome the morbid sensibility of the prostatic urethra, and dilate the stricture. Dilatation of the stricture alone, however, often fails to restore virility, because the stricture tends to maintain the inflammatory condition of the urethra behind it. In some instances, temporary relief follows; but to effect a permanent cure an operation will be required.

Dr. GROSS gives the preference to retrograde internal incision,

performed with an instrument which he devised, and which he has successfully employed in a number of cases. It is fashioned like the bulbous explorer, and defines a stricture with great accuracy. Having been carried behind the stricture, the blade is projected from the bulb, by sliding the button at the proximal extremity of the shaft, and the coarctation, as well as half an inch of the mucous membrane behind and anterior to it, divided on its withdrawal. The bulb is again carried through the severed parts, with a view of detecting any uncut bands, and a steel bougie, corresponding to the normal size of the urethra, as previously determined by the urethrometer, as once passed, and afterwards used every forty-eight hours, until the wound has cicatrized.

DRS. VAN BUREN AND KEYES.

For the management of the nervous and mental forms of impotence, these authors observe that it is necessary to arouse the moral sentiment of carnal desire, as well as the power of the organs locally to respond.

The first of these is attained by favorable relations to the other sex, and appropriate surroundings, the opera, ballet, the theatre, etc.

The second may be obtained by general dry frictions of the whole body, by massage and the flesh-brush; cold bath, sea-bathing, generous diet, and the internal use of tonic medication; the mineral acids, strychnine, ergot, and especially phosphorus and cantharides, or the two combined, commencing at a fair dose, say phosphorus gr. $1/40$ to tinctura cantharadis gtt. x, three or four hours before the desired erection, and increasing the dose carefully.

Cantharides produces erection without desire; *phosphorus* is apt to increase desire directly.

Cold and heat by the douche, alternated, electricity, and the local application of mustard, are all sometimes serviceable in recalling the power of erection. Occasionally decided advantage is derived from the *equalizer*, a large cell in which the patient sits with his head out, and from which the air is exhausted.

DRS. GEORGE M. BEARD AND A. D. ROCKWELL.

In regard to the success which may be expected to result from the use of *electricity* in absent or diminished sexual power, these authors remark that not only in its incipient, but in its more advanced stages,