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INDEX TO CONTENTS.

	Page		Page
ORIGINAL ARTICLES AND COMMUNICATIONS—			
Cocaine Addiction and its Diagnosis.....	829	Bacteria in Progressive Cirrhosis of the Liver —Maggots in an Adult Human Ear.....	861
MEDICINE—			
Schleich's General Anæsthesia Not a Success.....	833	NOSE AND THROAT—	
Selection of Food for the Sick.....	836	Primary Epithelioma of the Autrum of High- more with the History of a Case.....	863
Control of Diphtheria.....	837	A Case of Foreign Body in the Naso-Pharynx.....	864
Time and Manner of the Administration of Drugs.....	841	OBSTETRICS AND GYNAECOLOGY—	
SURGERY—			
Cystitis.....	844	Continued Irritation of the Uterus versus Hysterectomy in Acute Puerperal Septic Metritis.....	867
The Frequency, Causes and Prevention of Postoperative Ventral Hernia.....	849	Foreign Bodies in the Vagina.....	868
Treatment of Stone in the Bladder.....	852	A Case of Epithelioma of the Larynx—Laryn- gectomy and Partial Pharyngectomy; Death on the Eleventh Day from Exhaust- tion.—Serious Consequences Following In- transal Operations.....	865
The Surgery of Pancreatic Abscess.....	853	Surgery of the Middle and Inferior Tur- binated Bodies and Bones.....	866
NERVOUS DISEASES AND ELECTRO-THERAPEUTICS—			
The Pathological Anatomy of the Traumatic Neuroses.....	854	Hydrocele of Round Ligament, Etc., Etc.....	869
Nuclear Alterations of Cortical Nerve Cells— Ereuthophobia.....	855	EDITORIAL—	
Neurasthenia and General Paralysis.....	856	Examination of the Reflexes.....	877
Sexual Origin of Neurasthenia and Psycho- neurosis.....	857	A Patent in the United States on Diphtheria Antitoxin.....	879
Diet Treatment of Headache, Epilepsy and Mental Depression.....	868	The New Pharmacopœia.....	881
PATHOLOGY AND BACTERIOLOGY—			
Toxines and Antitoxines.....	869	Death from Moral Autotoxemia.....	882
Kidney Lesions in Malaria.....	860	Care of Inebriates.....	883
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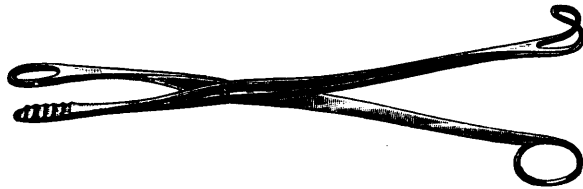
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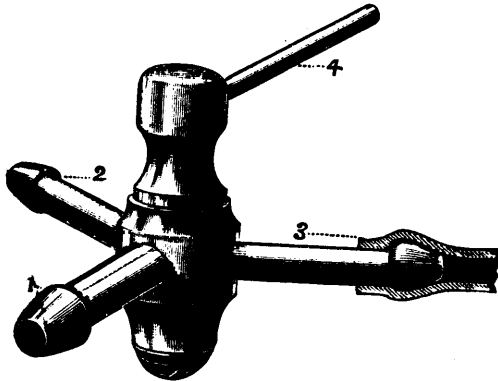
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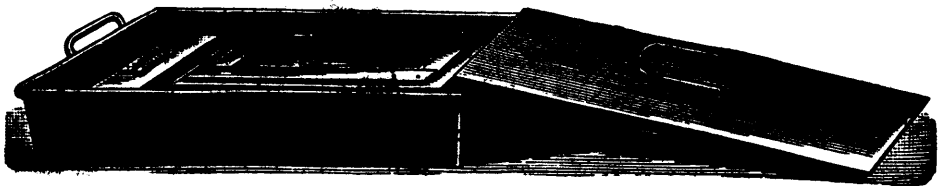


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VOL. XXXI.]

TORONTO, DECEMBER, 1898.

[No. 4.

ORIGINAL ARTICLES AND COMMUNICATIONS.

COCAINE ADDICTION AND ITS DIAGNOSIS.

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

Medical Superintendent of the Homewood Retreat, Guelph, Ont.

Since the introduction of Cocaine some fifteen years ago, and its stimulating action when taken into the human system has become known, its seductive qualities have produced a widespread evil, resulting in a malady known as Cocaine addiction. The importance of an accurate diagnosis in this malady is second in importance only to that of opium addiction, and must be sought for in the physical and mental symptoms as well as by chemical analysis of the urine.

Most of those addicted to the use of the drug are neurotics, and like many such are always on the outlook for some medicine or stimulant to quiet their unstable nervous organization; these fall an easy prey to numerous proprietary medicines and medicinal wines, which owe their potency to the Erythoxylon Cocoa or its alkaloid Cocaine, and many an habitué can date the advent of his malady to these apparently innocent but subtle nostrums. The dentist, rhinologist and general practitioner have, by their prescriptions and applications, contributed their quota to the number of habitual Cocaine users. The alcoholic inebriate and opium habitué have also grasped at this once lauded panacea for the cure of their affliction, with the almost invariable result of failure to cure their disease, and usually resulting in a double and sometimes triple addiction.

The quantity of the drug consumed by those accustomed to its habitual use varies between wide limits. I have met with cases taking only a fraction of a grain, whilst in others it mounted up to sixty grains in twenty-four hours, and in one instance the limit was marked by the enormous amount of ninety grains a day.

The mode by which the drug is taken is as variable as the quantity consumed. It is taken by the mouth, sprays, snuffing, washes, etc., but chiefly by means of the hypodermic syringe.

The early physical manifestations of the malady are somewhat obscure and difficult to detect. The patient has perhaps been toying with the drug for a considerable period before a daily dose becomes a necessity. The early symptoms may, however, be noted as follows: A condition of unnatural buoyancy of spirits and self-confidence, exalted mental

action with an abnormal capacity for mental and physical exertion, wakefulness, loss of appetite, and apparently little or no necessity for food; bright and glistening eye with dilated pupil, which will not contract under the stimulus of light; the secretions are not dried up as in opium addiction, but the reverse usually obtains. As the disease becomes more established, most of these symptoms are accentuated: but, unless the stimulation is kept up by larger and more frequently repeated doses, intense physical and mental depression set in, leading to severe nervous agitation, fear of impending death frequently accompanied by lachrymosis; nutrition soon becomes impaired, accompanied by emaciation and anemia; sunken eyeballs with dark areola round the eyes, prominent cheek bones and general pallor make the subject a most ghastly spectacle. As the malady becomes more chronic, mental symptoms in the form of hallucinations and delusions supervene. Persons seen or heard at a distance are construed into bands of enemies plotting to rob, physically disable, or murder, and as a result the patient makes complaints and lays charges against innocent persons. All sorts of firearms and other deadly weapons are secreted within easy reach as a protection, and are apt to be used with serious results. Apartments are barricaded to prevent imaginary enemies pouncing in to do bodily harm or carry him off to a prison or dungeon. The key-hole and other small apertures or crevices are chinked to prevent anyone from seeing into the room or forcing noxious gases at him. Aural and visual hallucinations are also present. Added to all this we have what has been termed the "Cocaine microbe," not the material microbe met with in other diseases, which can be demonstrated under the microscope, but an imaginary body which the patient believes to be real, usually assuming the form of minute worms and insects situated under the skin, so that he will mutilate his body, especially his hands and fingers, trying to dig them out with the point of a penknife or other suitable sharp-pointed instrument.

When the hypodermic syringe is used as the means of taking the drug, the skin where the needle is inserted soon becomes indurated and its texture changed so that, in course of time, it becomes leathery—almost impossible to force the needle through—and with the constant dosage, the skin on the arms, fore-arms, legs, thighs and hips becomes so thickened, hardened, discolored and altered in its texture that it is almost impossible to find a suitable point to insert the needle, upon the withdrawal of which the skin, lacking contractile power, fails to close the puncture, and much of the fluid injected is apt to spurt out, causing considerable loss and the necessity for another injection. When a strong solution of Cocaine is used the skin becomes disorganized, ulcers form, varying in size from a small pea to large areas of integument. I have seen ulcers so caused measuring six inches in length by an average of two in diameter without a particle of skin being present. It is quite true that the habitual use of morphia, hypodermically administered, will produce a similar induration, but the action of morphia in this respect is mild as compared with that of Cocaine. The Cocaine habituate is totally unfit for his ordinary avocations; his work, if done at all, is performed in a most erratic and unsatisfactory way and much neglected.

When the above train of symptoms is present it is not difficult to make a correct diagnosis; but, in the early stages of the malady, many are absent and those present are not always noted, if observed, not correctly interpreted, especially in the face of the most positive denial of fact by the patient. By means of urinary analysis, any doubts that may exist can be dispelled.

The method by which I have succeeded in extracting this alkaloid from the urine of those using the drug is as follows: To a suitable quantity of urine (10 to 20 ounces) add sodium, or potassium carbonate, until the mixture is very distinctly alkaline; let it stand for half-an-hour and filter; to the filtrate add ℥ij pure sulphuric ether, agitate quietly for two or three minutes then allow it to settle for half-an-hour; draw off the ether and add to it ℥j, dilute hydro-chloric acid (M. x to ℥j), thoroughly mix, place in an open dish and permit the ether to evaporate spontaneously; apply gentle heat to effect perfect solution of any alkaloid that may be floating on the surface or adherent to the sides of the vessel; let it then cool, the remaining liquid may now be tested for the hydrochlorate of Cocaine by any of the reliable tests for this salt. The following are quite satisfactory.

TER. CHLORIDE OF GOLD TEST.

To the solution thus obtained add a few drops solution ter. chloride of gold (Gr. X to ℥i); if Cocaine be present a yellow, or yellowish-white, precipitate will at once be formed, which is dissolved by heat, especially in the presence of a little free acid; upon boiling the vapor given off will have the pungent and somewhat acrid though pleasant and characteristic odor of benzoic acid. The mixture can now be divided into two parts. One part is left in a test tube to cool and reprecipitate. To the other add oxalate of ammonia which will throw down the gold; filter and test the filtrate with neutral chloride of iron; a change of color to a deeper shade indicates benzoic acid in small quantities; a flesh colored precipitate indicates the presence of benzoic acid in larger proportions.

The mixture left in the test tube to cool will now have thrown down a yellow precipitate which can be collected and submitted to sublimation when the distinctive odor of benzoic acid will be noted, and the sublimate examined under the microscope for the beautiful feathery crystals of this acid. These tests show the presence or absence of benzoic acid; if present it could only come from the presence of Cocaine in the urine examined.

MYERS' REAGENT TEST.

To a portion of the residue left from the ether evaporation add a few drops of this test reagent, a white precipitate will at once be formed, if Cocaine is present, which dissolves by heat, and upon cooling throws down yellow crystals, which under the microscope ($\frac{1}{2}$ objective) appear as depicted in Fig. I. If there is an excess of the precipitate the undissolved portion will fuse into yellow gummy masses upon boiling. In following out the test with Myers' reagent, should the patient be taking quinine,* it will first be necessary to precipitate this alkaloid from the

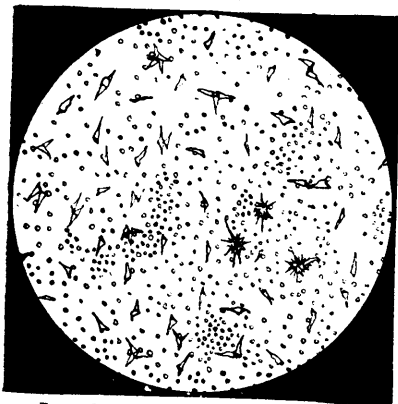
* (A small portion of the liquid may be tested for quinine by the chlorine water and ammonia test. The absence of the Thalleochin reaction renders the use of picric acid unnecessary.)

solution to be tested by picric acid in excess, filter and make the test with the filtrate thus obtained. The limit of Myers' reagent appears to be about 1 part of Cocaine in 30,000 of water.

The following is an example of detection, both Morphia and Cocaine, in a case of double addiction. The patient at the time was taking gr. xv. Morphia Sulph and gr. iv. Cocaine hydro-chlorate every 24 hours. Eight ounces of the urine voided was used, acid reaction, this was concentrated over a water bath to $\frac{3}{2}$ ii., and allowed to stand twelve hours, then filtered, filtrate rendered alkaline by potassium carbonate, thoroughly agitated and let stand for twenty hours, then filtered. This filtrate was treated as above directed for the extraction of Cocaine, and tested by Myers' reagent, giving very satisfactory results—forming crystals of the small round character depicted in Fig. 1. The large crystals seen in this figure were not obtained, as the solution was too weak. The precipitate left in the filter was treated for the extraction of morphia by the process described by myself a short time ago,* and yielded unmistakable reactions by the following tests: Nitric acid; Iodic acid and chloroform; Ferricyanide of Potassium and Ferric Chloride.

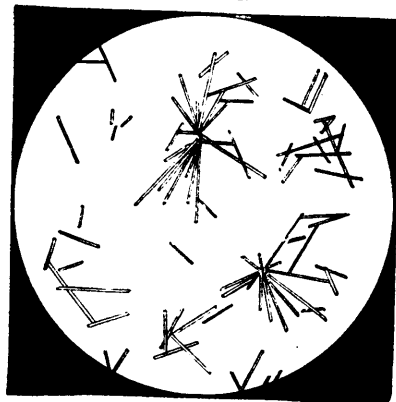
Upon permitting a few drops of the residue left from the alcoholic extract in the presence of a small amount of dilute sulphuric acid to evaporate spontaneously on a glass slide the beautiful large crystals of Morphia Sulph seen in Fig. II. were obtained.

FIG. I.



IODO-HYDRAGYRATE OF COCAINE,
 $\frac{1}{4}$ INCH OBJECTIVE.

FIG. II.



MORPHIA SULPH.,
 1 INCH OBJECTIVE.

NOTE.—That in precipitating the alkaloid Cocaine by the alkaline carbonates this alkaloid is soluble in an excess of the precipitant, and must be looked for in the filtrate, and not in the precipitant—the reverse obtains with alkaloid Morphia.

* Vide CANADA LANCET, August 1st, 1898.

MEDICINE.

IN CHARGE OF

N. A. POWELL, M.D.,

Professor of Medical Jurisprudence and Lecturer on Clinical Surgery,
Trinity Medical College; Surgeon to the Hospital for Sick Children, and to the Emergency
Branch, Toronto General Hospital; Professor of Surgery, Ontario Medical
College for Women. 167 College St.; and

WILLIAM BRITTON, M.D., 17 Isabella Street.

SCHLEICH'S GENERAL ANÆSTHESIA NOT A SUCCESS.

BY H. RODMAN, M. D., NEW YORK CITY.

Soon after the Schleich method was introduced into this country from abroad, where it was reported to have met with such great success, it was decided to give it a fair and thorough trial in Mount Sinai Hospital, where I had the opportunity of carefully observing the administration of the above anæsthetic and of studying the effects of the same upon the general condition and well-being of the patient after operation.

Although comparatively recent, other hospitals in this city had published such very favorable results concerning the new anæsthetic and its safe administration that we began to use it, at first rather cautiously, but soon extensively—in fact, substituting it for ether and chloroform almost altogether.

Of the solutions employed, known as Nos. 1, 2, and 3, the last was used in the vast majority of cases; No. 2 being employed for patients with serious heart lesions, and No. 1 for children under ten years of age, usually.

The anæsthesia was conducted under the most favorable circumstances, the solutions being carefully prepared by our druggist and known to be chemically pure, and the anæsthetists were reliable and experienced men.

From personal observation of seven hundred cases, the report of which is entirely unprejudiced, I submit the following facts:

Firstly. (a) Regarding the mixture itself, the general consensus of patients is that it is not unpleasant to inhale, and those who have taken ether much prefer the former to the latter; on the other hand, the Schleich mixture does not possess this advantage over chloroform.

(b) The length of time required for the Schleich mixture is from fifteen to twenty minutes, rarely less and occasionally more. Ether requires about the same time; chloroform, from five to fifteen minutes.

(c) The mask employed is a serious disadvantage, as the Schleich mixture contains both ether and chloroform among other ingredients, and the mask must be so constructed as to allow sufficient inhalation of ether while diluting the chloroform sufficiently with air. The mask requires

thorough saturation at the beginning of the anæsthesia, and the fluid often trickles down on the patient's face, causing severe burns, several of which I have noted; but this can probably be obviated with a suitable mechanical contrivance.

(d) The stage of excitement is less marked (though present) than with ether or chloroform, although occasionally pronounced; general relaxation is present to a greater degree than with ether.

(e) Irritation of the mucous membranes, especially of those lining the respiratory and alimentary tracts, during the administration of the anæsthetic is diminished with the Schleich mixture.

Secondly. During the administration of the Schleich mixture the reflexes are lost early, especially the conjunctival reflex; thereby depriving the anæsthetist of one of his most important safeguards. The patient's pulse remains slow throughout, and in the majority of cases which I have seen he assumes a generally cyanotic condition, respirations usually diminishing and the pupils being somewhat dilated. At this stage of the anæsthesia, if not carefully guarded against, general cyanosis increases, respirations become infrequent and shallow, the pulse loses quality, increasing in frequency, and the patient suddenly stops breathing, respiratory failure having ensued, and this without much warning of any kind. I have witnessed certainly half a dozen of such conditions, which included two operations for inguinal hernia, two general laparotomies, one operation for osteomyelitis of the femur, and one for hemorrhoids. In all these cases the face was markedly congested, the reflexes were absolutely absent, the hands and feet were perfectly blue and cold, but the pulse was always perceptible, though slow and feeble and at times intermittent. Artificial respiration was always resorted to, and respiratory and cardiac stimulants, such as strychnine, digitalis, atropine, and whiskey were at once administered hypodermically and per rectum. All of these patients, however, recovered after energetic measures were employed.

I must also mention the case of a man, fifty-five years old, on whom an enucleation was being performed, whose previous health had been good, who had neither heart nor lung lesions, breathing regularly and slowly, who had taken his anæsthetic without any difficulty, and with an experienced anæsthetist at his head. Suddenly he ceased breathing, his countenance assuming a pale and waxy hue; his radial pulse was entirely imperceptible for two minutes at least, although his heart could be heard beating very slowly and feebly, about 15 to the minute. Another interesting feature observed was that there was no hemorrhage whatever on removal of the eyeball, which was almost coincident with the collapse of the patient. The anæsthetic was, of course, immediately withdrawn, amyl nitrite was applied to the nostrils, and heart stimulants were injected; the chest, particularly the cardiac area, was vigorously pounded with towels dipped in cold solution, ether also being poured over the same region. The pulse thereupon slowly resumed its original character, but not before fifteen minutes had elapsed, and the patient began to breathe more frequently (no Magendie had been administered, either before or during the anæsthesia), and subsequently fully recovered from this attack. I have witnessed several cases of respiratory failure from ether and chloroform,

but never cardiac, as this undoubtedly was. I am led to believe that the unconscious state approaches an extreme condition with the Schleich mixture—much more so than with ether or chloroform.

Thirdly. Direct after effects. Patients gag and vomit to almost the same extent as with ether or chloroform, which is also contrary to what has been claimed for Schleich's mixture as an advantage. The discomfort after operation is quite as marked; it is rather the exception to note otherwise.

The period of awakening from the influence of the anæsthetic is not shortened with the Schleich mixture No. 3, as has been affirmed by some, who claimed that as soon as the operation was over and the anæsthetic removed, but a few moments elapsed before full return to consciousness; this has seldom been the rule.

Fourthly. Effect upon the lungs and kidneys. We had long sought and earnestly prayed for an anæsthetic which would eliminate the dangers to these viscera subsequent to anæsthesia. Has the Schleich method obviated these dangers? Certainly not, as will be proven by the following:—

Several of the patients developed bronchitis, which was followed by pneumonia in some instances. One in particular which I remember was that of a young woman who, the day after operation, developed bronchopneumonia, which at the end of two weeks proved fatal. I have also observed several patients with conjunctivitis and rhinitis after Schleich anæsthesia.

Again, I have noted at least three instances in which the urine of the patient, previous to operation, was perfectly negative, and which after operation contained albumin and casts, proving thereby that the Schleich mixture must necessarily be an irritant to the kidney. The Schleich method has not obviated or lessened the above unfortunate results due to general anæsthesia.

From the foregoing remarks I must therefore conclude that Schleich's solution does not even maintain a position between ether and chloroform, as I was led to believe from the early series of cases, but must foot the others. It is certainly less free from danger than ether and even chloroform, in my experience. It produces the same baneful effects upon the lungs and kidneys, and is a marked respiratory and cardiac depressant. Whether this is due to chloroform in combination with the other ingredients or not, I cannot say, but certainly chloroform alone can be administered more scientifically and with greater exactness than when in solution with other elements, as it is in Schleich's mixture.

The only advantage of the Schleich mixture is its pleasant inhalation, although it is often disagreeable to the surgeon and the bystander. With ether this can be modified by preceding the ether inhalation with a few whiffs of chloroform.

It has been claimed that the Schleich mixture can be administered with safety in serious heart lesions. The incident I have mentioned above disproves this statement, and in a patient with a perfectly sound heart; whereas I have seen chloroform administered in severe cardiac disease without bad results.

I must also add that, owing to the above poor results, we are gradually withdrawing the Schleich mixture from the operating field and returning to our old friend and standby—chloroform.

Since leaving the hospital, I have learned that the Schleich method has been practically abandoned, and one of our leading surgeons has pronounced it to be an utter failure; also, one of its strongest advocates on its introduction into this country is thoroughly disappointed with its results.

I feel that the foregoing remarks will be substantiated and strengthened by future experiences, and that the Schleich method will be relegated to where it belongs in the order of efficiency.

I am indebted to Dr. A. G. Gerster for kind permission to use the statistics upon which this article is based.

SELECTION OF FOOD FOR THE SICK.

"The selection of diet," says Dr. James Tyson, *University Medical Magazine*, "depends upon, first, the chemical composition of the food; second, its physical composition as contrasted with its chemical; third, the mode of preparation; fourth, the experience both of physician and of patient.

"Food is divided according to its composition into proteids, carbohydrates, hydrocarbons, and minerals, including water, and a certain proportion of these sets of elements is contained in every sort of food, animal and vegetable as well. Meats contain more proteids, vegetables more carbohydrates. The hydrocarbons are represented by the fats. The first tend particularly to tissue making. On the other hand, the carbohydrates and hydrocarbons are force-producers.

"The physical properties of food vary greatly. Vegetable foods are less digestible, in that they leave more refuse matter—an advantage or a disadvantage according to conditions. Thus vegetable foods, for the reason that the large residue unabsorbed in the bowel acts more or less as an irritant, become useful in constipation. On the other hand, in an irritation of the bowel, the conditions call for foods which have the least amount of waste, and are therefore bland and unirritating.

"The mode of preparation of food has a great deal to do with its availability in sickness as well as in health. Very few foods are best taken raw. Of animal foods, the oyster is, perhaps, the only one. The nearer the oyster is to being raw, the more easily digested it is, since it contains at once a sugar and a diastasic ferment, the union of which is brought about by eating, and the oyster thus, as it were, digests itself. If an oyster is cooked, this self-digestive power is lost. Of vegetables, except fruits, none are fit to be taken raw. Cooking is necessary to make them in any way digestible, particularly the starches, which are thus rendered vulnerable to the digestive diastasic ferments. Fruits, though there are many which may be eaten raw, also become more easily assimilated when cooked. This is true of peaches, pears, apples, berries, and the like. The mode of preparation includes an infinite variety of methods of improving

the flavor and digestibility of foods which belong to the province of the cook.

"Experience, after all, is the most valuable practical criterion of the propriety of a food. The first direction to patients in regard to eating is: 'Whatever does not agree with you, that do not eat.' It is evident that this will eliminate at once a considerable loss of time in the selection of articles of food.

"Experience, I am sorry to say, is often a good deal a matter of fancy. If one compares the dietary recommended by different physicians for a given condition he will find surprising differences. Part may be matters of judgment and experience, but a good deal is the result of fancy. Dry toast is a positive poison to some persons, while to others it is an enjoyable and harmless food. Experience carries much further, but it is very difficult to get at the sum of the experiences of different persons. Some facts are, however, generally acknowledged—for example: that liquid foods are alone allowable in fever; that carbohydrates are unsuitable in diabetes and proteids in gout. Not many diseases have their diet so definitely specialized as fever, gout, and diabetes. But in the matter of gout there is a wide difference of opinion by authorities. The French school, and it is followed by many in this country, forbids very positively the carbohydrates in the treatment of gout. Chemically, these are not contraindicated in gout, if uric acid is the *fons et origo mali* of this disease, since there is no nitrogen in the carbohydrates. I do not forbid sugars *per se*. If by fermentation they produce acids, this is a reason for not using them, since the acids thus generated go to neutralize the alkalis which otherwise keep the uric acid in solution. If sugars and vegetable acids act in the same way, they are also contraindicated.

"In illustration of idiosyncrasy, of two cases of gout, one could drink a pint of lemonade with perfect comfort, and another could not touch lemonade without bringing on an attack. The reverse was true of strawberries. This goes to show what is proven in many different ways in contact with disease, that the individual as much as the disease requires to be studied and treated.—*Dietetic and Hygienic Gazette*.

CONTROL OF DIPHTHERIA.

BY W. K. JAKES, M.D., CHICAGO.

The knowledge which careful investigation has given the medical world has placed within our hands the means of controlling diphtheria—the most fatal disease of childhood—as it has never been controlled before. Just in proportion as this knowledge is made available when needed, will be the success with which the disease may be held in check. In the past, diphtheria has been in the hands of the family physician, the health official taking little or no part in the treatment, except to warn the public by a placard and insist upon isolation. But our present knowledge of the disease demands a greater participation than heretofore by municipal as well as State officials.

Diphtheria is influenced by every factor that affects the physiologic resistance of the human system. History shows that in every large city, in periods varying from seven to ten years, the disease becomes epidemic, probably due to racial and climatic conditions which cause an increased predisposition, as well as favorable conditions for the virulence and spread of germs. During the summer, or the seasons of least susceptibility, the Klebs-Lœffler bacilli are preserved in dark tenement and basement houses, and other favorable places where sunlight cannot destroy them. During seasons of increased predisposition, they spread from one susceptible individual to another. The Klebs-Lœffler bacilli, inoculated on the mucous membrane, grow with a rapidity proportionate to the susceptibility of the individual. The bacilli, in their growth, produce a ptomain, very destructive in its nature, which causes necrosis at the point of invasion, and a general cell-destruction, corresponding to the degree of virulence and cell-resistance.

The symptoms caused by the invasion of the Klebs-Lœffler bacillus are simulated by several other germs, with which it is often associated. When this is the case, the symptoms of the Klebs-Lœffler bacillus may be so obscured by those of the associate germs that its presence cannot be discovered in the early stages except by the microscope. Mucus taken from the site of the invasion contains the germs exciting the inflammation, and they may be clearly identified through the microscope, after a few hours' cultivation, before the production of membrane or other clinical evidence of diphtheria.

Antitoxin is a specific in the early stages of the invasion of the Klebs-Lœffler bacilli, and the mortality increases in direct ratio as the diagnosis and administration of the serum are delayed. Then the first necessity in the control of diphtheria is an early bacteriologic diagnosis; the next, the proper use of antitoxin. Here begins the responsibility of the family physician, and upon his conduct rests the subsequent results. He must first appreciate the danger that lurks in a simple sore throat, and realize that bacteriologic as well as clinical evidence is necessary for an accurate diagnosis. Laboratory work of any extended nature is seldom possible for the general practitioner, because of the necessary time and equipment; hence this work should be supplied by those whose interests are most involved, and who are best prepared to do it. These are the officials of the health department, who are the guardians of the public welfare, and whose duty it is to help suppress anything which threatens the health of the body politic. Any contagious disease which manifests itself in the form of an epidemic is directly within the jurisdiction of municipal health officers, not for individual treatment, unless it is clearly beyond the scope of the physician, but for the provision of such measures as will enable the physician to best control the disease.

A remedy is only a remedy when applied to the particular disease it is adapted to cure. Antitoxin is a by-product of the Klebs-Lœffler bacilli, and is just what its name implies—a remedy against or opposed to the toxin produced by these bacilli. Having been made possible by the revelations of the microscope, it should be applied as scientifically as it was discovered. Following the first reluctance to use antitoxin at all

has come the tendency among some physicians to administer it indiscriminately in any and all cases of sore throat. This is not as serious in its consequences as the total omission of the remedy, for one is likely, by chance, to cure a case of real diphtheria; but it is unscientific and renders unreliable the record of its results. Given a remedy and its specific action, based upon a certain condition, and the means of discovering that condition, and the physician of to-day is master of a disease which for centuries has been an unconquered foe of the race.

It may be questioned as to whether or not municipal or State authorities have the right to demand certain treatment of a disease from physicians whom they have licensed to practice, after having been convinced of their ability to do so. But the majority of physicians now practising received their medical training before the existence of much of the knowledge upon which our present experience is based. It is not pleasant to admit that some doctors who boast an experience of a quarter of a century, or even a decade, are prone to prefer this experience to "new-fangled" theories. Nothing makes a physician feel so helpless as a consultation with an old physician, who declines antitoxin with the remark that he has used iron and sulphur, and similar remedies, for thirty years, and never lost but one or two cases of diphtheria. There is no argument which will convince such a man that some of the cases may not have been diphtheria. He knows it when he sees it, though he sees it but seldom; and the expert who treats it all the time dares make no such assertion without the confirmation of his microscope. It is this class of physicians who keep up the death-rate in diphtheria, and who make it absolutely necessary that health officers shall demand the use of such methods as have been demonstrated as most efficient in protecting the public and the individual. If the foregoing were not sufficient reason for action on the part of health authorities, there would still remain the fact that diphtheria is a disease of the poor people, and as such requires protection and aid.

In the individual who is protected against diphtheria, there is a constant amount of antitoxin present. It is one of the products of cell-life, under favorable physiologic environment, and is carried to all parts of the body. When the mucous membrane becomes congested, the functional activity of the cells is arrested and their resistance to the invasion of hostile germs is weakened. The toxin of the invaders acts as a stimulant to the other cells throughout the body, causing an increase in the production of antitoxin. This is carried to the site of the invasion by blood and so fortifies the surrounding tissues that the invasion is stopped. With this explanation one can understand how the Klebs-Loeffler bacilli may be present in the mucus of the mouth for weeks without producing an invasion; but when vital resistance is lowered by cold, hunger, loss of sleep, anxiety, menstrual period, or other debilitating factors, the disease manifests itself.

A high degree of physiologic resistance is the surest safeguard against all disease. This condition is only possible with hygienic surroundings; hence it is obviously the first step towards the suppression of disease, particularly of a contagious nature, to demand of the filthy man that he

shall keep himself and his surroundings clean. It is a very fine line which separates the duties of the health official from those of the family physician, and the highest degree of success can only be attained by their harmonious co-operation. Health officials are dependent upon doctors for much statistic information involving time and labor, for which they are not compensated. Not only in return for this, but as a means of guarding the welfare of the public, the authorities should provide such facilities for physicians as will render the treatment of contagious diseases as efficacious as possible.

The expense of a laboratory to a community is small compared with its benefits, and when properly equipped, with an experienced bacteriologist, will prove a very important factor in the hygienic government of a city or town. The culture medium should be properly prepared or the examinations will be confusing and misleading. The change in the forms of the Klebs-Loeffler bacillus, and the modifications in cultural developments, owing to associate germs, make the identification of the bacillus sometimes difficult. Diphtheria work in all its phases is greatly facilitated by experience, and all the cultures of a community are no more than sufficient to give a bacteriologist a knowledge of the varying forms.

From a legal standpoint, it may be a serious matter to placard a house or place of business, and it should not be done unless the department fortifies itself with evidence of the contagious nature of the disease. This it can best do by making its own cultures, or by doing the work for physicians.

Antitoxin is a product which should be subjected as little as possible to the vicissitudes of commercial exchange. It deteriorates with age, and the irregular demand often leaves it on the druggist's shelf for months. When it is needed, it is usually in an emergency, when the life of a patient is depending upon the quality of the first dose of serum. Owing to the large profits accruing from the sale of antitoxin, irresponsible firms have been tempted to place an unreliable grade of the serum on the market. Foreign governments have taken measures to protect their cities by restricting the manufacture of the article. If State officials are not able to do this, they are at least in a position to investigate and satisfy themselves of the best grades on the market to be supplied. No greater service can health officials perform than to arrange for a fresh supply of a reliable grade of antitoxin, throwing careful restrictions about the distribution of that intended for purposes of charity. Delayed treatment means increased infection, and the control of the disease in the tenement districts means fewer funerals on the boulevards.

These facts furnish the basis for the plans now used in cities to reduce the death-rate in diphtheria. The predisposition to this disease is as great in Chicago as in any city of its size in the world. Its geographical situation makes it the commercial centre of the United States; while the immense system of railways radiating from and through it, make it a rendezvous for all classes of foreigners, as well as an incalculable means for the distribution of contagion. Added to this are its crowded districts and its raw lake winds, which have together made the city a shining mark for diphtheria. By furnishing convenient culture media microscopic

examinations, the best obtainable grade of antitoxin, and the services of expert physicians as inspectors and operators, Chicago now points with pride to a death-rate which has been reduced from 37.5 to 6.7 per cent.

In the rural districts, where these means of controlling diphtheria do not exist, the mortality is almost as high as ever. If such a reduction can be accomplished in a large city, under circumstances most favorable to the existence of diphtheria, a similar plan ought to be even more effective in country towns where hygienic conditions are most favorable to health. The methods used in Chicago can be applied and carried out, with some modifications, by the health department of any city or town. Where such an office does not exist in country places, the work can be carried on by direction of State officials with very little expense. The equipment for diphtheria work would represent but a small outlay compared to the advantages to be reaped from its protection. There is no disease of childhood which finds an unprepared country doctor quite as helpless as the malignant form of diphtheria. Without bacteriologic facilities, it usually takes several deaths to convince a physician what he has to deal with and provide for. That part of the control of diphtheria to be performed by health officials is largely by direction of effort. Previous preparation is very important, and should occupy the summer months, when a physician's work is light, and he can devote time to the acquirement of knowledge concerning the morphology of the Klebs-Loeffler bacillus, and the best method of doing the work.

The fear of cholera or an epidemic of yellow fever has caused State officials to spend thousands of dollars in questionable methods for the protection of the people; but a disease which is absolutely preventable has received little or no attention from these officials. The best authorities on the subject believe that if children were given the highest scientific protection there need not be a single death from Klebs-Loeffler diphtheria. We have the knowledge and the remedy; all we lack are the individuals in official life to apply them for the protection of the public.—*Jour. Am. Med. Association.*

TIME AND MANNER OF THE ADMINISTRATION OF DRUGS.

Search for the causation of disease has so engrossed the attention of the medical profession that but little time is devoted to the proper manner of the restoration of the equilibrium to the normal. Surely to properly diagnose a case is not all of a physician's duty, for then the patient may die. What the patient desires most is to get well as quickly as possible. Those who practice irregular medicine have not been slow in learning this prejudice of the people, and have turned it into a financial gain to themselves.

Good-tasting medicine is a great catchpenny to homeopaths, for if it does no good it pleases the parents and thereby diverts money from the hands of physicians to the pockets of the irregulars. This practice is common and is most appreciated by those physicians who live in cities. How often do we hear it said that the reason so-and-so were "converted" was because they did not like to take the bad-tasting medicine of the

"old-school" doctors. Those who carry out this line of thought logically and naturally think: If the weak or good-tasting medicine of the homeo-path cures as many people as the other, then why take any medicine at all? And from these premises it would not be far to believe the tenets of Christian Scientists, because, forsooth, it is a matter of faith anyway.

An art that is yet to be learned is the time for the administration of drugs. What good will it do a patient to give a highly nutritive diet, if *asafetida*, cod-liver oil, *guaiac* or *quinin* is to be given immediately before meals? What good will a saline purgative do when given immediately after a meal? If the patient is awakened during the night to take nourishment and medicine at the same time, what good will he derive from either? Our sense of taste and smell must at least serve some purpose, for our appetite craves for that which is good. In disease, the appetite is held in abeyance, perverted and most uncertain. Drugs do not furnish nourishment; they simply act upon the force generated by the nourishment taken. Then why destroy this force? There then must be a proper time and there must be a proper manner of giving medicine.

Elegance in pharmacy should be encouraged. The art of prescription-writing should be learned. In this respect we should copy after the French, who are noted for their elegance in pharmacy. Gelatin capsules serve a most valuable purpose to the regular physician; for unpalatable drugs may thus be taken without being tasted. Compressed triturates should be received with great joy, for they demonstrate the energy and enterprise of the "old school" doctors. All drugs, however, cannot be put in tablet form. Some drugs are volatile and others hygroscopic; therefore solutions must always have a place. The art of disguising the taste of unpalatable drugs so that the patient can or *will* take them is one not easily acquired by the profession, because it is largely governed by manufacturers of patent medicines. With the child, a solution of magnesium sulphate or an emulsion of castor oil causes disobedience, and frequently the mother will not give them. Some children will vomit when given too sweet drugs, while the adult loses his appetite. Half an ounce of myrrh to a four-ounce mixture is usually sufficient.

Alcoholic extracts, such as *cannabis indica*, *cubeb*, or *eucalyptus*, precipitate on the addition of water, and therefore should be given in capsules. Solutions of *quinin*, bromids and prescriptions containing fluid extracts may be rendered palatable by the addition of a syrup containing aromatics, such as the elixir *curacoa* of the National Formulary. Oleoresins are unsavory and frequently render a patient most rebellious. The taste of *copaiba*, *cubeb* and *sandalwood* remains in the mouth for hours. There is a little art required in dispensing these substances in gelatin capsules, as follows: Place the oil in the capsule by means of a pipette and seal with an alcoholic-etheral solution of *balsam of tolu*. *Rochelle* or *Epsom salts* are very soluble and should be dissolved in a small quantity of water and taken, and subsequently a large amount of water given if desired. *Guaiac* has come down to us from former times as a valuable remedy in rheumatism, gout, lithemia, etc., but there are few text-books which tell of its proper administration. Here again the manufacturers of patent medicines pervert legitimate pharmacy from its proper channels,

because it is easier to give something else than to combine the guaiac in lozengé form by means of the confection of rose and flavored with oil of lemon and cloves. In cod-liver oil we have one of the best known tonics, yet how often do we find that it cannot be borne by the patient. To disguise its taste and render it palatable frequently baffles the physician, so that if one of the proprietary emulsions is not used the remedy may be abandoned. Cod-liver oil that has become rancid can never be disguised, and will in nearly every case disturb the stomach, so its character should always be under the surveillance of the attending physician. In most cases an emulsion that is borne well can be prepared by taking the yolks of three eggs, triturating in a mortar for *at least* fifteen minutes, and then adding the oil teaspoonful by teaspoonful until the whole has been incorporated. The yolks of three eggs will suffice for a quart of finished emulsion. Probably the best ingredient to disguise its taste is bitter almond water, usually an ounce being required for a quart of emulsion.

While these few remedies are not all that might receive attention, it is hoped that a few hints may be thrown out which will benefit the general practitioner and keep legitimate pharmacy within proper bounds.—*Jour. Am. Med. Assoc.*

EFFECT OF CHLOROFORM AND ETHER NARCOSIS ON THE LIVER.—Bandler of Prague, performed a herniotomy on a hitherto strong, healthy man, who was, however, a hard drinker, using chloroform as an anæsthetic. A few days afterward icterus developed and the patient died with cholemic symptoms. As leucin and tyrosin were found in the urine, *intra vitam*, the diagnosis of acute yellow atrophy of the liver had been made, and it was confirmed by the necropsy. Bandler has since been studying the literature on the subject and experimenting on animals to determine the exact effect of chloroform narcosis on the parenchymatous organs. He states that every case of chloroform narcosis showed degeneration of the liver cells afterward, while this degeneration was absent or very slight after ether narcosis. He therefore urges the importance of avoiding the use of chloroform in cases where there is reason to suspect that the liver is not perfectly normal, and using ether instead.—*Medical Sentinel.*

LOCAL ANESTHETIC.

R	Orthoform, pulv.....	2.0-4.0
	Lanolin	15.0
	Vaselin.....	5.0

M. ft. ungt. S.—For external use in rhagades, ulcerations, burns of all degrees.—(*Munch. Med. Woch.*)

FISSURE OF THE TONGUE.

R	Acid carbol.....	1.5
	Tinct. iod.....	5.0
	Glycerine	15.0

M. D. S.—For local application with a camel's hair brush.—(*Monatsh f. Dermatol.*)

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, A. B.,

Associate Prof. Clinical Surgery, Trinity Med. Coll.; Surgeon Emergency Department
Toronto General Hospital; Surgeon to the Hospital for Sick Children;
Surgeon to St. Michael's Hospital. 68 Isabella Street.

FRED. Le M. GRASETT, M.B., C.M., Edin. Univ.; F.R.C.S.E.; M.R.C.S., Eng.;
Fell. Obstet. Soc., Edin.; Surgeon, Toronto General Hospital; Physician to the Burnside
Lying-in-Hospital; Member of the Consulting Staff, Toronto Dispensary;
Professor of Principles and Practice of Surgery, and of Clinical
Surgery, Trinity Medical College. 208 Simcoe Street.

CYSTITIS.

VARIETIES.—Melchior contends that there seems very little doubt that we have to recognize the existence of two distinct types of cystitis—one associated with acid and the other with alkaline urine. In the latter some of the organisms capable of decomposing urea and liberating ammonia are present—*e.g.*, the diplococcus ureæ liquefaciens, the proteus Hauser, the bacillus pyocyaneus, etc., with or without the bacillus coli communis; in the acid forms of cystitis, the latter organism is alone present. The former type has long been recognized, and its characters noted; but practitioners are not so frequently on the lookout for cystitis with acid urine.

SYMPTOMS.—Guitéras says the symptoms—pains, pus in the urine, and frequently of urination—may come from other causes, singly or combined. If singly, the disease is not cystitis; if combined, they may result from two or more diseases. In the beginning of acute cystitis we often have fever, depression, nausea, loss of appetite, constipation, etc. Hæmaturia is also often present. In chronic cystitis the urine is generally light in color, alkaline, of a lowered specific gravity, containing a slight amount of albumin, perhaps some blood, and pus in abundance. When allowed to settle, pus forms a more or less dense deposit on the bottom of the glass, above which there is a cloud of muco-pus. Bladder epithelium is found, especially in the forms where ulceration is present. In all cases certain microbes of suppuration are present.

Hutinel remarks that cystitis from colon bacilli in children usually begins with irregular fever, and the local symptoms soon become marked; frequently painful micturition, often followed by a few drops of blood; the urine contains albumin, an abundant deposit of muco-pus, and microscopically epithelial and pus cells, and the bacillus coli communis in large numbers.

Wollstein cites cases of cystitis without symptoms. The urine was pale, had a specific gravity of 1018, and contained much albumin and some leucocytes, with epithelial and granular casts. There was no uræmia. At the autopsy was found chronic cystitis, especially around the trigone.

DIAGNOSIS.—Guépin and Grandcourt express the view that there is a series of diseases with bladder manifestations in which no pathological condition exists in the bladder, usually diagnosed as cystitis. The bladder symptoms in such are the result of nervous reflexes, principally from an affected posterior urethra, but they may also come from the anterior urethra, from the ureter, and even from the kidney. The diagnosis is often extremely difficult, and depends finally on careful local examination. In cases of false cystitis the symptoms are always aggravated by intravesical medication.

PROPHYLAXIS.—Noble emphasizes the fact that all who have devoted special attention to characterization as a cause of cystitis know that there is no better method of causing cystitis than the attempt to perform this without full antiseptic precautions. The catheter should never be passed with the exposure and cleansing of the meatus urinarius. The cleansing should be done with bichloride solution 1 to 1000, and a sterilized catheter passed under the guidance of the eye. Because of the facility with which glass catheters can be sterilized by boiling, these are to be preferred. If a soft rubber catheter is used, this should be boiled five minutes immediately before being used. A glass catheter can be passed without any lubricating material, if it is dipped in the bichloride solution and introduced wet. If a lubricant is used, the best is boro-glyceride solution.

ETIOLOGY.—Shrady queries how the bacillus coli communis gets into the bladder, and whether it always causes cystitis when there. Interesting observations on urine in disease reveal its presence where no cystitis exists. Escherich explains the greater frequency of coli-cystitis in girls upon purely anatomical grounds, assuming that infection may come from without, and by means of direct contact of excrementitious products with the mucous surfaces of the vagina and urethra; others think there may be direct migration of bacilli through the walls of the intestine into the bladder. Denys thinks this possible only when there is a lesion and hyperæmia of the intestine, but Czerny, Escherich, and Trumpp have found the bacillus coli communis in the blood in cases of enteritis. Work on the cadaver has also demonstrated its presence in various organs of the body. A general coli-bacillus poisoning is always possible, for the virulence of this particular micro-organism, under favoring conditions, has not been exaggerated.

Hutinal observed five cases of cystitis, due to the colon bacillus, in girls between two and ten years of age, who had for a long time suffered from mild mucoid vulvo-vaginitis, and recently suffered from a more or less severe intestinal inflammation. The characteristic symptoms were mucous discharge from vulva, diarrhœa, or tenesmus alvi, painful bladder tenesmus, urine small in amount, containing pus, albumin, colon bacilli in pure culture, irregular remittent fever of short duration. It was not the vulvo-vaginitis but the enteritis which played the principal role in exciting the cystitis. The bacillus coli communis may also invade the bladder, during an enteritis follicularis, and grow there without setting up a cystitis. Trumpp has reported eight such cases of bacteriuria in girls and five in boys.

Rovsing in classifying the different forms of cystitis, indicates his preference for the following:

1. Catarrhal or non-suppurative cystitis, caused by organisms which are devoid of pyogenic properties, and do not attack the mucous membrane of the bladder directly, but which decompose the urine.

2. Suppurative cystitis, of which there are two main groups: (1) an ammoniacal form, in which pyogenic organisms are concerned, capable of decomposing the urine; and (2) an acid form, for the most part due to the tubercle bacillus.

Ammoniacal group includes cases in which the colon bacillus co-exists with other microbes which decompose the urine, and cases in which the latter are alone present. Ammoniacal cystitis is usually the result of the introduction of instruments by the urethra. The acid form of suppurative cystitis is much less common than the alkaline; they are rarely the sequel of the passage of instruments. The microbes concerned are the tubercle bacillus, typhoid bacillus, the gonococcus, the bacterium coli, the streptococcus pyogenes. They gain access to the bladder from the posterior urethra, or by the ureter from the kidney.

Walker has frequently observed cases of cystitis after frequent catheterism in women. It seemed that the cause of the cystitis was injuries produced in passing the catheter, rather than the use of a dirty instrument, because in all of those cases the catheters were sterilized and kept with great care in an antiseptic solution and used principally by the nurse. In spite of all the care exercised as to asepsis, etc., he has seen cases of cystitis develop. It seem to him, therefore, that it was on account of traumatism rather than anything else, for in these cases not only had the cleanliness of the catheters been looked after, but the meatus had been carefully cleansed before their introduction.

Walls relates two cases of exfoliating cystitis. Both originated as a consequence of retroversion of the gravid uterus. The first patient came under treatment when four months pregnant. The second presented herself after abortion had taken place.

TREATMENT.—From an experience of 116 cases, Guyon emphasizes the immense importance of general therapeutics which applied to all forms of cystitis. There is not the danger of irritating the bladder in tuberculous cystitis that there is in other forms, hence the diet should be abundant and extremely nourishing. Creasote ranks first in the medicines. Local treatment must be very cautiously applied, as the bladder is exceedingly sensitive. But the local treatment is extremely important and should be commenced from the first, confining it to very weak solutions. He found boric acid, etc., injurious in any form, and restricts himself to sublimate and guaiacol. The sublimate is beneficial even in very weak solutions and in merely suspected cases. Four out of thirty-three patients treated with it were completely cured, five much improved, and eight moderately. He begins with a 1-to-5000 solution, raising this to 1-to-3000, and reducing the strength at the slightest evidence of irritation. Thirty to forty drops are enough; fifty the maximum. The general treatment occupies months.

Elliott states that urotropin has given him unqualified satisfaction in cystitis. It is non-toxic and non-irritating and is readily soluble in water. It possesses decided diuretic properties and under its influence uric acid and

sedimentary urates previously present no longer appear. A single dose of $7\frac{1}{2}$ grains exerts an influence lasting over thirteen hours, while after a dose of 15 grains its effects last for twenty-seven hours. Urotropin increases the acidity of the urine. No ill effects upon the kidneys have been observed. The dose ranges from 15 to 90 grains in the 24 hours, it seldom being necessary to employ a larger daily amount than 20 grains. For antiseptic purposes he found its exhibition in 5-grain capsules four times a day to be most satisfactory. When taken in this form the patient is always advised to drink a full glass of water after each capsule.

Nicolaier says, in daily amounts not exceeding fifteen grains, urotropin is well borne for a long time, and no disagreeable symptoms arise from its use.

Under the influence of the drug there very rapidly occurs a marked change in the composition of the urine in cases of cystitis with ammoniacal decomposition. First the ammoniacal smell diminishes in intensity and soon entirely disappears; then the reaction of the urine becomes acid again. The urine becomes clearer, the triple-phosphate and urate-of-ammonium crystals disappear, and the serious troubles so frequently caused by the abnormal constitution of the urine cease. The amount of pus corpuscles also diminishes, and may entirely disappear.

Urotropin does not act by killing the micro-organisms and spores that cause the ammoniacal fermentation, but merely prevents their development.

In acute cystitis a teaspoonful of the following mixture in water given every three hours is valuable:—

℞ Fluid extract buchu, 1 ounce.
Citrate of potassium, 3 drachms.
Sweet spirit of nitre, 4 drachms.
Syrup of lemon, to make 3 ounces.

Banzet declares every patient must be fully nourished. In prescribing internal remedies, due regard must be paid to their effect upon the appetite and digestive functions. Creasote must be given in very small doses, and over a long period. Should definite improvement not result from general treatment, or should the symptoms be such as to forbid delay, recourse must be had to local applications. The drug which yields the best results is corrosive sublimate, in aqueous solution, beginning with a dilution of 1 in 10,000, and gradually increasing the strength to 1 in 5,000, this to be instilled in small quantity every day or every second day. Guaiacol, although very soothing to the sensitive mucous membrane, is distinctly inferior to sublimate.

Harovitz counsels for the treatment in gonorrhœal cystitis, rest in bed, avoidance of all local irritations, administration of morphine, codeine rectal suppositories, or of extract of hyoscyamus, use of local warm baths, forbidding of spices, alcohol and carbonated waters, and the giving of laxatives. Priapism can be avoided by the bromides, with camphor of cannabis Indica.

For the cystitis itself, salol, in three doses of 15 grains each, sodium salicylate or sodium benzoate is useful. If the digestion is excellent, oil of santal, cubeb, kava-kava, balsam of copaiva, balsam of Peru, and

oil of turpentine may be employed. Of importance is the use of infusions, as of *uva ursi*, quite likely on account of their diluting the urine.

Colin highly recommends the following (Picot's) formula:—

R Guaiacol, 5 parts.

Iodoform, 1 part.

Sterilized olive-oil, 100 parts.

M. From ten to twenty drops are injected into the bladder once or twice a day.

Bloom observes that, as far as results go, the technique of vesical irrigation is most important. The apparatus consists of a soft rubber catheter joined to a piece of rubber tubing by a short piece of glass tube. A small glass funnel is connected with the other end of the rubber tube. Sterilization is most important before using it and immediately afterwards. After carefully cleansing the meatus urinarius as well as its immediate surroundings, the catheter, well lubricated with sterilized vaselin, is introduced, the urine drawn off while the instrument is still in place, and the tubing filled with the column of urine, thus preventing the entrance of air; the funnel is filled with the irrigating solution and gradually raised, distending the bladder slowly. The quantity used will depend upon the vesical irritability. The maximum quantity should not exceed five ounces. The funnel is then lowered and the bladder evacuated in the same careful manner.

This procedure is repeated till the washings come away perfectly clear and clean. The temperature of the solution should be about 100° or 105° F. It may be used once a day at first, or at most twice a day, and after a few days the frequency should be lessened.

Escat states that when cystitis proves rebellious to instillations, injections, or washings, curettage through the urethra is indicated. This should not be employed when there is kidney disease, or when the inflammation has penetrated deeply into the bladder-walls. If the inflammation has extended beyond the trigonum, suprapubic cystotomy, followed by curettage, is indicated.

Garceau states that, in general, the curable affections are those which are superficial in character, while those resisting treatment are the cases of long-standing in which the inflammation has involved the interstitial tissue and muscles; in the latter, local treatment is often of little avail. The only treatment thus far which gives relief and sometimes cures, is cystotomy; but the disagreeable features of this operation are so marked that one hesitates before recommending it. In the superficial forms of inflammation, by the cystoscope, the lesions can be treated locally and the applications made directly and exclusively to the diseased areas.

With a No. 8 (millimetre) cystoscope and a good light the female bladder may be inspected with ease and satisfaction. With this small-sized cystoscope previous dilation of the urethra is quite unnecessary in the great majority of women. The examination, in the knee-chest posture, may be made practically painless if one or two crystals of pure cocaine are inserted in the meatus urinarius and left there a few moments before the cystoscope is introduced. After the first examination it will be possi-

ble to dispense with cocainization, for the passage of the instrument causes no more pain than the passage of the female catheter.

THE FREQUENCY, CAUSES, AND PREVENTION OF POSTOPERATIVE VENTRAL HERNIA.*

BY FRANK B. WALKER, PH. B., M. D., DETROIT, MICHIGAN.

In these days of cases by the hundred we should expect to have statistics for any and everything. Surgical operations are being done on a large scale. The results are correspondingly grand. Unfortunately complications and sequels appear in similar proportion. Were this assumption not reasonable it might be suspected from the infrequent reports and the paucity of literature on the subject that ventral hernia following abdominal operations were of rare occurrence. That they are frequent, however, no one much involved in surgery, and especially abdominal surgery, will deny. Accurate figures on this point are not to be had. The most modest statement I have found is by MARCY, who says: "It is variously estimated by different authors that ventral hernia follows the closure of the abdominal wound after laparotomy in from five to ten per cent. of the sum total of cases." DOCTOR J. T. JOHNSON has affirmed that ventral hernia "actually happens in about ten per cent. of all abdominal operations." GREIG SMITH says: "That it occurs in twenty per cent. of all cases operated upon five years and upward, I firmly believe to be a fact; but we have no figures to prove it." Not to rely solely upon conjectures, some of which are even less restrained, we have the significant statement by DOCTOR BULL that "From March, 1891, to December, 1895, two hundred cases of ventral hernia following abdominal operations and injuries, were observed at the Hospital for Ruptured and Crippled."

Their importance, moreover, is not measured solely by their frequency. They are seldom of little annoyance. Occasionally they are by far more troublesome than the original affection. For these reasons it is assumed that no surgeon should presume to open the abdominal cavity who does not understand and apply the principles by which postoperative ventral hernia may be prevented.

The causes of this variety of hernia include those of the pelvic form. In each may be manifest the influences of heredity, age, occupation, elongation of the mesentery, parturition, obesity, as well as the more marked effects of dysuria, constipation, cough, and strain. The only essential difference is the localized change in the abdominal wall in the region of the cicatrix, on account of which the other causative factors become more effectively operative. The factorage of the scar tissue is explained by reverting to the physiological requirements of these structures. Owing to the muscular and aponeurotic framework on its forward and lateral aspects the abdomen is always full, and its walls subjected to equable pressure, varying according to their contractility, the abdominal contents and the position of the body. The several structures so recross

*Read before the MICHIGAN STATE MEDICAL SOCIETY at the Detroit meeting.

and reenforce each other in a kind of net work that under normal conditions hernial protrusions are impossible. Hernia never takes place through intact muscular tissue. It is admitted that it may take place through fascia. The uninjured linea alba and linea semilunaris, however, possess enormous tensile power and, unless congenitally defective, are able to withstand ordinary strain. Despite the authority of SIR SPENCER WELLS and the inference from DOCTOR MARCV, we are not inclined to attach to the peritoneum much, if any, responsibility for the occurrence of hernia. The peritoneum and skin are both distensible and easily remain distended during the application of weight or pressure. The physiological functions of these tissues appear to be less those of support than of a peculiar protection to adjacent structures. Having thus eliminated all other sources we assume that the responsibility for the occurrence of this form of hernia rests with the cicatrix.

The opinion is more or less prevalent that scar tissue is stronger and more unyielding than normal muscular and tendinous structures. The truth is that scar tissues from whatever source always stretch. From this tendency even the inch and a half incision cannot escape. The cicatrix becomes broader and thinner depending upon its position relative to adjacent structures and the severity of the strain brought upon it. For instance, the scar formed between the ends of a divided rectus muscle, no matter how accurately coapted, is prone to gape and will stretch much more than one formed between fibers separated longitudinally. The broader and shallower the original scar the greater the change that may be expected to finally result.

It has been said that the use of a drain aids in producing a deep scar. It is generally admitted, however, that ventral herniæ occur more frequently in those who have been drained. The use of a drain separates to that extent the edges of the wound so that a broad rather than narrow scar is formed. Stitch abscesses also, whether due to sepsis or pressure necrosis, tend to produce the same result. Lastly, the atrophy of a divided muscle further increases the defect.

Having thus defined the source of this variety of ventral hernia and the change in the scar tissue that inevitably ensues, the surgical indications unmistakably point to some modifications in the methods of incisions and wound closures by which the normal arrangement of the parietal structures may be more nearly preserved. It is admitted, of course, that some cases are laws unto themselves. Occasionally the saving of life forbids the deliberate procedures to be suggested. In the majority of instances, however, it would be possible to apply the principles herein involved.

For our present purpose incisions are best considered with reference to their three qualities of position, length, and direction. The position of an incision is naturally governed by the nature of an operation and the exigencies of the case. It would be folly to make an incision in the median line when one in the lateral region would conduce more to the ease, rapidity and safety of the operation. The regions in which the several organs or portions of them are best attacked are pretty well determined and need not be mentioned here. The difficulties incident to sections

near bony margins or in the thicker portions of the abdominal walls have no important bearing in this connection. As the deep epigastric artery is the only vessel of any particular moment, and as this is easily sought out and ligated, the possibility of hemorrhage is no modifying factor in choosing the site for an operation. On account of the atrophic condition of tissues consequent upon nerve section, dissection without division should be the rule.

Other things being equal the shorter the incision the less probability there is of hernia. It must not be forgotten, however, that even short incisions inevitably leave behind a permanent and irremediable weakness.

Of far greater importance than the length of an incision, provided the extent of it does not materially influence the mortality, is its direction. As has been already suggested, transverse division of either muscular or aponeurotic structures will be followed sooner or later by a material stretching of the scar, and this separation will be increased by tissue atrophy. Oblique incisions will be followed by the same result in proportion to the tissues divided. Incisions made parallel with the direction of the fibres that is separation without division, will, if coaptation be accurate, leave the tissues practically intact. This applies, however, rather to muscular than to fascial or aponeurotic tissues. If a layer of intact muscular tissue lies above, below or alongside other separated or divided tissue, the latter is thereby much strengthened and the liability of hernia is much lessened. This explanation is offered for the less frequent occurrence of hernia after longitudinal division through the *linea alba* and *linea semilunaris*. Opening of the sheath of the rectus is on this account productive of strength as muscular tissues are thereby brought into the wound.

As the cicatrix naturally tends to become broader and thinner the attempt should be made to render it as narrow and deep as is consistent. The first requirement is met by accurate coaption of like structures. The second is effected by bringing a consistently large bulk of tissues within the sutures. Of these the muscular should form the larger part. The results obtained by the use of separate lines of buried sutures do not belie the safety of this method. Neither can we gainsay the utility of the mass suture method, when properly applied. By proper is here meant the inclusion of more muscular tissue than skin within the sutures. This may be accomplished by gently retracting the skin before inserting the needle. There can be no question but that this is a simpler and more speedy method of closing the incision than by the use of two or more lines of buried sutures. The similarity of scar tissue, whether formed from muscle or fascia, lessens the necessity of overnice juxtaposition of corresponding layers. Furthermore, as GREIG SMITH has pointed out, the suture of the separate layers may be objected to for the reason that it "devascularizes the lines of union and narrows them. Such a suture leaves a series of gaps to be filled with clot between each layer at the line of junction; there is not one flush meeting of the whole of the raw surfaces as in the mass sutures. Also the cicatricial tissue dipping into these hollows is longer, therefore more easily stretches; while the

bulk of it in depth not being so great is not so strong." However, the particular method used is not of such essential importance as the method of incision. So long as the divided tissues are closely approximated, sepsis avoided, and the tissues firmly held in juxtaposition until a mature cicatrix has had time to form, which ordinarily requires three or four weeks, other pains may be regarded as a refinement.

To summarize and apply the principal points: Postoperative ventral herniæ are assumed to result in at least one in every five cases of laparotomy as at present performed. They are of sufficient importance to deserve prevention. The principal cause is the stretching of the scar tissue following transverse or oblique division of the abdominal muscles. Wherever possible tissues should be separated, not divided. In the median region incisions should always be vertical and penetrate the sheath of the rectus muscle. In the lateral regions separation of each muscular layer without division of the fibers should be practiced in every instance possible. If retraction of all the layers without division be impossible, separation should be effected at least in the most important muscular layer. All incisions should be as short as practicable. The edges of a wound should be accurately, not too tightly, coapted; consequently stitch abscesses and other evidences of sepsis must be avoided, and as far as possible drainage should be dispensed with.

TREATMENT OF STONE IN THE BLADDER.

BY DR. ED. L. KEYES.

(Ann. of Surg., May, 1898.)

The author's conclusions are as follows:

1. When stone complicates enlarged prostate, if the condition of the latter be such that were the stone absent no operation would be called for, then the whole question is to be solved by deciding whether the obstructive quality of the prostatic enlargement, the size of the base, the depth of the base-fund, the irritability of the prostatic urethra, and its resentment of instrumental interference—whether any of these factors be sufficiently accentuated to make litholapaxy impossible, or to make it possible only at the expense of leaving the patient (as to his subjective symptoms) worse than before.

If such conditions do obtain, then the stone should be removed by the knife.

2. In short, the main matter is one of diagnosis by the searcher, the cystoscope, rectal touch, and the tentative testing of the prostatic urethra with instruments.

3. The size or position of the stone is not a factor, except in the case of encysted stone or one too large for the lithotrite to grasp, or in the case of a foreign body. The smallness alone of the stone is relatively an argument against litholapaxy, since the symptoms in such a condition must be ascribed rather to the prostrate than to the foreign body.

4. If lithotomy be performed, the suprapubic route should be selected,

since this opens the door for more perfect work, and allows the surgeon to remove obstructions, such as third lobe, interstitial growths, outstanding horse-collar enlargement, bar, and to lower the vesical end of the urethral floor, thus accomplishing all that could be done by a more extensive prostatectomy without very seriously increasing the operative risk.

5. Finally here, as elsewhere in surgery, the only safe, practical guide is surgical judgment, based upon diagnosis, guided by experience.—*Post-Graduate*.

THE SURGERY OF PANCREATIC ABSCESS.

Sikora (*Gazette des Hopitaux*, July 7th, 1898) observes that the prognosis of suppurative pancreatitis is very serious since of all published cases all have proved fatal excepting Paul's and Thayer's. These happen to be the only cases where there was surgical interference. Senn first advocated that step. He proposed that after a median abdominal incision the parietal peritoneum should be sutured to the cut edge of the skin so as to prevent pus from entering into the muscular layers of the abdominal wall. Then the peritoneum pushed forwards by the abscess is carefully sutured to the abdominal wound. A long incision is needed if the abscess be not very prominent, else it will be difficult to fix its serous covering satisfactorily to the parietes. Not until the suturing has been finished by tying of all the sutures should the abscess be opened and drained. Lumbar drainage is sometimes needed as in cases of pancreatic cyst. Paul emptied over a pint of pus out of a pancreatic abscess. Pieces of disintegrated glandular tissue floated about in the pus, and at the bottom of the cavity the head and tail of the pancreas could be felt. Yet though the entire organ seemed broken up, the patient recovered from the operation and was restored to health. Thayer's case was similar, the patient was a man aged 44, with all the symptoms of suppurative pancreatitis. The abscess was opened on Senn's principle; a thick orange-brown pus, mixed with greasy tissue, came away. The abscess cavity opened into the substance of the pancreas. Within three months the patient was well again.—*British Medical Journal*.

BLENNORRHAGIC ARTHRITIS—TREATMENT.—It is advisable in all acute inflammations of the joints to examine the urethra. In 90 per cent. of the cases urethritis will be found. The cases may be divided into four groups: First, where effusion alone occurs; second, where there is formation of fibrin and thickening of the capsule; third, periarticular plegmon with impairment of the action of the tendons and elasticity of the ligaments; fourth, where ankylosis occurs very early. The puncture of the joints and the injection of a solution of carbolic advised. If there is a periarticular affection, the joint should be opened and washed out.—KONIG (*Sammlung. klin. Vortrage*, No. 170, '96; *Boston Med. and Surg. Jour.*, July 7, 98).

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

CAMPBELL MEYERS, M.D., C.M., M.R.C.S., Eng., L.R.C.P., Lond.,
Neurologist to St. Michael's Hospital. 192 Simcoe Street.

STEPHEN LETT, M.D.,
Medical Superintendent, Homewood Retreat, Guelph.

THE PATHOLOGICAL ANATOMY OF THE TRAUMATIC NEUROSES.

Lutzenberger, *Annali di Neurologia*, 1897, xv, Fasc. v, 354-371, publishes the results of an experimental investigation upon the effects of traumatic shock on the central nervous system. His experiments were performed on guinea-pigs, which were subjected to various injuries, so as to produce traumatic symptoms in the functions of the brain and cord, and then after a period of observation were killed and the cord and brain examined microscopically, the methods of Nissl, Marchi, Weigert and others being employed. The results are summed up in the following conclusions:

1. The general nutritive disturbances produced by injury to the nervous system appear first in an increase of ganglionic cells in a regressive phase.
2. The circumscribed lesions following trauma of the nervous system have two origins; one is due to confusion and contrecoup, the other by shock transmitted to the cephalo-rachidian fluid.
3. When the microscopic examination reveals no traces of softening, a histological and histochemical (that by coloration and chemical reaction) may show cellular alterations in the parts exposed to contrecoup, and lacerations of the medullary sheaths of the fibres also at a long distance from the direct point of action of the trauma.
4. The alterations of the ganglion cells observed at the point of the traumatism, or in the region corresponding to the contrecoup, are represented by a *special polar* distribution of the chromatic substance, thus far not described in any other disorder.
5. In cases also of trauma on the head, the rapid displacement of the cephalo-rachidian fluid may produce lacerations of the cord. These may so alter the arrangement of the white and gray columns as to simulate a heterotopy.
6. As a result of trauma, we may meet with sclerotic cicatrices in the cord, especially where the lacerating effect was greatest.
7. The capillary apparatus of the central nervous system often responds to trauma with a capillary and venous dilatation; in such case we find abundant cellular changes in the medulla oblongata.

8. When the trauma is followed by cachexia the cellular alterations may be very marked and closely resemble those produced by the grave cerebral disturbances of general paralysis.

NUCLEAR ALTERATIONS OF CORTICAL NERVE CELLS.

Grimaldi, *Ann. di Neurologia*, 1897, xv, Fasc. v, discusses the nuclear alterations of the cortical cells in the insane, a subject that until lately appears to have received less attention than some others. A large part of his paper is taken up with the literature of the subject, which appears to be quite thoroughly reviewed.

His personal observations were made on four cases of general paralysis, and he distinguishes in these two groups: one in which the alterations of the nucleus were the same as those of the rest of the cell, and where it was indistinguishable from the rest of the protoplasm, having lost its contour and special characters; the other, in which with profound protoplasmic change the nucleus was still well marked and distinguishable, and only degenerates in a very advanced stage of the morbid process, and only in some cases displaced to one side or the other. Grimaldi does not hold that these are different degrees of the same morbid condition, but suggests that there is a special type of deleterious influence in the second of these classes that does not directly act on the nucleus, while in the other class the morbid process, whatever it may be, acts equally on it and the protoplasm.

EREUTHOPHOBIA.

A. Pitres and E. Regis, Congress of Alienists and Neurologists, Nancy, 1896.—The physiology of blushing was reviewed with more particular reference to its psychologic phenomena, and attention was especially called to the fact that in some cases this particular condition may go even to obsession. Blushing is a quite common condition, usually attended with more or less temporary psychic embarrassment, but on the other hand, in some cases, owing either to its undue frequency or to the intensity of the embarrassment, assumes the role of a morbid phenomenon. With some individuals the *ennui* of having blushed is so paramount that it augments the tendency and the fear of blushing again haunts them so much that in their every act they appear timid and embarrassed; they blush without reasonable provocation, and are in consequence so miserable over their condition that they shun society and become sombre, misanthropic, and in some extreme cases contemplate self-destruction. These cases are far from being exceptional, as the study and inquiry of the authors demonstrated. This psychologic disturbance and apprehension is usually one of only temporary duration, beginning in many cases at about 20 and in the majority ceasing before 30 years of age, but in some it persists indefinitely in the form of a veritable obsession.

The condition is divided into three categories which represent degrees of gradation of the intensity of the psychologic confusion.

Simple Ereuthosis.—To the first degree belong individuals who exhibit an undue facility of blushing and in whom it is excited by the most insignificant triviality, but when it is once over it is ended, as far as any further thought of it is concerned.

Emotional Ereuthosis.—In this class may be included certain young men and women at the formative period who are characterized by not only an excessive disposition for blushing, but also by an exaggerated degree of confusion, which, however, stops short of obsession. Those belonging to this group are persons exhibiting a manifestly neurotic temperament without necessarily presenting evidences of hereditary stigmata.

Ereuthophobia.—This form represents the most advanced degree of this most singular psychologic perturbation. It differs from the two previous groups in that the constant pre-occupation of blushing constitutes a veritable obsession, variable in intensity, but incessant in duration. A number of cases were reported, and from the citations it is seen that all with one exception were young males, markedly neurasthenic, with ancestral stigmata. All are unanimous in stating that the atmospheric variations largely influence the susceptibility to blushing. In the cold, dry weather of winter and in the hot days of summer there is an appreciable amelioration and diminution of the trouble. In some extreme cases where the blushing was particularly marked, capillary pulsation could be detected.

The authors then traced with much elaborate minuteness of detail the order and character of psychological evolution of the emotions of the unfortunate individuals who are subject to this condition. Nine cases were reported belonging to this last type, and it is interesting to note that of these the cultured and more intelligent almost necessarily succumb and become victims to a bitter and subtle pessimism encountered, as was pointed out by Regis, in what he calls his "neurastheniques superieurs."

Treatment has proved ineffectual in these pronounced cases even when suggestion as a therapeutical procedure was carried to its extreme limits the disturbance persisted with the utmost tenacity, with practically little or no amelioration.

A. J. L.

NEURASTHENIA AND GENERAL PARALYSIS.

E. Regis, Congress of French Alienists and Neurologists, Nancy, 1896. Dr. Regis in his paper first directs attention to the frequent existence of a neurasthenic state in the preparalytic period, as pointed out by Aug. Voisin, and more recently in a special study by G. Ballet. Regarding the differential diagnosis between essential neurasthenia and the preparalytic neurasthenia, the author thinks Gros, of Heidelberg, goes too far in saying that all neurasthenia developing between 30 and 50 years in a man up to that time healthy and not nervous should cause one to suspect the incipency of a general paralysis.

The difficulty experienced in establishing the diagnosis between general paralysis and neurasthenia is an occurrence of less theoretic than practical importance, as amply illustrated by the symptomatology and history of the cases observed by Dr. Regis. The distinction between what Kraepelin

would significantly call the "asthenic psychosis of convalescence" and parietic dementia is not always based upon lines of as sharp and distinct demarcation as one would be led to believe. The following is illustrative and demonstrative of the point in question: Madame M., 49 years old, with previous good health, non-syphilitic, is in May, 1896, affected with influenza, followed by an attack of measles. At the maximum of the eruption there is a brusque apparition of an infectious delirium, at first nocturnal and finally continuous in character. On the 5th of June, when seen by Dr. Regis for the first time, he found a state of profound asthenia, the patient presenting all the signs of an advanced general paralysis—incoherence and loss of memory, ideas of grandeur, characteristic embarrassment of speech, inequality of pupils, and fibrillar tremor of tongue with trombone movement. There was a uniform tremor of the lips and hands, and an abolition of tendon reflexes; standing and walking were impossible. In the presence of such a clinical picture the author was strongly inclined to the diagnosis of parietic dementia, but the short (10 days) duration of the disease caused him to suspend his diagnosis temporarily. The patient was placed in the hospital for one month and carefully observed; at the end of which time there was practically no improvement. When seen five months later (December), there was absolutely no evidence of the late trouble, with the exception of certain mild hallucinations.

The author in reviewing the work of Morel, Roscioli, Levillain and Krafft-Ebing forcibly brings out the fact that the diagnostic confusion of certain paralytic forms of neurasthenia and general paralysis has been observed and studied by the clinicians whose names are cited.

In the differential diagnosis of neurasthenia and general paralysis in its incipiency, the first question to decide is whether the neurasthenia is of a constitutional or essential type, or whether, on the other hand, it is an accidental neurasthenia of recent origin. In the first case the hypothesis of a general paralysis is highly improbable, but is possible in the second. If the case belongs to the second variety it is important to ascertain its origin—that is, whether it be the result of an auto-intoxication or an infection, especially of syphilitic origin.

The diagnosis can be made in the acute infections by the fact that the paralytiform neurasthenia follows a regressive evolution, whilst the chronic infections may be diagnosticated by the more grave nervous or cerebral symptoms of neurasthenia. In many cases, however, the similarity between general paralysis and neurasthenia is so close that a differential diagnosis is well nigh impossible except in the latter phases of the affections.

A. J. L.

SEXUAL ORIGIN OF NEURASTHENIA AND PSYCHONEUROSIS.

Sigmund Freud announces that every case of neurasthenia has some abnormal occurrence or occurrences in the sexual life of the patient at the present time or since puberty. He scouts the idea that mental overwork or excess of household cares can alone induce neurasthenia, although any depressing factor may favor its development, and insists that absorb-

ing occupations, especially intellectual, protect against the evolution of neurasthenic affections. He divides them into: 1. Neurasthenia proper, which he claims can always be traced to excessive masturbation, unnatural sexual intercourse, etc. 2. "Anxiety neurasthenia," distinguished by dread, restlessness, agoraphobia, vertigo in walking, sleeplessness, etc.; this form he states can also invariably be traced to sexual influences in the nature of unsatisfied impulses, coitus interruptus, abstinence with inflamed desires, etc. He protests against the prevailing hypocrisy in regard to sexual matters, and urges the physician to assume an abnormal sexual life as his guiding star in the etiology of neurasthenia, as this alone will help him to treat it rationally, after winning his patient's confidence. In cases absolutely impossible to trace to any abnormal sexual occurrences, he decides that the affection is not neurasthenia, and by eliminating this conception, he has discovered unsuspected local affections, in one instance a latent suppuration in one of the accessory nasal cavities, which had only produced neurasthenic symptoms, entirely cured by an operation.—*The Medical Times*.

DIET TREATMENT OF HEADACHE, EPILEPSY AND MENTAL DEPRESSION.

Alexander Haig, M.A., M.D., Oxon, F.R.C.P., in *Brain*, summer number, says: "Those headaches associated with an excess of uric acid in the urine are treated by excluding from the diet all fishes, meat, eggs, tea, coffee and cocoa, and giving milk, cheese, pulses, cereal foods and fruit. From the change of diet the nutrition of the patient is lowered, so that the stored reserves of uric acid flood the blood, and, besides, many vegetable foods introduce more alkali and less acid into the body than do the animal foods interdicted, and thus increase the alkalinity of the blood, and flood it with uric acid. For these reasons an increase of headache occurs in the beginning of the treatment. To tide the patient over the period of excessive headache, a mixture of bromide of ammonium and salicylate of ammonium is given. However, this plan of diet is to be preserved in, for the increase of headache, in the beginning of the treatment, when the first rush of uric acid occurs, is to be regarded rather as a favorable than an unfavorable sign.

"In mental depression the same diet is used, and, to conserve the patient's strength and energy, he is put to bed with most happy results.

"In the treatment of epilepsy success was not so well marked; but a thorough trial of treatment is insisted upon before the plan is abandoned. Here, too, an increase in the number of convulsions may occur in the commencement, which, however, is not to be regarded as unfavorable."

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

H. B. ANDERSON, M.D., C.M.,

Pathologist to Toronto General Hospital ; Professor of Pathology, Trinity Medical College,
Physician to St. Michael's Hospital and to Outdoor Department, Hospital
for Sick Children. 241 Wellesley Street.

H. C. PARSONS, M.D.,

Professor of Pathology, Ontario Medical College for Women ; Demonstrator of Bacteriology
and Clinical Microscopy, Trinity Medical College. 97 Bloor St. W.

TOXINES AND ANTITOXINES.

The *Proceedings of the Royal Society*, for July 29, 1898, contain a remarkable communication to the society by C. J. Martin, M.B., D.Sc. Lond., acting professor of physiology, and Thomas Cherry, M.D., M.S. Melb., demonstrator and assistant lecturer in pathology in the University of Melbourne, Australia, On the Nature of the Antagonism between Toxines and Antitoxines. The authors refer to the controversy on this subject between Behring and Buchner, which appeared in the *Deutsche medizinische Wochenschrift* in 1894, Behring maintaining the chemical nature, Buchner the indirect physiological one, of the antagonism. At the present time, among authorities, Ehrlich and Kanthack support Behring in principle, while Buchner is similarly supported by Roux and Metchnikoff.

Calmette's experiments in 1895 with cobra poison and its antitoxine seemed to prove that the toxine of snake venom does not interact with its antitoxine *in vitro*, but only *in corpore*, and therefore that its action cannot be explained as a simple chemical operation between the two. Wassermann arrived at similar results with regard to the toxine of the *Bacillus pyocyaneus*; and further confirmatory results were obtained by Nikanarow and Marengi. The sum and substance of all these experiments were that certain measures being found which destroyed either the toxine or the antitoxine, when these measures were applied to a mixture of the two *in vitro*, the one not affected remained active while the other became inert. The inference was that the interaction did not take place *in vitro*.

The authors, however, point out that the absence of any account of the *time* during which the interaction should be permitted to continue, as a factor in the experiments vitiates their results; and, while admitting that the same results can be repeated, they consider the conclusions founded on them unjustified, and assert that by modification of the factors—time, temperature, and active masses—exactly opposite results may also be obtained.

The upshot of the authors' experiments, which are abstracted in another column from the *Proceedings*, tend to prove that since the toxine of diphtheria will pass through a gelatin filter, while the antitoxine will

not, a mixture of the two *in vitro* would become separated by filtration, and the filtered toxine would be active unless it were previously neutralized by contact with the antitoxine *in vitro*. They found that a mixture of the proper neutralizing amounts, when left in contact at 30° C. for two hours, was not active after filtration, proving thus that the antitoxine had neutralized the toxine.

The authors say :

"As the experiments are so simple as not to leave any possibility of experimental error, we turned our attention to any existing difference in the conditions under which Calmette and ourselves worked. As previously pointed out, Calmette absolutely neglected the possible influence of time, temperature, and the relative proportions of the active masses of the toxine and antitoxine present in his mixture. Up to the present we have investigated the value of the factors, time and proportion of active masses, and have shown that these are most important. Indeed, by altering either the one or the other we can produce results which, if these factors be neglected, would lead to diametrically opposite conclusions.

We have not yet determined the influence of temperature upon the rapidity of the reaction, but our results so far seem sufficiently conclusive to decide the question and leave no room for doubt that the antagonism between the toxins of diphtheria and snake venom and their relative antitoxine is due to a direct chemical action which takes place between them. Further, that the opposite conclusion come to by Calmette, and presumably those of Wassermann, Nikanarow, and Marengi, were due to their disregard of the value of time as a factor in such chemical action."

These experiments of Martin and Cherry are undoubtedly a great contribution to the scientific investigation of this important subject.

KIDNEY LESIONS IN MALARIA.

G. R. Picci has investigated (*Il Policlinico*, vol. v. 1898) the effects of malaria on the kidney. Besides producing a simple albuminuria, this disease may cause actual lesion of the kidneys, though the tendency to do so does not appear to be marked, and such renal lesions as are produced by malaria seem to be more common in autumn and spring than at other seasons, and more particularly occur in young patients. There does not seem to be, according to the writer, any relation between the severity of the one and the other; thus a slight attack of malaria may in certain patients produce well-marked nephritis, and renal lesions are not more liable to occur in a first attack than in any others. Usually the renal lesion is subacute and accompanied by few symptoms, and is desquamative or tubular in character, and in the great majority of cases there is restoration to health without any trace of the lesion being left. At the same time, should there be repetition of the malarial attacks, there is a marked tendency for a renal lesion to become permanent. Sometimes a nephritis of an acute character, and much more marked, may arise from malaria and pass into a chronic form, but the

author observes that some of the more usual features of the disease may be absent. (Edema is generally present. The renal attack may appear during the febrile period or after, the latter form being styled by the author post-malarial, as it may only first appear several days after the attack. It is possible that the so-called cases of malarial hæmoglobinuria are in point of fact instances of acute malarial nephritis. The writer refers to some rare cases of acute anasarca without albuminuria as occurring in malaria.—*Brit. Med. Jour.*

BACTERIA IN PROGRESSIVE CIRRHOSIS OF THE LIVER.

Adami (*Lancet*, August 12th, 1898), while investigating the so-called Pictou cattle disease of Nova Scotia, found a specific micro-organism in the form of a diplococcus. At times it was a stumpy bacillus, at others it was a diplobacillus, and resembled to some extent the micro organisms of hemorrhagic septicæmia in the lower animals, but, unlike them, it had a faint capsule. It grew upon all ordinary media, and was pathogenic for rabbits, guinea-pigs and mice. This discovery suggested to the author, in view of its close histologic similarity to Pictou cattle disease, an investigation of human hepatic cirrhosis, and he succeeded in finding in stained sections of a large number of livers, more or less advanced in cirrhosis, a peculiar bacillus occurring as a very minute body, best visible with oil immersion lenses of from one-eighteenth to one-twentieth inch focus. The organism presented itself as an ovoid bacillus or as a minute diplococcus, surrounded by a distinct halo. The bacilli were present in greatest numbers in the liver-cells, but were also found in the new connective tissue and sometimes along the lymphatic capillaries, but so far have not been found in the bile-ducts. The sections, both of Pictou disease and of human cirrhosis, are prepared by staining the tissues with carbol-fuchsin and bleaching them afterwards in the sunlight. The author had no difficulty in securing cultures of the organism in Pictou disease, and, after many efforts, also succeeded in growing it from a case of cirrhosis of the liver, in a woman fifty-six years of age. In broth it assumed a diplococcus form. It was obtained not only from the liver, but also from other organs. The author asks to have his observations checked by other investigators, and suggests it as probable that the micro-organism causes not only cirrhosis of the liver, but also other hepatic diseases, as well as diseases of the kidneys and other organs.

MAGGOTS IN AN ADULT HUMAN EAR.

Dr. E. T. Walker, Callumsville, Pa., relates the following case :

I do not recall of ever having read of a large number of maggots being found in a human ear. On two occasions I found a few in children who had suppurating otitis media, and who were not of the most cleanly type of humanity, but in this instance I found them in a man of cleanly, careful habits. The case is as follows :

Mr. H., a retired farmer, aged 70 years, on August 6 called at my office for relief from a gnawing, burning pain. He said he had had no sleep for two nights. For three days there had been a watery discharge from the ear.

On examining the auditory meatus I found the canal filled with maggots, which were pretty well developed, measuring three-eighths of an inch in length; all were of about the same size, and, therefore, from the same deposit of eggs.

The removal was accomplished by picking them out with a dressing forceps and ear spoon, which was necessarily very slow, for they all were prone to lodge in the farthest part of the canal. After having removed 57 I quit, and dusted the ear with iodoform, expecting to destroy any that might have happened to escape my sight. Next day, on removing the iodoform dressing, I found one dead maggot, making a total of fifty-eight. The number was so large that I thought the case of sufficient interest to warrant this report. Had this man been in one of our military hospitals or on the Cuban battle-field the occurrence would have been less surprising.

One to 250 corrosive sublimate solution did not destroy the maggots: they would swim in it for an hour, and on removing them they were as active as when put in.

Hydrozone, 50 per cent., did not destroy life, and only when dusted with iodoform were the maggots rendered inactive and finally killed.—*Univ. Med. Jour.*

Dr. J. G. Caven relates a case unpublished, where a drunken man, aged forty, lay out in the woods over night. He came to him a few days after complaining of a tickling sensation in the ear. On examination, he found maggots, and removed between thirty and forty by syringing with bichloride of mercury 1 in 2,000. There was no ear disease.

H. B. A.

COMPENSATION FOR EXPERT TESTIMONY.—R. L. Pritchard (*Medical Record*), writing anent the recent decision of the Illinois Supreme Court affirming the case against Dr. Dixon for refusing to testify as an expert without compensation, says every witness is by the common law obliged to answer that which he knows, when all knowledge is one of facts. If the medical witness is asked a question in medical science the answer to which he absolutely knows, he has no legal right to refuse an answer. But when the expert is given a state of facts, as embraced in a hypothetical question, the witness does not know the answer until he proceeds to labor mentally, and as the result of such labor gives his conclusion. The medical witness has as much right to refuse to labor for the court as a carpenter has who refuses to construct a stairway for the accommodation of the judge. All that the medical witness has to do is to discriminate between scientific facts which he knows and opinions asked for upon such facts. He must answer the first; he is not bound to answer the second.—*Prog. of Med. Science.*

NOSE AND THROAT.

IN CHARGE OF

J. MURRAY McFARLANE, M.D.,

Laryngologist to St. Michael's Hospital. 32 Carlton Street.

D. J. GIBB WISHART, B.A., M.D.C.M., L.R.C.P.L.

Professor of Laryngology, etc., Ontario Medical College for Women; Lecturer in Laryngology and Rhinology, Trinity Medical College; Rhinologist and Laryngologist Hospital for Sick Children, St. Michael's Hospital, the Girl's Home, and Toronto General Hospital. 47 Grosvenor Street.

PRIMARY EPITHELIOMA OF THE ANTRUM OF HIGHMORE, WITH THE HISTORY OF A CASE.

BY DR. WENDELL C. PHILLIPS.

(*Jour. Laryng. Rhin. and Otol.*, July, 1898, p. 325.)

In the earlier years all tumors of the superior maxillary bone were supposed to originate in the antrum of Highmore, even those that we now know to be primarily located elsewhere. Primary sarcoma of the antrum is not so rare, and it would seem that the earlier observers did not carefully differentiate between sarcoma and epithelioma.

A few authentic cases of primary epithelioma of the antrum are recorded in literature. Morel states that epitheliomata may originate under the periosteum or in the spongy portion of the maxillary bone, or they may originate in the antrum, starting in the epithelial layer covering the mucosa or in that lining the glands. Reclus reports two cases operated upon by M. Verneuil. Englisch reports one of epithelial carcinoma in the antrum. Verneuil, DeGaetano and Reinhard each report one case.

The case reported by the author is as follows:

J. G., German, aet. 53 years, came under treatment March 7, 1897. He always drank beer and light wines, and used tobacco. Six years ago remembers having had pain in the region of the right antrum. Three years previously several teeth in the right upper jaw, which were in a state of decay, had been extracted. The pain had continued, and, one and one-half years later, an opening had been made into the antrum through the alveolar process, through which opening there had never been much discharge of pus or blood. This opening had never closed. Four months ago he noticed a growth around this opening, which had rapidly increased in size. There was found to be a large cauliflower-like excrescence projecting from the alveolar opening. It was about two inches long from before backward, and three-quarters of an inch broad. It appeared to be a large mass of granulation tissues. Careful examination revealed a pedicle, which extended into the antrum, and which bled when touched with a probe. There was a sensation of fulness, with some pressure in the region of the antrum, but no external swelling or bulging, and no severe pain. Transillumination revealed a dark area over the entire region of the antrum. There was no glandular enlarge-

ment. The nasal cavity upon that side was quite normal—no polypi, no excessive secretion. The eye did not protrude, and was normal in every way. Believing the growth to be made up of polypoid or granulation tissue, he was informed that an operation would be necessary for its removal.

The operation was performed at the Post-Graduate Hospital, March 15, 1897, under ether. The large, protruding mass was removed by a cold wire snare, after which a probe was passed into the antrum, which was found to be completely filled with the same kind of tissue. The opening was enlarged by means of curettes and gouges, until large enough to admit the finger, and the entire mass removed. Hemorrhage was excessive. Special pains were taken to curette every portion of the antrum, and the large opening made it quite possible for this to be accomplished. There was no indication of extension of the disease into adjacent tissues or sinuses. The cavity was thoroughly cleansed with bichloride solution, and carefully packed with iodoform gauze. The patient made an uneventful recovery, and after about six weeks the packing was discontinued, and the wound allowed to close up. From this time, to March 14th, one year after operation, he has been examined once a month. There are now no visible signs of recurrence, no pain or tenderness, nor glandular enlargement, and no loss of appetite or flesh. His weight is now 218 pounds. The opening into the antrum is still entirely closed; the eyesight is good, and there is no fetid or purulent secretion.

Microscopical examination of the growth was made and it was found to be an epithelioma. That the growth was primarily from the antrum there could be no doubt. Its gross appearance was certainly unlike epithelioma, which, together with the fact that primary epithelioma of the antrum is almost unknown, had led to the diagnosis of a benign growth.

That there has been no recurrence, is probably due to the apparent incipency of the growth, enabling its thorough removal. The polypoid degeneration of the mucous lining had, no doubt, existed for a long time. Had there been extension into the adjacent sinuses, especially the ethmoidal and sphenoidal regions, or had the bony walls of the antrum become infiltrated or destroyed, or had there been extensive glandular enlargement, with a cachectic diathesis, the results would, no doubt, have been very different.

By thorough removal of the entire mass, however, it is to be hoped that all traces of the epithelioma have been obliterated. And the absence of recurrence after one year and two months have elapsed, would seem to bear out this conclusion. The large opening, allowing such thorough curettement, is also believed to have contributed to the successful termination.

A CASE OF FOREIGN BODY IN THE NASO-PHARYNX.

BY DR. LAKE.

A. B., male, aged three years, swallowed a marble a few hours previously. At first sight the child appeared perfectly well, but examina-

tion revealed a bulging of the soft palate. Palpation with nasal probe showed that some hard body was lying in the naso-pharynx. The child was put under chloroform, the head being kept slightly extended. The mouth gag was inserted and the naso-pharynx palpated. At once the smooth surface of the marble could be felt wedged in the naso-pharynx between the septum and posterior wall. By means of a pair of post-nasal forceps introduced behind the soft palate and pressure with a probe through the anterior nares, an ordinary red clay marble was extracted.—*Jour. Laryn. Rhin. and Otol.*, June, 1898.

**A CASE OF EPITHELIOMA OF THE LARYNX—LARYNGECTOMY
AND PARTIAL PHARYNGECTOMY; DEATH ON THE
ELEVENTH DAY FROM EXHAUSTION.**

BY DR. SHURLEY.

The patient was a woman, forty-five years of age, active and in good health until February, 1897, when, following an attack of grippe, she became conscious of pain in swallowing and during phonation. Pain on right side. By January, 1898, she had become very much emaciated, great dyspnea and dysphagia. Larynx nearly filled with a growth of lobular appearance which seemed to be strictly limited to the larynx. No glandular enlargement. Tracheotomy was performed, and ten days later, February 9, 1898, the operation was performed. The growth was found to have broken down posteriorly and involved the esophagus and pharyngeal wall, all of which was removed. Each edge of the lower portion of the external wound was folded in and stitched to the trachea according to the method of Cohen. By the use of Dr. Galye's anesthesia apparatus, which regulates the amount of air and anesthetic used, the whole amount of chloroform used during the two hours required for the operation, was but five drachms. The microscope confirmed the diagnosis of epithelioma. Death from exhaustion occurred on February 19th, twelve days after operation.—*N. Y. Med. Jour.*, July 16, 1898.

SERIOUS CONSEQUENCES FOLLOWING INTRANASAL OPERATIONS.

BY DR. LEVY.

The author reports one case of death following an Asch operation for deflected septum, in a highly nervous and probably syphilitic subject, from neglect in reporting for after-treatment and from use at house of sprays and apparatus which were not aseptic. The patient died fifteen days after operation, death being preceded by high temperature and pulse, a greenish-looking perforation of the septum, delirium, paralysis. The tongue protruded well to the right. A diagnosis of thrombus was made which was verified at the autopsy. Autopsy showed the left optic thalamus broken down and softened, plugging of the posterior cerebellar artery, endocarditis and splenic infarctions. Cause of death was general septicemia.

Case II.—Family history of asthma and phthisis. Patient delicate and of nervous temperament. Woman, aet .25 years. Had had grip twice, several of the exanthemata, frequent colds in the head, tonsillitis, etc., and had been a mouth-breather for years. She had hypertrophic rhinitis and a large exostosis of the septum upon each side. For the removal of these operations were performed upon March 26th and April 3rd, respectively, under cocaine. On April 5th the patient developed symptoms of cerebral meningitis and died April 7th. These are but two illustrations of the dangers of intra-nasal surgery. Bibliography is also given by the author, relating cases reported by Stoerk, Gocherer, Wagner, Lange, Rethi, Quinland and others.—*Ann. Otol. Rhin. and Larynx*, May, 1898.

SURGERY OF THE MIDDLE AND INFERIOR TURBINATED BODIES AND BONES.

BY DR. MYLES.

The author first describes the regional anatomy of the turbinates and then gives his attention to the various operative procedures; the principal conditions requiring operative interference being hypertrophy, hyperplasia, intumescence, polypoid changes, cysts, inoperable deflections of the septum, and where the turbinates are in the way of operations upon the deeper regions, such as the antral, ethmoidal, frontal or sphenoidal sinuses. In operations he first endeavors to render the nasal cavity aseptic. This is accomplished by cleansing with alcohol and packing with cotton saturated with bichloride solution from 1 : 1000 to 1 : 5000. Surgical wounds made in the nose during an epidemic of gripe are especially prone to infection.

The paper is accompanied by six illustrations, showing the various steps of the operation upon the middle turbinated bone as followed by the author, with the various instruments required, and also the histories of four cases of removal of portions of the inferior turbinated bone.—*N. Y. Med. Jour.*, March 19, 1898.

PERITONSILLITIS.—For several years I have treated all cases coming under my observation by thoroughly cleansing the throat and nose with a mild alkaline solution, followed by the application of spirits of turpentine and compound spirits of lavender, equal parts, disguising the taste by the addition of a few drops of the oil of anise or gaultheria. This is applied to all the inflamed tissue, as thoroughly as possible, with cotton on a fine applicator—behind the soft palate, into the crypts of the tonsil, and when possible between the tonsil and the pillars of the fauces. I order the patients to apply the above mixture every one or three hours. A mercurial followed by a saline laxative is usually indicated. Give as much nourishment as can be taken, either hot or cold, as most comforting to the patient. If an attack is seen early this treatment will abort it; later, it will prevent the formation of pus and the involvement of the opposite side, even though pus be already present.—*J. A. M. A.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

G. P. SYLVESTER, M.D.,

Corner Isabella and Church Streets.

C. A. TEMPLE, M.D., C.M., F.T.C.M.,

Assistant Surgeon St. Michael's Hospital; First Senior Assistant Demonstrator of Anatomy, Trinity Medical College. 200 Spadina Avenue.

CONTINUED IRRIGATION OF THE UTERUS VERSUS HYSTERECTOMY IN ACUTE PUERPERAL SEPTIC METRITIS.

Horace Manseau (*Montreal Med. Journal*, July, 1898) in reporting seven cases of continued irrigation of the uterus in acute puerperal septic metritis says, that all the teachings of modern surgery urge the necessity of drainage; for this purpose the head, abdomen, and chest are opened. Why should not the same rule apply to the treatment of a septic uterus, whose cavity is especially favorable for the development of septic bacteria, the natural drainage of which is imperfect, due to the contraction of the os and sphincter vaginæ. Curettage should first be done, preferably with a dull curette, and afterward continued irrigation maintained. By this method the removal of the uterus may be obviated and future pregnancies occur. All of the seven cases reported recovered and five of them became pregnant again; the other two cases were lost sight of.

CASE I.—III. para, aged 28 years. Labor normal at term; placenta expelled intact; perineum uninjured. On the fourth day the patient had a child; pulse rose to 126; temperature, 103.5° F. Vaginal douche, 1-6000 sublimate solution, was given every three hours. On the fifth day she had another chill; temperature, 104.5° F.; pulse, 135. No fetor is evident. A mucopurulent vaginal discharge appeared. Intra-uterine douches were given every three hours with no marked improvement, except for a short time after each douche. The patient had chills lasting for an hour, followed by profuse sweating; pulse very weak. On the sixth day continued irrigation was begun. Sterilized water was kept flowing continually for twelve hours at the rate of seven or eight gallons an hour, and on the seventh day the temperature had fallen to 100° F., and the pulse to 115. General condition improved. Irrigation was stopped five hours later; the temperature was higher than ever. On the eighth day the irrigation was resumed and kept up for twenty-four hours; the temperature fell by this time to 99.5° F.; pulse, 110. During the absence of the writer a midwife who had been obtained had stopped the irrigation and assured the family that the case was a simple one. The patient's temperature had risen, and on the tenth day was 106.5° F.; pulse, 180. The husband again sent for the writer to take charge of the case, who found the patient delirious, abdomen tympanitic, the vagina bathed with pus. Several chills had occurred. Dr. Wallack was called in consultation, who concurred in the opinion that the irrigations should

be re-established. From seven to twelve gallons an hour were passed by means of a No. 12 male catheter in air tubes. After forty hours with but four intermissions of an hour each the temperature fell to 100° F. Even during the one hour intervals the temperature began to rise. On the twelfth day a few hours' rest was allowed, with the result of a slight chill and a rise of temperature to 101° F. Irrigation was again commenced and kept up with intermission of not over three hours for three days longer, when convalescence was established. If less water was allowed to flow than stated the temperature began to rise and even an hour's cessation allowed of a rise of from one-half to one degree. Over 2,200 gallons were passed into the uterine cavity during ten days of continuous irrigation. On the tenth day of the puerperium the patient developed pneumonia. This most severe case might well be considered as one calling for hysterectomy.

CASE II.—Seen on the twelfth day for the first time. Temperature, 105° F.; pulse, 150; abdomen tender; lochia fetid. Irrigation for thirty-six hours with four intermissions of one hour each reduced the temperature to 100° F. At the desire of the patient the irrigation was discontinued, but the temperature rose. Six days of irrigation resulted in complete recovery.

CASE III.—VI. para. Natural labor, except laceration of cervix. Four days later her temperature rose to 103° F.; pulse, 120. Severe chills occurred. The uterus was douched seven times at intervals of three hours, but the next day she was worse; temperature 104.5° F. Continued irrigation was commenced, using from five to six gallons of water an hour, with short intervals of suspension. Yet the temperature did not decline. After thirty hours the amount of water was increased to ten gallons an hour, and after eleven days recovery was complete.

CASE IV.—Seen first on the ninth day of her puerperium. Patient's temperature was 104° F.; pulse, 140. No discharge. Curettement the next day removed a large quantity of detritus. Intra-uterine douches kept up for twelve hours without effect. On the twelfth day continuous irrigation at the rate of eight gallons an hour was begun. The temperature fell from 105° to 101° F.; during a short rest of two hours it rose to 103° F. The irrigation was again instituted and continued for three days, when the temperature became normal.

Three other similar cases could be reported, in all of which recovery took place. It is found necessary to keep up the irrigation until the uterine cavity has undergone repair in order to secure permanent recovery.

The results of this treatment is sufficient to warrant its use, especially as it preserves the organs for future pregnancies, even if the results from hysterectomy are as good for the recovery of the patient.

FOREIGN BODIES IN THE VAGINA.

Nearly every medical man at one time or another has discovered, when examining a woman for foetid leucorrhœa, the presence of a pessary long

forgotten in the vaginal cavity. M. Monod, of Bordeaux, relates some curious experiences he has made on the existence of various foreign bodies giving rise to the same symptoms. In one case he removed from a young woman a sponge which she alleged to have been inserted some time previously, in order to suppress an abundant discharge. The sponge was already in a state of putrefaction, and came away in pieces. A rather elderly woman came to the hospital to be treated for foetid discharge. When the finger was passed up it perceived an ovoid foreign body, which, when extracted, proved to be a rosebud, in a good state of preservation. The patient pretended to know nothing about it.

Last spring he had occasion to examine a woman, æt. 60, of rather limited intelligence, for a double inguinal hernia. For a year before she suffered from vaginal discharge which was so foetid that she had to isolate herself from society. Suspecting the existence of a neoplasm, he chloroformed the patient in order to make a proper examination, and to operate, if necessary. When he introduced the hand into the vagina he felt a hard mass which seemed to be independent of the surrounding tissues. Passing a long forceps in, he seized the body, and when he drew it out he found it was a large cork. Renewing his explorations, he successfully removed a thimble, a rag, a needle case, and finally a boot lace! The uterus was perfectly healthy.

HYDROCELE OF ROUND LIGAMENT.

Noll (*Centralbl. f. Gynäk.*, No. 29, 1898) relates three unpublished cases of "hydrocele feminae." The first is specially important, as symptoms of strangulated hernia set in some six months after Noll had diagnosed a cyst of the right round ligament. There was vomiting and rise of temperature. The swelling in the right groin was as big as a goose's egg, hot, red, tender and firm, just as is seen in cases of strangulated hernia with gangrenous contents. Still, as Noll had seen the case when less acute, he concluded that inflammation of the hydrocele explained everything. This proved to be the case. The cyst was easily enucleated. Its walls and the surrounding tissues were infiltrated with bloody serum; it contained foetid dirty-brown serum. It did not communicate with the abdominal cavity. The wound was drained, and the woman who was aged 32, began to recover directly after the operation. In the two remaining cases the hydrocele was also in the right round ligament. In the second two cysts were plainly detected on palpation. At the operation, as the upper cyst was being enucleated, a third, as big as a pigeon's egg, appeared; it lay against the inner abdominal ring, closely connected with the peritoneum. The muscular fibres of the round ligament ran on the right and external aspect of the walls of the three cysts. The cyst in the third case was completely invested by the muscular fibres of the ligament. Internally the tendinous pubic end of the ligament was found to contain a central channel as wide as a crow quill. There was no difficulty in removing the cysts in any of these cases, and all did well.

TRACHEOTOMY FOR THE REMOVAL OF A FOREIGN BODY FROM THE BRONCHI.

L. Szuman (*Nowing lekarskie*, 1897, No. 47—*Centralbl. f. Kinderh.*, 1898, *iii.*, 218) says a boy, 9 years of age, swallowed a small whistle. From the time of this accident he began to fail in strength, presented much fever, and was subject to violent dyspnea, and a severe cough. Szuman saw the patient five weeks after the accident had occurred. Exploration of the esophagus gave a negative result. It was, however, followed by a violent, spasmodic coughing paroxysm. Auscultation of the chest elicited the information that the left lung, particularly its upper portion, did not take part in the act of respiration; the percussion sounded dull over its whole surface. A laryngoscopic examination resulted negatively. The foreign body was undoubtedly wedged in the left bronchus. Placing the child in an inverted position, with the head hanging downward, and violently thumping the back was unsuccessful. Szuman, therefore, performed a low tracheotomy, probing into the bronchi through the wound, and felt a hard body in the left bronchus, 11 cm. from the incision, which, having been somewhat loosed by a Volkmann's spoon, and given the proper curve, was thrown into the opening of the wound at the next violent coughing paroxysm, and proved to be a signal whistle, 2.4 cm. long and 1 cm. broad. Recovery was uneventful.

A BUTTON-HOLE MAKER IN THE BLADDER OF A FIFTEEN-YEAR OLD GIRL.

A. Hanc (*Wiener med. Presse*, 1898, *xxxix.*, 580) says this foreign body was 8 cm. long, consisting of an ivory handle, and an additional piece of steel, about one-half of the whole length of the instrument, which was sharply pointed. The patient had introduced this into her bladder, with the handle foremost. The instrument had become wedged in the wall of the bladder in an oblique direction somewhat to the right of the internal orifice, so that the blunt extremity lay towards the fundus. The subjective symptoms were insignificant; the patient did not even experience much pain when changing her position. The urine was slightly tinged with blood, became turbid and ammoniacal on the fourth day after the introduction of the instrument. The general condition was good; the temperature normal. The instrument was easily located in the bladder. Bearing in mind the pointed extremity of the body, its difficult removal through the urethra, the possibility of perforating the bladder in changing its position and to avoid rupturing the hymen, Hanc thought the high operation (*sectio alta*) necessary, but, nevertheless, made a previous attempt to remove the instrument by way of the urethra. The bladder was thoroughly irrigated with a solution of boric acid, and 200 grammes of the latter were allowed to remain in it; then a litrotrite for children (*Charrière 13*) was introduced, and the body repeatedly caught with exceeding care. These attempts at extraction were, however, futile, the instrument repeatedly slipping on account of the smooth surface of the foreign body. Hanc now dilated the urethra by means of graduated

sounds; as this was very painful, in spite of cocaine anesthesia, a high section was definitely determined on. Under narcosis another attempt was made at extraction, without a cutting operation.

After dilating the urethra with Simon's sounds to No. 16, the little finger of the left hand could be introduced, the foreign body dislodged and turned, and brought to the internal orifice, from where it was extracted with a blunt hook. No reaction followed this manipulation; the cystitis disappeared after a few antiseptic irrigations.

THE TREATMENT OF HÆMATURIA BY CANTHARIDES.—Having seen in the *British Medical Journal* of September 17th the interesting account by Dr. Beven of the treatment and cure of a case of hæmaturia by cantharides, I thought I would try it in a case which was then under my care, with the following gratifying result:

Mrs. C., aged 52, stated that she was passing a large quantity of blood in her water. I could find no pain, tenderness or fulness in the loins. Her temperature was normal, her pulse 100, weak. There was no puffiness under the eyelids, etc. She said that she had felt perfectly well up to the day preceding, when she first noticed the blood in her urine. The urine, though rather less in quantity than usual, was not scanty. As the blood did not come before or after the water, but was mixed with it, I concluded it came from the kidney. I ordered her to stay in bed, regulated her diet, etc., and put her on a mixture of liquid extract of ergot and liquor strychninæ. This mixture was continued for close on a week without having any effect whatever on the bleeding. I then determined to try the cantharides. I gave her m. v. of the tincture three times a day in water, as recommended by Dr. Beven. To my astonishment, in exactly twenty-four hours after she had taken four doses of the medicine the hæmaturia had completely disappeared. I then reduced it to one dose daily for two days, when I stopped it altogether, as there had not been the slightest return of the bleeding. It is now some weeks since her attack, and she is quite strong again.

OPERATIVE TREATMENT OF IRREDUCIBLE RETROFLEXION OF THE PREGNANT UTERUS.—Mann (*Am. Jour. of Obst.*, July, 1898) says that formerly there were two alternatives: replace the uterus or, failing this, empty it. He holds that the latter procedure should be replaced by opening the abdomen and pulling up the fundus by the hand introduced behind it. If the uterus be so large as to fill the pelvis completely, replacement by the vagina is unsuccessful, not because the uterus is too large to be forced through the pelvic brim, but because it is held down by atmospheric pressure, and it can then be replaced only by letting in air behind it. Moreover, pregnancy may exist when there are adhesions, which may be an insuperable bar to reposition till they have been broken up by the hand on the inside. Mann reports 2 cases in which abdominal section was performed after efforts to push up the uterus under anæsthesia had failed. Pregnancy was not interfered with in either case. He has found only one similar case, reported by Cameron, in the *British Medical Journal*, vol. ii., 1896, p. 1277.

MEDICAL SOCIETY REPORTS.

The various medical societies of the city are this year officered as follows:—

TORONTO MEDICAL SOCIETY.—

President,	- - - - -	W. J. Greig.
Vice-President,	- - - - -	F. Oakley.
Treasurer,	- - - - -	G. H. Carveth.
Corr.-Sec.,	- - - - -	R. D. Rudolf.
Rec.-Sec.,	- - - - -	

PATHOLOGICAL SOCIETY OF TORONTO.—

President,	- - - - -	A. Primrose.
Vice-President,	- - - - -	H. B. Anderson.
Treasurer,	- - - - -	J. I. Mackenzie.
Recording Secretary,	- - - - -	H. C. Parsons.
Corresponding Secretary	- - - - -	J. T. Fotheringham.

CLINICAL SOCIETY.—

President,	- - - - -	F. LeM. Grasett.
Vice-President,	- - - - -	G. A. Bingham.
Corresponding Sec.,	- - - - -	H. A. Bruce.
Recording Sec.,	- - - - -	George Elliott.
Treasurer,	- - - - -	W. H. Pepler.
Executive,	{	Geoffrey Boyd.
	{	W. B. Thistle.
	{	Frederick Fenton.
	{	H. J. Hamilton.

THE TORONTO CLINICAL SOCIETY.

The forty-eighth meeting of this Society was held in St. George's Hall, Elm St., Nov. 9th, 1898.

Fellows present:—Wm. Oldright, Bingham, A. J. Johnson, Bruce, Peters, Grey, Fenton, H. B. Anderson, Lehman, Chambers, Ryerson, J. O. Orr, Pepler, Boyd, H. J. Hamilton, Parsons, J. E. Graham, W. H. B. Aikins, Stark, Cameron, Adam Wright, Grasett, A. A. Macdonald, Geo. Elliott.

Drs. A. A. Small, J. D. Thorburn, Geo. W. Badgerow, T. F. MacMahon, K. E. McIlwraith, and W. J. McCollum were elected Fellows of the Society.

Drs. C. R. Dickson, F. C. Hood and Chas. J. Hastings were proposed for membership.

Dr. Geo. Bingham presented a case of double talipes; operation, removal of astragali. Also lipomatous mass simulating spina bifida in same case.

The case was discussed by Drs. Peters and Wm. Oldright.

Dr. H. B. Anderson read a paper and reported a case of colloid goitre. By invitation Dr. C. R. Dickson discussed the case. Drs. Graham, Cameron, Fenton, Bruce, and Boyd also participated.

The President, Dr. Grasett exhibited bullet extracted from Axilla; a knee-joint removed for tuberculous disease, another for supposed tuberculosis which, on examination by Dr. Anderson, subsequently appeared sarcomatous; and a third for sarcoma.

These specimens evoked an interesting discussion between Drs. Graham, Cameron, Anderson, Caven and Peters.

Dr. J. E. Graham reported an unusual case of staphylococcus infection. The patient had expired very suddenly. A post-mortem examination revealed no suppurating focus. The point of entry of the poison was not shown.

Dr. Graham reported also a case of Suppurative Cerebral Meningitis in a boy, from pneumococcus infection.

Drs. Peters and Anderson and Mr. Cameron discussed the cases briefly. The usual refreshments followed, and completed a very enjoyable and profitable meeting.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The eighth annual meeting of the American Electro-Therapeutic Association was held September 13 to 15 at Buffalo, N. Y., in the Library Building. After an opening prayer by Rev. O. P. Gifford the Association was welcomed to Buffalo by Dr. Conrad Diehl, the Mayor; the address of welcome was responded to by Dr. F. B. Bishop of Washington, D. C.; reports of committees were then received. The following is the list of papers read:—

Phlebitis: A Clinical Study. By Dr. Margaret A. Cleaves, New York.

The Diagnostic and Therapeutic Relations of Electricity to Diseases of the Central Nervous System. By Dr. A. D. Rockwell, New York.

New Uses of the Undulatory Current in Gynæcology. By Dr. Georges Apostoli, Paris, France. (Read by Dr. G. B. Massey.)

Electricity in the Treatment of Uterine Fibromata. By Dr. Felice La Torre, Rome, Italy. (Read by Dr. John Gerin.)

Electro-therapeutics in Gynæcology. By Drs. Georges Gautier and J. Larat, Paris, France. (Read by Dr. C. R. Dickson.)

The Use of Electricity in Gynæcology. By Dr. William J. Herdman, Ann Arbor, Mich. (Read by title.)

The Treatment of Uterine Fibroids by Small Currents Administered Percutaneously. By Richard J. Nunn, Savannah, Ga.

Treatment of Menorrhagia by Weak Current and Silver Internal Electrode. By Dr. Adelstan de Martigny, Montreal, Que. (Read by Dr. W. H. White.)

The Method for Using Cataphoresis in Conjunctival Inflammation. By Dr. Lucien Howe, Buffalo.

- Electricity in Deafness and Stricture of the Eustachian Tube. By Dr. Robert Newman, New York.
- Electricity in Acne Vulgaris and Acne Rosacea. By Dr. Grover W. Wende, Buffalo.
- A Case of Lightning Stroke Without Serious Consequences. By Dr. William C. Krauss, Buffalo. (Read by title.)
- Cases of Lightning Stroke Causing Diseases of the Eye. By Dr. G. Sterling Ryerson, Toronto.
- High Tension Current in Neuritis. By Dr. Francis B. Bishop, Washington, D. C.
- Electricity in the Treatment of Goitre. By Dr. Charles R. Dickson, Toronto.
- Ten minute talks on Electrotherapy.
- The Effect of Electricity Upon Tissue Metabolism. By Dr. William J. Herdman, Ann Arbor, Mich., and Dr. J. H. Kellogg, Battle Creek, Mich. (Read by title.)
- The Galvanic Current in Gynæcology. By Dr. G. Betton Massey, Philadelphia, Pa.
- Some Surgical Uses of Electricity. By Dr. Charles R. Dickson, Toronto.
- Combined Use of Medicinal and Electrical Treatment in Some Affections of the Eye. By Dr. G. Herbert Burnham, Toronto. (Read by title.)
- Electricity in Genito-Urinary Diseases. By Dr. Robert Newman, New York.
- Treatment of Malignant Growths by Means of Electricity. By Dr. G. Betton Massey, Philadelphia, Pa.
- Orthopædic Uses of Electricity. By Dr. Louis A. Wiegel, Rochester, N. Y.
- The Functional Neuroses, with Special Reference to Neurasthenia: Their Pathology and Treatment. By Dr. A. D. Rockwell, New York.
- Electricity in Diseases of the Nervous System. By Dr. W. J. Herdman, Ann Arbor, Mich. (Read by title.)
- A High Frequency Oscillator for Electro-therapeutic Purposes. By Mr. Nicola Tesla, E. E., New York. (Read by Dr. W. H. White.)
- The Hydro-electric Bath with Sinusoidal Current in Disease. By Drs. Georges Gautier and J. Larat, Paris, France. (Read by title.)
- The Use of the Hot Air and Light Bath in Disease. By Drs. Georges Gautier and J. Larat, Paris, France. (Read by title.)
- The Electric Arc Bath. By Dr. Margaret A. Cleaves, New York.
- The Electric Light Bath. By Dr. J. H. Kellogg, Battle Creek, Mich. (Read by title.)
- Some Suggestions on the Possibilities of Cataphoresis. By Mr. John J. Carty, E. E., New York.
- The Effect of High Tension Discharges upon Micro-organisms. By Drs. J. Inglis Parsons and C. Slater, London, England. (Read by title.)
- The Action of X-Rays upon Tuberculosis. By Drs. J. Bergonie, Bordeaux, and Teissier, Paris, France. (Read by title.)
- Two Years of Practice in Radio-therapy. By Drs. Georges Gautier and J. Larat, Paris, France. (Read by title.)
- The President's Address: Aims and Claims. By Dr. Charles R. Dickson, Toronto.

The following officers were elected :—

President, Dr. Francis B. Bishop, Washington, D. C.

First Vice-President, Dr. Ernest Wende, Buffalo, N. Y.

Second Vice-President, Dr. W. H. White, Boston, Mass.

Secretary, Dr. John Gerin, Auburn, N. Y.

Treasurer, Dr. Richard J. Nunn, Savannah, Ga.

EXECUTIVE COUNCIL—Dr. Robert Newman, New York, for three years; Dr. G. Betton Massey, Philadelphia, Pa., for three years; Dr. A. D. Rockwell, New York, for two years; Dr. William J. Morton, New York, for two years; Dr. Charles R. Dickson, Toronto, Ontario, for one year; Dr. Frederick Schavoir, Stamford, Conn., for one year.

Next place of meeting, Washington, D. C., September 19th to 21st, 1899.

A resolution was passed calling on colleges and medical schools to devote more time to the teaching of electro-therapeutics and drawing the attention of the Association of Medical Colleges to the necessity of the same. The University of Buffalo was congratulated upon having shown its progress by establishing a chair of electro-therapeutics in connection with its medical school.

A reception was held in the University of Buffalo on the evening of the 13th, at which a number of most interesting addresses were delivered. On the evening of the 14th a smoker was given by Dr. Lucien Howe at his residence. On Thursday afternoon, the 15th, the yacht *Huntress* took the Association down the Niagara River and to Grand Island, where a dinner was given at the Island Club. There were also several tally-ho excursions and a visit by special car to the power house of Buffalo R. R. Company. These are only a few of many diversions provided for the entertainment of the visitors. Dr. Ernest Wende, Public Health Commissioner, was chairman of the committee on arrangements and well sustained his reputation as a most indefatigable as well as most successful worker for the comfort and enjoyment of all.

There was a splendid electrical exhibition in connection with the meeting held in the lecture room adjoining, which was a very popular feature. After the excursion on Thursday the members left for Niagara Falls and spent Friday morning on an excursion embracing a trip up the Observation Tower, and the electric roads on each side of the river. The afternoon was devoted to visiting the power house of the Niagara Falls Power Company. The meeting was the most enjoyable and successful in the history of the Association.

TORONTO CLINICAL SOCIETY.

The first regular meeting of the Toronto Clinical Society for 1898-99 was held at St. George's Hall, Elm St., on Wednesday, Oct. 12th, at 8.30 p.m., and proved to be probably the most successful and enjoyable in the long list of similar gatherings. The Fellows were present in very large numbers, and the character of the papers and discussions was very high.

The following was the programme :—

1. Presidential address—Dr. F. Le M. Grasett.
 2. Case of muco-enteritis—Dr. J. E. Graham.
 3. Case of angular curvature of the spine treated by Calot's method—Dr. A. Primrose.
 - 4.—Case of progressive muscular atrophy—Dr. D. C. Meyers.
 5. Case of depressed fracture with secondary trephining—Dr. L. M. Sweetnam.
 6. Splenectomy—Dr. J. A. Temple.
 7. Some features of the British Medical Association meeting in Edinburgh—Dr. Geo. A. Peters.
 8. (a) Knee removed for tubercular disease; (b) Bullets removed from axilla—Dr. F. Le M. Grasett.
 9. Colloid goitre involving isthmus of the thyroid gland—Dr. H. B. Anderson.
 10. Renal calculi—Dr. H. A. Bruce.
- The election of a Recording Secretary in place of Dr. J. N. E. Brown, resigned, was deferred to next meeting.
Oct. 10th, 1898.

INTESTINAL PERFORATION.

DIAGNOSIS.—Ether as a means of diagnosis of intestinal perforations is more practical and better than hydrogen-gas, since it is always at hand, and necessitates no special apparatus, aside from what is already found in the surgeon's possession, and further, no objections can be given to its use on account of noxious properties, unfounded as these objections may be as to the hydrogen-gas. The quantity of ether being infinitesimal (1 drachm, or less, being sufficient to give up the necessary vapor, which is diluted many, many times by the air that carries it) absolute freedom from anæsthesia is assured. The method is simple: A small quantity of ether is poured into the bottle accompanying the aspirator of so-called French pattern. A soft-rubber catheter or rectal tube (preferably a long, glass douche-tube connected by rubber tubing) is jointed to one of the pipes of the aspirator-bottle. The air-pump is joined to the other pipe, and air forced into the bottle becomes mixed with ether-vapor and passes on through the alimentary canal, the rectal tube being inserted as far as necessary. This mixture, which may be called ether-air, rapidly finds its way through the coils of intestines, giving forth strong rumblings as it progresses onward, causing distension on entering the stomach, from whence it is belched, provided no perforation exists along its pathway. Upon reaching a perforation, however, the ether-air escapes into the peritoneal cavity, tympanites more rapidly develops, and upon dilating the wound-entrance down to the peritoneum, quickly comes out into the world, being at once recognized by its odor and the hissing sound of escaping gas. Upon opening the abdomen the distension of the intestine from the rectum up can be followed to the point of injury where the same odor and hissing are noted and the wound repaired. Continuing the search till no more ether-air is found escaping from the intestines one may rely upon its efficacy. E. M. Sutton (*Jour. Amer. Med. Assoc* July 23, '98).

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THE BEST NATURAL APERIENT WATER.

CONCLUSIONS

from clinical observations on the action and value of APENTA WATER in obstinate constipation by PROFESSOR W. S. BOGOSLOWSKY, Director of the Pharmacological Institute of the Moscow University, etc., etc.:—

“Systematic treatment with APENTA WATER is especially indicated for constipation produced by Atony of the bowels, and APENTA possesses without doubt this advantage over other aperients, that its use does not give rise to subsequent constipation.

“By suitable doses of this water the bowels act freely and considerable quantities of bile are evacuated. The action of APENTA WATER is more gentle than that of the bitter waters most known with us because it contains less calcium sulphate and no magnesium chloride. It is probably due to this circumstance that the crampy pains generally observed when aperients are employed, are entirely absent in the case of APENTA.

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Peptonate of Iron and Manganese

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Editorial.

EXAMINATION OF THE REFLEXES.

The obscurity that enwraps the study of Nervous Diseases in the minds of most practitioners of the healing art is deeper than it needs to be. There is very much in the subject to baffle the keenest observer, and the ordinary clinician is apt, therefore, to exaggerate the difficulty of the whole subject, and so to leave untouched many of the more rudimentary problems, which have been thoroughly cleared up, or at least so far made clear that they can be easily utilized and made to be of great value in diagnosis. It seems that the examination of the Reflexes is one of these problems referred to above as rudimentary, but really simple. There are, of course, divergent theories, but as to the clinical value of the phenomena there can be no difference of opinion.

First of all, we may define a *reflex* as an involuntary muscular movement due to a sensory stimulus, and independent of the cerebrum so far as causation is concerned. It should be clearly distinguished from an *automatic* movement, which may be defined as one originating in the cerebrum, but independent of volition. The reflex is dependent upon

the cerebrum, so far as inhibition is concerned; but the arc by which it is produced has its highest point in the cord, at a level easily determined by anatomical knowledge, and its two arms, one the afferent, from the sensory surface—be that skin, mucosa, conjunctiva, or what not—to the posterior horn in the cord; the other, the efferent, from the anterior motor cells of the cord to the muscle that contracts. The two are, of course, connected by the grey matter in the cord between the posterior and anterior horns. An automatic movement, however, has no arc, in so far as it is purely automatic, but one arm, the impulse originating in motor ganglionic cells and travelling outwards by an efferent nerve. Physiologists are not yet agreed as to the exact nature of the process in what one may term the Organic Reflexes. Centres such as the Cardiac, Respiratory, Defecation and Micturition centres are certainly capable of true reflex action, the result of sensory stimuli. Some of them are believed to act in that way alone. But such a centre as the Respiratory is thought by some to be the seat of both automatic and reflex movements—unless for the purposes of argument we were to say that the pabulum brought to the cells of the centre by the blood was really a stimulus as much as if it had travelled in by an afferent nerve. The normal mechanism, for instance, by which respiration is established in the newly born infant may be said to be automatic, the state of the blood arousing the cells to the performance of their function; while the sensory stimuli applied to the centre by the usual artificial means, if it be slow in taking on its life-work, do undoubtedly act only reflexly.

The Cardiac centre, too, is held by some physiologists to act really only reflexly, the necessary stimulus reaching it from the heart when the proper stage of distention during diastole has been reached, and the endothelium has been sufficiently covered by the inflowing blood.

The main value of the reflexes, clinically, lies, of course, in the fact that we can by them inform ourselves of the state of the arc, especially of that portion situated in the cord itself, and at any level. The cutting off of the inhibiting power of the cerebrum, for instance in hemiplegia when the cortex is cut off, usually at the internal capsule, from its ordinary communication by the pyramidal tract with the spinal centres, is an interesting point, showing itself, as it does, in the exaggerated deep reflex (knee jerk) of the early post-hemiplegic state. The Reflexes may be classified as follows:—

I. *Organic*—1. Cardiac.

2. Respiratory.

3. Gastric.

4. For Micturition.

5. For Defecation.

6. For Erection.

II. *Superficial*—(with levels in cord)—

1. Plantar—(lower lumbar or upper sacral segments).

2. Glutal—(lower lumbar).

3. Cremasteric—(upper one or two lumbar).

4. Abdominal—(lower five or six dorsal).

5. Epigastric—(mid-dorsal, four to eight).
 6. Scapular—(upper dorsal and lower cervical).
 7. Conjunctival—(fifth and seventh nerve).
 8. Pupillary—(optic and oculomotor nerves).
 9. Faucial—(Glossopharyngeal).
- III. *Deep*—(fascial, tendon or bone reflexes).
1. *Ankle clonus*—seen only in disease—due to stretching of tendo achillis—highest point of arc in sacral nerve centres—by internal popliteal and sciatic nerves.
 2. *Patellar Tendon* reflex—seen practically always in health if properly sought for. Acting by *quadriceps extensor*, and anterior crural nerve. Highest point of arc therefore at second and third lumbar nerves.
 3. In the upper extremity, the Triceps and Biceps tendon reflexes.

Of all these the most important are the knee jerk, the cremasteric, and the ankle clonus. Circumstances causing increase of the knee jerk may be classified under two heads:—(a) Increased irritability of cord itself, as in some cases of hysteria, in rabies, tetanus, strychnia poisoning; (b) interruption of the pyramidal tract by which the inhibiting impulse of the brain is conducted, as in hemiplegia, and other cerebral palsies, transverse myelitis, paralyzes of spinal origin, such as disease of pyramidal tract, spastic spinal paralysis and amyotrophic lateral sclerosis.

The tendon reflexes are apt to be lessened or abolished in disease of any part of the arc: (a) Peripheral nerves, as in alcoholic neuritis, where, though the skin reflexes usually persist, the deep ones are lost; (b) disease of the anterior horns, as acute anterior poliomyelitis, progressive spinal muscular atrophy; (c) disease of posterior horns or posterior roots, or their connection with the anterior horns, as in locomotor ataxia, where, the absence of the knee jerk is a very important sign; (d) hemorrhage, tumors, or myelitis, according to exact position, whether at, above or below the highest point of the arc in the cord.

J. T. F.

A PATENT IN THE UNITED STATES ON DIPHTHERIA ANTITOXIN.

Another of those amazing prostitutions of law in the interest of monopoly which we see in their perfection in the United States seems to have been perpetrated by the Board of Appeals at Washington on the application of a German Drug House. It even appears that Dr. Emil Behring, with whose name the discovery of diphtheria antitoxin has been hitherto so honourably associated, has lent himself to the patenting of the remedy. What the world would have thought of Jenner, or Koch, or Pasteur, or Lister, had they allowed such cold-blooded commercialism to smother the demands of professional decency, it seems that the world will henceforth have to think of Professor Behring. It is peculiarly galling to the American medical profession to reflect that the German self-seeker has come and secured from their government what his own government would indignantly refuse to grant him. It seems impossible to believe that

Behring and his company could have properly established a claim to priority in the discovery and manufacture of antitoxin for diphtheria, the contrary can be abundantly established. The patent, of course, does not affect us in Canada, still it is of interest to note the following offer from Parke, Davis & Co.:—

“ We have retained the services of the foremost patent lawyers in the United States, Messrs. Betts, Betts, Sheffield & Betts, of New York City, and it is the intention of our Home Office to fight the pretended monopoly to the last trench. What we fear in the meantime is not the enforcement of the patent, but rather the possible intimidation to which the manufacturers and selling agents of the Behring serum may resort in their effort to alarm the physicians and pharmacists who place implicit reliance on our Anti-Diphtheritic Serum. We, therefore, particularly request that in any article which you may think proper to write for your journal, you will insert a paragraph assuring your readers emphatically that Parke, Davis & Co. will protect and defend them, at least the profession and the trade, from any legal proceedings that may be brought in the United States as a result of their purchase, sale and use of our serum, we assuming the entire expense of such defense. We do not presume for a single moment that our Government here in Canada will give any protection to the monopoly by granting a patent of any kind or description here.

“ In connection with the whole subject we invite your particular attention to the fact that five distinct rejections of Professor Behring's application were interposed at Washington to the final granting of the patent. After each refusal the application was renewed only to be again rejected, until finally, and as late as June 21, 1898, the patent was granted by the Board of Appeals in Washington, in clear contravention of both law and justice.

Very truly yours,

PARKE, DAVIS & CO.”

The energetic protests of the American medical journals do them credit, and we sympathize sincerely with them. As *The Medical Age* says:

“ It is almost superfluous to point out to any well-informed reader that Behring's claim to have done this is as preposterous as it is unjust. The principles upon which immunization to diphtheria was finally achieved were of gradual growth, the outcome of researches by thousands of untiring workers. The foundation of the work was undoubtedly laid by Pasteur in his method of immunizing against chicken cholera and anthrax. So long ago as 1887 Sewall immunized pigeons against the poison of rattlesnakes. He says, with genuine modesty, his work was undertaken with the hope that it might form a worthy contribution to the theory of prophylaxis, and it was a most worthy contribution. In 1887 Roux and Chamberland immunized animals against malignant œdema with sterilized anthrax cultures. In 1890, the same year in which Behring and Kitasato published their results in immunizing animals against diphtheria and tetanus, Fraenkel published his results in diphtheria after treating animals by weakened germs and filtered cultures. In the clinical uses of the serum Aronson's name must not be forgotten. His serum was first used in the Children's Hospital at Berlin in 1894. The serum of Roux

had been used in one of the hospitals of Paris a month earlier than Aronson's in Germany. Emerich and Aronson both dispute the priority of Behring, and the French Academy of Sciences awarded their prize for antitoxin jointly to Behring and Roux, a fact which very clearly denotes the difficulty of estimating priority of merit in a scientific struggle in which the numerous competitors were so equally distinguished.

"If Professor Behring admits any merit in the work of his predecessors and contemporaries, his claim to be the exclusive inventor of diphtheria antitoxin is in contravention of all the ethics of a scientist's career. His claim is an offence against common morality. Had Simpson patented chloroform anaesthesia, or had Lister patented antiseptic surgery, the world would have had two selfish empirics, and lost two medical heroes. If Behring, by the righteous judgment of mankind, can be adjudged sole and undisputed inventor of antitoxin, he has a place in the Temple of Fame for achieving the most beneficent discovery of modern times. It remains to be seen whether the temptation to be rich will overcome his ambition to be great, and whether for a tinsel crown he will barter a diadem of everlasting renown."

THE NEW PHARMACOPŒIA.

The appended resolution is self-explanatory. It seems right and proper that, so far as possible, concerted action should be taken in the matter. It would have conformed more closely, we fancy, with the probable practice of the profession at large had the resolution read otherwise, and said that prescriptions would be compounded according to old Editions of the B. P. unless the new ones were specially mentioned. It is part of the conservatism of the profession to continue to use remedies whose dose, strength and action are familiar.—Ed.

"RESOLUTION:—Whereas a revised edition of the British Pharmacopœia has been issued containing numerous and important changes, and whereas uncertainty exists as to the date under the British Pharmacopœia, 1898, is to be considered in force.

"RESOLVED:—That the Canadian Medical Association in annual meeting assembled recommends that October 1st, 1898, be taken as the date on and after which, in the absence of instructions otherwise, physician's prescriptions should be compounded with the preparations of the British Pharmacopœia of 1898."

Editorial Notes and Clippings.

We append the returns, so far as they are available, from the election contest now pending in the Medical Council:—

TERRITORIAL REPRESENTATIVES.

Division No.	1.—J. L. Bray, Chatham.
" "	2.—J. A. Williams, Ingersoll.
" "	3.—W. F. Roome, London.

Division	No.	4.—J. A. Roberts, Stratford.
"	"	5.—L. Brock, Guelph.
"	"	6.—J. Henry, Orangeville.
"	"	7.—Stuart, Milton.
"	"	8.—Glassco, Welland.
"	"	9.—J. Hanby, Midland.
"	"	10.—E. J. Barrick, Toronto.
"	"	11.—A. A. Macdonald, Toronto.
"	"	12.—J. H. Sangster, Port Perry.
"	"	13.—J. W. McLaughlin, Bowmanville.
"	"	14.—T. H. Thornton, Consecon.
"	"	15.—W. W. Dickson, Pembroke.
"	"	16.—J. Lane, Mallorytown.
"	"	17.—R. W. Powell, Ottawa.

COLLEGIATE REPRESENTATIVES.

Of these, the only one so far appointed is James Thorburn, for Toronto School of Medicine.

The Homœopathics are holding an election for the five to whom they are entitled.

The fact that so many divisions have returned their members by acclamation would appear to argue the complete allaying of the discontent that stirred the usually placid pool a few years ago. It may perhaps be urged that the absence of a contest is a thing to be deprecated, depending, as it sometimes does, on the quiet subterranean work of the would-be candidate, who gets so many men pledged months in advance, that no opponent has a chance when the time for balloting draws near. One can easily imagine circumstances in which the easy, happy-go-lucky temper of the profession at large might lead it into serious difficulty, though it does not seem that at the present time there is any issue at stake such as led to the tub-thumping of a few years ago.—[ED.]

DEATH FROM MORAL AUTOTOXEMIA.

A number of years ago we knew a member of the medical profession who was apparently without that part of the normal cerebral outfit called the moral sense. It might be somewhat harsh to say that he was a moral idiot, because it was plainly not so much a case of degeneration or atavism, as it was that none of his ancestors had been endowed or had acquired the essentials of ethics and humanization, and therefore the fates had been unkind to the boy at birth. He was in that state of arrested development which biologists illustrate by a number of species of animals and plants, and which *e. g.* is known in politics as "the boss," and in medicine as "the newspaper doctor." The significance of his life consisted in the lessons to be gleaned from it by would-be imitators, and by those of his professional co-workers who were compelled to suffer from his influence. He was considerable of an ignoramus, and therefore never was intellectually capable of seeing the necessity of a really shrewd

aping of morality; he never quite learned that it was politic to be perfect in his hypocrisies. He was always judging others after his own standards and therefore soon lost what little tact he ever had and began to blunder sadly in his tricks. He had, for instance, so long and so successfully supplied lay newspapers with secret advertisements of his operations, his goings and comings, his health and his social doings, that he constantly erred and showed the public the machinery of the mystery, and even made himself the butt of ridicule of amiable reporters and city news editors.

As in all such cases the psychic organism, following the known laws of physiology, began to grow foul with ptomaines and retained secretions. Mental auto-intoxication increased despite excellent purges and anti-toxins until colleagues and even those much of his own ways of mental make-up began to shrink from him; finally kind death put an end to the nuisance.

This, as we say, was a long time ago, and yet to-day the habit of the medical profession, the cowardice of the censors of medical societies, and the prevalence of "politics" in professional institutions, permit the constant repetition of the phenomenon. It is of course becoming harder for the charlatan to retain his "brilliant success," but for a time the trickster's office is filled and his hospital-positions and professorships multiply. Soon, however, difficulties and doubts arise, the mental vigor wanes, blunders increase, the suspicion of friends grows to disgust, and finally, again, psychic autotoxemia results in death. But what a mistake on the part of the profession to keep on repeating the stupid experiment.—*Philadelphia Medical Journal.*

CARE OF INEBRIATES.

The *Quarterly Journal of Inebriety* for October has this to say editorially of the paper read by Dr. A. W. Rosebrugh at the Canada Medical Association meeting last autumn:—

"Dr. Rosebrugh's paper on the treatment of inebriates suggests a very practical plan for the immediate care and treatment of acute inebriates. An alcoholic ward, in city and local hospitals, where restraint and medicine can be used, would show to the public the practical nature of such efforts, in the cure and prevention of a certain number of cases. This would be a simple, inexpensive way of proving the value of medical treatment, and would soon create the demand for a farm hospital. We commend this plan to our Canada friends as the beginning of a most practical work."

GASTRIC ULCER.—Excellent results have been secured by giving large doses of bismuth, thirty, forty, and even fifty grains, three times a day, suspended in water, after ordinary doses had failed to be of benefit. Under these the pain was rapidly relieved, vomiting ceased, digestion improved—allowing light nitrogenous food, such as fish or fowl, to be given—and the ulcer quickly healed. The bismuth sometimes caused a little pain and diarrhoea, but never constipation. The treatment was employed chiefly in chronic cases, but in some of the acute variety after recent hematemeses

it also proved successful. In acid dyspepsia, too, it rapidly relieved the symptoms. There are certain dangers and inconvenience that attend the use of the stomach-tube and lavage, but in some cases such a procedure seems imperative; here it is best, after lavage, to inject from three hundred to four hundred and fifty grains of bismuth suspended in water through the tube.—DRESCHFELD, in *London Lancet*.

THE RENEWAL OF PRESCRIPTIONS, ETC., IN GERMANY.—We in Ontario are somewhat prone to plume ourselves upon the perfection of our Medical Act, especially when we are congratulated by some of our friends from the stamping grounds for fakirs, which lie unprotected to the south of us. Our complacency may be perhaps curtailed by reading the following clipping from the *Philadelphia Medical Journal*. The motive of the decision of the German Minister is perfectly plain; the public protection, not the financial interest of the profession. Some external remedies, however, if repeated, could work great harm, such as mercurial ointments, cocaine sprays, or certain eye salves, without proper supervision.—[ED].

“A recent decision of the Ministry of Public Worship, of Education, and of Medical Affairs in Germany is of interest. Prescriptions for internal use in Germany may not be repeated for the patient by an apothecary unless the physician signifies his approval in writing. External remedies, however, may be repeated. Substances prescribed as eye-washes, for inhalation, for subcutaneous injection, or for clysters and suppositories are by this recent decision classed among internal remedies as regards their repetition, though the regulations as to bottles and labels that hold for external remedies still apply to them.”

AN ABDOMINAL OPERATION ON THE SULTAN'S DAUGHTER.—The European press has reported an operation that is probably destined to have much more than ordinary significance and import. The daughter of the Sultan of Turkey was operated on successfully for what, so far as can be gathered from unauthoritative sources, would seem to have been hypertropic stenosis of the pylorus. The operation was performed by Djemil Pasha, whom visitors to the surgical section of the recent International Medical Congress at Moscow will remember as an unassuming young man, who, though the representative of the Turkish Government, was only in evidence when he had something to say, which he did briefly and pointedly. After the operation he received the Osmanic order. Seven surgeons were present at the operation and the dissemination of the knowledge of the operation among the Turks is likely to have a most salutary effect with regard to the medical and surgical treatment of Turkish women by men.—*Phila. Med. Journal*.

The New York *Evening Post* of March 26, in a semi-editorial article, shows the following remarkable appreciation of the work and character of physicians: “Their opportunity is unique, but their influence and assistance in the history of our households is a great testimony to the sympathy and patience and large-hearted comprehension of man with and for his fellow man in this urgent, crowded, self-seeking age of ours.

Human brotherhood, which has no name or guild, is vitally alive among our doctors. Sleepless nights and anxious days, hours of tense apprehension, the exertion of almost superhuman ingenuity to relieve pain, mark the going to and fro of many a quick-moving 'buggy' in our busy streets; and if one in a thousand is so fortunate as to acquire wealth as the result of his practice, let us rejoice for him."—*The Medical Age*.

ATROPINE IN HÆMOPTYSIS.—The following paragraph occurs in an original article by Thomas, of Washington, in the *Philadelphia Medical Journal*, on the subject of hæmoptysis and its treatment by atropine hypodermically:—

In a report to the American Climatological Association, in May, 1896, upon the treatment of hæmoptysis, Dr. Robert H. Babcock expresses the belief that if anything will promptly arrest profuse pulmonary hæmorrhage hypodermic injections of atropin in doses of gr. $\frac{1}{100}$ to gr. $\frac{1}{25}$ will. Dr. Winslow Anderson, of San Francisco, in his article on "Hæmoptysis" in the *Twentieth Century Practice of Medicine*, says: "Atropin, gr. $\frac{1}{100}$ hypodermically, has proven invaluable in stopping the hæmoptysis of phthisis;" and in reply to a recent letter he states that he has found nothing better than gr. $\frac{1}{100}$ of atropin hypodermically in rather more than 50 cases of hæmoptysis.

In 1898 Dr. N. W. Soble reported 4 cases of hæmoptysis treated with atropin with excellent results. Dr. Soble writes me that since then he and his friends have used the drug in the same manner with most satisfactory results. When he desires a prompt effect he gives gr. $\frac{1}{100}$, and if necessary he repeats the dose in 15 minutes.

Hausmann, of Meran, reports 3 cases of recurring hæmoptysis in which the bleeding would not yield to other remedies, tried *ad nauseam*, but was arrested promptly by atropin hypodermically.

R. A. Stirling, at a meeting of the Medical Society of Victoria on November 14, 1888, reported a case of very profuse hæmoptysis that would not yield to ergot and other commonly used agents. The patient being *in extremis*, atropin gr. $\frac{1}{100}$ was given hypodermically, and the hæmorrhage was controlled at once. The injections were continued every 6 hours for 24 hours, when, thinking perhaps the arrest might have been accidental, the injections were stopped for 12 hours, with the result of a fresh severe hæmorrhage, which was at once controlled by the renewal of treatment. Tacke seems to have been the first to call attention to the use of atropin in this condition, as well as in menorrhagia, in preference to ergot. He reported in 1881 having used it 5 times in two cases.

VOMITING OF PREGNANCY.—"I have not failed once for many years, by putting a blister over the fourth and fifth dorsal vertebræ, to put an end at once to sickness of pregnancy during the whole remaining period of gestation, no matter at what stage of the case I was consulted." So says Professor Parvin.—*The Medical Age*.

Book Reviews.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. N. Dorland, A.M., M.D., Assist. Obstetrician to Hospital of University of Pennsylvania, etc. Over 26,000 words. \$1.25 net. J. A. Carveth & Co., Canadian Agents; W. B. Saunders, Philadelphia, 1898.

An exceedingly compendious preparation, a very excellent piece of book-making. One or two mispronunciations may be noted in spite of the editor's care. "*Arābum*" for "*Arābum*," for example; or "*Coup de soleil*" pronounced "*Koo-da-só-lāl*"!

ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION-WRITING—(Saunders' Question—Compend No. 7). By Henry Morris, M.D., Fellow College of Physicians, Philadelphia, etc. 5th Edition. 1898. J. A. Carveth & Co., Canadian Agents. W. B. Saunders, Philadelphia. \$1.00.

We have already expressed dislike of the system of teaching by quiz-classes and compends as tending to develop but little intellectual bone and sinew, and to produce rather an invertebrate type of student. Of its kind this is a very excellent example, and, as a means of reviewing the "high points," most useful.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE FOR USE IN TRAINING-SCHOOLS FOR ATTENDANTS AND NURSES IN MEDICAL CLASSES. By C. B. Burr, M.D., Medical Director of Oak Grove Hospital for Nervous and Mental Diseases, Flint, Mich.; formerly Medical Superintendent of the Eastern Michigan Asylum; Member of the American Medico-Psychological Association, etc. 2nd Edition, thoroughly revised. 5½ x 7½ inches. Pages ix-116. Extra cloth. \$1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-Second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill.

This is a very well-made book. It is also a most succinct and useful bringing together of the rudimentary facts and principles necessary for the classes for whom it is written, under the three heads of Psychology, Insanity, and Management of Cases. The work bears the stamp of being the offspring of experience.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS: A MANUAL FOR THE USE OF PHYSICIANS, SURGEONS, AND STUDENTS. By Charles W. Purdy, M.D., LL.D. (Queen's University); Fellow of the Royal College of Physicians and Surgeons, Kingston; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Author of "*Bright's Disease and Allied Affections of the Kidneys*"; also of "*Diabetes: Its Causes, Symptoms, and Treatment*." 4th, Revised Edition. With numerous illustrations, including photo engravings and colored plates. In one crown octavo volume, 365 pages, bound in extra cloth, \$2.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-Second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago, Ill. For sale in Great Britain by Sampson Low, Marston & Co., Fleet Street, London, E.C., England.

Nothing new need be said of so classical and standard a work as this of Purdy's. We welcome a 4th edition in the short space of three years from first publication, both for the sake of the profession, and as evidencing the capacity and repute of our distinguished fellow-countryman, whose Dedication runs as follows:—"To the Professors Past and Present, to the Fellows, Alumni, and Students of my Alma Mater."

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. Clouston, M.D. Edin., F.R.C.P.E.; Physician Superintendent of the Royal Edinburgh Asylum for the Insane; Lecturer on Mental Diseases in the University of Edinburgh, etc. 5th Edition, 727 pages. Lea Bros. & Co., Philadelphia and New York, 1898.

As the author says in the preface, "A Medical Book that is coming out in its Fifth

Edition should need no Preface. The demand for it has absolved the Author from any further explanation of its existence."

The work consists of a series of twenty lectures, each of an exhaustive and monographic character, carrying the reader in orderly fashion through the subject from the opening lecture on "The Clinical Study of Mental Diseases" to the "Summary of the General Treatment and Management of Insanity looked at as a whole, and on the Use of Hygienics, Sedatives, and Motor Depressants." There is also a series of nineteen very excellent plates with descriptive letterpress which add very greatly to the value of the work, especially to the busy practitioner who cannot make time for histological work.

THE MIND READER. By L. M. Phillips, M.D. Publisher, F. Tennyson Neely, New York and London. A novel built up on the strange mixture of a modern fairy tale as extravagant as Aladdin of Arabian Nights fame, combined with a blood and thunder dime novel, and containing all the inconsistencies and discrepancies of both. It is hard to tell whether the writer expects us to believe there are mortals with supernatural powers such as some of his characters, or wishes us to understand he is drawing on his imagination, but he finds no difficulty in having them convey thoughts, nay, even to converse with bands of men a few thousand miles away. A strong young college graduate would hardly consent to have himself hypnotized and impressed without any previous explanation, and the air in the west must be conducive to rapid bone-union when a delicate young girl can get up in a week after fracturing an arm and make a rough mountain journey on foot. It is also generally supposed that cowboys or scouts, dressed in spotless fringed buckskins bristling with firearms and knives, had almost gone out of date. Still the story is full of action, never slow, and fairly interesting, its strong point being the vivid and highly-colored pen pictures of its hypnotic scenes.

DISEASES OF THE EAR, NOSE AND THROAT. By Seth Scott, Bishop, M.D., D.C.L., etc., Professor of Diseases of the Nose Throat and Ear, Illinois Medical College, etc., p. 554. The F. A. Davis Co., Philadelphia, Pa.

This is the second edition published within the short period of eighteen months. It abounds in illustrations. The letter press is distinct, and the style easy. The plates are numerous and fairly accurate, and in themselves give much information that should be of assistance to the student, within whose reach this volume is placed by its comparatively low price.

A volume, however, which is intended for the use of students should aim at covering the entire field of the subject and at the same time give each subdivision its proportionate share of attention. We cannot feel that this has been done in the volume before us. Nor is the pathology or treatment as up to date in every instance as we had hoped to see it. In the section on the nose for example the subject of hay fever is somewhat extensively treated, and yet is unsatisfactory in that the student receives little aid that will be of practical service while *uric acid* as a cause is exploited at the sacrifice of others, such as septal deformities, which play so important a part in many cases.

In the article on Atrophic Rhinitis, the author simply repeats the dictum that it is the third stage of the process in which Hypertrophic Rhinitis is the second: without making any explanation of this fact, that a very large proportion of our cases occur in children whereas Hypertrophic Rhinitis is commonest after the age of puberty.

One of the most useful forms of treatment of this disease is with Acid Tartrate of Aluminium as recommended by McBride of Edinburgh—but no note is made of it.

In speaking of the treatment of deformities of the septum, and the author says very little on this highly important subject, the use of Connolt Jones' spokeshave is omitted, and yet it has largely replaced the Bosworth saw in removing spurs.

A TEXT BOOK OF PRACTICAL THERAPEUTICS. With especial reference to the application of Remedial Measures to Disease and their employment upon a rational basis. By Hobart Amory Hare M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia. With special chapters by Drs. G. E. de-

Schweintz, Edward Martin and Barton C Hirst. New (seventh) edition. In one octavo volume of 770 pages, illustrated. Cloth, \$3.75; leather, \$4.50, net. Lea Brothers & Co., Philadelphia and New York.

We have received the seventh edition of this well known work, and find it, like its predecessors, thoroughly up to date in every particular.

Doctor Hare's book is, as it claims to be, above all things practical. Considered from a literary point of view, his writing lacks the charming breeziness and fascinating beauty of English that marks the work of Lauder Brunton and makes its perusal a keen delight to the older practitioner. On the other hand, though not so full of detail as the latter, this work of Doctor Hare's contains much more matter, and is on this account, pre-eminently fitted for the student. Many pointers, which older men had to find in the past by experience, are here laid down accurately and concisely and will be found of immense advantage to the young practitioner. The book is very happily divided into four parts. Part I. deals with therapeutic considerations and the classification of drugs and incompatibles. Part II. treats of drugs and, though fairly complete in arrangement, is somewhat sketchy as to detail, especially in the part dealing with the physiological action of drugs; it does not pretend to be a complete pharmacopœia, but in this matter, contains everything necessary for the student or practitioner, and has kept pace with the times as to new drugs. Part III. is entitled, "Remedial Measures other than Drugs," and cannot be too highly praised or too earnestly commended to the young practitioner, who will indeed find it a valuable and practical help to him in this wide branch of his work. We would especially mention the article on "Cold as a Remedy," "Heat," "Counter Irritation," "Enteroclysis," and "Lavage" as giving clear, concise information to the student on matters concerning which he finds his knowledge sadly deficient, when brought face to face with cases that need any of these necessary adjuncts. This part treats also of food for the sick, and embraces diet tables and methods of preparation and administration. Part IV. is on "Diseases with Appropriate Treatment," and is, of course, very sketchy; in fact, did it not contain many cleverly compounded prescriptions, it would be of little value, being too casual for practitioner or for student, and, therefore, too apt to lead the latter away from the perusal of works more thorough in detail. Here we must, in fairness, note how Doctor Hare carefully points out that the work is distinctively on therapeutics and not on medicine. This last part contains also a "Table of doses of Medicines," "Tables of relative weights and measures in the Metric and Apothecaries' Systems," "Index of Drugs and Remedial Measures" and "Index of Diseases and Remedies."

We heartily recommend the book to the medical world. It is well and clearly expressed and contains but little padding, and the writer, though deficient in elegance of style, has adhered closely to his subject matter in a business-like and practical manner, which renders his work a valuable help alike to the busy practitioner and to the student who aspires to become one in his turn.

A.B.

THE SCIENCE AND PRACTICE OF MIDWIFERY, by W. S. Playfair.—After a work has reached its majority and exhausted nine editions, no words of introduction are necessary; it is only with the view of drawing attention to the last work and incidentally congratulating the author on his success in again bringing his valuable work up to recent date, and maintaining for it the place it has long held as an authority. Certain changes have taken place due to more modern investigation, new plates and wood cuts are introduced while certain ones have been suppressed as unsatisfactory. There is also a valuable chapter on Conception and Generation by Dr C. W. Eden, as well as sections on Bacteriology by Prof. Crookshank, with plates thus rendering the work entirely modern and satisfactory for either the teacher or student of midwifery.—C.A.T.

Books Received.

HISTOLOGY—NORMAL AND MORBID: By E. K. Dunham, Ph.B., M.D., Professor of Pathology, etc., in the University and Bellevue Hospital Medical College, New York. Lea Bros. & Co., New York and Philadelphia, 1893. Pp., 448, 363 engravings.

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MANUAL OF SKIN DISEASES.—With special reference to diagnosis and treatment. For the use of students and general practitioners. By W. A. Hardaway, M.D., Professor of Diseases of the Skin in the Missouri Medical College, St. Louis. Second edition, entirely re-written and much enlarged. In one handsome 12mo volume of 560 pages, with 40 engravings and 2 colored plates. Cloth, \$2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Professor Hardaway's Manual in its first edition won the esteem of critical specialists as being a most admirable epitome of the practical side of Dermatology. Selection and clearness of presentation are the qualities of an accomplished teacher, and these are manifested in an unexcelled degree in the volume at hand. The demand for a new edition has been met by the author with a thorough revision, resulting in a great increase in text and illustrations. The work has been thus brought thoroughly to date and its enlargement has withal been accompanied with a reduction in price, which expresses the publishers' confidence of a widely extended sale.

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THE PRACTICAL TREATMENT OF SCALDS AND BURNS.—N. David Chapman, B.S., M.D., of Syracuse, N.Y., after detailing four cases of more or less severe burns in which he derived great help from the use of Unguentine, which was alternated and compared with the usual oily applications, reached the following conclusions regarding this valuable preparation: A—Easy to apply. B—Great relief to patient, it acting as a sedative, cooling and non-irritating. C—It does not dry out so quickly, and consequently the dressings do not have to be changed so often. D—Rapid cicatrizant. E—When used prevents granulation tissues. F—It is non-toxic. G—Patients recover more quickly under the Unguentine treatment than any other. H—Prevents the necessity of skin grafting in a good many cases by hastening the reparative processes. I—It is much more convenient, neat and practicable.—*Abstract from article in New York Medical Journal.*

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We beg to call special attention to the E. B. Eddy Company's notice on page 28. The pails, tubs, etc., manufactured by them are of that material and make that they can be easily rendered aseptic. There are no joints or cracks for germs to collect and propagate. This class of ware should entirely supersede the old stave and hoop line of goods.

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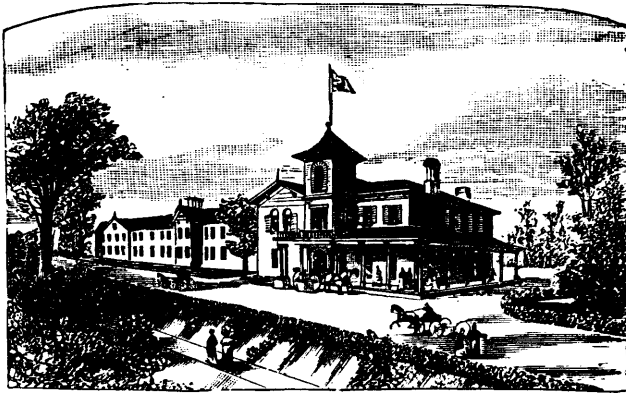
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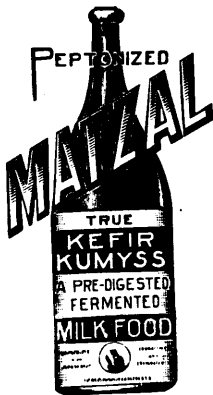
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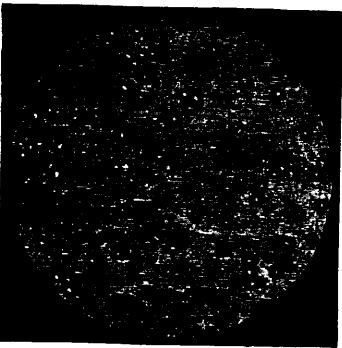
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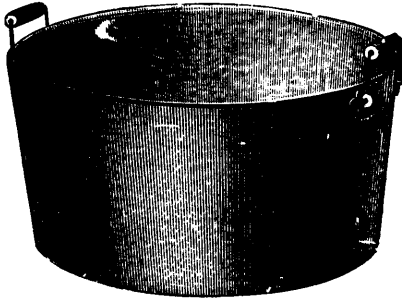
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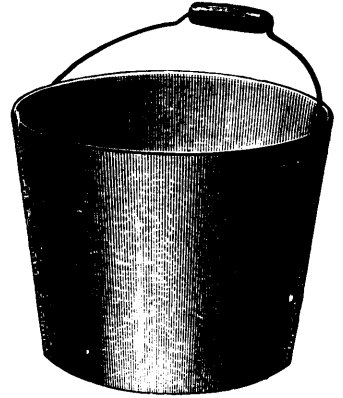
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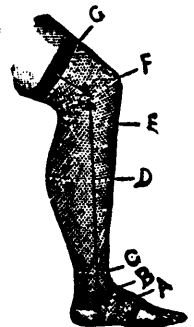
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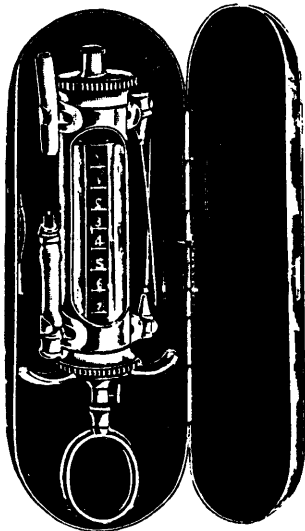
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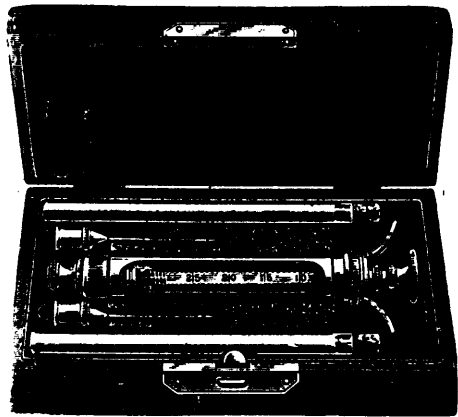
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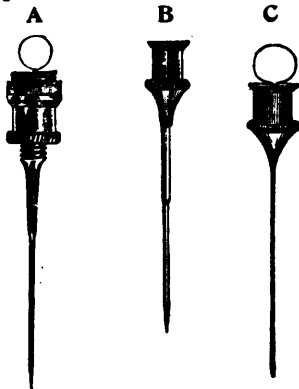
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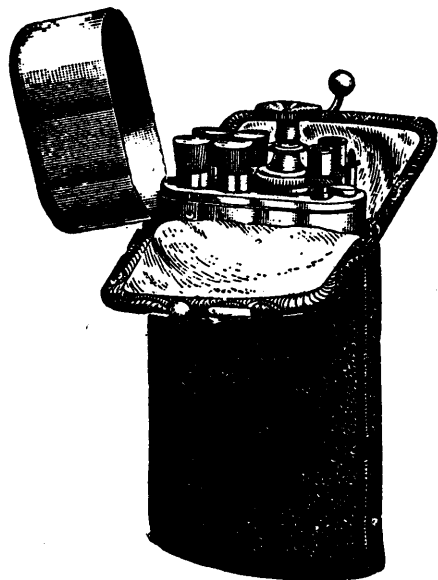


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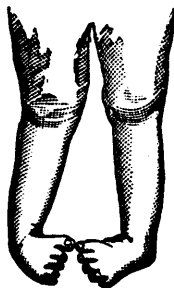
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COCAINE HYDROCHLORATE. 1-4 gr.	90	22	CHLORIDE. 1-40 gr.	30	10
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MORPHINE NITRATE	1-4 gr.	90	22	MORPHINE and ATROPINE No. 15, (Morphine Sulph. 1-2 gr. Atropine Sulph. 1-100 gr.)	75	19
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MORPHINE SULPHATE	1-8 gr.	30	10	NITROGLYCERIN	1-100 gr.	40
MORPHINE SULPHATE	1-6 gr.	35	11	NITROGLYCERIN	1-200 gr.	40
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MORPHINE and ATROPINE No. 4, (Morphine Sulph. 1-4 gr. Atropine Sulph. 1-100 gr.)		60	16	*PILOCARPINE NITRATE	1-8 gr.	30
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				STRYCHNINE SULPHATE	1-20 gr.	40
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VOMITING IN GESTATION AND DYSPEPSIA

I have used Messrs. Warner Co.'s Ingluvin with great success in several cases of Dyspepsia and Vomiting in Pregnancy. In one case of the latter which I was attending a few weeks back, Ingluvin speedily put a stop to the vomiting, which was of a very distressing nature, when other remedies had failed.

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Dr. F. W. Campbell, of Montreal, Canada, says that with INGLUVIN he cleared three out of four cases of VOMITING IN PREGNANCY.

Dr. C. F. Clark, Brooklyn, N.Y., has used INGLUVIN very extensively in his daily practice for more than a year, and has fully tested it in many cases of VOMITING IN PREGNANCY, DYSPEPSIA and SICK STOMACH, and with the best results.

Dr. Edward P. Abbe, New Bedford, Mass., mentions a case of vomiting caused by too free use of intoxicating liquors; INGLUVIN was administered in the usual way—the effect was wonderful, the patient had immediate relief.

A gentleman living in Toronto, Canada, gives his experience. He says: "I was suffering terribly from indigestion. I could eat nothing. Life was almost a burden to me. INGLUVIN was prescribed in five to ten-grain doses; the medicine was taken for about eight weeks. Result, a permanent cure.

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INFANT FORMULA.

℞ Ingluvin - - - gr. xii.
Sacch. Lac. - - - gr. x.
Misce et ft. cht. No. x.

℞ Aqua Calcis - - - f ̄ ij.
Spts. Lavand. Comp.
Syr. Rhei. Arom. - aa f ̄ ̄
Tr. Opii. gtt. x.

Misce—Sig.—A teaspoonful every 2 to 4 hrs.

In inflammatory affections INGLUVIN is combined with Subnitrate of Bismuth, equal parts, and oleaginous mixtures with Oi. Terebinth, instead of Aqua Calcis. Should the evacuation be suddenly arrested, and Tympanitis supervene, follow with a dose of oil or magnesia, or injections. In many cases of sick headache and indigestion the most happy results follow from the combining of INGLUVIN with Pr. Nuc. Vomica, the one-twentieth to one-tenth grain.

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HOLLOWAY, ENGLAND, Dec. 29th, 1895.

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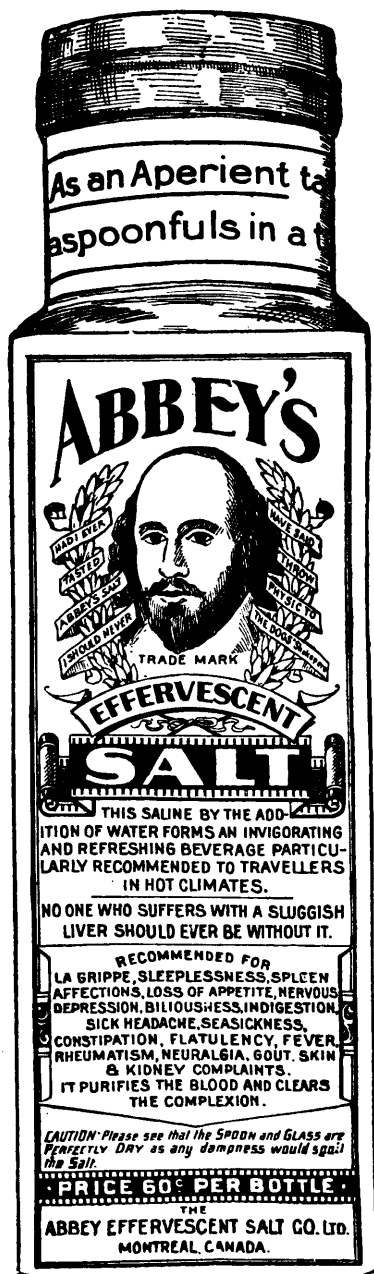
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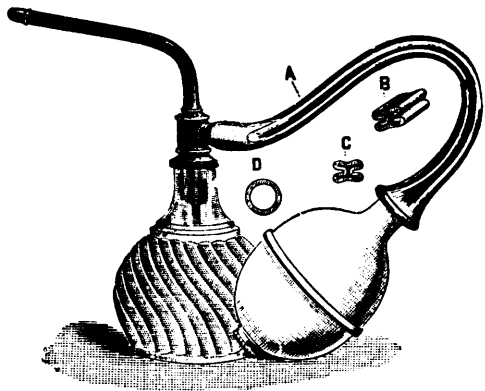
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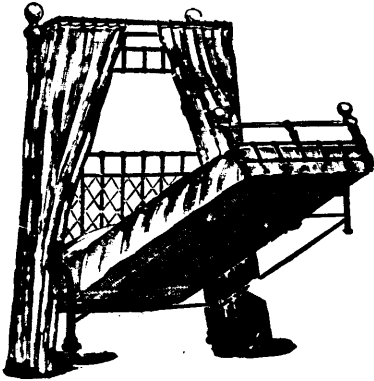
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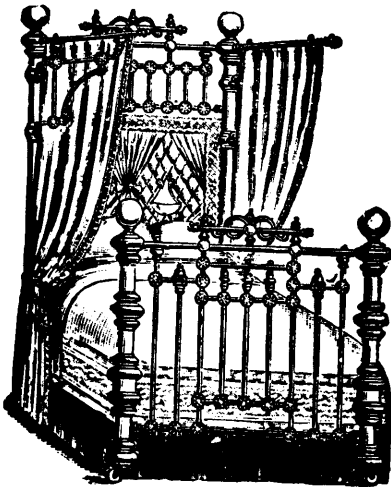
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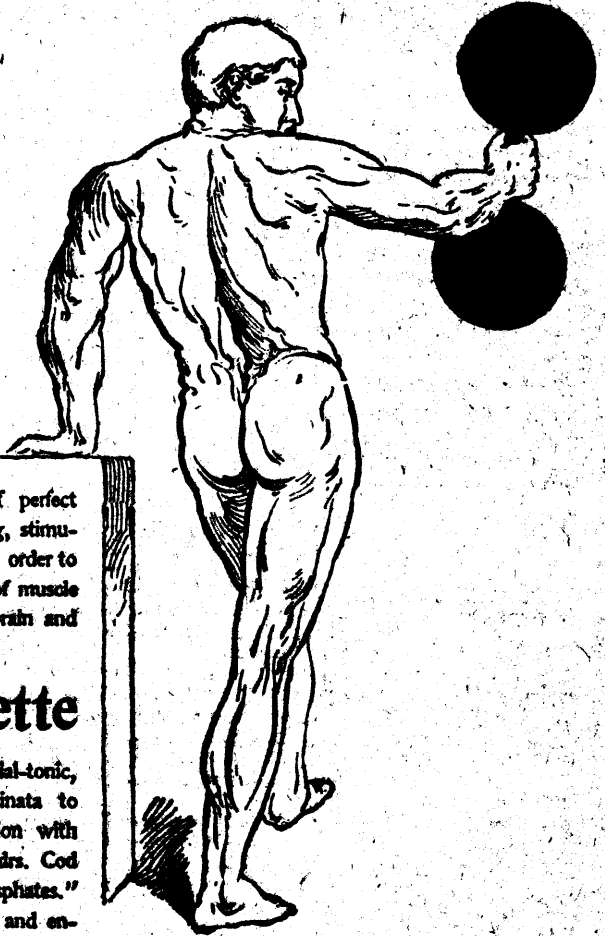
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