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THE CANADA LANCET.

A MONTHLY JOURNAL OF
MEDICAL AND SURGICAL
SCIENCE, CRITICISM AND
* * * NEWS. * * *

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SEPTEMBER, 1900, TO AUGUST, 1901, INCLUSIVE.

EDITED BY
H. B. ANDERSON, M.D., L.R.C.P., M.R.C.S.

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THE CANADA LANCET

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No. 1.

ORIGINAL ARTICLES.

THE PROGNOSIS OF DRUG HABITS, WITH SOME REFERENCE TO TREATMENT.

BY STEPHEN LETT, M.D., M.C.P. AND S., ONT.

Medical Superintendent of the Homewood Retreat, Guelph, Ont.

Certainly no apology for once and again directing the attention of the practitioner of medicine to this subject need be made further than that the beneficent spirit of modern medicine considers it a stern duty to throw the fullest rays of its kindly light into places where disease has robbed life of its hope and existence of its every pleasure. This duty appears more urgent when scientific facts, incontrovertible evidence can be produced which go to establish the fact, that where hitherto nothing but dread and fear and hopelessness were felt, that no really scientific basis exists for these conditions.

An examination of medical literature happily shows, during later years, a more hopeful feeling with reference to the prognosis of all drug addictions than prevailed in the earlier parts of the century. Still some of the more prominent writers on general medicine—authors of text books, etc.—give such limited space to this all-important subject and dismiss it with an air of such hopelessness or with such statements, as “relapses frequently occur”; or that cures are difficult and rare, that an extended experience so utterly at variance with these statements, justifies and warrants the widest publicity.

In addition, I would emphasize especially the following facts: (1) that the therapeutics of the treatment of morphinism, alcoholism, cocainism, etc., is not obscure, secret or necessarily difficult, but on the contrary, simplicity itself. (2) The very large proportion of medical men, litterateurs, ministers and nurses, who have become victims of this and other drug addictions, and whose mental attitude, depressed enough at best, and who lack all physical and moral stamina because of disease itself, are the very ones having such erroneous views held before them by their authorities. They can scarcely help feeling how useless a struggle against so insidious and powerful a foe would be, and sink into the very “Slough of

Despond," being denied for themselves and their similarly unfortunate patients or friends, the very first and most important aid to recovery, viz., hope and confidence in the outcome of correct treatment and its stability. It appears to me that in the justly celebrated work of Dr. Osler, such statements as, "Persons addicted to morphia are inveterate liars and no reliance whatever can be placed upon their statements," are, to say the least, unnecessarily strong. As before stated, the very first requisite in the successful treatment of such cases is securing the confidence of the patient.

Self defence is one of the strongest of nature's laws and the condition of the unfortunate habitue of this kind whose confidence in the good faith and kindness of his doctor is not established, who surrenders all his drug at once would be much like a traveller who hands over his weapons of defence and trusts to the merits and goodness of the bandit.

Further, the pathogenesis of morphinism or other forms of necromania, does not generally or necessarily include a moral depravity. Dr. Osler himself states the luxury of morphia-taking is rare with us, and with this element excluded why should we consider the lowered moral tone a causative element in this disease any more than in typhoid fever. Indeed, there is to my mind a very striking similarity in the origin of what we now know as acute infectious diseases and the origin of the forms of disease under discussion.

We know that the acute infections require a favorable soil and the invading organism. Can it be denied that in neurasthenics, in those other nerve bankrupts who fall victims to these afflictions, that the favorable soil exists; nay, has possibly been as carefully prepared by years of previous overwork and worry, care and care, as a laboratory culture tube, and the first dose is not infrequently the infecting organism, so to speak.

I have known a case in a man of forty, whose youth had been exceptionally clean, who had never even tasted strong drink until in his thirty-fifth year, who had suffered for years from attacks of severe migraine without even touching an opiate, but to use his own phrase, "after a trying time of great money loss, and the extraordinary care while suffering from a severe physical injury," found himself absolutely owned by morphia after an initial dose of $\frac{1}{8}$ of a grain. To a man whose life for years has been pure and clean, whose relations, commercial, social, and family, have been characterized by the highest integrity and unselfishness, the prospect of being received by his physician as an inveterate liar, etc., is certainly not one calculated to bring out of the unfortunate the best that is in him. To obtain first the confidence, next the good-will and last but most important of all the self-aid of the patient toward his own recovery, and with these essentials to successful treatment in view, can we not well afford to draw the veil of a kindly charity over such moral obliquities as an unbalanced mind, a defective judgment, and the dreadful prospect of such severe sufferings as Dr. Osler so graphically describes in this article, appears to this unfortunate absolutely essential to the preservation of life itself.

And it is right here, where the pathology of the disease points to the main therapeutics. From an article read by me, before the section of

Medical Jurisprudence and Neurology at the meeting of the American Medical Association in 1891, I may quote the closing paragraph as follows: "Lastly I would enjoin you to pour out your full sympathy to the unfortunate opium habitue who has had a hard battle to sum up enough courage to present himself to you for treatment. He needs help. He needs care. He needs kindness. He has suffered long years of torture and deprivation, been tossed hither and thither like a rudderless vessel upon the turbulent waves of cold and austere world, looked upon as a vicious outcast whose every action is treated with suspicion, his statements doubted, his case mismanaged. Give credence to what he tells you. Extend a rescuing hand to the drowning man. Pour oil and wine on his smarting wounds, let your full sympathy and aid go out towards him. You will then brighten a dark spot in the deepest of despair and have the heart-felt thankfulness of an ever grateful fellow-being."

I may add that the years since these words were written have not only strengthened my opinion of their full correctness, but have also confirmed me more fully in the certainty attending the method of treatment which I then advocated.

It will be noted how important a place I then assigned to the psychological element in the therapy of these neuroses; and if we stop a moment for reflection, must we not recall how large a part this very element plays in our daily practice as we go from home to home, from one bed of illness to another and different one, how large an aid to the greatest of all medical remedies, the *vis medicatrix naturae*, the love and confidence in the family doctor is. And if so potent in general, why deny this aid to these cases of all cases committed to our care. Indeed were I to add another word to the scheme of treatment, I proposed in 1891 it would be to exert greater effort if possible in the direction of securing the greatest possible self-help on the patient's part; and by a firm positive conviction of successful issue in my own bearing and statements, bring out and hold and develop the best elements in the patient's organization, mental as well as physical. I may add parenthetically, that I have seen during critical times, a steadiness of purpose and determination of will to conquer the tyrant, who so ruthlessly pressed and gnawed, so much patience in suffering, that wherever exerted has always won from those who honor courage, grit, and strong will-power exerted in the right cause, words of high praise.

It is not my present purpose to extoll the virtues of any particular drug therapy in the plan I advocate, but on the contrary, to state freely and unreservedly that to a neurotic diathesis, the morphia is probably the least harmful of all narcotics, and as we go forward in obtaining release of the patient from it, our efforts should be to teach this hitherto uneducated, and untrained, and undisciplined organization the all-importance of methodical habits of life, of proper hours of sleep, regular inexorable hours of meals, hours of restful quiet in exertion of mind and body.

In plain words to these untaught children in the ways of getting the most good out of their bodies and brains, act out the higher part of our calling and be the teacher of the only method for modern civilized man to keep a *mens sana in corpore sano* regularity, unvarying regularity,

in every detail of their physical and mental lives. Time of course, is a large element in the successful issue of such cases, where the plan of treatment is carried out as proposed, viz., a very gradual but accurate reduction in every dose and carried down as far as $\frac{1}{1000}$ of a grain. But it should be distinctly remembered that we have an entire human body to reconstruct and so long as the minutest fraction of a drug is necessary to restful sleep or bodily comfort, the cure is far from complete.

Again I wish to add that by an intelligent and gradual reduction, proper feeding and nutrition, etc., we reconstruct and rebuild tissues which constantly require less and less narcotics, and when the last dose is given we have a normal, well-balanced mind, a vigorous strong body, and restored self respect which is equal to any suffering which the ordinary human can stand without an opiate, and possibly a better one.

That the plan outlined here calls loudly for two things, not always at hand, is evident. I mean to specify, however, and state essentials, a proper man and a proper place. But as we do not hesitate to call to our aid the sanatorium and hospital, the surgeon and the ophthalmologist as we need him, so do not let us hesitate, particularly in these "habit cases" to place our patients out of the harmful and damaging surroundings in to a haven of rest and safety. And further let the pages of our text books and our journals bearing the shibboleth "once an opium eater always an opium eater," or any modification of its false and untrue notes be torn from them, cast out, re-written! And let the newer one be illumined with the device, "Faith, Hope, and Charity."

Let us in our advice and handling of these bodies primarily lost in the start of life's race, so act that we may restore to the bed-side, the hospital ward, the pulpit, and the bar, men once again their own masters, and to civilization a corps whose mentality and conduct will surely add to the store of human happiness on the globe!

OCCCLUSION OF THE BOWELS FOLLOWING APPENDICECTOMY: ENTERECTOMY EIGHTEEN HOURS AFTER DELIVERY. OBSTRUCTION FROM TUBERCULAR PERITONITIS.

By ERNEST HALL, M.D., L.R.C.P.,
Victoria B. C.

Mrs. C—, aged thirty-one, mother of two children, walked into my office complaining of pain in the right side; she was ordered at once into the hospital and the following morning I removed a large suppurating appendix. As in pus cases, the open method of treatment was followed. Convalescence was satisfactory, and with the exception of constipation the patient enjoyed perfect health. Eleven months subsequent to the removal of the appendix I found her suffering from pain over the right hypogastric region and no action of the bowels. Examination discovered pregnancy, six and one half months; dullness over the region of pain, and



Portion of bowel removed.

tympanites over the left of abdomen. Massage, enemata, and purgatives failing to afford the desired relief, the occurrence of labor was hailed with satisfaction, hoping that with the additional amount of space gained by the emptying of the uterus we might have greater facility in abdominal massage. Delivery was hastened by anesthesia and instruments, placenta fol-

lowing within thirty minutes; slight hemorrhage. After eight hours of quietness, purgatives, massage and enemata were again tried but without the desired result. The area of dullness in right of abdomen increased, as also did the tympanites in other regions; temperature remained normal. The morning of the second day after delivery, the pulse was 115, feeble and irregular. Fecal vomiting set in. The patient became at times semi-comatose, the pain which at intervals had been intense over the dull area, disappeared. Hypodermics of strychnine were given and, as a forlorn hope, surgical measures were decided upon.

As the patient's condition forbade removal to the hospital, two trained nurses pressed the kitchen utensils and dining room table into service and at eight a.m. thirty-eight hours after delivery the patient was anaesthetized for operation.

Upon opening the abdomen to the right of the rectus muscle a dark fluctuating mass presented, resembling an inflamed and distended gall bladder. This proved to be an enormously distended loop of intestine, constricted by a small fibrous band. After severing this, the loop was withdrawn and examined as to its vitality. The bowel had lost its lustre, circulation was completely stagnated and the coagula extended apparently into the distended veins far up into the mesentery.

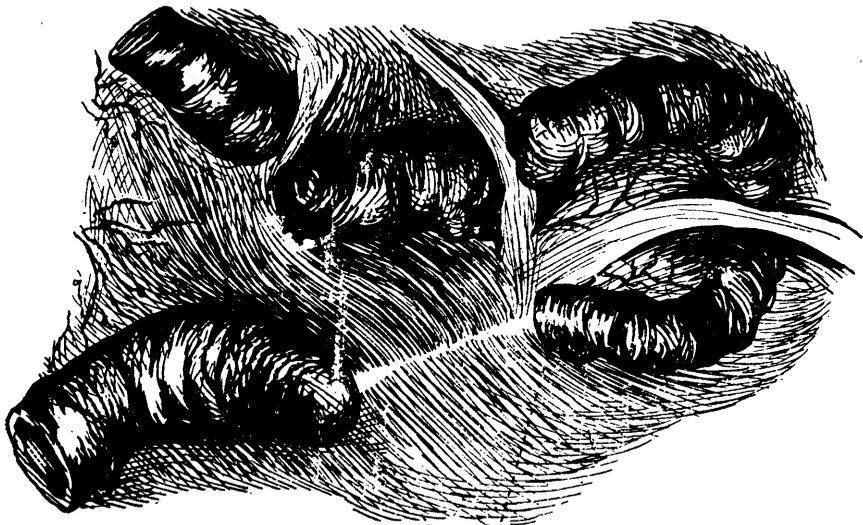
As the patient's condition was desperate, the anesthetist warning me that I had no margin of time, the necrosed section with half an inch of healthy tissue at either extremity was clamped, the mesentery ligated, the segment of bowel measuring fourteen inches was excised and the ends united with a Murphy button. The region of operation was hastily wiped with gauze and the abdomen closed without drainage, the patient wrapped in hot blankets and carried to her bed, temperature normal, pulse 115. It is needless to say that we expected nothing else but collapse. Enemata of brandy and saline solution were frequently administered with strychnine hypodermically. At 11.30 a.m., three hours after the operation, there was a slight motion from the bowels. In the afternoon the patient retained beef tea and in the evening there was a free motion and passing of flatus. The following morning temp. 98½, pulse 98. From this time forward convalescence was uninterrupted until the tenth day when temperature began to rise until on the eleventh day it reached 103. The button came away upon the ninth day.

In order to determine the cause of the secondary rise in temperature I examined the abdominal wound and reopened it sufficiently to explore the peritoneum but found everything normal. The lochia had also been normal, and the patient carefully managed to avoid all emotional disturbances. The only explanation that I could give was based upon the fact that the button passed one day before the rise in temperature occurred, and possibly in loosening from its position especially if the necrosis progressed more rapidly at one side of the bowel than at the other as one would expect that the part fartherest from the mesenteric attachment would be the first to give way and possibly with the other part still compressed between the segments of the button would exert a no little traction upon the recently formed adhesions as the button was pressed onwards by the bowel contents, and might have caused these recent ad-

hesions to become slightly separated allowing leakage with localized peritonitis. The patient left her bed on the 20th of May and has since crossed the continent enjoying the best of health fully saturated with surgical experience.

I regret that in the unavoidable haste no opportunity was afforded to determine the exact nature of the constricting band, but from its appearance I concluded that it was probably a fibrous adhesion the result of the intense inflammatory action present with the previous appendicitis.

CASE 2.—Mrs. R. aged 56, family history good with the exception of one niece who succumbed to tuberculosis. For several years had suffered from flatulence with pain upon right side of the abdomen and occasional constipation. She also suffered from pharyngeal stricture which required occasional dilatation. Constipation becoming marked and the usual remedies failing, medical assistance was sought, I found an area of dullness below the liver with pain and tenderness upon pressure, no tympan-



Part excised.

itis and vomiting. Enemata, massage, purgatives and Faradism failed and as a last resort three drops of croton oil forced the issue and postponed only temporarily. the surgical measures which had been suggested. Patient regained strength rapidly and sat up. After eating a few ripe strawberries the obstruction returned with fecal vomiting and severe pain. The strength rapidly declined and pulse reached 115, when surgical measures were consented to and the patient removed to the hospital.

Operation, median section, general tubercular peritonitis in advanced stages was found, with effusion and universal adhesions, with great distension of intestine which required tapping in several places. It was also necessary

to open the intestine to drain off the fluid. Each opening was carefully closed with silk suture. With the utmost difficulty the intestine was examined as the agglutination was almost continuous. Four strictures of the jejunum were found, one involving two inches requiring resection of three inches of bowel with the insertion of a button, and three smaller constrictions which when freed gave a sufficient lumen. The appendix, gall bladder and pelvic organs were normal. The abdomen was closed without drainage.

During the operation the patient ceased to breathe and was with difficulty resuscitated. As with case No. 1 we put her to bed expecting but a few hours of life but within eight hours the pulse fell to 100, the bowels acted and flatus passed freely, and nourishment was retained.

The patient progressed favorably for one week with the exception of suppuration in the abdominal wound, and was removed from the hospital on the eleventh day. After the first week she gradually became weaker, digestion became impaired with diarrhoea and dysphagia, dying on the twentieth day after operation.

Post mortem examination showed adhesion of all abdominal layers but the skin. Agglutination of intestines. The bowel had united with slight adhesions which unfortunately gave way in the removal of the intestine. The button was found in the sigmoid flexure.

REMARKS.—In constipation gradually increasing in spite of careful regulation of diet and medication, in patients who have previously had inflammatory diseases within the abdomen or who have repeatedly suffered localized intra-abdominal pain, we should not postpone exploration of the abdomen until our patient is *in extremis*. The presence of an area of dulness is additional reason for action. In the female a vaginal examination should be made and in both sexes the rectum should be explored digitally and by speculum, the possibility of malignant disease being kept in mind. Under proper precautions the opening of the abdomen is not a serious matter, not so serious by any means to the patient as the attendant remaining in ignorance of the condition while the strength hour by hour slips away. It is indeed rare that the experienced operator will open an abdomen of one who has a history of severe pain and constipation without gaining sufficient information to warrant the trouble or without being able to give to the patient sufficient relief or satisfaction to warrant the slight risk.

TO RECAPITULATE.—The history of intra-abdominal inflammatory disease with localized pain with increasing constipation with or without any abdominal dulness or enlargement, and with or without fecal vomiting, demand intra abdominal exploration.

THE PATHOLOGY OF CRIME AND ITS THERAPEUTICS.

By LOUIS J. ROSENBERG, L.L.B. and N. E. ARONSTAM, M.D. Ph. G.,
DETROIT.

Crime is "an act committed or omitted in violation of a *public law* forbidding or commanding it." This is the definition given by law-writers and judges. Crime, then, is a violation of the wish of the public and must be punished. Such is the *dictum legis*.

But by analyzing more minutely the etiology of crime, we shall find that the above conception is considerably erroneous, that in all cases we have to battle with nothing else but a disease, the result of either a fixed physical malady or a social evil or a combination of both.

"Human actions, whether honest or dishonest, social or anti-social are always the outcome of a man's physio-psychical organism, and of the physical and social atmosphere which surrounds him."

"The anthropological factors inherent in the individual criminal, are the first conditions of crime; and they may be divided into three sub-classes, according as we regard a criminal organically, physically or socially.

First, *the organic constitution of the criminal* comprises all anomalies of the skull, the brain, the vital organs, the sensibility, the reflex activity, and all the bodily characteristics taken together, such as the physiognomy, tattooing and so on.

Second, *the mental constitution of the criminal* comprises anomalies of intelligence and feeling, especially of the moral sense and the specialties of criminal writings and slang.

Third, *the personal characteristics of the criminal* comprise his purely biological conditions, such as race, age, sex; bio-social conditions, such as civil status, profession, domicile, social rank, instruction, education."

Fourth, *the physical factors of crime* are climate, the nature of the soil, relative length of day and night, the seasons, the average temperature, meteoric conditions, agricultural pursuits.

Fifth, *the social factors* comprise the density of population, public opinion, manners and religion, family circumstances, the system of education, industrial pursuits, alcoholism, economic and politic conditions, public administration, justice and police, and in general, legislative, civil and penal institutions." (See Ferrian Cr. Sociol.)

Sixth, *inherited criminal tendencies*. By tendencies, we understand "a soil favorable"; and if the above outlined conditions are such as to permit the thriving of the germ, so to speak, undoubtedly it may develop or transform itself into criminal permanency.

In reflecting upon the foregoing remarks, the question naturally suggests itself, should the criminal be punished, or should he not rather be treated? Since we have considered crime as a disease, treatment is the means by which to combat it. The criminal must be subjected to measures which would rid him of his criminality. This, however, is

evidently not the opinion of the majority in the present exigencies of our civilization; hence our law (which always reflects the opinion of the majority) does not provide for such a theory. But law, as all other branches of art and science, must be subservient—as the latter do—to certain modifications and alterations of advanced scientific theories and truths; for law is but an auxiliary to the great progressive and sublime science—sociology. To convince our readers of the feasibility of our contention, we shall resort to a preliminary but brief description of certain phases of the great nervous system—the brain.

The cerebrum, this great ocean of human intellect, sentimentality and volition, is a complexity consisting of various parts, every one of which plays an important and independent role. All of these parts aggregatively constitute the human brain with its attending functions and manifestations. Each individual part of this great microcosm is termed a “centre,” or a system *per se*. This is not only a unity of brain substance, a mere collectivity of cells, but also a unit of its accompanying uniform and permanent force. Each “centre” is endowed with a definite and characteristic physical and mental function. In other words, it governs certain physical phenomenon and normal psychic features of the body-entirety. By suggesting “normal mental features,” we exclude any criminal tendencies which are but abnormal psychic manifestations in the same relation as disease to health.

The possibility of the existence of abnormal centres in a healthy human brain is questionable, and must therefore be discarded. Undoubtedly, we not unfrequently meet abnormal “centres” in members of the inferior races, but such divergencies we are inclined to place within an animal scope; *i. e.* having the aspect and range of the animal. In such a case we believe that there exists a mal development of the encephalon; a stoppage-short, in the march of evolution.

Between these morbid “centres” and instincts *per se*, a line can seldom be drawn. Indeed, “centres” are at times apt to act in proxy of natural and appropriate instincts; at least so during the period of mental and physical growth.

As soon as evolution has transformed the infant into child and man respectively, suiting the ethical demands of time and society, those instincts cease to demand a place within the man. Should instinct, however, persist, then its conversion into an abnormal “centre” is most likely to take place.

Evolution also tends towards a high standard in the physical organism; therefore, should physical progress be curtailed at some epoch of primordial life, a reduction of mentality would be the consequence. Congenital dwarfs and so-called “giants” furnish a good illustration. These individuals are more or less mentally perverted, and therefore the psychic features may be either beneficial or detrimental. On *post mortem* examination no gross abnormalities, perhaps, can be detected in the various organs, save a micro-pathologic process in the encephalic structures. These micro-pathologic processes, faint as they may be, suffice to bring forth phenomena that are strange and unnatural in the healthy human organism. To summarize, then, an abnormal perverted or mor-

bid development of the body in general, and of the central nervous system in particular may lead to a mental deficiency susceptible of criminality.

Recapitulating, we state, that crime depends upon one or more of the following factors, as viewed pathologically.

First, morbid conditions of the brain due to vascular disturbances.

a. Conditions due to lack of proper blood supply.

b. Conditions due to increased vascular activity.

Second, morbid conditions due to a conversion of highly specialized *cellular* elements, into cells of low-grade structure and vitality. It is in this last case that criminal inclinations are likely to arise. To illustrate: In the centre of intellectualization, situated in the frontal lobes of the brain, there are centres governing virtue. Should pathologic processes arise in them from any cause, the opposite of virtue will be the subsequent outcome. The characteristic activity of these centres is abolished, and new ones have sprung up, which though abnormal and morbid, will nevertheless, be accompanied by their respective inferior manifestations.

Viewing psychologically, we may say in the words of Prof. Ferri, that "the psychology of the criminal is summed up in a defective resistance to criminal tendencies and temptations, due to that ill balanced impulsiveness which characterizes children and savages."

We thus see that according to all scientific investigations, *crime is a disease*; hence, the criminal as previously suggested, needs treatment, not punishment. The march of progress, however, is slow. Civilization only advances by curves. Pope Clements XI as early as 1704, founded a hospital at Rome, where the following inscription appears on one of the walls: "Parum est coercere improbos poena, nisi probos efficias disciplina."

Montesquieu, Beccaria and others, also pointed out some helpful suggestions towards the reformation of our present criminal and penal system. Public conscience, however, did not respond to their sentiments, and our penal system remained as bad in the last century as in the centuries preceding it. A criminal was a creature that every one despised. He had no claim to the sympathy of man. He was cut off from the rest of the world, kept in a dismal den, and treated like a wild beast. In the midst of this state of affairs, a great man arose and changed the entire face of our penal and criminal system. This great man was the immortal sheriff and philanthropist, John Howard. Through his unwearied efforts, he induced the English Parliament to pass an act for the preservation of the health of the prisoners. Through his influence, also, labor was introduced into prisons. Since then, reforms in criminology as well as in penology were, and are, continually inaugurated. In many countries, penitentiaries are no longer conducted with a view to make money. In many countries, politics is not permitted to affect prison administration. In truth, the principle of reformation pervades considerably.

Notwithstanding all this improvement, however, matters are far from being satisfactory. Our criminal law is, in many respects, still miserably deficient, and our penitentiaries, utterly inadequate. In fact, if we are to treat crime as a disease, our entire system needs to undergo many radical changes. At the present, there is a fixed quantity of punishment for every crime. As a result of this method, many criminals, after having served

their fixed period of imprisonment, resort to fresh crimes immediately after their liberation.

Crime *cannot* and *should not* be weighed. Just as no one can determine how long it will take to cure any disease, so no one can ascertain the fixed period necessary for the reformation of a criminal. It is evident that our present system is very irrational.

We would suggest that in the first place, before sentences are pronounced at all, an inquiry should be made into the causes that have led the individual to perpetrate the particular crime. We should next consider the circumstances which coincided with the act. From these we would infer what kind of treatment would most likely benefit the individual in a given case.

In doing this, we must not only do away with definite sentences, but the very institutions where offenders are sentenced must necessarily undergo rigid alterations. They must practically be changed from houses of punishment into *ethical dispensaries*, and *medical institutions*. In cases where the individual is incorrigible and hence, irredeemable to society, special asylums should be erected for keeping them under hygienic and sanitary surroundings, physical and moral culture—in perpetual restraint. This method would substantially correspond to an asylum for the incurable insane. Such a system is not based upon the theory of "getting even." Every notion of retribution is entirely discarded. The alleviation of the diseased condition is the only aim in view.

Thus far, we have discussed crime and its treatment. We shall now attempt to offer a few suggestions as regards its prophylaxis.

First, Control of affairs matrimonial.

a. Prevention of marriage in the insane, and those suffering from pronounced nervous affections; and preventions of marriage in criminals.

b. Restriction of marriage in syphilitics, consumptives, and those suffering from marked constitutional cachexiæ.

c. Restriction of marriage in those with criminal tendencies, and offsprings of criminals.

Second, district institutions for social, ethical and physical culture.

a. Neighborhood guilds on social settlement principles.

b. Play-ground for the children of the densely populated neighborhoods, superintended by competent directors.

If these preventative measures were exercised, we feel certain that the ranks of criminals would soon become greatly decimated. Righteous men, like talented men, are frequently lost to society on account of lack of preliminary aid. Sir Humphrey Davy was certainly right when he said that his greatest discovery was Michael Faraday. Indeed, who knows, perhaps many who are now inveterate criminals, might have been honest, upright and perhaps also, men of great achievements, if assistance were theirs, in time of need.

To act upon the suggestions outlined in this article, might be regarded inexpedient, but it would questionless be humane. To treat our criminals as we pointed out, would be to act upon the highest principles of love and justice. May God speed the day!

SELECTED ARTICLES.

CHRONIC CYSTITIS.*

By J. H. MARSH, M.D., Fayetteville, N.C.

Complete and exhaustive discourses on the cause, symptoms, pathology and treatment of chronic inflammation of the urinary bladder are found in the standard works of surgery, and it is not the object of this writer to go into a lengthy discussion of established scientific facts; but if by refreshing the minds of the profession with some of the more important causes and pathological conditions met with in this disease and the practical use of the therapeutic agents at our command for curing or alleviating this class of suffering humanity, a free and full discussion of this important subject is elicited from this society, the object of this paper will have been accomplished.

Chronic cystitis or crystorrhœa in an inordinate secretion of white, glairy mucus, essentially dependent upon chronic inflammation of the lining membrane of the organ. It is analagous in its character to gleet, leucorrhœa and kindred affections, and is merely a symptom of a more serious disease. It is most common in elderly subjects and is nearly always due to some obstacle to the evacuation of the urine, as stricture of the urethra, vesical calculus, enlarged prostate glands, paralysis of the bladder, sepsis, etc. It is a constant attendant upon sacculation, ulceration, hypertrophy and morbid growths of the organ. Once established it is easily aggravated, or reinduced by exposure to cold, excesses in diet, irritating injections, diuretics, over distention of the bladder, neuralgia, retrocession of gout, repulsion of cutaneous eruptions, local injury, and disease of the adjoining parts; as the anus, rectum, vagina and uterus.

The disease generally comes on in a slow, gradual and insidious manner, the inflammation which accompanies it, and which is always the immediate cause of the peculiar discharge, is always of a chronic character. The characteristic symptoms are an inordinate secretion of mucus, and altered condition of urine, frequent and difficult micturition, pain in the region of the affected organ as well as in the adjoining parts, and more or less constitutional derangement. The quantity of mucus mixed with the urine varies considerably in different cases and in different conditions. In mild cases and in the incipiency it is usually very small. At a more advanced period it is sometimes enormous, constituting as much as four-fifths of the entire volume. The secretion is usually very thick,ropy and viscid, and after standing sometime it adheres to the bottom of the receiver. During the progress of the disease the urine becomes highly acid, so that the bladder can hardly tolerate its presence, even for a few minutes. It generally emits an ammoniacal odor; is of a dirty, turbid or blackish color; is rapidly decomposed, and is nearly always

*Read before the North Carolina Medical Society at Tarboro, N.C., May, 1900.

mixed with epithelial, fibrinous, purulent and phosphatic matter. Renal casts are nearly always present, when it is accompanied with serious involvement of the kidneys. Pus may proceed from various sources as the bladder, ureters, prostate gland, or even the kidneys, which are often sadly involved in the mischief. Its presence is always regarded with great attention, as it indicates serious disease of the organs from which it proceeds. The discharge which accompanies this disorder may be mistaken for semen, or mixed with semen, when this flows back in the bladder and mixes with the urine, as in stricture or enlargement of the prostate gland. If any doubt exists this can readily be solved by the microscope.

The prognosis varies with many circumstances as the cause, duration of the disease, the age and constitution of the patient, etc. In its incipient state it is sometimes not difficult to cure; but when it has come to disorder the whole system, the prognosis is more unfavorable. Sometimes the walls of the bladder are ulcerated and thickened to five or ten times their natural thickness, and the kidneys, ureters, and prostate gland are implicated to a fatal extent.

In the treatment of this affection it is of the greatest importance to ascertain the nature of the exciting cause. Stricture of the urethra must be removed, stone in the bladder extracted, hypertrophy of the prostate gland, and diseases of the neighboring or associated organs mitigated, before any reasonable hope can be indulged of a permanent cure. The patient should be put to bed and kept perfectly quiet and a general antiphlogistic course of treatment instituted, even if there be no marked constitutional disturbance. The bowels should be opened with saline cathartic, enemata, and if the secretions are disordered, with calomel, and jalap. All medicines tending to irritate the rectum, such as aloes, etc., should be avoided. The most perfect quietude, both of body and mind, should be enjoined. The diet should be light and bland, consisting largely of milk. The demulcent drinks should be freely given. General or local bleeding is highly recommended in plethoric subjects. Warm baths and hot fomentions are very useful. When by these means the violence of the disease has been subdued then comes the long list of internal remedies, such as balsam copaiba, buchu, uva-ursi and the terebinthinate preparations. In acid conditions of the urine an alkaline treatment is always indicated; while in alkaline states of the urine, acids are to be given. Opiates, hyosciamus, etc., are indicated for the relief of pain. In gouty and rheumatic subjects, colchicum and the iodides are extolled, and iron for anemia. Benzoic acid has been recommended as sometimes affording relief when everything else fails. Salol has been used a great deal within the last ten years as an antiseptic and with good results in many cases. These agents with many others have been used by the profession with more or less success and all have their advantages in certain cases. I do not wish to detract from the virtues of any of the time-honored remedies which have held their place for so long a time as standard therapeutic agencies for this dread disease; but I ask a discriminate use of them when only they relieve, and not the blind and mechanical use of any class of remedies in all cases of this disease as is the custom at present with so many members of the profession.

I wish further to call your attention to the local treatment of this affliction and to emphasize its importance, and to insist on its more general use by the profession at large as the most rational, and I believe, scientific treatment for chronic cystitis, and the only treatment that will give satisfactory results in the great majority of cases. Irrigation of the bladder should always be done under the most absolute antiseptic precaution, and no air allowed to enter the organ. At the same time attention should be paid to the general health as above indicated. The frequent irrigation of the bladder, which can always be accomplished, if carefully used, with a soft rubber catheter and an ordinary syringe with boiled water or antiseptic solution composed of nitrate of silver $\frac{1}{2}$ to 2 per cent. or stronger; permanganate of potassium $\frac{1}{2}$ to 4 per cent.; boric acid 2 to 10 per cent.; creolin from 1 to 5 per cent.; corrosive sublimate 1 to 20,000 to 1 to 5,000; carbolic acid 1 to 500 to 1 to 250, and many others belonging to the same class of antiseptics. The effects of silver injections are sometimes marvelous, though somewhat painful if used in strong solution. While carbolic acid makes a very soothing and pleasant wash in a number of cases where other remedies produce irritation. In cases which fail to yield to these methods of treatment and in which urination and painful tenesmus are prominent symptoms and are accompanied by a gradual failure of the general health, a perineal cystotomy followed by permanent drainage, will often be required and give marked relief and occasionally result in an entire cure. The importance of a systematic course of treatment in every case should be carefully observed; and if given a thorough trial, it will take its place as the first and most important means of relieving this class of suffering humanity. To illustrate. I will report one of the worst of a number of cases that have come under my care within the last few years. Mr. F., age 59, when a boy received a traumatic stricture from a fall a straddle the sleeper of a house, from the effects of which he suffered several years. After this time he got along very well until fourteen years ago, when the cystitis set up again and with the best of medical treatment he grew worse until the fall of 1887, when an external urethrotomy was performed by Prof. S. W. Gross, he being unable to pass a filiform bougie at the time he operated. Patient got along nicely for several years by passing a No. 16 or 17 bougie once a week, but suffered more or less from spasm in urinating, most of the time. He began at this time to suffer again with the inflammation for which a thorough course of internal treatment was given, consisting of balsam copaiba, buchu, etc., which was kept up until two years ago, when he came under my care. At this time the discharge was almost entirely composed of mucus, etc., and he could not retain his urine more than five to ten minutes at a time, and had no control of his bowels at all, unless under the influence of an opiate. At this time he presented all the local symptoms of a very bad, chronic cystitis, without fever or other marked constitutional symptoms.

Additional to constitutional treatment I began to irrigate the bladder with silver solution, grains 1 to 2 to the ounce twice a week, and in the meantime used warmed boric acid irrigations night and morning regular. Under this treatment he began steadily to improve, and within

several weeks was able to attend to his business. With an occasional irrigation, he kept up very well until last fall. At this time he had a return of all his local symptoms with marked constitutional disturbances in addition. He presented every appearance of suffering from septic poison. His condition in every respect was much more serious than it had ever been before, and he had given up all hopes of getting up again. At this time I brought him to the hospital and began a systematic course of local treatment in addition to his constitutional treatment. His bladder was so irritated that the silver solution could not be tolerated in any strength, and the carbolic acid solution 1 to 500 was used night and morning. His urine was drawn every three or four hours. At the end of two weeks under this treatment his fever, which had ranged from 103 to 104 prior to this time, was reduced to normal and remained so throughout his illness, with one or two exceptions, when he had only a slight return for a day or two. At this time the capacity of his bladder had increased from one ounce to several and his urine had to be drawn only two or three times in twenty-four hours, and his general health was improving satisfactorily. He remained with us several weeks during which time local irrigation of the bladder was regularly kept up night and morning with carbolic solution from 1 to 500 to 1 to 250. His general health improved very rapidly and he returned home about first of last December; since that time with an occasional irrigation kept up by himself he has been attending to his business and writes me while not well, his general condition is better than it has been for several years. While this man is not well, and never will be, I venture the assertion that he would not be alive to-day but for the local irrigation in the treatment of his chronic cystitis.—*The Charlotte Medical Journal.*

ON THE TREATMENT OF ABORTIONS.

BY J. S. BAER, M.D., CAMDEN, N.J.

When it is considered that a large percentage of the cases of chronic pelvic inflammation can be traced to a neglected or improperly treated abortion, the importance of a discussion of the subject of this paper will be conceded.

In the treatment of these cases the same surgical principle is involved that obtains in the treatment of lacerated wounds in any part of the body. No surgeon would for a moment think of leaving a mass of devitalized tissue in a wound to decompose and interfere with rapid healing, and to endanger the patient's life by possible septic infection.

We will assume, then, that in abortions prior to the fourth month we have the same conditions to deal with as in a lacerated wound. Ever since beginning the practice of medicine, I have adopted as a cardinal principle of action the axiom, that an empty uterus is a safe uterus, and only safe when it is empty. The treatment may be considered under three heads: That of threatened abortion; inevitable abortion; incomplete abortion.

By far the larger number of abortions are induced, and we are not called upon to treat them until the inevitable or incomplete stage has been reached. But there are cases where the patients desire offspring, and it is these we are called to see in the first stage. If a case is seen before too great a detachment of the placenta has taken place, as indicated by the amount of blood lost, the patient should immediately be placed in the recumbent posture, if necessary elevating the hips. Perfect quiet and rest, both mental and physical, must be insured.

The patient should not be permitted to rise for any purpose, the use of the bed-pan being insisted upon. She should remain in bed until all immediate danger is past, and excitement and excessive physical effort must be avoided throughout the period of gestation. Opium in some form, preferably morphine hypodermically, should be used at once to insure quiet and control muscular contraction, and should be repeated as may be necessary. The fluid extract of *viburnum prunifolium* has been of decided benefit, especially in cases where an atonic condition of the uterus exists. The vaginal tampon should not be used in threatened abortion.

In inevitable abortion hemorrhage will be profuse, the os dilated, and the membranes or fetus presenting; the patient will be having, or will have had chills, more or less severe, and fever rising perhaps as high as 105° F., dropping to normal as soon as the uterus is emptied. This fever is largely nervous in origin. I have seen it drop to normal after a dose of valerian.

At this stage I would urge the use of the vaginal tampon, properly applied, as it places the patient beyond any danger from hemorrhage.

There is also less danger of septic infection if the vagina is filled with antiseptic material. Again, it stimulates uterine contraction, and by retaining the blood within the uterus, favors a more perfect separation of the placenta and membranes, and assists the expulsion of the fetal sac, often with the membrane unruptured.

Frequently, upon removing the tampon, the uterine contents will be found lying loose in the vagina or cervical canal, when they can be removed without difficulty. By the use of the tampon, too, more blood will be retained within the vessels. The tampon is left in place for twenty-four hours, with a feeling of perfect security as to danger from hemorrhage but the patient should be informed that her pain will be greater for a while. If this does not bring about the desired result when the tampon is removed, it may be reapplied and another twenty-four hours supervene, when, if the uterus is not emptied, it should be done at once by operative measures. It has been said that the tampon should be removed in from six to twelve hours, and allowing it to remain twenty-four hours may be open to criticism; but I have never seen any harm result, although it has been in place as long as thirty-six hours.

By incomplete abortion is meant the expulsion of the fetus and retention of the whole or part of the placenta or membranes. And by far the larger number of cases that we are called upon to treat belong to this class. The treatment of these cases depends upon the condition they are in when first seen. If at about the fourth month, after the placenta is fully formed, and if there is no fever or odor to the discharges, the tampon may be tried and sometimes the uterine contents will be found loose in the vagina upon its removal.

Whenever there is any fever or fetor, no time should be lost, but the uterine cavity should be cleansed under full antiseptic precautions, followed by gauze packing. The method by which this is accomplished has a great deal to do with the good results that should follow this procedure.

It has been said that the finger is the best curette. In my opinion this is very far from a true statement, for the following reasons: The finger cannot be made as clean as an instrument. The educated hand at the end of a proper instrument can convey to the mind as clear an idea of the condition of the uterine cavity as can the finger. In the large majority of cases the finger cannot be made to enter the uterus and reach the fundus without a degree of force that is unjustifiable. The greatest degree of gentleness of manipulation should always obtain in all obstetrical or gynecological treatment.

The man who uses force enough to puncture the uterus is not a proper person to introduce anything within the uterine cavity. Previous to the time when the placenta has reached such a size and degree of firmness that the uterus can take hold of and expel it entire, the cavity should be curetted, because before that time there will be left behind shreds of the secundines, which may be expelled by nature, but their retention leaves the cavity in practically the same condition as a lacerated wound and subjects the woman to the danger of septic infection, a possible death, or to the suffering caused by chronic metritis, salpingitis, ovaritis, or pelvic peritonitis.

Curettage is an operation that should not be undertaken with the idea that it is a simple one. The size and position of the uterus should be ascertained and fixed in the mind. If the walls are thin and relaxed or soft and boggy, it should be remembered, and the degree of force regulated accordingly. The best instrument, in my opinion, for cleansing the uterus is the instrument used for this purpose by Professor B. F. Baer, of Philadelphia.

This work should, in nearly every case, be done under anesthesia, because then you have full control of the patient, and are less liable to cause traumatism. The forceps are introduced guided by the finger, and the blades separated, when any shreds or portions of the placenta present will drop between them and can be withdrawn. The forceps are then separated and one blade used as a curette, when the uterine cavity can be thoroughly cleared of all fragments. This is, of course, done under antiseptic precautions; the uterus is then irrigated and packed lightly with iodoform gauze, as is also the vagina. Ergot should not be used until the uterus is emptied, as it locks up the uterus, places it in a condition of tetanic contraction, and renders the manual efforts much more difficult.

Afterwards ergot should be used because it hastens involution and by its power of contracting the uterus closes the sinuses, and, to a certain extent, the lymphatics, and lessens the danger of septic infection. Rest in bed for a period as long or longer than at full term is absolutely necessary. Antiseptic vaginal douches should also be used.

My experience justifies me in making the statement, that not a single case of abortion should result fatally if seen before infection has taken place, or has proceeded beyond the result of help, and if treated according to the method outlined above.—*Obstetrics*.

MECHANICAL CAUSES OF STERILITY IN WOMEN.*

By R. E. CUTTS, M. D., Minneapolis.

The relative frequency of sterility in male and female is variously estimated, but probably the approximate relationship is one to ten in favor of the male. And while deformities, stenoses and abnormal secretions of the vagina enter into the causes of sterility in the female, yet this percentage is low and usually readily corrected.

It is the pathological conditions existing in and between the cervix and ovary that produce sterility in most cases, and it is to these that I wish to refer in this paper.

While we have the location of the trouble narrowed down to a comparatively short distance, yet it often puzzles the most careful gynæcologist to recognize just what point this tract is at fault.

At the cervix we find conditions obstructing the passage of spermatozoa, such as hypertrophy (either elongation or thickening), eversions and erosions or abnormal conditions of the cervical canal, viz: pin-hole os, a marked angle in the course of the canal or valve-like condition at the internal os. With these conditions we almost always have a catarrhal endocervicitis, which produces a thick secretion which is sufficient with either of the other conditions to occlude the passage except to pressure, and is opened by the menstrual excretion only after more or less pressure has developed. In older women a complete stenosis sometimes occurs. A thin membrane may form to be ruptured by retained mucous or menstrual flow. Occlusion is sometimes produced by injury to the cervix by instruments used in producing abortion, or after vaporization of the uterine cavity when the temperature has been too high or applied too long and over-heating of the cervical tissues has caused destruction of the mucous membrane.

The position of the cervix may interfere with the entrance of the spermatozoa; it may be too near the ostium vaginæ, as in the long slender cervix or in prolapsus of the uterus; or in retro displacements the cervix may point toward the pubes.

In the normal position the direction of the cervix is not parallel with that of the vagina, but at right angles to it. And the cervix lying in the posterior fornix places the os in the most favorable position for the entrance of spermatozoa.

Tumors, malignant and non-malignant, developing either in the cervix or uterus, may interfere with the passage of the spermatozoa.

Of the various forms of carcinoma of the cervix pregnancy is more apt to occur with the epithelioma than with the cylindrical celled or the scirrhous varieties. The epithelioma is often slow of growth and beginning on the posterior lip spreads toward the vagina, while the cylindrical celled variety more rapidly extends up into the uterus, destroying the endometrium. The scirrhous destroys the entire cervix and produces a

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discharge destructive to the spermatozoa. Non-malignant tumors of the uterus often interfere with conception, either mechanically or by setting up abnormal excretions destructive to the spermatozoa or ovum. Enucleation is usually sufficient to effect a cure in these conditions.

Notwithstanding the wonderful make-up of the female generative system it does seem as if nature had complicated conditions unnecessarily in its connecting link between the ovary and uterus. The fallopian tube is, no doubt, the weakest part of the entire system. The smallness, length and tortuosity of its canal all favor its occlusion with the slightest pathological change.

The length of the tube varies from four to seven inches, and the caliber depends on the part of the tube considered, the uterine end having a diameter of about one twenty-fifth of an inch, while the abdominal end is about one-fourth to one-third. Meckel computes the width of the uterine orifice as one-half a line and the abdominal orifice as three to four lines. Some authorities tell us that the uterine orifice is not more than one-third to one-fourth of a line.

When we realize that the generally accepted size of the ovum is one one-hundred and twentieth of an inch, we can see with what difficulty the ovum would be able to pass if the uterine ostium is but slightly constricted.

The tubal canal is smallest at the horn of the uterus and gradually increases in size towards the ovarian end. It is the part having the smallest lumen which has the thickest walls and muscular coat. Hence in distension of the tube either due to pregnancy or hydrosalpinx the tendency would be to empty or rupture away from, rather than toward, the uterus.

With the small size of the canal at the uterine end it would require but a slight catarrh of the endometrium or thickening of the body of the uterus at its horn to completely occlude the duct.

We have been led to believe that the smallness of the cervical canal checked gonorrhœal inflammation at that point. Then why should it not be checked at this much smaller opening? It is claimed by some authorities that only about one-third of the women having gonorrhœa suffer from pus tubes. In other words gonorrhœal inflammation is limited at some point along the course of the mucous membrane, and that, too, in a mucous membrane favorable to the development of gonococci.

In gonorrhœal ophthalmia no attention is given to the tear duct, yet we do not have gonorrhœal rhinitis, and the tear duct is about the same size as the tube at the uterine end. Some contend that the infection is carried from the uterus to the distal end of the tube and ovary by the lymphatics and that this is the reason we so rarely find the proximal end of the tube diseased; that the infection may be carried by the lymphatics from the cervix to the outer end of the tube, skipping the entire uterine mucosa as well as the mucosa of the inner end of the tube. Henroten thinks this the usual route of puerperal infection by latent cervical gonorrhœa.

Whatever the course of infection we know that the abdominal os-

tium soon closes, due to an adhesive inflammation at the junction of the mucous and serous surfaces, often including the ovary and adjacent serous surfaces with it.

The swelling of the mucosa at the inner end of the tube closes it, and as a result the pus and mucus exuding from the lining of the tube are retained. The accumulation takes place at the distal or larger end of the tube, and as the walls are thinnest at this part distention increases and the thinning of the wall continues until rupture takes place, but more frequently transudation occurs through the wall, producing an adhesive inflammation of the serous covering, and thus the adjacent peritoneal coverings are brought in to strengthen the weaker parts of the wall. The inflammation runs its course, the contents of the tube are gradually absorbed and the mucous membrane may approximate its normal condition. The uterine end of the tube not participating in the inflammatory action to any considerable extent, soon becomes patulous and acts as a drain for the excretion of the remainder of the tube, preventing further distention. The adhesions at the peritoneal end of the tube remain, and therefore sterility must result.

Bettman, of Cincinnati, examining such tubes soon after removal, finds the cilia still active even though the tube is distended by pus, showing their marked resistance to inflammatory action.

With every congestion of the pelvic organs, the so-called colds, the proximal end of this tube is apt to become closed temporarily, and it is probably due to this condition that the "hydrops tubæ profluens" is produced. We all know the great frequency of recurrence of acute dilatation in these cases following the menstrual flow. The flow may be normal without pain or unusual symptoms, but after the flow has stopped the distention of the tube begins to take place and lasts from one to ten days. If the position of the tube is normal the attacks will recur less frequently and severely, and eventually give little or no trouble.

It is these cases that defy recognition after the subsidence of all acute trouble. Where there is a history of pelvic peritonitis the condition of the tubes might readily be assumed, but in a goodly number there is no history of acute trouble, possibly nothing but a dysmenorrhœa from puberty.

As is illustrated in a patient operated upon last October, who gave a history of having gone in swimming during her first menstruation, which resulted in a cessation of the flow at that time and no return for several successive periods, a general dropsical condition followed, lasting nearly a year. Menstruation was always painful, although general health was good. This patient had been married about eight years previous to operation, but had never conceived. Curettement had been performed twice for the purpose of relieving the dysmenorrhœa as well as sterility. Local treatment had been tried by various physicians for its relief, but treatments and curettements had always aggravated rather than relieved the trouble.

Examination previous to operation revealed left ovary and tube adherent in the cul-de-sac with what appeared to be the right ovary freely movable, but patient was too sensitive to permit careful examination.

Abdominal section showed right ovary and tube practically destroyed, and what had appeared to be an ovary by previous examination was a dense thick-walled pedunculated cyst from the end of the right tube. Left tube and ovary firmly adherent in the cul-de-sac, the strong fibrous condition of the adhesions and the tendinous appearance of the bands indicating their early formation.

Another case in point is that of a woman seen in consultation last spring. A stout, robust-looking woman with no history of illness, but some dysmenorrhœa at times and discomfort in back. The abdominal wall was too thick to satisfactorily palpate the ovaries and tubes, but nothing abnormal could be made out except slightly enlarged uterus. The patient was very desirous of having children and it was largely on this account that advice was sought. Divulsion and curettement was advised and performed, with quick and complete convalescence from the operation, but conception did not occur and symptoms were not entirely relieved. At her request exploratory abdominal section was performed by one of our gynecologists. The tubes were found closed at the fimbriated end and strong bands of adhesions united ovary and tube, showing a process of long standing.

Many other cases might be enumerated, but these are sufficient to show how indefinite and unreliable may be the symptoms produced by tubal occlusion at the peritoneal end, producing absolute sterility.

Accurate palpation of the adnexæ in fleshy women is impossible, and even in spare women tubes sealed at the fimbriated extremity cannot be recognized unless there are more extensive pathological changes.

In cases of sterility with long standing menstrual disturbances, the writer believes exploratory section justifiable, even though palpation is negative.

It is in this class of cases that conservative surgery of the ovaries and tubes may well be made use of, but it requires much more skill to decide which ovary or which tube to do conservative work on than it does to take all out. Convalescence is more frequently interfered with when a part of a tube or ovary is left than when both are wholly removed.

Under mechanical causes of sterility may be included thickening of the albuginea, preventing the rupture of the graafian follicle.

Chronic ovaritis producing this condition may occur without involvement of other organs, but is usually associated with chronic tubal trouble and in such is probably secondary to this affection.

With the thickening of the albuginea usually occurs a general fibrosis of the ovary, and in this condition not only is the follicle prevented from rupturing, but pressure is made upon the developing follicles, preventing their growth and eventually destroying them.—*Northwestern Lancet.*

THE TREATMENT OF RHEUMATISM.

At a recent meeting of the Society of the Alumni of Bellevue Hospital, reported in the *New York Medical Journal* of February 10, 1900, Dr. A. A. Smith spoke on this topic. He said that in taking up the subject of the treatment of rheumatism one would naturally think first of the various forms of rheumatism. Speaking of the acute articular rheumatism, he said that the patient should be placed in bed, if not already there. He is a firm believer in the protective benefits of proper clothing; a rheumatic individual should be completely clothed in a woolen garment, and should be placed between two woolen covers to sleep. At first he had looked upon this as a fad, but he has gradually come to believe that it is a very decided protective. As soon as possible the patient should be placed under the influence of some salicyl compound, preferably the salicylate of sodium. He is in the habit of giving fifteen grains every two hours until the patient complains of nausea or the drug has markedly controlled the pain and to some extent the temperature. The average patient would object after having taken a hundred to a hundred and twenty grains, but by using a little care much of the unpleasant ill effect on the gastric mucous membrane can be avoided.

Dr. Smith does not fully sympathize with the opinions which he has often heard expressed regarding the marked depressing effects of the salicyl compounds on the circulation. His own belief is that it requires an enormous amount of such a compound to produce this effect, although it is quite true that if the drug produces vomiting or nausea there will be a circulatory depression. Usually within thirty-six to forty-eight hours the patient will be decidedly relieved, and he then gives ten-grain doses at longer intervals. He is entirely in accord with those who believe the treatment by the salicyl compounds to be more liable to be followed by recurrences than other methods of treatment, though one of the common mistakes is that the remedy is not continued sufficiently long. It is not necessary to continue it in large doses, but it should be kept up in moderate doses for from five to ten days. The recurrences seemed to him often the result of allowing the patient to get up too soon. He invariably gives an alkali, preferring the bicarbonate of sodium. The bicarbonate of potassium, when given in connection with the salicylates, is more likely to be accompanied by gastric irritability. He does not continue the salicylates, however, nearly as long as the alkalies. During the first thirty-six or forty-eight hours the bicarbonate of sodium is given in doses of half a drachm every two hours. The irritability of the stomach can be controlled by using an effervescent draught, made by mixing citric acid with the medicine at the time of taking. This is the old Bellevue Hospital mixture. By adopting the precautions mentioned, fifteen-grain doses of the salicylate of sodium could be continued rather longer if necessary—say fifteen grains for perhaps twelve or fifteen doses. He

also insisted upon using the salicylate of sodium made from the oil of wintergreen instead of that made from the refining of coal tar.

In passing, he would say that the oil of wintergreen itself was useful, given in doses of ten minims every two hours, for the acute manifestations. It is best given in the form of globules found on the market. It has been claimed by some that oil of wintergreen is not so likely to be accompanied by delirium or ringing in the ears, yet perhaps the most active nervous disturbance of this kind that Dr. Smith has seen has been with the oil of wintergreen. However, this occurs very seldom, and is easily controlled by stopping the drug and administering a dose of some alcoholic, such as whiskey. He uses oil of wintergreen on the same plan as the salicylate of sodium, giving it every two hours for thirty-six or forty-eight hours, and then lengthening the interval and often diminishing the dose. If the manifestations of the disease were fairly active he would probably continue the dose of ten minims, only lengthening the interval. This would be kept up for several days after all the pain and elevation of temperature had disappeared. The alkali is given in the same way, but is not continued after the first forty-eight hours at the same rate, being administered after this time in accordance with the reaction of the urine, the effort being to keep it alkaline.

Dr. Smith has also used with satisfactory results salophen in ten-grain doses every two hours for the first twenty-four or thirty-six hours, and then in the same doses at longer intervals. He combines the alkali with this as with other forms of the salicylates, for he thoroughly believes in the beneficial results of alkalies in the treatment of rheumatism. He has not obtained satisfactory results from the use of salol in the treatment of the acute manifestations, but he frequently makes use of it for the subacute condition left after the more acute attack. He is such a firm believer in the connection between the condition of intestinal digestion and the development of rheumatism that he always accompanies the treatment with the giving of cathartics, and he likes particularly for this purpose Rochelle salts. It belongs to the family of alkalis, and acts therefore, not only as an alkali, but as a diuretic and cathartic. At the time that salicin was advocated so vigorously he had great hopes of getting better results. He has given it in doses of a drachm, every two hours, but has never seen any benefit from it in the acute manifestations. It does not produce gastric disturbance; it is a capital tonic, and might be given after the acute manifestations have subsided. It seems to him to have the power of preventing relapses. He ordinarily gives only fifteen or twenty grains every three hours, with the object of preventing recurrences.

Dr. Smith has used lactophenin with a fair degree of satisfaction in a certain class of cases—*i.e.*, those in which the acute manifestations have been controlled. In doses of ten grains every six hours it has seemed to prevent recurrences, but it is not satisfactory in the treatment of the acute manifestations. After all, he has used invariably, at the beginning of an acute attack, the salicylate of sodium, for, so far as he knows, it is the most reliable agent for controlling the elevation of the temperature and the pain in the joints in the early stage of acute articular rheumatism, when given in conjunction with alkalies.

Regarding external applications, Dr. Smith said that he first began their use when a medical student, but soon discarded them, because the practice had been discountenanced by the visiting physicians at the hospital. He has, however, returned to them, and now believes that the old application of cotton-batting with oiled silk, cumbersome as it is, has a good effect simply in relieving pain. He has never found any special benefit from the combination of opium, in the form of the tincture of opium, with any external application, although fully aware that this is a strictly heterodox statement. Fuller's application of an alkali with opium added he does not believe to be any more beneficial than the alkali without the opium. He has found that an application of a saturated solution of bicarbonate of soda to a joint is decidedly advantageous. The combination of oil of wintergreen and sweet oil, as used in the hospital, as an application to painful rheumatic joints has in a certain proportion of cases given relief. He has even applied the oil of wintergreen in its purity to the joint, but it is too expensive for such use. He has certainly known patients to be relieved from an application of the pure oil of wintergreen as well as from the combination with olive oil. Both heat and cold have served him well in relieving the pain accompanying acute rheumatism. He is unable to give the indications for using these two applications; he has alternated them or gone from one to the other. Where the wrist joints are swollen very satisfactory results are secured by the application of a splint. This is sometimes true in rheumatism affecting the joints of the hand and the elbow joints. He sees no advantage, however, from using a water-glass splint for this purpose.

In connection with acute articular rheumatism Dr. Smith wished to mention still another remedy that had proved useful. In cases showing a tendency to slight but persistent recurrence he has observed very decided relief from the continued use of tincture of chloride of iron, not only in relieving the anemia, but in relieving the wandering pains so often noted. It is more particularly useful in subjects under fifteen years of age. In another class of cases showing the tendency to recurrence—persons who were thin and anemic—he has seen good results from the administration of cod-liver oil. It seems to protect such patients very decidedly against the development of more acute attacks. In his opinion the iodides are applicable only to the older subjects, quite likely owing to the tendency to the increase of connective tissue in people of this age. The administration of this remedy often seems to be a protection against recurrences.—*Therapeutic Gazette.*

THE PRESENT STATUS OF THE WIDAL REACTION AS A DIAGNOSTIC TEST IN TYPHOID FEVER.*

By ARTHUR R. GUERRARD, M.D.

No method of diagnosis, perhaps, has excited greater interest among physicians in recent years than the so-called Widal or serum reaction in typhoid fever. This reaction, as is well known, is based upon the fact that living and actively motile typhoid bacilli, if placed in the diluted blood or serum of a patient suffering from typhoid fever, within a very short time lose their motility and become aggregated into clumps. Though this peculiar agglutinating influence was originally observed by Pfeiffer, and independently described by Gruber and his pupils, Widal deserves the credit of having first practically applied the reaction on a more extensive scale as a test for the diagnosis of typhoid fever. Since Widal's announcement, some three years and a half ago, of his method of performing this test, the serum reaction has been confirmed by numerous other observers, and it has now become one of the recognized tests in bacteriological laboratories in all parts of the world, not only for routine diagnosis, but especially for the identification of obscure cases of typhoid infection and for the differentiation of the typhoid bacillus.

It is true that the medical journals have contained not infrequent reports of isolated cases in which the reaction was wanting throughout the disease, but in which the clinical symptoms or even post-mortem findings seemed to point to the diagnosis of typhoid fever. Many cases have also been noted in which the reaction was present, though the evidence apparently favored some disease other than typhoid. It has been repeatedly found, moreover, that the blood or serum of patients who have once had typhoid fever may retain for many months its agglutinative reaction. Again, it has been shown that in a certain proportion of cases in healthy persons and those not affected with typhoid fever there may be a delayed moderate reaction (due to substances different from those in typhoid blood, though having similar effects, as in horse serum, for instance) in a dilution of 1 to 10 of blood or serum, the proportion originally proposed by Widal. These observations have not unnaturally tended to cast considerable doubt in the minds of physicians having but little experience with the reaction upon the practical value of the test for diagnostic purposes.

On the other hand, attention has been drawn to the fact that the majority of supposed non-typhoid affections in which the serum reaction has been observed were diseases in which the differential diagnosis is often extremely difficult and which are not uncommonly mistaken clinically for typhoid—viz., malaria, low continued fevers, pernicious anæmia, acute miliary tuberculosis, etc. It is evident in such cases, when the

* Read before the Society of the Alumni of the City (Charity) Hospital, December 13, 1899.

Widal reaction is present, that, without absolute bacteriological findings or an autopsy, the conclusion that the condition is not one of typhoid infection is not justified; and with regard to malaria, it is well to note that the two affections may occur together. Occasionally also, the Widal reaction is very late in appearance, not occurring before the fourth or fifth week of the attack, and sometimes only during a relapse; so that, unless these cases are closely followed up and repeated examinations of the blood made throughout their entire course, the reaction may be missed. Finally, it has been established that, although a slow moderate reaction in a 1-to-10 dilution of blood or serum may now and then occur in non-typhoid cases, rarely, if ever, excepting in typhoid infection, does a complete reaction take place in this dilution within five minutes, and that in dilutions of 1 to 20 or more a quick reaction is never produced in any febrile disease other than that due to typhoid infection, while in typhoid fever such a distinct reaction often occurs in dilutions of 1 to 50 and over.

Furthermore, although in observations of this kind, which depend not only upon the conditions under which they are made, but also upon the experience of the observer, no great reliance can be placed on statistics; still, the results which have been obtained from the Widal reaction, according to recent statistics gathered from various sources throughout the world, are so remarkably uniform in character that we must admit them to be approximately correct and conclusive. Thus, from collective investigations made by Cabot, Anders and McFarland, Stengel and Kneass, ourselves, and others of large series of cases submitted to this test, it appears that positive reactions have been obtained in over ninety-five per cent. of the typhoid cases in which repeated examinations were made, while in non-typhoid cases similar reactions have been observed in only five per cent., some of which, it may be assumed, had had previous typhoid fever, or at least a mild form of typhoid infection.

The method which is now employed by us for the serum test is as follows: A dilution of blood or serum is first made in the proportion of 1 to 10. In the case of dried blood (a drop or two of which has been collected on a glass slide) it is dissolved in a little water and then mixed with the typhoid culture, the degree of dilution being determined by the color. By previously making test solutions of dried blood in water of known proportions and noting the color, the dilution may be accurately enough gauged for all practical purposes. With serum (as collected from a fly blister, and which is preferable for examination, not only because the dilution can be more exactly made, but on account of its containing less fibrinous deposit), one part of serum is added to nine parts of the broth culture. This latter should contain living and actively motile isolated bacilli, although bacilli which have been killed by such substances as bichloride-of-mercury solution also give a fair reaction. If there is no reaction when the mixture is observed in the hanging drop—that is to say, if within five minutes no marked change is noted in the motility of the bacilli, and no considerable clumping occurs—the result is regarded as negative, and no further test of the specimen is made. If complete clumping and immobilization of the bacilli occur within five minutes,

this is called a marked immediate typhoid reaction, and, though no further test is necessary, the reaction may be confirmed with the higher dilutions up to 1 to 20 or more. If, however, upon examination of the mixture there is no marked reaction, but the bacilli only show in the first few minutes an inhibition in their motility and a tendency to clump, but which is not complete within five minutes, it becomes necessary to test this with dilutions at least up to 1 to 20, in order to measure the strength of the reaction. If in the 1-to-20 dilution a complete distinct reaction takes place within thirty minutes, the result is considered positive—that is, that the blood has come from a case of typhoid infection—while if a less complete reaction occurs it is regarded as only probably typhoid. The time allowed by many observers, especially abroad, for the development of the reaction with the higher dilutions is from one to two hours, but thirty minutes seems to us a sufficient time limit. Positive results obtained in this way may be taken as conclusive evidence of the recent or previous existence of typhoid infection in the patient. A previous attack of typhoid within a period of one or more years, exceptionally, vitiates the value of the reaction. On the other hand, the absence of reaction in any one examination does not exclude typhoid; so that, if the case remains clinically doubtful, repeated examinations should be made every few days.

In conclusion, from a review of the published reports on the subject, and from an experience in the health department laboratories with the practical application of the Widal reaction extending over three years and including the examination of fifty specimens or more a week, it may be said that this test, when performed with due regard to the avoidance of all possible sources of error, is as reliable a method of diagnosis as any other bacteriological test at present in use. It is simple and easy of performance by any one versed in bacteriological technique. The serum reaction is never present in other diseases, if correctly tested and in the proper dilution, as is so often the case with the diazo reaction of Ehrlich. It is better adapted for routine employment than are any of the methods now in use for isolating the bacillus from fæces or urine. It is certainly safer than spleen puncture; and it is not so difficult as, though far more reliable than, the leucocyte count. The reaction does not appear, as a rule, during the first few days of the disease, but it is usually manifest before the rose-colored eruption appears, though occasionally it is very late in appearance, and in rare cases may be entirely absent. A negative result can not be considered as having much significance, but a positive reaction when present—previous typhoid or an earlier reaction excluded—is almost as strong evidence of the existence of the specific infection as the actual demonstration of the typhoid bacilli.

Thus, while the Widal reaction has undoubted limitations, it is, nevertheless, of inestimable value as an aid to the clinical diagnosis of irregular or mild cases of typhoid fever.—*N. Y. Med. Journal.*

THE TREATMENT OF INFECTED WOUNDS.

M. Felix Lejars (Paris) said that in recent years the treatment of infected wounds has formed the subject of numerous experimental and bacteriological researches. They had yielded valuable information but all required to be controlled by observation. For the profitable study of the problem, which is very complex, it must be considered under two heads: (1) Recent infected wounds in which the infection has not yet expressed itself in local or general reactions. These might perhaps be better designated recent wounds assumed to be infected. This assumption, however, should in practice be extended to every accidental wound, and bacteriological examinations show that it is well founded. It is known that even operation wounds are far from being amicrobic. On the other hand, there are no means of recognizing in a recent wound by what microbes it is contaminated, what is their virulence, and what their ultimate effect. It has been proved that neither the look nor the visible course of traumatic foci are in this respect sufficient guides. *Therefore, every accidental wound should be treated as infected.* But how is it to be treated? It is known that the absorption of virus through the injured surface is almost immediate; the rapidity of absorption, however, varies with different microbes; moreover, the dose increases with the duration of impregnation. From this may be drawn the conclusion that the cleansing of the wound, in order to be efficacious, should be as early as possible, but whenever it is done it will be useful. Experience has shown (a) that we are powerless to destroy all the germs in a traumatic focus; (b) that the natural defensive power of living tissues plays a preponderant part in the fight against infection. The very first procedure, therefore, is mechanical cleansing, which should be minute and complete, aided if necessary by enlargement of the wound and removal of dead tissue. Care should, however, be taken to respect the integrity of living cells, which should be helped in their defensive reactions, nothing more. Sterile water, artificial serum, sterilised boiled compresses entirely answer these requirements; it is not the nature of the fluid used but the method of its employment that gives practical results. Hurtful in large doses, antiseptic solutions, when diluted sufficiently not to alter the living cells, have really no other useful effect than mechanical cleansing. Physical conditions of the same order have to be fulfilled by the dressing. It must be aseptic, absorbent, protective and immobilising, in a degree applicable to the different regions and for a variable period. (2) Infected wounds, the infection of which is expressed by more or less pronounced reactions local and general. Here, also, two conditions have to be distinguished: (a) the clinical signs of infection may be of recent date and the wound is not suppurating; (b) the wound is in active suppuration. In either case specific serumtherapy is indicated; this Lejars considers the scientific, natural method, and the method of the future. Unfortun-

ately as yet only antitetanus and antistreptococcus serum are available. The former is only efficacious as a preventive, while the latter has mostly been used in puerperal fever and erysipelas. Against other microbial infections of wounds we have as yet no effective serum, and against associated infections we are powerless. This makes the treatment of the local focus all the more necessary, and, as in dealing with cases belonging to the first category, the surgeon has to set before him a twofold object. The first thing to be done is to cleanse the whole surface of the wound; then it should be dressed so as to favour exosmosis, continuous drainage of the whole surface, and prevent all stagnation and superadded infection. The object of the cleansing is especially mechanical, while that of the dressing is especially physical. If these conditions are thoroughly fulfilled the surgeon will have, as far as is possible, protected the living cells against the attack of septic agents without hindering their defensive reactions. In dealing with a suppurating wound the same principles must be applied—through exposure of the suppurating focus, and complete and continuous drainage. In certain putrid and gangrenous forms, and in burrowing wounds, oxygenated water, which appears to have a powerful effect on anaërobic microbes, is most useful. (3) Infected wounds with grave general infection—traumatic septicæmia. Here also it is to specific serumtherapy that we must look for rational treatment, but its action is much less certain than in the early stages of infection. At present only experiments can be recorded, and even antistreptococcus serum has seldom been used in traumatic septicæmia. Lejars thinks that it deserves to be tried on a more extensive scale in large doses. In the meantime we must use local treatment preceded by thorough cleansing of the focus. On the other hand, artificial serumtherapy, by restoring the blood pressure and stimulating diuresis, increases the natural defence and vital resistance of the organism.—*Brit. Med. Jour.*

SALOL AND PETROLEUM IN THE TREATMENT OF INFANTILE DIARRHOEA.

W. E. Fothergill and John Penny (*Med. Chronicle*, April, 1900), endeavored, during the summer of 1899, in their work at the dispensary, to ascertain if the statistics as to infantile diarrhoea could be improved by the use of salol or pretroleum or both. For this purpose slips were provided to be filled out and filed with the history of each case. Where the food was suitable, as breast milk or milk and barley-water, no change was made in order to give the drugs a fair trial. More than half of the slips were not completed, as the patients failed to return. The writers had been at work in this district for several years, one at the dispensary, the other as house-to-house visitor, so that the children treated were personally known in many cases. In the cases that did not return, probably the majority were cured. Seventy-one cases had completed slips. All of the children were under two years of age. Eight were entirely breast-fed, all of whom recovered. Of the remainder, only three died. In eight cases there was no good result from these drugs, so that others were substituted. Sixty cases, therefore, recovered on this treatment. Salol alone was used in thirty-six cases. The drug was used in powder form, half a grain every three hours being the minimum dose, three grains every four hours the maximum; the usual dose for a child a year old was two grains every six hours. Improvement was generally rapid, and the stools became normal in from two to seven days, although some of the children had been ill for two weeks. The cough so often coincident with summer diarrhoea was not relieved by the salol. In several cases the vomiting was rather aggravated than relieved, the powder seeming to act as a mechanical irritant. The conclusion in regard to salol was that although a valuable antiseptic, it is better given in some demulcent and not more than twice daily.

Petroleum was used in thirty-four cases. The preparation was an emulsion containing 33 per cent. of pretroleum and the doses varied from $\bar{3}ss$ thrice daily to $\bar{5}i$ every four hours; the usual dose for a child a year old was $\bar{5}i$ of the emulsion (\mathbb{M} 20 of petroleum) thrice daily. In two cases salol was substituted at the end of a week. One child died. In the remaining cases recovery was rapid and complete. There was no derangement of the stomach, vomiting ceased almost before the diarrhoea was checked, and the stools soon recovered their normal color and consistency. The emulsion seemed also to favor recovery from the accompanying bronchial catarrh. It is said that the whole quantity of petroleum ingested may be recovered from the faeces. Clinical observation shows, however that petroleum has an influence on mucous membranes other than those of the alimentary canal. Its action in cases of bronchial and vesical catarrh can be explained only by supposing that after absorption from the intestines petroleum is excreted by various organs. These experiments seem to prove that infantile diarrhoea can be treated successfully without the use of opium or astringents.—*Amer. Gyn. and Obstet. Jour.*

THE USE OF ICHTHYOL IN SCARLET FEVER.

BY A. SEIBERT, NEW YORK.

Professor Seibert describes the therapeutic application of ichthyol in scarlatina in the form of inunctions over the entire surface of the body and of irrigations of the pharynx. He has used a 5 per cent. to 10 per cent. ointment of ichthyol in lanolin in scarlatina since 1884. The ointment is applied once or twice daily, in such a manner that the whole body is covered and the ichthyol is rubbed into the skin until hardly any ointment remains on the surface. The skin of the patient assumes a brownish hue after the inunction, which is made with the tips of the fingers. The object of the inunctions is to rub the ointment into the skin in such a manner as to bring the ichthyol into direct contact with the capillaries and lymph vessels in which the bacteria are lodged. The effect of these inunctions are as follows:

The swelling of the skin is reduced after the first inunction. The pruritus, which is excited by the ichthyol, disappears quickly. The occurrence of ulcerations and phlegmonous and erysipelalous infiltrations in the skin is prevented. The temperature is lowered in all uncomplicated cases after a few hours to the extent of from 1° to 3° F. The sleeplessness and restlessness improve.

He has treated fifty-six children in this manner, and this group did not include very malignant nor very mild cases. The inunctions also serve to lessen the liability of the other children in the family to contagion, and the disease was limited to one child in each family where the inunctions were employed.

The intensity and duration of the desquamation were considerably lessened by the inunctions, which were continued throughout this stage. There were never any toxic symptoms from the use of the ointment.

In the streptococcus infection of the pharynx and tonsils which accompanies scarlatina the writer has also used ichthyol in the form of irrigations. The advantages of this drug over bichlorid of mercury and other antiseptics used in the throat are its non-toxic character (even in large doses in young children) and its bacterial value, which is shown by the action of dilute solutions on pyogenous and erysipelalous streptococci. The method of employing these irrigations was as follows: In order to secure a thorough mechanical cleansing, as well as a chemical disinfection, $\frac{1}{4}$ liter of a 5 per cent. solution of ichthyol was used in an irrigator that was suspended about three feet above the patient. The 5 per cent. solution was found to be sufficiently strong, and yet could be swallowed in considerable quantity by infants with impunity. The warm liquid was injected into one nostril and then into the other, and allowed to escape through the mouth. All the patients received in addition the following mixture by mouth and inunctions of 5 per cent. ichthyol ointment all over the body every six hours:

R

Acidi carbolici	gtt. 10.0
Potassii iodidi	1,0
Tincturæ iodii.....	2,0
Aquæ distillatæ ad	120,0

M.S., a teaspoonful every hour.

The irrigations of the nose and throat were repeated every six hours. The writer has used these irrigations for the past 4½ years with good results. In all cases the children, and often the parents, objected to this method of treatment, but the marked improvement that followed the first few irrigations usually satisfied the parents. It is always advisable to demonstrate the method of irrigation once even if there is a trained nurse in attendance.—*Pediatrics*.

LUMBAR PUNCTURE. THE TECHNIQUE OF.

In discussing the choice of location at which the puncture shall be made there are three chief requirements to be considered:—

1. That the needle shall find ready entrance to the subarachnoid space.
2. That the tapping be made at the point least likely to admit of damage to the nervous structures of the canal.
3. That the fluid obtained shall be as rich as possible in sediment.

The first requirement is sufficiently well met by entrance through any of the lumbar spaces or through the lumbo-sacral space.

Possible injury to the chord can be excluded by entering at some point below the third lumbar vertebra. In adults it is perfectly safe to puncture between the second and third vertebrae.

The last requirement is best fulfilled by tapping in the lumbo-sacral space.

If the puncture is made for purposes of diagnosis, then it seems best to enter the lumbo-sacral space and to have the patient, if a child, in the sitting position. With adults, and especially with those who are delirious or comatose, or who are greatly prostrated, it is often impracticable.

Whatever the position decided upon, the essential point is to secure the greatest possible degree of ventral flexion of the spine. If the child is in the sitting position, it must be bent well forward and firmly held. If the horizontal position is selected, the patient should be made to curl up, with the knees and chin as near together as possible.

General anæsthesia is, in most cases, entirely unnecessary. By anæsthetizing the skin with cocaine or a freezing spray the needle can usually be introduced with very little discomfort. Where the patient is delirious or very restless, it is well to have at least two assistants who can hold him firmly in the proper position and can prevent any sudden movement.

Just such perfect asepsis, as to field of operation, instruments, and hands, is demanded in this small procedure as would be exercised by the surgeon in opening any serous cavity.

An antitoxin needle 4 or 5 centimetres ($1\frac{1}{2}$ or 2 inches) long and 1 millimetre in diameter serves admirably in children. For adults the needle should be 7 or 8 centimetres long and of a diameter sufficient to give the rigidity needed to penetrate readily the tough ligament.

While the needle can be introduced without being attached to the syringe, the latter is a distinct aid to one in directing the needle accurately. If the syringe is sterilized by soaking in carbolic solution, it must be thoroughly washed out with sterile water before being used.

A sterile test-tube stoppered with cotton should be at hand to receive the fluid.

A mercury manometer for estimating the cerebro-spinal pressure is

very convenient, but, as Stadelmann says, an approximately accurate idea of the pressure can be obtained by using a bent glass tube of small calibre. The short horizontal limb is attached by a bit of rubber tube to the needle, while the long perpendicular limb will record the height of the column of fluid.

After the desired space is located, the interval between the spines is marked with the finger of the left hand, and the needle is introduced at a point opposite the upper edge of the lower spinuous process and in a line just outside (*i.e.*, a few millimetres from the median line). The needle is directed *very* slightly upward and toward the median line, with a view to having it in the median line when it enters the subarachnoid space. As the needle passes through the interlaminae ligament, the resistance is increased and a slight grating feeling is noticed, beyond this the needle slips in very easily, and is introduced until fluid begins to appear in the syringe.

In children the fluid is reached at a depth of from 2 to 3 centimetres; in adults, at from 4 to 7 centimetres. If bony resistance is met in introducing the needle, the latter is to be withdrawn for a slight distance and directed at a slightly different angle.

After the fluid appears the syringe is taken off and the fluid collected in the sterile tube. It is much better to let the fluid run from the needle than to aspirate with the syringe.

The amount of fluid to be removed will depend upon the purpose of the puncture. If for diagnosis alone, 10 or 15 cubic centimetres are usually ample. If for therapeutic purposes, it may seem desirable to remove several times that amount. The quantity of fluid which can be safely withdrawn varies enormously in different individuals and under different pathological conditions. Perhaps the safest guide is the condition of the patient. The flow should be stopped at once upon the appearance of such symptoms as headache, faintness, or a change in the character of the pulse.

Kroenig relies upon the manometer, and stops the flow when the cerebro-spinal pressure reaches 125 millimetres of water. This he regards as the normal pressure when the patient is in the horizontal position.

When the needle is withdrawn, a procedure which usually requires some force, the skin wound is covered with a bit of sterile cotton and with collodion.

Accidents are infrequent and, for the most part, trivial and unimportant, although they may be annoying.—L. A. Conner (New York Med. Jour., May 12, 1900).

THE TREATMENT OF GONORRHŒA.

There is no single remedy or procedure capable invariably of curing gonorrhœa within a certain limited time. It is pretty generally agreed that an ordinary uncomplicated attack of specific urethritis is not a dangerous disease. The conditions are, however, different at once a complication arises, and in accordance therewith gonorrhœa may become a serious or even a grave disorder with unlimited possibilities in the way of sequæ, of which some of the best known are lymphangitis, adenitis, stricture, orchitis, epididymitis with secondary impotence, prostatitis and suppuration of the prostate gland, cystitis, pyelitis, pyonephrosis, neuralgia, rheumatic affections of the joints and the tendon sheaths, metastases in vital organs (endocarditis), tuberculosis, especially in the genito-urinary organs, neurasthenia of varying severity, and actual psychoses. While it is true that some of these complications and sequæ, such as stricture of the urethra, may result from the long duration of the disease, and that others are unavoidable and no cause can be discovered for them, it is likewise true that some complications may be due to improper treatment, or at least their development may be favored thereby. The fundamental principle in the treatment of gonorrhœa is that the therapeutic measures employed should be so applied that complications may, so far as possible, be avoided.

With these preliminary considerations Casper (*Berliner klinische Wochenschrift*, No. 22, 1900) advises against all abortive treatment as not accomplishing the desired object, but favoring the occurrence of complications. The symptoms of the disease do not appear until some days after the gonococci have penetrated the mucous membrane of the urethra. The introduction of instruments into the urethra during the acute stage, so long as a florid, purulent discharge is still taking place, is contraindicated, as are also injections that induce irritation of the urethra or aggravate existing inflammation. Some cases of acute gonorrhœa set in with marked inflammatory manifestations, while others are wholly unattended therewith. The latter occur especially in patients who have previously had gonorrhœa. In both groups injections may be begun on the first day, but in the first no remedy should be employed that causes irritation or aggravates the inflammatory process, such as preparations of silver. Under these circumstances potassium permanganate may be employed in dilutions of from 1:10,000 to 1:8,000. In the less acute stage injections of antiseptic silver salts are useful, and of these the nitrate is the best. This may be employed first in a concentration of 1:10,000, gradually increased to a strength of 1:4,000. Both of these are irritating and should therefore never be employed alone, but always in association with astringent, secretion-reducing, and antiphlogistic agents. Thus, a combination of silver nitrate with potassium permanganate is injected first; then silver nitrate and zinc sulphate are subsequently employed; and finally potassium permanganate and zinc sulphate in the last stage.

The more frequently the injections are made the better. Attempts have been made to destroy the gonococci and control the secretion by means of a single preparation—zinc permanganate—but this has not proved so successful as the combination of zinc sulphate with potassium permanganate.

Similar principles govern the treatment of acute gonorrhoeal cystitis. In a large number of such cases improvement and recovery can be brought about by means of diet, rest, diuretics, and balsamics. Should these fail and the second portion of urine voided remain turbid, resort may be had to irrigation through a catheter of the posterior urethra with solutions of silver, but this should not be begun too early. In cases of chronic gonorrhoea in which the injections, usually made by the patient, do not reach the affected parts, namely, the posterior urethra and the more superficial layers of the submucosa, relief can be afforded with certainty and promptitude by means of instillations according to the method of Guyon, or irrigation with potassium permanganate according to the method of Janet, or a combination of both.

Two varieties of chronic gonorrhoea occur that do not respond even to local measures, namely, one that resists treatment of all kinds, and another that yields only so long as the treatment is maintained, but recurs as soon as this is suspended. The first is almost always glandular and infiltrating, and the other is attended with the presence of inflammatory processes in adjacent glands, especially the prostate. The former is rather uncommon and the treatment should be jointly mechanical and chemical. Bougies may be used, dilatation of the urethra may be carefully and judiciously practised, local urethrotomy may possibly be undertaken, and injections and irrigations should be employed in the intervals.

The proportion of cases of chronic urethritis complicated by prostatitis is quite large. The diagnosis must be based upon the discovery on microscopic examination of leucocytes in the fluid expressed from the prostate gland through the rectum. The results of treatment in these cases are not very gratifying. The composition of the prostatic secretion is uninfluenced by the use of iodine or ichthyol or electricity, or of injections of hot water, although the subjective symptoms may be relieved by the last. Cauterization has been proposed in the treatment of prostatitis, but the results cannot yet be definitely estimated. The only certain and harmless means of influencing favorably the morbid process consists in systematic massage and expression of the gland. This should be done three times a week for months by a masseur, while urethral injections are made or irrigation is practised. Should these fail, the treatment selected will depend upon whether the process is still infectious or not; namely, whether gonococci are present in the discharge or not. In the former event the treatment by well-known methods should be persisted in until the cocci have disappeared. In the other cases no further treatment may be required at all.—*New York Med. Record.*

MISCELLANEOUS.

Foreign Body in Bronchus.

Removal *per vias naturales*. Schrötter, (Wiener Klinische Wöchenschrift,) reported by the Jour. Laryng. Rhinol and Otol, presented a case of a boy of 12 years, who had inspired lead seal. By Röntgen ray examination, it was seen at the level of the fourth rib, on the right side of the sternum. Bronchoscopy was employed at first in vain, but later a white body was seen, which did not move on coughing and completely filled the bronchus in its second division. An instrument was constructed, consisting of a fine pair of toothed forceps, enclosed in a long tube, very slender, and attached to a Schrötter handle. The forceps were introduced open as far as possible under visual guidance, and the foreign body which exceeded the inside diameter of the tube by 3 m.m., was firmly grasped, and removed along with the tube. The sitting lasted, including application of cocaine, about fifteen minutes, and was prolonged by the resistance of the exit angle of the bronchus, and its calibre. Recovery was uninterrupted. The piece of lead was 8 m.m. in diameter.—WISHART.

Puerperal Mastitis.

Brouha (*L'Obstetrique*, v., p. 51, January, 1900) gives details of a healthy primipara who during at least the last three weeks of her pregnancy carried out most conscientiously the prophylactic treatment advised by Rubeska for the prevention of mamillary abrasions and cracks; twice daily she washed the areola and the nipple with warm water and soap, and followed this with a fomentation of the parts, sometimes with alcohol and sometimes with glycerine. The labor supervened at term; the child presented by the breech, but was delivered without interference: but there was some *post-partum* hemorrhage causing considerable anemia. The same night there was some fever and a feeling of tension in the breasts. The infant was only once put to one breast. A mastitis developed, although no lesion could be discovered in the breasts; recovery took place. The author finds it difficult to explain how microbes reached the gland tissue, as the infant had not been put to the breast when the first signs of mastitis appeared. He considers that some of the microbes which are normally found in the lactiferous ducts had forced their way through the epithelium and reached the lymphatics; he thinks that the mechanical and chemical means employed to prevent the occurrence of abrasions may have weakened the vitality of the epithelium, and so made easy the entrance of the microbes and perhaps also have increased the virulence of these microbes.—*Brit. Med. Jour.*

Exploratory Laparotomy under Local Anesthesia for Acute Abdominal Symptoms in Typhoid Fever.

Harvey Cushing, in the *Philadelphia Medical Journal* of March 3, 1900, says that the use of a general anesthetic is one of the most striking contraindications for the employment of surgical measures in suspected intestinal perforation in typhoid. The patient is already reduced by the disease, and the additional strain put upon him by the general anesthetic may be sufficient to turn the scale in favor of a fatal termination. The chief difficulty in dealing with intestinal perforation is the diagnosis. This difficulty has to be met by an exploratory laparotomy, which can be made comparatively safely under local anesthesia. This exposes the patient to little additional danger and may be accomplished painlessly. The conditions which closely simulate perforation are aortic thrombosis, pulmonary complications, appendicular attacks, suppurating mesenteric glands, cholecystitis, and intestinal hemorrhage.—*Medicine*.

Gonorrhoea.

TREATMENT.—Methylene-blue administered internally will cure gonorrhoea in from four to seven days. To the diplococcus, which is the specific cause of this disease, it is especially fatal. The pyogenic bacteria that make gonorrhoea a mixed infection succumb very promptly to this germicide.

It is best given in gelatin capsules in 1-grain doses three or four times a day. After the fourth day the dose may be reduced to twice a day. Given alone it sometimes causes irritation of the neck of the bladder, but when combined with oil of nutmeg there is no trouble of this kind. Oil of sandal-wood is a desirable adjuvant because of its diuretic action and also on account of its sedative effect upon inflamed mucous membrane. Recent observations show that, when given internally, methylene-blue reappears unchanged in the urine within two hours. By giving four 1-grain doses of methylene-blue daily there is always enough of it in the urine to kill all the germs it comes in contact with. This is irrigation "from above," irrigation, not of the urethra alone, but of the entire urinary tract. By this method of irrigation there is no danger of forcing the infection into remote recesses of the genito-urinary organs.

Troublesome gastric symptoms sometimes follow the administration of the methylene-blue of the shops, but, with the following formula put up in elastic capsules, uniformly satisfactory results have been personally obtained:—

℞ Methylene-blue, 1 grain.
Oil of nutmeg, 1 drop.
Oil of sandal-wood, 2 drops.

The above formula should not be used for more than ten days without intermission, and while giving it the patient should be instructed to drink freely of water. Joseph Alan O'Neill (*Med. Rec.*, Mar. 24, 1900).

Removal of Foreign Bodies from the Eye.

In the July number of *Annals of Ophthalmology*, Dr. Charles Lukens of Philadelphia writes a very good report on removal of foreign bodies from the eye-ball, citing 18 cases, and summarizes as follows :

(1) In this series of cases the crystalline lens has proved itself to be the most tolerant of a foreign body.

(2) The phagocytic power in healthy eyes was very strong.

(3) The cases have shown that all foreign bodies should be removed from the interior of the globe as quickly as possibly, especially if they are situated near any of the fixed tunics of the eye, as they are very apt to become encysted and apparently to become innocuous for irregular periods of time, and thus missed and allowed to remain until they at some future time, by reason of traumatism, or atrophying processes, are again set loose and excite most disastrous influences upon the organ itself, or even upon its fellow.

(4) They have shown that wherever possible the wound of original entry should be used for the extraction of the foreign body.

(5) They have shown that skiagraphs giving the exact location of the foreign mass, are in the present day of aseptic surgery, absolutely indispensable when the foreign body cannot be seen by the ordinary instruments of precision.

(6) They have shown that cases of doubtful foreign material, in which no obtainable history as to the nature of the object can be obtained, should first be submitted to skiagraphic study, and should the mass prove to be steel or iron, magnets can be safely employed, followed in some cases if required by the use of forceps.

(7) They have shown that particles of other metals, after localization, should always have the attempts made with the forceps for their removal.

(8) They have shown that the presence of copper or stone within the eye gives the most unfavourable results.

(9) They have shown that wounds in the cleral region behind the ciliary zone, although as a rule made by objects of a large size, are primarily, if aseptic, of less danger and damage to the organ than those, although very much smaller, which penetrate and injure the tissues of the anterior segment of the globe.

(10) They have shown that primary treatment, pending operative interference, in uninfected cases, should be palliative and anti-phlogistic, consisting in rest in bed, iced compresses, atropine, boric acid, washes, etc.

These rules hold good no matter to what extent the traumatism has affected the organ, or to what degree the removal of the humors has taken place, as many eye-balls have been saved which have been considered useless by hasty judgment—eye-balls that have proven valuable to their possessors for visual purposes. In addition it may be noted that all traumatisms of the eye, in which there is entrance of a foreign body, the nature of the offending material, its position in the eye, and the condition of the organ, must not only be considered, but the state of the patient's health and his surroundings must be taken into consideration before a prognosis can be given.

C. T.

Carotid Artery Seen Through Membrana Tympani.

Marx, in the proceedings of the Austrian Otological Society, (the Journal of Laryng. Rhinol. and Otol.) reported a case of a girl of 17, with a large heart-shaped perforation of the membrana tympani, through which the carotid artery could be seen as a bluish gray area, pulsating strongly and showing a double punctiform reflection. The pulsation ceased with compression of the carotid.—WISHART.

Is it Justifiable to Use Iodide of Potassium to Aid us in Reaching a Diagnosis of Pulmonary Tuberculosis?

We believe it is a fact which is usually recognized among physicians that iodide of potassium is a drug which is usually to be avoided in the presence of active pulmonary tuberculosis because its administration very frequently leads to the rapid breaking down of the consolidated area and the development of a cavity. Under these circumstances it is usually the endeavor of the physician to at least allay the pathological process sufficiently to permit of the patient resorting to some climate where perchance a cure may be reached. It is also a recognized fact that a cure is more difficult of attainment if the disease has gone on to the process of softening and breaking down with the formation of an excavation than if mere consolidation is present. Our attention has been called to this matter lately not only because we have seen iodide of potassium employed in full doses in one or two cases of pulmonary tuberculosis with the idea that its use was advantageous, but also by an article which has appeared in one of our contemporaries, in the course of which the author states that tuberculosis being suspected, iodide of potassium was given to the patient in considerable doses for a period of eleven days in order to promote expectoration. At the end of this time, expectoration being present, the sputum was examined and was found to contain tubercle bacilli. We do not believe that this use of iodide of potassium is justifiable. It seems to us an instance in which laboratory methods are carried to excess. Surely the physical signs of pulmonary infection are usually sufficiently marked to enable us to make a diagnosis, and in obscure cases we do not believe that the physician is justified in hastening the breaking-down process in the lungs in order to satisfy himself that tubercle bacilli are present in the material which will then be coughed up. The physical signs or the general conditions indicating pulmonary tuberculosis are usually sufficiently marked to enable us to prescribe for the patient satisfactorily without the additional confirmatory evidence presented by the presence of bacilli. The first object of the patient in coming to the physician is, of course, to have a diagnosis made. But after all, his chief reason for consulting a physician, after discovering what is the matter with him, is to find out how he may be cured. We do not think that the institution of any methods designed to aid our diagnosis should be employed which, on the other hand, will hasten the progress of the pathological process and do harm. Certainly the administration of large

doses of iodide of potassium is qualified to produce very deleterious effects in lungs which have areas in them of tubercular consolidation; and even if there is a syphilitic history, we believe that this drug should be administered to patients suffering from pulmonary tuberculosis with the greatest possible precaution, and that its influence should be watched most cautiously from day to day. Should any signs of pulmonary breakdown, as is evidenced by moist râles, develop, it should be immediately stopped.—*Therapeutic Gazette.*

FOR HOARSENESS IN SINGERS AND SPEAKERS.

1. ℞ Cocain hydrochloridgr. xv.
 Strychninæ sulphatgr. $\frac{3}{4}$
 Aq. destʒiii.
 M. Sig. For spraying throat, ʒj and aq. oj.
2. ℞ Cocain hydrochloridgr. $\frac{3}{4}$
 Tinct. aconiti℥ x
 Althææ }
 Sacchari alb. } aaq. s.
 M. Ft. pastilli No. LXXX. Sig. Dissolve in mouth.

FOR INFANTILE ANGINA.

- ℞ Ac carbolicægr. xv.
 Glyceriniʒiiss.
 Ol. thymigtt. ii.
 AquæOj.
 M. Sig. For irrigation of pharynx.

HOLLOWAY'S OINTMENT.

The formula for this preparation is said to be :

- Take of—
 Yellow wax10 parts.
 White wax10 "
 Turpentine25 "
 Lard50 "
 Sweet oil75 "

Mix.

HOP BITTERS.

The following is said to be the formula :

- Take of—
 Tinct. of hops $\frac{1}{2}$ oz.
 Tinct. of Buchu3 drs.
 Tinct. of senega3 drs.
 Podophyllin (dissolved in spirits of wine)2 grs.
 Tinct. of cochineal20 drops.
 Distilled water sufficient to make one pint.

Mix.

—*Med. Times and Hosp. Gaz.*

HOLLOWAY'S PILLS.

Take of—

Aloes.....	2 dr.
Rhubarb.....	1 dr.
Capsicum.....	20 grs.
Saffron.....	5 grs.
Sulphate of soda.....	5 grs.

Make one hundred pills.

ACUTE RHEUMATISM IN CHILDREN.

R Sodii salicylatis.....	dr. iss.
Potassii iodidi.....	dr. ss.
Tinct. aconiti.....	gtt. x-xv.
Aquae.....	oz. ij.

M. Sig.—One dram, t. i. d.—CAILLE.

—*Medical Record.*

BLADDER IRRITABILITY AFTER DELIVERY:

R. Salol.....	
Tr. hyoscyam āā....	8 (āā ʒij).
Inf. buchu.....	180 (v. s. ad. f.ʒvi.)

M. S. Teaspoonful three times a day.—FOTHERGILL (*Ibid.*)

WAFERS FOR AMENORRHOEA.—The *Gazette hebdomadaire de médecine et de chirurgie* for April 1st attributes the following formula to H. C. Bloom:

R Strychnine sulphate.....	2 grains;
Oxalic acid.....	9 "
Iron peptonate,	} each.....
Manganese lactate,	
Compound extract of colocynth.....	30 grains.

M. Divide into sixty wafers.

S. One to be taken an hour after each of the principal meals.—

N. Y. Med. Jour.

PRESCRIPTION FOR MENSTRUAL PAIN.—*Les Nouveaux Remèdes* of February 8, 1900, gives the following prescription:

Codeine.....	1 grain;
Chloral.....	15 grains;
Bromide of ammonium.....	15 "
Camphor water.....	1 ounce.

One-quarter to one-half of this preparation may be given before retiring at night.

TREATMENT OF HEMORRHOIDS WITH CHRYSAROBIN.—After disinfection of the part by means of creolin or carbolic acid solutions the following formulas may be used:

Chrysarobin.....	12 grains;
Iodoform.....	5 "
Extract of belladonna.....	8 "
Vaselin.....	1 ounce.

Or a suppository as follows :

Chrysarobin	1 grain ;
Iodoform	$\frac{1}{2}$ "
Extract of belladonna	$\frac{1}{6}$ "
Cocoa butter	30 grains ;

After these applications have been used for a few days the pain of the hemorrhoids usually disappears, and if the applications are persisted in, at the end of three to five months the hemorrhoids are shriveled in many cases.—*Journal de Médecine de Paris*, Feb. 11, 1900.

NEW METHOD OF ESTIMATING RENAL PERMEABILITY.—Simonelli (*Centralblatt f. Chirurgie*, No 1900) commends potassium iodide, given in gelatin capsules with a moderate quantity of water, as a means of estimating kidney permeability. Normally iodine is eliminated in both the urine and saliva within the first half-hour and continues for some time. In cases of nephritis, the iodine is not detected for from five to twenty hours, is passed in less quantity somewhat irregularly, and its elimination is not so long continued. Its presence is determined by the ordinary starch paper test.—*Therapeutic Gazette*.

FOR INSECT STINGS.—The *Journal des praticiens* for May 19th ascribes to Bernbeck the two following formulæ :

1. ℞ Flexile collodion..... 10 parts;
Salicylic acid 1 part.

M.

2. ℞ Flexile collodion 100 parts;
Corrosive sublimate 1 part.

M. For local application.

These two applications are said by the author to give excellent results, and to be preferable to ammonia as at present employed. If applied promptly after the sting, pain is allayed, and subsequent inflammation is said to be rare.

FOR COUGH OF PHTHISIS.—The following combination, recommended by Murrell, is useful for the hacking, irritable cough of phthisis :

℞ Codein..... 4 gr.
Dilute hydrochloric acid $\frac{1}{2}$ dr.
Spirits of chloroform $1\frac{1}{2}$ dr.
Syrup of lemon..... 1 ounce.
Water to make 4 ounces.

Make an emulsion. A teaspoonful frequently when cough is troublesome.

FOR AMENORRHEA.—According to the *Therapeutic Gazette* Lutand has found the following combination useful in amenorrhœa when there is debility and anemia :—

℞ Bichlorid of mercury	} of each.....	1 gr.
Sodium arsenate		
Strychniæ sulphate		
Potassium carbonate	} of each.....	30 gr.
Iron sulphate		

Make into sixty pills, and give one after each meal

CHRONIC ECZEMA.—A confrère asserts that he obtains the radical cure of eczema where it occurs in isolated patches on the upper extremities and so rebellious to the ordinary method of treatment, as follows: After having washed thoroughly with soap and water the part and dried it, he rubs in vigorously a 50-per-cent. solution of caustic potash by means of a plug of cotton tied to a rod; he then washes the spot freely with water, and, finally, paints it over with a 50-per-cent. solution of nitrate of silver, and envelops the whole in aseptic cotton. This dressing is left in place until the cicatrix is formed beneath the slough, or from one to two weeks. The itching ceases immediately after the application of the caustics. Out of thirty cases thus treated, only one required the operation a second time.—*Med. Press and Circular.*

LEMONADE FOR DIABETICS.—The following is said to be useful for assuaging the thirst of diabetics:—

R Citric acid	1 gm
Glycerine }	
Cognac }āā 50 "
Distilled water	500 gm

ANAPHRODISIAC.

R Lupulin

For ten powders. S. Take one at bedtime.—*Med. Times and Hosp. Gaz.*

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EDITORIAL.

CEREBRAL EXERCISE IN THE TREATMENT OF NERVOUS DISEASES.

For the relief of the distressing motor disturbances which characterize certain nervous diseases, as the inco-ordination of tabes dorsalis, the tremors and rigidity of paralysis agitans, the spasms or twitching of chorea or convulsive tic, a German physician, Frenkel, has proposed a system of treatment for the re-education of the muscles, in which the movements have become disorderly or uncontrollable. While not aiming to remedy the morbid condition in these diseases, the treatment seeks by relieving the most marked and troublesome symptoms to make the patient's existence endurable. The physiological reasons on which the treatment is based are stated by the author in the following words:

"It is a fundamental property of all nerve substance to retain some trace of every influence acting upon it. When the same functional process is frequently repeated, the nervous apparatus undergoes a lasting change, which in the domain of association of ideas is manifested by the phenomena of memory, and in the sphere of motor functions permits of readily executing co-ordinate movements. This accounts for the physio-

logical rôle of habit, education, training and exercise, by means of which we learn to execute more or less automatically a large number of most complicated muscular movements, forming the basis of our animal life and of professional skill.

"The mental or psycho-motor element obviously plays an important part in the production of these co-ordinate movements. It implies idea or representation of the object aimed at by certain muscular contractions, effort of will required for their execution, and consciousness of the movement executed.

"It is self-evident, without entering into an elaborate discussion of this subject, that the same exercises which serve for the physiological education, so to speak, of our motor functions, may also be utilized for the therapeutical re-education in cases of motor disturbances, supervening in the course of various nervous diseases. This re-education is greatly facilitated by the functional substitution, in case of necessity, of various centres and cells of the nervous system for others."—(*Medical Press and Circular.*)

In Frenkel's system of "cerebral gymnastics" an attempt is made to resolve the ataxic movements into their component parts by substituting therefor simple rhythmic voluntary actions. The affected muscles are subjected to graduated systematic exercises, involving movements of increasing complexity, so soon as the simpler ones are properly performed. In this way, by a process of compensation, new nervous tracts are trained to carry the impulses and so to assume the functions of the diseased portions. Thus, in locomotor ataxia such exercises as walking in a straight line, circumduction of the foot in a circle, picking objects from the floor, designing geometrical figures, or other exercises with especial apparatus, suited to the particular case, are adopted. In order that satisfactory results may be expected, it is necessary that the sub-cortical and spinal paths of transmission be intact, so that in such diseases as myelitis, disseminate sclerosis, spastic paraplegia, and other similar conditions where these tracts are involved, not only is no improvement brought about, but the author cautions that harm may follow from the treatment. In properly selected cases the results obtained by Frenkel as well as others who have tried his methods, if we may credit reported cases, have been very encouraging, in many instances practically overcoming the motor disturbances and in others producing considerable relief. When we consider how unsatisfactory all lines of treatment heretofore proposed in these diseases have been, Frenkel's system, founded as it apparently is on a rational basis, is worthy of careful trial at the hands of the profession.

EDITORIAL NOTES.

Treatment of Hay Fever.

Dr Robertson, of Cincinnati, (The Medical Council), thinks that as the irritant which produces this disease is necessarily in a very attenuated condition, possibly gaseous—he suggests a deficiency of ozone or an excess of carbon dioxide—that it is useless to attempt to counteract its effects or to soothe the irritated Schneiderian membrane by sprays or washes. The parts are quite inaccessible to these means but he thinks success might be attained by applying the medication by means of a nebulizer so that the finely comminuted, or gaseous irritant, may be searched out and neutralized by an equally diffusible remedy.

As a basis for successful treatment he mentions four facts which must be considered in each case.

1. There is a constitutional idiosyncrasy.
2. There is an exciting cause.
3. The constitutional idiosyncrasy and the exciting cause must act together to produce the disease. It does not result from either acting alone.
4. If we can either correct the constitutional idiosyncrasy or counteract the exciting cause we will thus master the disease.

Treatment must therefore be both local and constitutional and in carrying it out one must take cognizance of the peculiarities of the individual case. He gives the following formulæ as applicable to the treatment of different phases of the malady:—

R—Zinc Sulphategrs. xv. to ʒss.
 Aqua dest.fʒvj.

In ordinary cases with watery discharge.

R—Tannic acidʒss.
 Aqua dest.fʒviiij.

Where there is a profuse watery discharge.

R—Morph. Sulph.grs. iv.
 Atropia Sulph.grs. iiij.
 Zinc Sulph.ʒss.
 Aqua Camphoracfʒviiij.

Where there is a copious watery discharge with much pain and tenderness.

- R—Acid Carbolic ʒss.
 Tr. Iodine Comp. fʒss.
 Aqua dest fʒvj.

Where there is a fetid or purulent discharge.

- R—Acid Sulphurosum fʒiv. to fʒj.
 Aqua dest fʒiv.

In some cases a much stronger solution of the sulphurous acid may be used. It is especially useful where bacterial or fermentative processes are suspected.

After using the spray, apply the following in the form of nebulous vapor by means of the comminuter for temporary relief. It will reduce the turgescence, clear the passages and relieve the pain :

- R—Cocaine (pure alkaloid)..... grs. viij.
 Menthol,
 Camphor, aa..... grs. xx.
 Ol. Cloves (buds) mxij.
 Hydrocarbol fʒij.

Now for more permanent but less immediate effect, administer by means of a comminuter one of the following prescriptions.

- R—Zinc Sulphate grs. xxx.
 Beechwood Creosote fʒss.
 Glycerine fʒiiss.
 Aqua dest. q. s. fʒiij.

- R—Quinine Hydrobromate ʒss.
 Iodine (crystals)..... grs. x.
 Acid Carbolic ʒss.
 Alcohol fʒiv.
 Glycerine q. s. fʒij.

- R—Aspidospermine grs. xv.
 Alcohol,
 Aqua, aa..... fʒiv.
 Glycerine q. s. fʒij.

- R—Tannic Acid ʒss.
 Glycerine fʒj.
 Aqua dest. q. s. fʒij;

- R—Salol,
 Chloral hydrate,
 Menthol,
 Camphor, aa grs. xv.
 Ol. Cloves (buds) mx.
 Hydrocarbol q. s. fʒij.

Cost of a Medical Education in Great Britain.

According to the *British Medical Journal*, the cost for a student to qualify for the Conjoint Board at a London school is from \$3,250 to \$3,500; or if he proceed to a University degree as much as \$7,000. A perpetual ticket for tuition fees at a London school varies from \$500 to \$750. This of course, does not include the private coaching in different subjects which is commonly found necessary in preparation for examinations. As to the prospect of the newly qualified practitioner, the medical services of the Army and Navy or the Indian service are open to him. If he accept an assistantship with a successful practitioner, he may receive from \$500 to \$750 a year with the prospect of rising to \$1,000 or \$1,250. The *Journal* concludes by stating that the practitioners' services have a definite money value which ought, in the course of years, to give him a fair interest on the capital expended on his education, and, if he be at all successful, by degrees, the return of the capital itself. This is certainly not a prospect to appeal to the imagination of the youth bent on acquiring wealth.

Urotropin in Posterior Urethritis

Gerald Dalton (*The Therapist*) highly commends this remedy in the above named affection. In several of his cases a complete cure was obtained and in none did it fail to produce improvement. He administers 7 grains thrice daily. It is also useful in cystitis and as a uric acid solvent.

W. B. Saunders & Co.'s London Branch.

We are pleased to note that this enterprising publishing house are extending their business by opening a branch in London, England, for the purpose of increasing their business with Great Britain and her colonies. We have no doubt that the same methods that have contributed to the phenomenal success of this company in America, will meet with equal favor across the Atlantic.

Exophthalmic-goitre.

Dr. W. H. Harland (*B. M. J.*, Sept. 1st) reports two cases of exophthalmic goitre with all the characteristic symptoms of the disease, developing suddenly in soldiers after being in action. During the two weeks they were under his observation, no benefit was gotten from treatment. The cases are of interest as confirmatory of the nervous origin of the malady.

Etiology of Dysentery.

In the section on the Practice of Medicine of the American Medical Association, Prof. Simon Flexner read a paper on the results of his investigation of dysentery in the army hospitals at Manila. Tropical dysentery, he concludes, occurs in at least two forms—one due to the amoeba coli, and the other to the bacillus dysenteriae of Shiga.

The latter disease lasts usually 6 or 8 days but may become chronic, and secondary lesions in lungs or liver are rare. The blood serum of patients suffering from the disease produces agglutination of the bacillus.

Santonin in the Treatment of Epilepsy.

Dr. G. F. Lydston (*Therapeutic Gazette*), as the result of his experience with the remedy, prefers santonin to the bromides in the treatment of epilepsy. He claims that the results are better, that santonin acts well in cases where bromides entirely fail or are not tolerated, and that its use is not followed by drowsiness, mental depression or melancholia, conditions not infrequently attributed to the bromide treatment. He gives the drug in doses gradually increased to 15 grains three or four times daily. At times it may advantageously be given in conjunction with the bromides, the latter being administered at bedtime.

A Highly Qualified Doctor.

At the recent meeting of the British Medical Association in Ipswich His Royal Highness, the Prince of Wales, was elected an honorary member of the Association. The Prince had previously been elected to the honorary Fellowship of both the Royal College of Physicians and the Royal College of Surgeons.

Protargol in Eye Affections.

Dr. Sydney Stephenson, (*Edinburgh Medical Journal*) in an article on "The place of Protargol in Eye Work," says in blepharitis he uses 10 per cent. ointment in equal parts of vaseline and lanolin in the eczematous type, a rapid cure following. In conjunctivitis, due to gonococci the results are better than with any silver salt previously used; using 50 per cent. twice daily in severe cases, and that corneal complications are a special indication for the use of this strong solution. In acute muco-purulent conjunctivitis he used a 10 to 20 per cent. solution to paint the part. In dacryocystitis, protargol is the best remedy the author has found. He washes out the sac with a 5 to 10 per cent. solution.—(C. T.)

Lancet Index.

The index for Volume XXIII. of the Canada Lancet, which was completed with the August number, will appear as a separate pamphlet with the October number of the journal.

Toronto Clinical Society.

The first meeting of the Society for the coming session will be held on Wednesday evening, October 10th. The president, Dr. W. H. B. Aikens, and the executive committee are exerting themselves to make the coming a record year in the history of the Society.

Death of Dr. Mennie.

Dr. J. G. Mennie, of Bathurst St., Toronto, died of Bright's disease on August 23rd at his father's residence, Fergus. The deceased, who was 46 years of age and a graduate of Toronto University, was well and favorably known in the city, and his early death is a cause of extreme regret.

Army Medical Dinner.

The officers, non-commissioned officers and men of No. 4 Bearer Co. Toronto, dined at the Temple Café on Friday evening, September 14th. Col. Neillson, Director General of the Army Medical Service, and the officers commanding the different city battalions, were among the invited guests.

PERSONAL.

Dr. H. O. Simpson (Trin. '98), has opened an office on King St. East.

Dr. J. K. M. Gordon, of Ripley, spent a short holiday with friends in Toronto.

Dr. Allan Baines, Simcoe St., has returned from Europe and resumed practice.

Dr. J. A. Amyot has returned after spending a month in the public health laboratory in Boston.

Dr. J. L. Bradley, of Creemore, returns to Canada in September, after spending the summer in Europe.

Dr. Harry J. Watson (Trinity, '95), of Ottumwa, Iowa, has been appointed Surgeon to the U. S. army in China.

Dr. A. G. Scott, of Rosedale, returned from Muskoka last week, suffering from a mild attack of typhoid fever.

Dr. Thos. B. Fletcher (Tor. '93) assistant in Medicine Johns Hopkins Hospital, is spending a holiday with friends in Ontario.

Dr. T. J. Norman, formerly of King, has returned from Europe, and begins practice in Toronto, opening an office on Bloor St.

Dr. J. A. Sutherland (Trinity, '97), of Dawson City, returned home August 17th, after a holiday spent with his friends in Toronto.

Dr. Chas. O'Reilly, Superintendent of the General Hospital, has returned from a holiday in Detroit and Buffalo, and other American cities.

Dr. Haig, of Hamilton, has been appointed Superintendent of the Kingston General Hospital, in place of Dr. Jas. Third, who resigned the post.

T. H. Middlebro', F.R.C.S., of Owen Sound, has returned home after spending a year and a half in England and on the continent in post graduate work.

Dr. Frederick Steele, of Gravenhurst, formerly house physician in the Hospital for Sick Children, was married on August 29 to Miss Spence, of McCaul St., Toronto.

Dr. F. W. Marlow (Trinity, '00), resident assistant at St. Michael's Hospital, has been suffering from an attack of pleurisy, necessitating his absence from duty for a time.

Dr. Norman Macleod Harris (Tor. '96) assistant in Pathology Johns Hopkins Medical School, who has been visiting his family in Toronto, returned to Baltimore on Sept. 3rd.

Dr. Frederick Fenton, lecturer on histology, Trinity Medical College, and one of our associate editors, was married on August 21st to Miss Mary Irving of Sherbourne St. On their return from a honeymoon in the Maritime provinces and the eastern states, they will take up their residence on Charles St.

Dr. D. N. MacLennan (Queens '92), who has been abroad since his graduation, returns to Canada to begin practice this fall. Dr. MacLennan was resident assistant in Moorefield's Eye and Ear Infirmary for some years, and during the past year has held a similar post in the Throat Hospital, Golden Square, London.

The LANCET offers its congratulations to Dr. James H. Richardson and Mrs Richardson of Toronto, on the celebration of their golden wedding on August 20th. During the afternoon hundreds of the old professor's former students and other intimate friends called to pay their respects and to offer their good wishes to the esteemed couple.

Of the members of the resident Medical Staff Toronto General Hospital, 1899-1900, Dr. G. A. Schmidt has opened an office in Sudbury, Dr. H. W. Spence has gone to Europe, Dr. F. D. Turnbull has commenced practice with his brother, Dr. J. L. Turnbull, of Goderich; Dr. C. A. Page goes to New York to spend a year in post graduate work, and Dr. R. S. Broad has opened an office in Barrie.

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MONTREAL

BOOK REVIEWS.

A Text Book of Practical Medicine.—By Wm. Gilman Thompson, M.D., Professor of Medicine in Cornell University Medical College, New York, Physician to the Presbyterian and Bellevue Hospitals, New York. Illustrated with 79 engravings. Cloth, \$5.00. Lea Bro's & Co., New York and Philadelphia.

This volume contains 1,010 pages, divided into nine parts, covering the whole field of medical practice at the present day. In a limited space it is impossible to review in detail the various subjects dealt with. The author strikes the proper key-note for a text book adapted to the needs of students and practitioners when he says in the preface "that curative medicine is assumed to be the final and avowed object of those who may read this volume," a matter too much lost sight of in many recent publications in medicine. The profession will be glad to welcome this return from the ultra scientific, unpractical disquisitions of continental writers, in which treatment of disease has frequently been ignored or at least dealt with as of secondary importance, to plain, practical, Anglo-Saxon common sense.

The author has not neglected the latest discoveries in clinical microscopy, pathology and bacteriology, where these are of practical interest. The discussion of the pathology of individual diseases has received careful attention and in most cases is accurate and up to date, though we do not hesitate to say that the book will be of more value from its practical than from its purely scientific aspect.

The literary character of the work is open to criticism at times, making the reading difficult, and frequently the meaning is obscure. On page 18 he speaks of "a disastrous epidemic, *causing* more than 1,900 cases," evidently a want of care in the selection of the proper word to express his meaning.

The press work is very good. Altogether the book well represents the latest teaching in modern medicine, is essentially practical and we believe will be well received by the profession.

Books.

W. B. Saunders & Co. announce that they will issue shortly "The American Illustrated Medical Dictionary," edited by W. A. N. Dorland. The price will be \$4.50 net.
