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CANADA LANCET

A Monthly Journal of Medical and Surgical Science, Criticism and News.

THE OLDEST MEDICAL JOURNAL IN THE DOMINION.

Vol. XXXI. No. 2. | TORONTO, OCTOBER, 1898. | Price, 30 Cents. $3 per Annum.

CANADA LANCET PUBLISHING CO., PUBLISHERS, TORONTO.

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VOL. XXX.] TORONTO, OCTOBER, 1898. [No. 14.

ORIGINAL ARTICLES AND COMMUNICATIONS.

VICARIOUS URINATION (?)

A Paper read before the Ontario Medical Association, June, 1898, by A. T. Rice, M.D., Woodstock, Ont.

MR. PRESIDENT AND GENTLEMEN:

The case the history of which I wish to bring before you to-day is of such an unique character that, for a better name, I have appended to it that of Vicarious Urination.

I trust that subsequent discussion by the members present will help to solve what to myself, and other medical gentlemen who saw the case, was somewhat of a mystery.

The patient, æt. 30, daughter of a farmer, of a somewhat nervous temperament and rather weak intellect, was attacked about three years ago with cystitis of two or three weeks' duration, the attack being somewhat severe, there being complete atony of the bladder, necessitating the use of the catheter during that period. This attack gradually subsided, though considerable tenderness remained, lasting even up to the present time.

One year after this attack she was again laid up with what this time took the form of involuntary twitchings or spasms of the whole body, emanating from the dorsal region, over which portion of the spine there was a good deal of tenderness. These spasms were so severe as to confine her to bed for some weeks.

Accompanying this attack there were a number of discolorations of the right leg and thigh, extending almost entirely over the limb, but without tenderness. This after a few weeks gradually disappeared, and the patient regained her ordinary health.

About one year ago the atony of the bladder returned and the patient was again obliged to resort to the use of the catheter three times a day, about half an ounce being drawn each time. During this time her general health suffered severely, the bowels being extremely constipated, appetite poor, mucous patches in the mouth and breath foul. No amount of treatment seemed to have the slightest effect upon these abnormal conditions. The twitchings or spasms also returned and continued throughout.

About the first of August the feet began to swell slightly, though not sufficiently to incommode her to any extent. At this time a peculiar complication set in, and the main one to which I wish to call your attention.

The secretion of the bladder gradually diminished, but was compensated for by an exudation of fluid from the anterior portions of the lower limbs between the knee and ankle. This fluid was voided regularly three times a day, the amount gradually increasing, the average being about thirty to forty ounces per day. The fluid simply oozed from the skin without any abrasion of the skin or discoloration, or even the slightest œdema being present. The patient would realize that the fluid was about to issue and would place her feet upon a stool and a dish beneath the heels.

I happened to be present at one time when it began, and can therefore vouch for the correctness of the statement.

The fluid was of an amber color, similar to healthy urine, Sfp. gr. 1010, an absence of albumen or sugar, had a strong smell of urine upon boiling, with a distinct ammoniacal smell after standing; examination also showed the presence of uric acid.

After this symptom showed itself the patient's health rapidly improved and became fairly well established, so that she had little to complain of except the inconvenience caused by this peculiar phenomenon.

From my note-book I have taken the following data:

Sept. 31st, 1897—The patient passed three quarts to-day by measurement.

Sept. 23rd—Patient passed seventy ounces this morning at one sitting.

This condition lasted until October 3rd, when the patient passed one gallon in half an hour in the morning, followed by one pint at 11 a.m., when it suddenly ceased altogether and began to pass through the urethra first in small quantities every few minutes, followed by five to six quarts the first night. After this the natural condition gradually became established, but the patient became again very ill; the spasms re-appeared, accompanied by headache, swelling of feet and great swelling of the face.

This condition remained for about a week, when the symptoms gradually disappeared, and the patient regained her usual health, which has continued until the present time.

I might say that during the last two weeks, when the flow was excessive from the shins, the bladder remained quite empty, and the use of the catheter was stopped, as no urine could be obtained at any time.

Question—What was this? Was it Vicarious Urination? If so, how is it to be explained? Through what channel did it travel? What the pathological condition?

The fluid certainly stood all the tests for urine, resembled urine, and its elimination from the system through this peculiar channel permitted the patient to live.

Dr. Mearns saw the patient, in consultation with me, and I have explained the case to a number of gentlemen, but all are equally at sea with myself.

I wrote a history of the case to Prof. Guiteras, Genito-Urinary Surgeon of New York Post Graduate School, who took a great interest in the case, but stated that he had never heard of such a case.

The only case bearing any resemblance to this was one that occurred in the practice of Dr. Clement, of Woodstock.

This occurred in an old lady, in which each winter for six years the secretion of the bladder stopped, and all of the urine exuded through the skin in the form of perspiration; the patient died after the sixth year.

The foregoing is a plain statement of what to me was a unique case, which baffled me from first to last, both as to diagnosis and treatment, and I hope that in the discussion to follow some gentleman may be able to throw light upon a peculiar phenomenon; or will we be obliged to admit that some of the vagaries of the human system are past our finding out?

COIN IN LARYNX—TRACHEOTOMY—RECOVERY.

BY 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.

P. M., foundryman, aged 40, was holding a ten cent silver piece of money between his teeth, and suddenly drew it into his larynx. Had a sensation of pain referred to the thyroid cartilage, and also a fear of smothering, which was increased by lying on his back. The patient was seen by me 18 hours after the accident. There was no weakness nor dysponœa. On examination the coin could be seen lying on the vocal cords and in the same plane, covering their anterior half, and held in place by the swollen ventricular bands above. The larynx was somewhat irritable and congested from previous attempts at removal. As the coin was lying at right angles to the blade of the laryngeal forceps, and the ventricular bands almost covered the coin, any attempts at removal were ineffectual. So, too, was suspension with head down, and pressure upon the sides of the thyroid plates. I determined to open the trachea through the two upper rings, and to use a local anæsthetic only. About 3 ℥ of Schleich's solution were injected in the loose cellular tissue over the thyroid and for 3ii below. The trachea was opened without serious discomfort to the patient. Sutures were passed through its walls on either side and the incision kept gaping. A small laryngeal mirror was introduced into the opening and the coin found still resting in the same place. To give more room I then incised the cricoid cartilage in the line of the skin incision, but left the crico-thyroid membrane intact. An acutely curved pair of forceps was then introduced and the coin removed successfully. The edges of the tracheal wound were drawn together with a catgut suture, but the other parts were left open, and a dry dressing applied. Patient made an uninterrupted recovery, and was at work in a week. The voice when he was discharged was almost entirely normal.

INSECT BITES.—Ottinger recommends, for insect bites accompanied by violent inflammatory symptoms, ichthyol, to be applied pure with a camel's hair pencil, or in the form of a 10 per cent. gutta percha plaster. Its action is rapid and remarkable, and may be explained by the power of ichthyol to constrict the blood-vessels.

PEACH STONE IN OESOPHAGUS—PERFORATION—DEATH.

BY 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.

Mrs. D., aged 76, brought to the Toronto General Hospital, Aug. 20th, with a history of having swallowed a peach stone one week previously. There had been constant pain referred to the left side of the neck, and inability to swallow until the previous day, when she succeeded in getting down a cup of milk. Patient was weak from want of food. An olive-shaped probang was passed to a point 7 in. from the incisor teeth, but would not go further. A coin catcher, however, was passed beyond the stricture, and on its return caught, causing pain, which made the patient suddenly seize it and pull it violently out. No bleeding followed. The coin catcher brought with it a piece of ill-smelling membrane, which appeared microscopically to be granulation tissue. The temperature rose that night to 101⅖, but a little milk was swallowed. Pain was complained of in the right shoulder and across the right hypochondriac region.

The following afternoon, under ether, another attempt was made to locate the stone, but no probang could be passed further than 7½ inches from the incisor teeth. A consultation followed and the patient was handed over to the surgeon, Dr. Bingham, who kindly operated, assisted by Drs. Nevitt and Bruce. An incision was made parallel with the anterior border of the sterno-mastoid muscle for about 3 in., exposing the omo-hyoid at the upper end of the opening. In separating between the carotid sheath and the tracheal coverings a quantity of foul-smelling pus welled up and a probe discovered the stone lying point downwards in the same line, outside the trachea. The stone when removed measured 1½ in. long and 1⅛ in. broad. The wound was dressed without further search or irrigation. The patient was fed per rectum, and proceeded well, without further rise of temperature, but with several distinct rigors till the 5th day when she rejected the food per rectum, and the following day became comatose, dying on the 7th day after the operation. No post-mortem was obtained. In this case the sharp point of the stone was the probable cause of the unfortunate result, it having pierced the mucous membrane and having been driven further on by the spasmodic action of the constrictor muscles. The age of the patient, the long period of fasting, and the delay in entering the hospital, all contributed to the unsuccessful result.

MERCIER: THE CHOICE OF FLUID FOR ENTEROCLYSIS IN THE NEWLY-BORN. (*Thèse de Paris, 1897.*)—Enteroclysis constitutes a rational method of treating intestinal disturbances in infants, and has also proved an efficacious one. In the case of newly-born babies, half a litre of fluid should be injected at a time. Boiled water, borated water, or physiological salt solution may be used. Should the stools be very fetid, a saturated solution of naphthol is valuable. Finally, if the large intestine is in an inflammatory condition, especially the lower portion, enteroclysis with starch water is indicated.—*Arch. of Pediatrics, June, 1898.*

THE TREATMENT OF CLUBFOOT.

CLARENCE L. STARR, M.D.,

Orthopedic Surgeon to the Hospital for Sick Children; Assistant Demonstrator of Anatomy, University of Toronto.

The ordinarily accepted meaning of the term clubfoot is the condition of talipes equino-varus, in which the sole is inverted, the anterior portion of the foot displaced inwards and the heel elevated; and it is to the treatment of this condition that the writer desires to call special attention.

Before the treatment can be intelligently considered it is necessary to have pictured in the mind the pathological condition which exists in these cases.

The inner side of the foot is markedly concave and shortened, from the inward displacement of the anterior portion of the foot from the mid-tarsal joint. The outer side of the foot is abnormally convex. All the bones of the tarsus are altered in shape and position.

The astragalus is pressed forward and rotated on its horizontal axis, so that only the posterior part of the superior articular surface articulates with the inferior surface of the lower end of the tibia, the anterior part presenting a marked prominence under the skin on the dorsum of the foot. The neck is directed obliquely inward, and the surface for articulation with the scaphoid looks inward instead of forward. It is interesting to note in this connection that Parker and Shattuck, in the *British Medical Journal* of May 24th, 1884, call attention to the fact that in anthropoid apes an inward obliquity of the neck of the astragalus exists, but these are never clubfooted.

While this is true, it should be noted that the articular facet for the scaphoid is directed forward and not inward, and the only result is a broadening of the tarsus. In the anthropoid apes also the great toe is prehensile and is not placed parallel to the rest of the toes.

Bradford and Lovett also call attention to a marked divergence of the great toe, similar, though to a less marked degree, to that seen in the anthropoid apes, reported by travellers to be characteristic of the pure natives of Annam. No dissection of the feet of this race is reported, and the inclination of the axis of the neck of the astragalus is not known.

The os calcis is rotated on its vertical axis, so that the anterior extremity is directed somewhat outwards and the posterior inwards. The anterior end is also depressed, so that the bone assumes more of the vertical than the horizontal direction.

The cuboid maintains its connection with the os calcis and on account of the inversion of the foot becomes the lowest bone of the tarsus.

The scaphoid is displaced inwards and carries with it the three cuneiform bones which are intimately connected with it.

The metatarsal bones follow the cuneiform and cuboid bones inward and may be placed at an acute angle to the axis of the leg.

All the tendons on the dorsum of the foot are placed internal to their normal position, and the ligaments on the inner and plantar surface are shortened, as is also the tendo Achillis.

Viewing a dissected clubfoot, it is easily seen that, aside from the shortened ligamentous bands, the inward obliquity of the neck of the astragalous and the protruding anterior end of the os calcis are the chief hindrances to reposition.

The simplest method by which the deformity can be corrected and maintained in the correct position should in all cases be adopted, and when once started the operator should not be satisfied until the deformity can be *over-corrected.*

The treatment necessarily varies with the age of the patient and the severity of the deformity.

Manual force. In infants, when the bones are, for the most part, cartilaginous, the deformity can usually be corrected by manual force. In very mild degrees of deformity the simple replacing of the foot in the normal position by the mother, a number of times a day, say while nursing the child, will often be sufficient to correct the deformity. In severe forms the foot may be replaced as far as possible, with or without an anæsthetic, and a retention bandage of plaster of Paris applied. This if changed once or twice each week, and the foot further corrected each time, wil result in cure.

A number of appliances have been devised for forcible reposition of the deformed foot, such as the Thomas wrench, Morton's osteoclast, and others, but the writer prefers the use of the hands, as the force can be better regulated, and there is no danger of abrasions or contusions of the skin.

Mechanical appliances.—Various shoes and other forms of apparatus have from time to time been advocated to correct the deformity of clubfoot; but probably the only apparatus of any value is a clubfoot shoe modelled after the pattern of the Taylor shoe

This consists of a steel sole plate, cut to fit the outline of the sole, with the inner edge turned up to grasp the inner side of the great toe, a hard leather heel cup, and a single outside upright of steel placed at right angles to the sole plate, extending to the calf. The foot is strapped to the plate by a strapping, somewhat after the style of the sandal strapping, and the foot being inverted, this will throw the upright out about five or six inches from the leg. The upright is now used as a lever and brought close up to the leg and buckled around the calf. Of course this method of treatment requires patience and constant care on the part of the surgeon and parents, and, at best, the progress is slow.

Other forms of apparatus such as those made with key and ratchet arrangement, and those with elastic traction, are cumbersome and not satisfactory in the hands of any but those by whom they were devised.

The ordinary apparatus sold by instrument makers is complicated, easily thrown out of order, and should be entirely discarded for simpler forms.

Operative procedure: Tenotomy.—The mildest operation is that of tenotomy and division of the plantar fascia In older patients it is usually necessary to divide the plantar fascia and tendo Achillis, as well as sometimes the tibialis anticus tendon and the internal lateral ligaments of the ankle joint. The plantar fascia should be divided first so as to get the counter traction of the tendo Achillis in forcibly correcting the varus.

The division of the tendo Achillis may be left for a future operation if the varus is not entirely overcome. By the use of an Adams fascia knife a very small opening is made in the skin and the tendons divided subcutaneously. After free division of these restricting bands the foot can generally be brought around by manual force and retained by means of plaster of Paris bandage.

In the so-called inveterate clubfoot, when all these mild methods fail, a more radical operation is necessary, and a great many operations are described to meet the need, but only three will be here considered.

Phelps operation.—This is a free, open incision of all resisting bands in the sole of the foot. An incision is made from the inner malleolus down to the inner side of the neck of the astragalus. This yields good results very often, although there is danger of paralysis of the anterior portion of the foot from division of the internal plantar nerve. However, owing to the alteration in the shape of the bones, the division of the soft parts is often not sufficient to correct the severer grades of deformity.

Osteotomy of the neck of the astragalus, and possibly, at the same time, of the anterior end of the os calcis, will be necessary when marked obliquity of the neck is found. The division of the neck may be done from the inside after an open incision has been done. The bottom of the wound will be found to be the scaphoid, if the line of incision is made as described above, which is nearly parallel to the tendon of the tibialis anticus. If the foot is carried round as far as possible the scaphoid moves forward and uncovers the neck of the astragalus, which may be cut nearly through with the osteotome and fractured. If open incision is not done the neck of the astragalus may be divided from the outside, by cutting down on the prominent upper surface of the bone, between the tendon of the peroneus brevis and the tendon of the long extensor to the toes. The osteotome can be easily placed on the neck and section made. If after this the correction is hindered by the anterior end of the os calcis, this may be divided or a wedge-shaped piece taken out, when the foot may be over-corrected and a plaster of Paris bandage applied.

Astragalectomy.—This should only be resorted to when all milder measures have been faithfully tried and have failed. It is chiefly called for in those intractable cases where the astragalus is more than usually depressed and turned inward, where the foot cannot be brought to a right angle.

The operation is best done by making an incision, about two inches long, over the prominent outer surface of the foot, between the tendons of the peroneus tertius and brevis and down to the bone. The ankle joint and the astragalo-scaphoid joint should be first opened into, to map out the bone distinctly. Next the external lateral ligaments should be divided and the interosseous ligaments between os calcis and astragalus. The hardest part of the operation is the division of the internal lateral ligaments, and this is best done by grasping the bone with lion forceps and introducing a pair of curved scissors above, pulling and snipping the ligamentous bands as they appear.

The wound should be closed with sutures in the usual way and a dressing applied which may remain until the wound is entirely healed.

Whatever method of reduction of the deformity may be employed, it is absolutely necessary that a retention shoe, such as the Taylor shoe, should be worn, night and day, for a period of from nine months to a year, to prevent relapse.

To summarize, it may be stated that in the treatment of clubfoot the mildest measures possible to over-correct the deformity should be used. The operator should not be satisfied until the deformity is over-corrected. A retention apparatus should be worn sufficiently long to prevent any possibility of relapse.

The Physiognomy of Disease.—In an article on the diagnosis of disease in infants and children in Practical Medicine, Dr. E. D. Chesebro says that in early life the physiognomy of disease constitutes one of the most important elements in diagnosis. As Finlayson says, "In almost every serious disease of early infancy and childhood it is possible, by studying carefully the relations of the spontaneous movements to each other, and to the attitude and expression of the child, its cries, smiles, inarticulate noises, its color, state of general nutrition, behavior in sleep and in waking, to arrive at a reasonable and often perfectly just conclusion as to the general nature and locality of the disease." To utilize to its fullest extent this element in diagnosis an examination of the naked body must be made. Comparatively little information can be obtained from looking at a child's face and a bundle of clothes.—*Arch. of Ped., April, '98.*

V. Urticaria.—For external application to abate the itching, a solution of alcohol in water may be employed, to which carbolic acid, salicylic acid or menthol may be added. For the itching, the following may be used:

℞ Lact. sulf. .....
Resorcini .....aa 5.0 (1⅓ drams)
Axungiæ porci .....50.0 (1⅔ ounces)

In place of resorcin, cade oil may be prescribed, or

℞ Acid carbolici .....
Acid salicylic .....aa 0.20, 0.30 (3 to 5 grains)
Menthol pulv .....0.50 (7¾ grains)
Axungiæ porci .....50.0 (1⅔ ounces)

Internally, the patient receives a laxative for cleaning out the stomach and the intestinal canal.

Chloride of lime is said to be absorbed by the blood, and there to neutralize the toxines, which reflexly cause the nettlerash on the skin. It is prescribed in two-grain doses.—*Schwimmer.*

MEDICINE.

IN CHARGE OF

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TRAUMA A CAUSE OF APPENDICITIS.

BY WILLIAM B. SMALL, M.D., LEWISTON, ME.,

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On every hand we hear the query, "Why is there so much more appendicitis to-day than ever before?" Answers to this query are not very satisfactory. The medical profession takes credit to itself, and says, "We are much better able to make the diagnosis." But this hardly explains the half of the increase. It would take many times all the cases of peritonitis, perityphlitis, and paratyphlitis of twenty years ago to equal in number the cases of appendicitis of to-day. To find a satisfactory explanation of this increase in all its phases we must study more carefully the causes which lead to the inflammatory involvment of the appendix. In this way alone can the true solution of the question be reached.

The idea is gaining ground that the appendix is anatomically a glandular organ. Among foreign writers, especially, it seems to be considered somewhat analogous to the tonsils. Its disorders then would be like those of the tonsillar bodies—follicular, mucous, submucous, infectious, exudative, and ulcerative. To continue the analogy, it is doubtless a fact that, as in the tonsils, the local inflammation of the appendix is caused by micro-organisms, specific or non-specific.

It has been demonstrated that the particular cause of the inflammatory process in the appendix is the bacillus coli communis, though in a certain proportion of cases other micro-organisms, especially the staphylococcus pyogenes and streptococcus are also found.

These germs may gain admittance to the appendix in the intestinal fluids, or more frequently with irritating fæcal matter in hard egg-shaped concretions of various sizes, introduced into the appendix from the cæcum by force of pressure. Foreign bodies (cherry stones, orange seeds, spicules of bone) are more rarely found in the lumen of the appendix, but all come from the same source (the cæcum) and in the same way, by being forced in. The irritation of the mucous membrane by these hard substances furnishes a foothold for the bacilli—staphylococci and streptococci—to multiply and perform their destructive work.

Why this condition should occur so much more frequently during recent years is not uniformly explained. We are told by some observers that the valve over the end of the appendix is defective. The existence of this valve is not universally admitted, much less its defective condition.

Some assert that the existence of intestinal catarrhal conditions in connection with the grippe is responsible for the large increase of appendicitis in the past few years. This point seems to be proved from figures quoted by Goluboff, who states that in Moscow, during the spring, summer, and autumn of 1896, the number of cases increased to four or five times the average of the past ten years.

While this explanation seems the most satisfactory one that has come to my notice as far as the general increased prevalence of the disease is concerned, there is another point in this connection which demands further attention.

All who have studied the disease agree that the majority of cases are found in young adult males, a majority so large that they furnish seventy-five to eighty per cent. of all cases. About seventy-five per cent. of all patients are under thirty years of age. These figures are significant. Occurring in other diseases, surgical or medical, we have been taught to explain such prevalence by the fact of greater liability to the predisposing cause or more frequent exposure to the exciting cause. Clinical observation and experience show this theory to be well sustained. Does it apply as well to appendicitis?

The fact that some part of the contents of the bowel nearly always furnishes the exciting cause of appendicitis makes it but logical to seek the explanation why this material should be forced from the colon into the appendix. It is reasonable to suppose that muscular contraction will produce this result. But why should the cæcum undergo such contractions more often in the male than in the female? I believe there is a sufficient explanation behind all this. I believe the true cause of the greater percentage of occurrence in young men is found in their more frequent exposure to accidental injuries and strains, and to the strong contractions of the abdominal muscles necessary in their work, thus, in either case, producing great pressure on the contents of the bowels; of this compression the cæcum receives its full share, being on the right, and usually more active side of the body. This result is but natural, and is in accordance with the principle I have stated, which is well recognized in other medical and surgical subjects.

That such a cause is sometimes hard to trace is but a natural result from the time required for the production of local inflammation from the concretion, and for the development of the germs in sufficient quantity to produce an effect so great as to be recognized by symptoms. This interval will be apparent to you as you listen to the cases I will report.

In the literature of appendicitis traumatism is mentioned as an infrequent cause. I have been able to find but one case reported with this the only cause. This case was that of a boy of sixteen years, who was struck in the right iliac region by the handle of a push-cart. A distinct tumor in that region occurred; the tenderness was most acute over McBurney's point. The tip of the appendix was found gangrenous. This

case was reported by Dr. W. S. Coley in the *Medical Record* of February 15, 1896.

Much like this, however, is a case reported in the *New York Medical Journal* of October 24, 1896, by Dr. D. C. Moriarta, in which a pin was found in the appendix, having been there a year without producing trouble, until inflammation was lighted up by a blow.

Rutherford Morrison, in the *Edinburgh Medical Journal*, March, April, and May, 1897, concludes that a strain may apparently originate an attack, a point which he considers of medico-legal importance.

My attention was first called to traumatism as a cause of appendicitis in the autumn of 1894, when I was called to see a young man unmistakably suffering from appendicitis. Two days before, while attempting to pry up a heavy stone by bringing his weight down on an iron bar while holding it between his thighs with his hands, he lost his hold and the bar struck him a heavy blow in the right iliac region. During the two weeks following he passed through the usual phases of an attack of appendicitis, with tenderness at McBurney's point, large, plainly defined tumor in the right iliac region, etc. He recovered without operation and has had no second attack.

The second case that was plainly of such origin was that of a boy, nine years old. This case occurred in November, 1896. I saw the boy very early in the attack, but could not get from him any history of injury till my second or third visit, when he admitted that the pain first came on while he was playing and pushing a heavy two-horse dump cart by the tongue. The cart was hard to move, so he put the end of the cart tongue against his "belly," his hands farther up toward the cart, and pushed "hard." This occurred about twenty-four hours before my first visit. The abdomen was opened on the fifth day and a quantity of pus found The appendix sloughed away. The child recovered fully.

The third instance of traumatic origin was in a young man, a carpenter. This occurred in June, 1897. In lifting boards from a pile and handing them up to a man above him on the second-floor staging, in order to expedite matters he used his groin as a fulcrum, applying the power by taking hold with his hands, two feet or so from the end in his groin, and lifting. This brought a great pressure across his bowels upward and toward his backbone. In less than forty-eight hours the symptoms of appendicitis began. The course of the disease was typical, and fair recovery was made without operation.

This patient fell under my care because his own physician was ill and unable to attend him. Some three months later a second attack occurred under the care of that physician, by whom appendectomy was promptly performed. The genuineness of the first attack was then proved in the thickening of the omentum and the adhesions of the neighboring parts. Pus was also found. His recovery was rapid and uninterrupted by any adverse symptoms.

I have reported to you those cases which have come under my own care in which traumatism as a cause was plain. Several others in this vicinity have come to my knowledge, histories of some of which I will outline.

Dr. J. A. Donovan, of Lewiston, has given me the details of a case of appendicitis occurring several years ago, in which a boy, about ten years of age, was thrown down and one of his playmates jumped on his abdomen. The immediate pain was great, but soon subsided sufficiently for him to get home. Three days later the doctor was called and found a tumor in the central pelvic region, which was opened through the rectum. Pus and two enteroliths escaped, the cavity was washed and drained, and the boy recovered.

Dr. John Sturgis, of Auburn, relates a case in a boy of eleven years, who was kicked in the abdomen by a horse on Wednesday or Thursday. On the following Sunday appendicitis developed. The abdomen was opened and the diagnosis confirmed. The patient afterward died of general peritonitis.

Dr. F. I. Dixon, of Lewiston, details a case in a man, twenty-seven years old, who fell through a trap-door seven or eight feet into a cellar. He complained of injury to his right side, but was not sick enough to send for a physician. This feeling of discomfort continued for two or three weeks, when symptoms of appendicitis appeared. Dr. Dixon was called on Friday. The diagnosis was made on Saturday. Sunday night the patient suffered severe pain and became collapsed. Incision made on Monday showed the abdomen full of free pus. Two enteroliths were found in the appendix and a gangrenous portion between them. Death occurred in a few hours.

The same physician, in January, 1897, operated on a man, thirty years of age, in an advanced stage of appendicitis. Old adhesions were found, in keeping with the history of repeated attacks. The man died a short time after the operation. Though no history of violence was obtainable at the time, several months later the following facts were related by the patient's mother: In the summer of 1896, when on a small island, the patient, in jumping from one shore to another, felt a sudden, sharp pain in the right iliac region, so sharp as to make him lie down. He was a long time in getting home, having to lie down often to rest. He was about the house for several days before he was able to return to his work. Between that time and his last illness he suffered from three or four attacks.

Dr. Donovan also reports a case in a boy of nine years of age, who was jumping from a height to the ground. In three or four days appendicitis developed. The appendix was removed and recovery followed.

Dr. John Sturgis reports a case in a girl, seven years old, who fell from a swing, and developed appendicitis three days after the accident. The case was treated medically and recovered.

He also reports a case in a man, twenty-two years old, who was leading a frisking and jumping horse. In trying to hold him the man strained his side. This was on Friday. On Monday afternoon severe pain began; tumefaction and the other usual signs of appendicitis followed in rapid succession. No surgical interference was allowed. Recovery seemed perfect, and the man is now in the United States navy.

The following cases are of a slightly different class and show the effects of occupation:

Dr. Donovan reports a case (seen by him in consultation) of competitive wood-sawing between two young men. The trial ended on Saturday night, and on the following Monday one of the competitors developed a well-marked case of appendicitis. The case was treated medically and the patient successfully passed through a second attack.

Dr. B. F. Sturgis, of Auburn, reports a case in a man who did a hard day's work in the hay field on Saturday, pitching and raking the hay. The next night it was possible to make a diagnosis of appendicitis.

Dr. Sprague, of Turner. reports a case of a boy of sixteen, unused to labor, who shovelled sawdust all day. Pain began within twenty-four hours, and the usual symptoms of appendicitis followed. The abdomen was opened on the tenth day. Recovery was perfect, though the wound healed slowly. It may be interesting to note that just before this boy was operated on he told some of the physicians present, that his first pain was very severe, and was felt immediately after "skipping" a stone along the surface of the water on the day of his labor with the sawdust.

The same observer reports a case in a tailor who worked hard throwing wood into a shed. Another in a man who had done a severe day's work sawing ice.

Reports of such cases can be multiplied indefinitely, but I have mentioned enough to illustrate the several classes of accidents causing appendicitis, namely, external violence, direct and indirect, sudden strains, and repeated strong contractions of the abdominal muscles.

It may not be always easy to trace the relation of the cause, traumatism or strain, to the effect, appendicitis. But from my experience I believe that such a cause exists in a far greater proportion of cases than we imagine, till we search carefully for it. The relative percentage of the occurrence of appendicitis can be logically explained, to my mind, in no other way.

This explanation brings the subject into prominence from a medico-legal standpoint. Some of these cases are plainly the direct result of external violence, and I believe accident insurance companies, or corporations and individuals responsible for the occurrence of the accident, are as plainly liable for them as for a broken limb.

It is well for us to bear in mind that small injuries may give rise to grave diseases, and also that, this fact being known to the public, "strained relations" between cause and effect will be more frequent than ever before. Careful notes of all such cases should be kept, so that if suit be brought the full history from beginning to end may be given.

We may, I think, reasonably draw these conclusions:

1. That general prevalence of catarrhal conditions of the bowels, perhaps as an accompaniment or result of the grippe, is responsible for a large part of the general increase in prevalence of appendicitis.

2. That accidental injuries, strains, and work demanding strong contraction of the abdominal muscles may be held accountable for the greater prevalence of the disease in males.

3. That such injuries and strains act by forcing material, loaded with the bacteria which produce appendicitis, from the cæcum into the vermiform appendix.

4. That in consequence of the irritation of such material or from some other cause, these germs here find a favorable soil for their multiplication and development.

5. That in common with other germ diseases a time of incubation must elapse (for the multiplication of these germs) before symptoms sufficiently marked to prove characteristic of appendicitis can appear.

6. That the disease is of growing medico-legal importance, as many cases are of traumatic origin, and may therefore give rise to proper suits for damage or valid claims against accident insurance companies.

The history of some of the cases narrated by the writer might easily lead to the suspicion that circumscribed peritonitis was primarily the effect of trauma and that the appendix was involved secondarily.—W. B.

APPENDICITIS—A POSSIBLE CAUSE—THE USE OF THE LIGATURE—IS IT NECESSARY?

BY WM. T. OPPENHIMER, M.D.,

President of City Board of Health, Richmond, Va.

The subject for the evening's discussion, as announced in the notices, was appendicitis. I do not wish to take in such a vast subject, only to confine myself to the cause, the results of inflammation and certain procedures for relief. I have often been twitted for pressing the theory that so many diseases were due to the accumulation of gas in the intestinal canal. Possibly 50 per cent. of all cases of sickness is due to some irregularity, imprudence or defect in digestion. The question is asked, "Why do we hear more of appendicitis now than formerly?" I would anwer that the disease was not so well known, and that possibly as much existed then as now, but under different names, e. g., many cases formerly diagnosed as peritonitis were fulminant appendicitis. But nevertheless I claim the disease is more frequent now. Possibly the cause may lie in improper food. Bread is the most common food, and the common baking powder used has caused more and different varieties of indigestion than formerly, probably affecting the digestive juices. I bring this out although I have no statistics to prove it, for I believe that appendicitis is nothing more than indigestion in the appendix. Authorities on the subject refer to the blood-vessels, sex, etc., when naming the causes. The point I wish to make is that it is the result always of an accumulation of gas, never of plugging of the artery or sloughing. I believe that the capillaries are so numerous that even with blocking of the artery collateral circulation is soon established.

In every case of appendicitis the patient is more or less dyspeptic. It may even be his first attack. The resulting gas accumulating in the cæcum, the appendix becomes blown up and its orifice is blocked. In recurrent cases the orifice may be more and more narrowed with each succeeding attack, until it is finally occluded, the circulation is cut off entirely if the distance is great, and sloughing results.

The points I have stated are altogether different from those heretofore brought forward, and I would like the gentlemen present to think of them.

Why do more men than women suffer from appendicitis? The reason given by an authority is that in the latter sex the appendicular circulation is reinforced by a branch from the ovarian artery. I contend that is because the circular muscular fibers around the orifice of the appendix are stronger in the male, the tension is greater, and, therefore, closure is more likely. I do not deny that the circulation in women may supply more blood.

The points brought out have great bearing on the treatment, namely, food. Indigestion of all forms should have the closest attention, for the first seizure may bring on an attack of appendicitis.

[The writer is apparently enamored of the distension theory, even to the verge of the ridiculous; but let us not laugh prematurely—careful investigation along this line might surprise us in our ignorance and substantiate his hypothesis.]—W. B.

OLIGOPHOSPHATURIA—A WELL-DEFINED AND IMPORTANT SYMPTOM IN DISEASE.

BY GEORGE FREDERICK LAIDLAW, M.D., NEW YORK.

When Dr. Richard Bright entered upon the series of observations that has culminated in the world-wide recognition of the kidney lesions that bear his name, there was associated with him a man as enthusiastic in research and as accurate in his workmanship as was Bright himself. This man was Bostock. Bright studied the lesions in the kidney and established the general features of his proposition of the dependence of dropsy and albuminuria upon these renal changes. Bostock made chemical analyses of the urine and of the blood of the same cases, and supplied facts concerning the deranged urinary secretion, without which much of Bright's proposition would have remained pure conjecture. All studies in the anatomy of renal disease which have been made since that time are based on the work of Bright. Our knowledge of the chemical properties of the blood and the urine in Bright's disease is based on the work of Bostock.

Bostock discovered that the urine of the patients under consideration was deficient in solids; he noted the deficiency both in urea and in the mineral salts. In the blood he found a substance resembling urea, and also an excess of the same salts that were deficient in the urine, and thus laid the foundation of our knowledge of uræmia. The presence of urea in the blood of nephritic cases was confirmed by Wilson in 1833,[1] and by Christison in 1839.[2] In this manner the substance urea took the lead in interest and apparent importance, to the neglect of its fellow urinary

[1] "On Fits and Sudden Death in Connection with Disease of the Kidney."

[2] "On Granular Degeneration of the Kidneys and its Connection with Dropsy, Inflammations, and Other Diseases."

constituents, the inorganic salts. A review of the publications of the past twenty years shows that this attitude is still maintained by many competent authorities.

However, in our recent urological literature there are signs of an awakening. The inorganic salt is growing in importance, and the quantity of urea excreted is becoming less and less an element of certainty in prognosis. The growth of the idea has been slow. There was, first, in 1827, Bostock's observation[3] that in the newly-discovered kidney disease the inorganic salts of the urine were present in much smaller quantity than in health. Next came Dickinson, in 1868,[4] with his careful quantitative analyses, revealing the fact that in chronic kidney disease there is a difference in the excretion of the different salts. In "granular degeneration" or interstitial nephritis, in amyloid kidney, and to a less extent in tubal or diffuse nephritis, he found that the excretion of phosphates in the urine during twenty-four hours was markedly deficient, the sulphates being less affected, and the chlorides usually appearing in normal quantity until late in the disease. There is another long interval until, in 1881, Fleischer[5] published his studies on the urine of nephritis. In speaking of chronic interstitial nephritis, he says: "The excretion of chlorine was the same as in healthy persons. . . . Both absolute and relative excretion of sulphuric acid in one case was lower; in another markedly less than in healthy persons. . . . The phosphoric acid excreted (in the form of phosphates) was in all cases, relatively and absolutely, decreased," as compared with a healthy person of the same sex and weight, and kept on the same diet. Fleischer discusses the reason for this peculiar inability of the chronically diseased kidney to excrete the phosphates, while the chlorides and sulphates pass freely into the urine; but he arrives at no profitable conclusion thereon.

In 1884, Purdy[1] is able to state that "he regards the diminution of phosphoric-acid excretion (in the form of phosphates) by the kidneys almost as constant a feature of the urine in Bright's disease and allied lesions of the kidneys as the presence of albumin in the urine." Again, speaking of chronic interstitial nephritis: "More or less reduction is to be noted of the quantity of all the urinary solids, the chlorides suffering the least reduction and the phosphates the most. With regard to the phosphates in particular, the diminution in the quantity of phosphates in the urine may be regarded almost as constant a feature of this disease as the presence of albumin."

Clifford Mitchell has confirmed this statement.[2]

I can not only confirm the statement of these observers, but will go a step further, and say that a deficient excretion of phosphates in the urine is the only constant urinary symptom of chronic nephritis with interstitial changes; it is more constant than albuminuria, more constant than low specific gravity or increased quantity of urine.

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[3] "Reports of Medical Cases."
[4] "On the Pathology and Treatment of Albuminuria."
[5] Deutsches Archiv fur klinische Medicin, 1881, p. 129.
[1] "Practical Urinalysis and Urinary Diagnosis."
[2] Oral communication to the writer in 1893.

Bright himself, in 1836,[3] Christison in 1839,[4] Rayer in 1839, and all observers since, have noted the variability of albumin in the urine of the "granular kidney" or chronic interstitial nephritis. It is recognized by all that in this disease albumin may be very scanty, or may even disappear for long periods. Cases are recorded by Fleischer and Rosenstein, to which I can add six from my own observations, in which the excretion of urea, chlorides, and sulphates was practically normal; but neither I nor any other urologist has been able to record a case of chronic interstitial nephritis with a normal excretion of phosphates.

It appears, then, that in chronic interstitial nephritis and in waxy kidney there is a constant urinary symptom, namely, a diminished daily excretion of the salts of phosphoric acid. For convenience, in my clinical records and urological studies, I have called this symptom "oligophosphaturia," a self-explanatory term, analogous to "oliguria" and "oligocythemia."

Constant urinary symptoms of chronic interstitial nephritis are not so numerous that we can afford to neglect any of them. It remains to consider how far this symptom, oligophosphaturia, is pathognomonic of chronic nephritis. Deficient daily excretion of phosphoric acid is not confined to nephritis; it is found in gout (Purdy) and chronic lead poisoning (Gaucher), some forms of anæmia (Deeke and Simon), in many acute fevers (Purdy and Simon), including the febrile stage of intermittent fever (Simon), during the intermission (Purdy), during pregnancy (Purdy), in acute yellow atrophy of the liver (Frerichs and Fleischer), and in cirrhosis of the liver (Hegar).

Note that most of these conditions are in some way related to deficient renal activity. Gout and lead poisoning frequently terminate in renal cirrhosis; anæmia tends to insufficient nutrition of the renal tissue, degeneration, and inefficiency; and the acute fevers, with their scanty, heavy urines and frequent albuminuria, point plainly to inadequate renal action. In my experience, the oligophosphaturia of pregnancy is a frequent but not an invariable occurrence. It is related distinctly to a greater or less degree of renal competence. The relation of oligophosphaturia to hepatic disease deserves more extended discussion than is possible in this article.

In a further communication, I hope to discuss the relation of this deficient excretion of phosphates to the "prealbuminuric stage of Bright's disease," described by Mahomed,[1] and the "diathèse Brightique," of Dieulafoy, and incidentally to demonstrate the value of the symptom in the early diagnosis of chronic nephritis.

The object of the present paper is simply to demonstrate to my fellow urologists the increasing importance that is being attached to the persistent deficiency of phosphates in the urine; to suggest a descriptive name, oligophosphaturia; and to urge the more frequent quantitative estimation of these salts by accurate analysis as an important element in every examination of urine. The estimation is easily and quickly made by the uranium-nitrate titration that is described in all standard text-books.

[3] Guy's Hospital Reports.
[4] "On Granular Degeneration of the Kidneys."
[5] "Traité des Maladies des Reins."

THE INFLUENCE OF HEART DISEASE ON LIFE ASSURANCE.*

DISCUSSION.

The Chairman : I am sure that Dr. Williams has given us ample food for discussion, and we are very much obliged to him for completing his first paper. This one seems to be a very good corollary to the other, and the summary to contain an immense number of propositions, mostly in the way of information, some of which, no doubt, you will discuss at some length.

Dr. de Haviland Hall : I will first take the question of adherent pericardium. If I remember rightly, in the discussion on Dr. Williams' previous paper, I pointed out that it was impossible to diagnose adherent pericardium if you excluded adhesion of pericardium to chest wall. You might make a sort of a guess at it, but you cannot, with any sort of certainty, diagnose an adhesion of the heart and pericardium. Therefore, these cases do not come under the category of conditions to be considered for life assurance. One factor in accepting lives for insurance is the occupation of the applicant, and that I do not think Dr. Williams touched upon very definitely. It seems to me that opposite conditions are required for heart disease and cases where there is any tendency to phthisis. A man who has a family history of phthisis or who, in the past, has had some signs of phthisis, if he is living an out-door, active life, you might certainly consider, and possibly pass him, with a considerable addition. Now, this active, out-door life is not a condition that would be quite desirable in a man with valvular disease. I may mention a case which I had recently before me : a solicitor in comfortable circumstances, able to do his work pretty much when he liked and where he liked. This is the kind of individual we should do well to pass for insurance, even though he had valvular disease. Whereas, if the applicant had been a farmer, or a man engaged in out-door, active life, I should have had some doubt in passing him.

The view that Sir William Broadbent holds as to the frequency of aortic stenosis is one not generally held. It certainly has been displaced from the prominent position it occupied in the times of Walshe. I am of opinion that many cases are called cases of aortic stenosis which have no title whatever to be so designated ; they are really cases in which a little roughening of the valve produces a murmur, but there is no obstruction. I have passed several cases in which there has been a distinct aortic murmur, but in which there was no sign of cardiac change, and where I believed that I had to deal with a roughened valve. Therefore, I do not attach so much importance to an aortic systolic murmur as some authorities would do. In speaking of the causes of aortic disease, Dr. Williams left out what I look upon as one of the most important, certainly in cases of aneurism, namely, syphilis I think that it plays a very prominent role, and that one should realize the extreme importance of inquiring as

*Published in July, 1898, *Medical Examiner.*

to the history of syphilis in cases of aortic disease. The more I see of post-mortem work, the more I am struck with the frequent dependence of aortic disease on syphilis. There is one interesting point in the clinical symptoms of an organic regurgitation, which I think Dr. Williams might have alluded to, and that is the loudness of the murmur. All the cases of murmurs which I have heard at a distane from the patient have been examples of aortic regurgitation.

I should be a little more cautious than Dr. Williams in regard to aortic regurgitation. I do not consider I should feel justified under any circumstances in recommending a man with an aortic regurgitation murmur. I grant that there may be cases in which damage has been done, but compensation is fairly well maintained; but at present we seem to know so little about the conditions which may follow upon aortic regurgitation that the safest plan is to absolutely reject all cases of this lesion. The cases which have given me the most trouble in the past, and most anxiety for the future, are those of fatty heart. This is possibly due to the fact that there have been two or three very sudden deaths in my office from this cause. One of these, a man of forty-nine, I examined in consultation with my colleague and another examiner. When we passed this individual with a small addition of four or five years, I remember making a special note at the time, which I took away with me, because I was dissatisfied with the condition of his heart; but, being the junior, I gave way to my seniors. What I noticed about him was this: feeble impulse and feeble first sound. Six years later he was found dead in bed, and the verdict at the coroner's inquest was "Death from fatty heart." This was just the condition one might reasonably expect. Given a feeble first sound and a feeble impulse, if the condition of the arteries is not satisfactory, that is to say, if the arteries are rather hard, in these cases I think we should be most careful in inquiring into the antecedents and family history of the applicant, because, if we find that he belongs to the class of cases so well described by our President in his inaugural address, where there is an early breaking-down history, then I certainly think we should refuse to accept such a life with any premium. The only point I have to notice about the remarks Dr. Williams made in connection with the pulse is as regards intermission. I am disposed, certainly in patients under fifty, to look upon an intermittent pulse, provided it is not very frequent, *i.e.*, where there are not more than two intermissions, we will say in fifteen seconds, as possibly depending upon dyspepsia or a gouty condition. I have certainly seen it induced in many persons by indigestion, and going away when the patient's digestion has been put in better condition. I have, therefore, not attached much importance to an intermittent pulse. I think an irregular pulse is a much more serious thing from an insurance point of view than an intermittent pulse. Sir William Broadbent's remarks are very interesting, but I should attach more value to them if he had been an adviser to an insurance office himself. I cannot help thinking that the people who have not the responsibility of being medical advisers to a life assurance office take a rather more cheerful view of assurance than those with that responsibility.

Dr. E. Symes Thompson: I have a few observations to make, sir, and the first is this: that, whereas the extra rating that should be suggested for well-defined diseases of the heart is a matter about which we can speak with confidence, the extra rating which we can apply in cases of vague, ill-defined, defect of heart is a much more difficult thing to estimate. When we compare the conditions of heart disease in relation to prognosis, the experience gained in insurance practice, with the conclusions to which we have arrived during the last twenty or thirty years, we can estimate with fair confidence the prospects of life in cases of definite heart disease, whether of the aortic or the mitral valve. But I regard it as a matter of much greater difficulty to judge about conditions of degeneration of arterial wall, of adherent pericardium, and so forth. As to adherent pericardium, I entirely conform to what Dr. de Haviland Hall has said. The circumstances under which one would be bold enough to state as a matter of fact that a patient was suffering from adherent pericardium, when he came to you for insurance, would be very exceptional indeed. Of course, when we have a patient under our care and can watch over him and know all about the history, we may be in a position to form a fair surmise that the pericardium is adherent; but I do not recollect any instance in which a patient came to me in insurance practice in which I was bold enough to state that adherent pericardium existed. I should, therefore, be disposed to put aside the first conclusion of Dr. Williams. When we come to deal with the question of degenerative change in the heart, we are still in what I should regard as the indefinite class of case. We may form a judgment that there is a degenerative change in progress, but when we come to define whether it is of a fibroid or fatty nature, I believe we should often be found at fault in our decisions. As a specimen of the indefinite, or ill-defined class of cases, which is more difficult to assess, and more unsatisfactory from an assurance standpoint than cases of pronounced valvular lesions, I would mention a case examined for assurance this afternoon.

A. B., a traveler, aged forty, assured at ordinary rates ten years ago. Father and mother both died at the age of forty from unknown causes. No history of illness. Height, 5 feet 5. Weight 11 stone (an increase of two stone in ten years). Tendency to accumulate abdominal fat. Liver full. Venules over costal margins large. Bile acids in urine. Heart's action hurried, flappy, diffused sounds. No increase of cardiac dullness and no murmur. Complexion rather flushed. Tongue dented.

SURGERY.

IN CHARGE OF

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THE SURGICAL TREATMENT OF SEPTIC DISEASES OF THE ABDOMEN AND PELVIS.

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Adequately to discuss the surgical treatment of peritonitis within the short space of twenty minutes is clearly an impossibility. I shall therefore proceed to state, in the form of propositions, certain facts as they appear to me, attempting no explanation or defence of the position assumed. Only in this way has it seemed possible for me to meet the views of your committee, and aid in starting a discussion of sufficient scope. If those who discuss my propositions will recognize the limitations thus set by myself, they must see that much has been necessarily left unsaid, much implied, and hence they will do justice both to the subject and the present speaker.

Although some of my propositions may in a measure embody the statements made by some of the speakers preceding me, they are necessarily re-affirmations from the clinico-surgical standpoint, and serve as premises to my conclusions as to surgical treatment.

Proposition I.—There is a primary peritonitis, usually due to infection by one variety of the pyogenic cocci, although mixed infection is not uncommon. This arises independently of any "infection antrium" in a diseased abdominal viscus or penetrating wound of the parietes. This "terminal infection" occurs late in chronic renal, hepatic and cardiac affections. From the lowered vitality of the tissues induced by the imperfect nutrition present in these diseases, germs entering the circulation at distant "infection atria" are not destroyed or eliminated as in health. The normal inhibitory power over germ growth possessed by the blood serum has been shown to be notably diminished in both advanced renal and cardiac affections. Moreover, the physical conditions of the circulation favor the accumulation of germs in such numbers, that while innocuous to a healthy serous membrane they may, and often do, overcome the resistance of one whose nutrition is imperfect. This form is rarely amenable to operation.

Proposition II.—Postoperative peritonitis, or that following infective processes in a parietal wound, is usually a mixed infection, the predominating organisms again being the pyogenic cocci, rarely bacilli. The former fact serves to emphasize the paramount importance of thorough disinfection of the field of operation and the hands of all those who may come in contact with the wound, the instruments or dressings. Moreover, this proves that in most instances postoperative peritonitis is an entirely preventable disease, as are also many peritoneal inflammations due to penetrating traumatisms, although in posttraumatic peritonitis infection has usually occurred before the surgeon's arrival, from the abdominal parietes, fragments of clothing carried into the abdominal cavity, the vulnerating object, or the injudicious examination of the wound by the friends or the family physician.

Proposition III.—The occasional presence of bacilli in conjunction with other mico-organisms, that is, a mixed infection, shows that the surgeon is not always blameworthy, because bacilli may either intensify the action of other germs present in too small numbers to be harmful, or actually be the chief factors in a peritonitis following operation. The bacilli often come from the intestine when firm adhesions have been separated. The intestines have in no sense been penetrated, but their peritoneal coat has been more or less completely stripped off, and ecchymoses or minute lesions of their mucous coat have resulted from necessary handling, rendering them *pervious to germs*, hence the peritoneal infection. Again, such injured points present a *locus minoris resistentiæ*, which it is well proven, experimentally, will render efficient an infection by a given number of germs introduced into the peritoneal cavity, which in the same, or larger numbers, would have proved harmless with an intact peritoneum. Hence all unnecessary intra-abdominal traumatism, however trivial, should be avoided, all surfaces denuded of peritoneum when possible being covered in by suturing. The fluid employed for irrigating should be normal salt solution, because this does not damage the peritoneal endothelium as plain water does; any damage to these cells lowers the resistance of the peritoneum to germs, favors their implantation, and hence the establishment of an infective peritonitis.

Proposition IV.—A distinct class exists where the infection comes solely from the gastro-intestinal or genito-urinary tracts. While this form of peritonitis usually follows operations involving actual section of one of the hollow viscera, the statements contained in the preceding proposition explain the occurrence of a certain number. Many years ago it was a well-recognized clinical fact, that cases requiring the separation of extensive adhesions were peculiarly liable to be followed by dangerous peritonitis. Although many of these old-time accidents are avoidable by asepsis, it must never be forgotten that no perfection of aseptic technique will *invariably* render innocuous faults or misfortunes of *operative technique*. Therefore, when extensive surfaces of the hollow viscera are denuded of peritoneum, which surfaces are not reparable by suture, some form of drainage should be instituted, preferably Clark's; a resort to such expedients will often prove successful in averting a fatal termination.

Proposition V.—Because intestinal paresis, if absolute and non-relievable, means certain death, despite the most perfect asepsis and operative technique, its prevention and relief demand our most earnest consideration.

Proposition VI.—Intestinal paresis can best be prevented by early operation, because it results from an extending infective process which can often thus be successfully combated in its earlier stages. When no operation is done, or the condition supervenes after operation, calomel by the mouth, followed by salines, aided by purgative rectal enemata, strychnia hypodermically, the abdominal ice-pack, washing out of the stomach when fecal vomiting is marked, and rectal feeding embrace all that can be done, and are occasionally successful. Cold somewhat inhibits germ growth, favors a return to the normal intra-abdominal circulation, hence lessening the accumulation of germs while increasing the resistance of the tissues from improved nutrition, and stimulates to contraction the muscular coat of the intestines. Strychnia is a most effective agent in securing a re-establishment of the motor functions of the bowel, while purgatives aid both cold and strychnia by emptying the over-distended intestines, which often exert such pressure upon the thoracic viscera as to fatally embarrass their action; toxic substances, which directly or indirectly are producing the paresis, are eliminated. Purgative enemata composed of Epsom salts, glycerine and turpentine may be employed as succedanea or substitutes for purgatives by the mouth. If during the operation intestinal paresis is found or suspected, by means of a syringe and hypodermic needle one ounce of Epsom salts in saturated solution should be injected into the upper part of the small intestine, and the opening closed by suture.

Proposition VII.—Increased frequency of pulse, especially when out of proportion to either temperature or respiration, more surely indicates the need for operation than any other symptom. High temperature, great pain and abdominal distension, with or without vomiting, may be and often are sufficient indications, but may all be absent in some cases most urgently demanding surgical intervention. Distension, pain and vomiting are often at least temporarily relievable by purgation, aided perhaps by some of the other measures mentioned in Proposition VI.; these statements are especially true for appendiceal peritonitis.

Proposition VIII.—When both the local and general symptoms of a peritonitis are undoubtedly stationary immediate operation is not *demanded*, although this may be desirable upon other grounds than the immediate risk to life.

Proposition IX.—Any extension of a peritonitis, shown either by increase of the local or general symptoms, still more by both, usually demands prompt intervention as a life-saving measure.

Proposition X.—Generalized, that is, septic peritonitis cannot be efficiently treated by mere irrigation and the introduction of drainage tubes. The minimum which is effective is, after irrigation with many gallons of salt solution, the introduction of numerous gauze drains reaching practically all parts of the abdominal cavity; supplementary lumbar and hypogastric drainage openings are also often advisable. If, however, the condition of the patient sanctions considerable manipulation and the consumption of additional time, when any adhesions are readily separable, free enlargement

of the parietal incision should be done, and portion by portion all the movable hollow viscera should be brought externally, surrounded by hot towels, liberally douched with hot saline solution, and carefully wiped with bits of gauze to remove, as far as safe, all infected exudate. As each segment is cleansed it should be returned into the abdominal cavity. Evisceration *en masse* must be avoided, because, although it requires prolonged manipulation of healthy intestines to produce shock, this is rapidly produced when they are inflamed. Injection of a saturated solution of magnesium sulphate, as described in Proposition VI., should be given, and numerous strips of gauze should be introduced so as to drain all parts of the abdomen with or without counter-openings. The use of ice, strychnia, purgatives, et cetera, as described in Proposition VI., are also indicated.

Proposition XI.—Too much stress cannot be laid upon the imperative necessity of previous walling-off of the general peritoneal cavity by careful packing with gauze when opening any intra-abdominal pus collection which alone renders the procedure either justifiable or safe; the pus, when possible, should be removed by pieces of gauze or sponges rather than by irrigation, which might diffuse the infective material over a wider area. Irrigation is, however, sometimes the sole or most efficacious means to remove the pus.

Proposition XII.—When doubt exists as to the necessity for drainage, the introduction into the peritoneal cavity of one or two pints of warm saline solution, close suturing of the wound and elevation of the foot of the bed about eighteen inches will prove sufficient. This position, as Clark, the originator of the method has shown, tends to relieve the abdominal distension, favors the normal peritoneal current toward the diaphragm, the peritoneal covering of which he has shown plays the most important role in the removal of fluids and germs from the abdominal cavity. Assumed immediately after operation it materially lessens accumulation of blood in the abdominal viscera, one of the most potent factors in maintaining shock, and lessens the tendency to oozing.

Proposition XIII.—Tubercular peritonitis is best treated by incision, separation of soft adhesions, free irrigation and closure of the wound without drainage.

Proposition XIV.—Codeine rather than morphine must be employed to secure sleep, et cetera. Morphia is never indicated as a curative agent and should rarely be needed to secure sleep.

* * *

C. B. N.

The subject—"Septic Diseases of the Pelvis"—includes the whole of gynecology except malformations, certain neoplasms, malpositions and trauma. I therefore shall endeavor only to outline the general principles which govern me in the treatment of these conditions.

The character of the invading micro-organism, the location of resulting lesions, the reflex disturbances, the resistance of the tissues and the age, circumstances and environment of the patient are the determining factors in the method to be employed.

The tubes and ovaries become infected not only by continuity of surface, but through the lymphatics and blood-vessels. Inflammation is con-

servative, it is the process by which nature prevents the further ingress of germs, it is the symptom of their presence.

In vaginitis, early and thorough disinfection is essential to protect the uterus and its appendages. In simple vaginitis, by which I mean mild cases of inflammation, the etiology of which is uncertain, the treatment should be rest, mental and physical, as perfect as circumstances will permit, vaginal douches of three to six quarts of a saturated solution of boric acid, temperature about 110°, every eight hours, given from a fountain syringe, the patient being in a recumbent position. The attendant or patient should be instructed as to the importance of keeping the douche nozzle surgically clean. An occasional douche of one to ten thousand bichloride of mercury should also be given. When from the sudden onset of the inflammation, its severity, and the quick involvement of the urethra and vulvo-vaginal ducts, we have reason to suspect a gonorrheal origin, the bichloride solution should be used, instead of the boric acid. The attending physician should swab the vaginal walls thoroughly with about one to one thousand five hundred solution of bichloride of mercury, using a speculum which dilates the vagina, thus permitting the bottom of every sulcus to be reached. The parts should then be douched with warm water and a tampon saturated with boroglyceride inserted against the os uteri. If the discharge be profuse and the sphincter vaginæ tight, a gauze drain should also be left in place. If this course were followed the records of intra-abdominal surgery would be shorter. When the inflammation is chronic, cure is hastened by the application of a two per cent. solution of silver nitrate every second day, any cause for discharge from above being first removed. The principle of drainage must be observed in these cases also. If the urethra be involved it should be irrigated with a solution of bichloride of mercury one to twenty thousand, after injecting a three per cent. solution of cocaine.

When diphtheritic membrane is present, constitutional measures should also be used, antitoxin being employed early. When patches of the vaginal membrane are destroyed or denuded of epithelium, care must be taken to prevent adhesions resulting in atresia. I have dwelt thus at length upon vaginitis because this passage is the avenue to the uterus and its appendages and through these to the abdominal cavity.

In endocervicitis, the application of equal parts of Churchill's tincture of iodine and carbolic acid is effectual. In many cases the sphincter at the internal os guards effectually the corporeal endometrium from invasion. Infection having once entered the uterine cavity, direct invasion of the muscle through the glands which dip down into it is of frequent occurrence. The resulting metritis as well as subsequent infection of tubes and ovaries depends upon the character of the germ and the resistance of the tissues. Menstruation and pregnancy favor the extension of infection because of the thickening of the mucosa, the elongation of the glands, the increase in interglandular substance by multiplication of embryonic cells, the infiltration of fluid and the natural enlargement of the blood and lymph vessels. There is no normal barrier to infection of the corpus uteri. An inflammatory one is built when agents of infection enter the endometrium. The effectiveness of this fortification depends upon the

vitality of the individual and the virulence of the invading germ. This natural fortification should not be broken unless the invading micro-organisms are simultaneously destroyed. The result of the labors of the anatomist, microscopist and pathologist, which I have endeavored tersely to portray, tells us emphatically that after abortion and labor, where symptoms of sepsis are present, care should be taken in cleaning the uterus, but a sharp curette should not be used. Clinical experience emphasizes the truth of this assertion. In these cases the principle of drainage should be respected by thorough dilatation of the cervical canal, the cavity cleared of debris by the finger if possible, if not, by a dull curette and placenta forceps if needed, and cleansed by a flowing antiseptic solution. I prefer one to four thousand bichloride of mercury for this purpose. I think the application of equal parts of iodine and carbolic acid not only disinfects deeply, but temporarily strengthens the barrier.

Before the above course is begun, a culture of the discharge should be started, that the indicated serum treatment may be resorted to in case of need.

The curettement is often followed by chill and higher temperature, due perhaps in many cases to increase in the general metabolism which commonly accompanies dilatation of the cervical canal.

Notwithstanding the above outlined treatment, symptoms of sepsis may become more marked, indicating involvement of the uterine sinuses. If vaginal hysterectomy is to be resorted to it must be done before metastatic abscesses have formed.

We will now consider the septic invasion of the endometrium of the non-pregnant uterus. In such cases the extension of the poison to other tissues is much less rapid. The whole mucous membrane down to the muscularis should be cleared away by a sharp curette. The principle of drainage must be observed and embarrassments of circulation by cicatrix should be removed that the local nutrition may improve, thus increasing the resistance of the tissue to that point of perfection which will enable it to withstand subsequent attacks of micro organisms. Permit me to say here that microbes never primarily successfully attack healthy tissues in any part of the body. They are always found in dead tissues unless it is soaked in antiseptics, and they generally arrive as soon as the nutrition of a tissue is impaired.

If the muscle structure has become invaded as shown by edema and tenderness, and it may be various reflex disturbances, hysterectomy must occasionally be resorted to. I wish here to again emphasize this observation—that certain pathological lesions of the pelvic organs being given, the reflex disturbances present in inverse ratio to the degree of local soreness and pain. This fact should compel great care in examination.

In periuterine inflammations the location of the foci of infection and the avenue of invasion are factors in determining the method of treatment. In some cases the invasion is by continuity of surface to the Fallopian tubes, the resulting infiltration preventing leakage into the peritoneal cavity or drainage into the uterine cavity, the inflammation extending through the walls of the tubes to their peritoneal covering, causing adhesions high in the pelvis. In these cases I prefer to remove

the tube or tubes by abdominal section where severe metritis does not exist, particularly where it is thought possible to save one of the appendages. In some of these cases, by patching, one tube and ovary may be restored, which can in but few cases and with difficulty be done by the vaginal route. In such cases (where it can be avoided) it is better not to ligate *en masse*. I mean where the pus tube can be distinctly outlined, because this disturbs the nutrition of the tissues included in the ligature, favoring sepsis, as there are generally points of infection in this tissue. The size of the stump left is also objectionable, because of the difficulty of coapting the peritoneum over it to prevent subsequent adhesions.

When the collection of pus is below a wall which separates the pelvic from the abdominal cavity, free vaginal incision and drainage is all that is required, provided the damage to the uterus and its appendages can be remedied, and in many cases where a radical operation is indicated it is advisable to precede it by vaginal incision to relieve septic symptoms and increase the patient's vitality. I am supported in every statement by numerous experiences with which I do not wish to burden this essay, yet I will report one typical case I saw recently.

The patient's history showed that she had suffered from occasional attacks of pain in the left ovarian region. A month before I saw her a polyp which partially occluded the cervical canal had been curetted away. A few days later chills and fever and delirium presented. A week ago last Monday I saw her in Albion with Doctor Parmeter, who had made the diagnosis of pelvic abscess. Her temperature then was 103°, pulse 118, and tongue dry. She was only semi-conscious. The body of the uterus was subinvoluted and pushed to the right, the cervix pointing to the left and fixed in inflammatory exudate. The vault of the vagina was tense and hard, the abdominal walls thick and tympanites marked. I therefore could not determine the presence or absence of fluctuation with certainty. We put her upon the table at once, gave her chloroform, made an incision posterior and close to the uterus, from one uterine artery to the other, permitting the entrance of four fingers. I found to the left and as high as I could reach an abscess containing more than a pint of pus.

When I am sure the organs cannot be reclaimed, if the patient's vitality warrants, I prefer to do a vaginal hysteroophorectomy to save the patient further delay, anxiety and expense.

When it is found necessary to ligate infected tissue absorbable ligature should be used. If silk becomes infected, it may be discharged through the rectum, bladder or abdominal wall.

There are many objections to the use of clamps when vaginal hysterectomy is performed for the relief of these conditions. Besides causing pain they destroy the nutrition of the ends of the broad ligaments which, when pus is not present or is low down in the pelvis, should be approximated to make a firm pelvic floor to prevent hernia. The pains in the abdomen subsequent to recovery from vaginal hysterectomy I believe are due to adhesions, especially of the omentum. The intestine also may

become fixed in this opening and deaths from this cause should occasionally be reported.

In cases of abscess of the broad ligament or ovary, due to the bacillus tuberculosis, the uterus may be healthy, the infection coming from above. The same principles, however, govern their treatment.

In certain cases where neoplasm is present and low in the pelvis, or where subinvolution is marked, adhesions being extensive, the combined method is preferable, by which I mean dissection is first made around the cervix uteri and carried up as far as can be done with ease and rapidity, and the operation completed through an abdominal incision.

My experience leads me to assert that there is much less shock in work done through the vagina than by abdominal section. To save the patient's life is one consideration, but to insure her comfort and happiness necessitates the proper operation done by the best method, which implies on the part of the operator diagnostic skill, mature judgment, dexterity, and familiarity with all methods born of true surgical principles. Methods are constantly changing. Principles only are eternal. Life is too dear to trust to method. Methods have fixed boundaries. Conservatism to some means keeping within these lines. Upon the altar of such are sacrificed many lives. Conservatism is acting in each case fearlessly and according to conditions, keeping in mind that the object of life is to function, and the reward of functioning of an organ, as of an individual, tends to harmony.—*Physician and Surgeon.*

THE TREATMENT OF BURNS BY PIRIC ACID.

Syla-Novitzky (*Monatsh. f. prac. Dermatologie, 1897, xxiv., 8*). This treatment was first suggested by Thiery, later by the English pediatrist, Pomer, who made use of the following solution:

℞ Acid picric ..... 5.0 (1⅓ drams)
Spt. vini ..... 80.0 (2½ ounces)
Aq. destill ..... 1,000.0 (1 quart)
H. Ft. Sol.—Sig.: Use as directed.

A gauze bandage saturated with this solution is laid on the parts (which have previously been disinfected), and covered with cotton wadding, secured by a bandage; this is allowed to remain in position three days without change, then a new dressing is applied, which is not removed until healing has occurred.

The author has treated eight children, from the ages of seven months to ten years, in this manner, and comes to the following conclusions:

1. The dressing described above causes a diminution of the pain, because it is not frequently changed.
2. The secretion is very slight.
3. Healing by first intention is favorably influenced.
4. The scar is smooth.
5. The treatment is practical and cheap, as very little material for dressing the wound is used.—*Pediatrics.*

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

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PARALYSIS: ITS FORMS, PROGNOSIS, AND TREATMENT.

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The question of the form of the paralysis should be the first to be considered in each case presenting itself for examination. The simplest and most practical division or classification is that based on the situation of the lesion or disease causing the paralysis. We may say, then, that there are four forms or types of paralysis based on this theory, *i.e.*, the cerebral, spinal, peripheral nerve, and intramuscular. The special symptoms always present in disease of these divisions of the nervous and muscular systems, especially the distribution of the paralysis and the trophic condition of the muscles effected in each, make the diagnosis usually an easy one.

With these explanatory remarks I will take up the first form of paralysis under our classification, *i.e.*, cerebral paralysis. The usual causes are hemorrhages, meningeal and intracerebral, thrombosis (due to atheroma of the cerebral vessels, usually the result of old age or chronic nephritis, or again to endarteritis syphilitica), embolism, tumors, injuries. One characteristic of the paralysis is the distribution, which in the majority of cases is unilateral, involving the lower half of the face only, with deflection of the tongue to the paralyzed side and paralysis of the upper and lower extremity of the same side. A second marked condition is the absence of any atrophy or wasting of the muscles (except long after from disuse). The muscles retain their tonus and remain firm; there is often rigidity or spasmodic contracture from the beginning, and this condition is always present later in the course of the disease, with exaggeration of the reflexes, *i.e.*, in the lower extremity; there is exaggerated patellar reflex and ankle clonus. Again, there are no changes in electrical reaction. There is always a normal response to both the faradic and galvanic currents.

This condition of paralysis without wasting, with the presence of increased myotatic irritability and normal electrical response, differs from all the other forms of paralysis referred to, and is due to disease of the

motor or pyramidal fibres, which pass down from their origin in the cells of the cerebral cortex through the crus, pons, and medulla into the lateral column in the opposite side of the spinal cord. Any lesion of these pyramidal fibres, whether situated in the cortex, subcortical region, internal capsule, crus cerebri, pons, medulla, or lateral tract of the spinal cord, must give and can give only this so-called cerebral type of paralysis, *i.e.*, that form in which the muscles do not atrophy, present no electrical changes in reaction, and are subject to increased myotatic irritability.

We see from the above remarks that disease of the lateral tracts of the spinal cord, as in lateral sclerosis, gives us a cerebral type of paralysis. This is easily understood when we stop to consider that the tract involved in this spinal disease is essentially a cerebral tract of fibres which start from the brain in their course to the cord, receive their origin and nutrition in the cells of the cortex, and serve the muscles only in carrying the impulse or order of action from the brain to them. The muscles depend for their nutrition and growth only on the multipolar cells of the anterior horns of the spinal cord, conveyed to them through the anterior spinal nerves. The form of the paralysis, therefore, is the same wherever the pyramidal tract is diseased; the localization of the lesion depends on symptoms, the result of lesions involving other parts than this tract alone, and serve as landmarks as to the site of the lesion.

The second form to which I would direct your attention is the spinal type, and here I would refer only to the disease of the anterior horns, for I have already placed paralysis from disease of the lateral tracts into our cerebral type. The usual causes of disease of the anterior horns of the spinal cord are inflammation, acute and chronic, hemorrhages, new growths, injuries, and compression, as in caries, spinal fracture, dislocation, etc. The special characteristics of this paralysis are atrophy or wasting, loss of tonus of the muscles, and therefore flaccidity; loss of reflexes; loss of response to the faradic current, and the reaction of degeneration to the galvanic current—always in acute disease, and at least decreased response to faradic and galvanic currents in the chronic forms, or a partial reaction of degeneration to galvanism with decrease or loss of faradic response; and, lastly an absence of sensory disturbance—either anæthesia or hyperæsthesia.

The most common forms of disease which gives these characteristic symptoms are poliomyelitis, acute and chronic, and progressive muscular atrophy of the spinal type. These diseases have their own special etiology and course, which it is not my province at this time to go into, but they all have that character of paralysis, with wasting, electrical changes, and loss of myotatic irritability, which absolutely differentiates them from paralysis of cerebral origin. Again, in the spinal form the distribution of the paralysis—that is, the muscles affected—differs from that of the cerebral type, being usually bilateral, affecting both sides; or, again, involving only an upper or a lower extremity, or an upper extremity of one side with the lower of the opposite side; while, as I have said, in the cerebral form hemiplegia, or paralysis of one side, usually including the lower half of the face, is the common type.

In transverse myelitis we have both the spinal and the cerebral types

of paralysis—that is, at the site of the lesion we have the muscles paralyzed, atrophied, flaccid, with loss of reflexes, and the characteristic changes of electrical response—*i.e.*, the spinal type; while below the lesion the paralyzed muscles do not waste, are rigid, have exaggerated reflexes, and present no electrical changes—*i.e.*, the cerebral type.

We will next consider our third form—the peripheral nerve paralyses. The usual causes are inflammation from diathetic blood states—as rheumatism, gout, etc.; or some micro-organism—as in diphtheria, typhoid, malaria, beriberi; or, again, some chemical or metallic poison—as alcohol, arsenic, lead, mercury, etc.; or lastly, to injury resulting in compression, lacerations, or section of the nerve or nerves. The character of the paralysis is of the spinal type, *i.e.*, wasting, flaccidity, loss of reflexes, and electrical changes, but associated with it we usually have marked sensory symptoms, especially when the disease is acute in its onset. In acute inflammation of the peripheral spinal nerves there is always great pain on pressure along the course of the nerves, and also in the muscles supplied by these nerves. There is also subjective pain of a burning, gnawing character, almost more unendurable than true neuralgia.. The most typical example of this is seen in acute alcoholic multiple neuritis. There is almost always also some disturbance of general sensation, showing itself in incomplete anæsthesia, paræsthesia, etc.

In chronic inflammation of the peripheral nerves, as more commonly observed in lead paralysis, the sensory disturbance is much less marked, often insufficient for the patient to observe it subjectively, although on careful examination it may be brought out objectively. When the nerve is destroyed, either by disease or by injury, of course the paralysis is always accompanied by complete loss of sensation of the parts supplied by it. This sensory disturbance is not present either in cerebral or in spinal paralysis, and is thus of great value as a diagnostic differential point, especially betwen anterior-horn disease in the spinal cord and peripheral nerve paralysis.

In transverse myelitis, indeed, we have loss of sensation below the lesion in the spinal cord, due to disease of the sensory tract, but this sensory disturbance differs from that of the nerve lesion, in that on pressure there is no pain either in the muscles or in the nerves. This differential point is of the greatest importance often in our diagnosis between acute multiple neuritis and acute transverse myelitis.

The distribution of the paralysis in nerve lesions is also somewhat characteristic. A single nerve may be affected, as the musculo-spiral or facial, from either injury, rheumatism, gout, exposure, etc. Certain poisons, again, as that causing diphtheria, affect especially the throat and eye muscles, together with bilateral involvement of the upper and lower extremities. Again, lead involves the extensors, especially of the forearm and the muscles of the hand, only rarely affecting the lower extremities; while alcohol and arsenic first involve the lower extremities, giving double foot drop, and later, as a rule, pass to the upper extremities.

Our last form is intramuscular paralysis or so-called muscular dystrophy. This disease is rare as compared with those already referred to. Its cause is obscure, apparently due to some hereditary influence, and

has its seat in some embryonal development defect. It is observed often in various members of the same family or in collateral branches. Resembling as it does progressive muscular atrophy, it might properly be termed hereditary progressive muscular atrophy with as much appropriateness as we speak of hereditary ataxia. Here the paralysis is of the spinal type, resembling, as we have said, spinal progressive muscular atrophy—*i.e.*, the muscles are wasted, although they may at first appear hypertrophied from fatty infiltration of the muscle fibres and at times actual enlargement of individual muscle fibres; ultimately with time the wasting becomes extreme. There are also flaccidity, loss of reflexes, and electrical changes, characterized by decreased response to faradism and partial reaction of degeneration. Instances of this disease are pseudo-hypotrophic paralysis, Erb's scapulo-humeral type, etc. This form of paralysis is also distinguished by the distribution of the paralysis—in one form affecting especially the legs, in another the upper arms and thighs, or again associating with this the face, giving us then the so-called facio-scapulo-humeral type. Their distribution, their hereditary character, and their occurrence in youth sufficiently diagnosticate them.

Prognosis.—In cerebral paralysis, if the pyramidal tract has been destroyed in any part of its course, recovery is impossible; restoration of nerve fibres in these tracts after their destruction never takes place, as has been proven experimentally and demonstrated by pathology. Paralysis resulting from compression only, as in Pott's disease, etc., even when of long duration, may be entirely recovered from. The prognosis is therefore unfavorable, as a rule, as in most cases of cerebral apoplexy the lesion is more or less a destructive one.

Acute spinal paralysis due to affection of the anterior horns is also rarely recovered from. Here again, as also is usually the case, there has been an actual destruction of nerve structure, *i.e.*, the nerve cells, and they can never be restored. As a rule, one or more extremities remain atrophied and paralyzed. Chronic or subacute poliomyelitis is much more likely to be arrested in its course and recovery occur.

Degenerative disease of the anterior horns or progressive muscular atrophy is incurable, although there may be by appropriate treatment much delay in its usual progressive course.

Transverse myelitis, in what may be called favorable cases, is usually recovered from with evidence of a more or less marked condition of spastic paraplegia.

Peripheral nerve paralyses are usually recovered from; the outlook is more favorable than in any of the other forms of paralysis.

Muscular dystrophies are also progressively unfavorable. A few patients have been reported as having recovered at least partially, under careful massage, electricity, and exercise; but this is certainly the exception.

Treatment.—While, on the whole, the prognosis is unfavorable as to recovery in these various forms of paralysis, with the exception of peripheral nerve lesions, still much can be done either to alleviate the existing conditions or to stay the progress of the disease. In the cerebral type the rigidity and contractures of the muscles can be lessened by massage and electricity, and the form most favorable is the galvanic current,

as often faradism may stimulate or irritate the muscles to increased contraction. Hydrotherapy, especially as carried out in some of the institutions at the various springs—as Virginia Hot Springs, Richfield—is very useful. In poliomyelitis the treatment of the paralyzed muscles should be long persisted in. Even a year after the onset, by manipulation of the individual muscles and electricity applied in the same particular manner, much can be accomplished; also apparatus devised to exercise the various muscles should be employed, or, when possible, the bicycle should be recommended. Deformities should be guarded against by appropriate apparatus. In the case of a child this should be made as light as possible, so as not to interfere with ordinary exercise. I have often seen appliances so heavy or inconvenient that they retarded rather than aided attempts at locomotion. Patience is required in this disease, and while we cannot usually hope to cure, we can accomplish much in cases of not too severe a type, which, if left to themselves, would rapidly pass into hopeless deformity. Certainly, in chronic poliomyelitis the above treatment faithfully followed out is often successful. Even in the degenerative and hereditary form of paralysis this care is of benefit. In peripheral nerve lesions, as soon as the acute stage is past, massage and electricity are of great value. I agree with many writers that probably the electricity has little if any influence in removing the disease in the nerve itself, but, as these diseases have a tendency to recovery, we are thus enabled to maintain the muscle in a good state of nutrition and prevent deformities, so that they are ready to respond to the nerve when the inflammatory process has subsided. The benefit of electricity in this disease cannot be denied, according to my experience; therefore, whatever its principle of action may be, it should be employed. I have not spoken of drugs in this connection, as my paper was not intended to take up that division of the subject. However, in all these forms of paralysis, with the exception of the cerebral type, strychnine is certainly of advantage.

RETROSPECTIVE THERAPEUTICS.

BY ALFRED K. HILLS, M.D., FELLOW OF THE ACADEMY OF MEDICINE, NEW YORK.

MELANCHOLIA TREATED BY SUBCUTANEOUS INJECTIONS OF ETHER.—Dr. R. J. Shepherd, of Pau, France, writes to the London *Lancet* as follows:—"Some remarks by Prof. Renault, of Lyons, on the prospective action of the subcutaneous injection of ether in uremia led me to try its effects in a case of brain trouble from uric acid. Twice before a similar attack had been accompanied and followed by deep melancholia. I did not indeed think of the melancholia in giving the drug (10 minims injected deeply into the buttock), but was surprised and pleased to find that it at once disappeared. I gave about six injections in about as many weeks and always with the same effect—it did not need to be repeated for the time. I feel sure that the method deserves a systematic trial, and need hardly say that if it

should turn out to be a discovery it will prove an enormous benefit to suffering humanity, more especially in commencing stages of melancholia, which so often leads to suicide; while superintendents of insane asylums may hope to increase their percentage of cures. We need not be surprised that such a remedy should produce such a result, seeing that melancholia seems to be, *per se*, purely a functional condition of the nerve cells, coming and going no one knows how, and leaving no appreciable trace of its presence. The utter harmlessness of the drug in such doses is largely in its favor."

EMPYEMA OF FRONTAL SINUS.

Treatment.—This seems to be an occasional sequel to attacks of influenza. Several incisions have been proposed for the purpose of emptying the cavity: one along the lower border of the supraorbital ridge, after pulling the integument forcibly upon the forehead, or this incision may be joined by one perpendicular to it along the base of the nose; or an incision may be made in the median line, 1½ inches from the base of the nose. The skin and the periosteum are then elevated; the sinus opened with a terepine, drill, or chisel; polypoid or necrotic tissue removed and the cavity thoroughly cleansed; the fronto-nasal duct may be enlarged by passing a trocar from the sinus into the nose, and a self-retaining drainage-tube inserted. The cavity is then kept free from secretions by irrigation with a mild antiseptic solution.—*Bryan (Jour. Amer. Med. Assoc.*, Feb. 26, '98).

In the Clinics.—Since Sinkler, of Philadelphia, pointed out the value of *ergot in paresthesia* the drug has been largely used in this condition. The method of administration in Dr. Spiller's clinic is by the fluid extract in doses of 15 drops, three times daily, for one week; it is then discontinued for one week, when, should the numbness and tingling persist, it is renewed for one week. Both sexes are alike favorably influenced by the remedy, the average duration of the affection being not more than three weeks.—*Reported by Charlotte C. West, M.D., in the Philadelphia Polyclinic.*

The Relation of Hysteria to Insanity.—Neff (*Physician and Surgeon*, March, 1897, p. 103) concludes a paper on the relation of hysteria to insanity with the following summary: 1. Hysteria is the result of degeneracy, presenting mentally and physically one or more of the stigmata of degeneration. 2. It conforms to a type of psychosis. Any form of insanity may be engrafted upon hysteria, producing the so-called hysterical insanity. 3. The primary delirium of hysteria may be independent of any sensory or motor complication. More often the emotional storm follows a distinct hysterical attack. 4. Hysteria may complicate insanity, showing an analogy to its occurrence in other diseases.

OBSTETRICS AND GYNAECOLOGY.

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CURETTAGE OF THE UTERUS.

BY WILLIAM H. WATHEN, M.D., LL.D., OF LOUISVILLE, KY.

My chief assistant expected to have for our clinic to-day a hysterectomy for the removal of a large uterine myoma, but I have suggested that he substitute three cases badly in need of uterine curettage, for this operation is one that will be of much more practical importance to you than any of the major operations. But few of you will probably perform hysterectomies and celiotomies, but all of you ought to know how to curet the uterus after the most approved methods. With this knowledge you go into the professional world prepared to do a great deal of good to suffering women, relieving them of many of the most distressing symptoms that sometimes make them bed-ridden: and you may prevent the development of serious conditions outside of the uterus that would otherwise require celiotomy or hysterectomy for the removal of pus-tubes or pelvic abscesses. The history of the cases is as follows:

Case I.—This woman, aged 35, the mother of two children, has enjoyed good health until about two years ago. Since then she has been suffering intensely during her menstrual periods, which have been too profuse and have lasted too long. Not only has she suffered during her menstrual periods in the region of the uterus and in the pelvic cavity, but she has had intense pain in her back, head, and legs, and every reflex symptom that we can imagine. So intense have been these symptoms, and her abdomen so sensitive upon examination, that her physician, in a distant city, referred her to me, believing that celiotomy or hysterectomy would have to be performed for the removal of pus-tubes and the separation of extensive adhesions. When I examined the patient yesterday without anesthesia, I was not positive that the condition could be relieved without celiotomy, because an examination cannot be made satisfactorily with such an exceedingly nervous woman. I find, however, since she has been anesthetized, that the uterus is entirely movable, without adhesions, and there is no accumulation in the tubes or in the ovaries, and these organs, so far as I can discover, are in nearly a normal condition, but I find the uterus very much enlarged, and you see the foul, purulent matter that is running out of the os into the vagina, showing that we have a case of extensive endometritis that cannot be relieved without cureting, unless we subject the women to a very long and unnecessary course of treatment, and even then it is doubtful if a permanent cure could be brought about.

I wish to emphasize the importance of absolute cleanliness in these operations, for if you neglect this you had better not attempt this kind of surgery; otherwise, instead of curing your patient of the edometritis, you will find that in a few weeks her condition will be worse than before the operation, and probably in a few months you will find the uterus bound down, with one or two pus-tubes, and possibly a pelvic abscess. You must observe cleanliness in this operation as carefnlly as in celiotomy or hysterectomy. So now you will see me, with a small brush having a long handle, and with sterilized cotton, wash the vagina from the vulva to the uterus, using soap and hot water, until the parts are aseptic. Having completed the washing process, we will irrigate the vagina with a 1:1000 bichlorid-solution before dilating the uterus. All women upon whom I operate are thoroughly bathed and the vagina irrigated before they are brought into the operating-room, but no vagina can be made clean except by thorough washing, such as this woman has had, and this must not be left to the nurse, and should always be done just before beginning the operation.

I use a Wathen's medium-size dilator, because dilatation is not difficult. With a sharp spoon-curet I will scrape away all the diseased tissue of the cervical canal, and then from the body and fundus of the uterus, being careful to leave no point of disease. I will be particularly careful to carry the curet into each cornu of the uterus so as to remove the diseased tissue at the entrance of the Fallopian tubes, for at these points we generally find the disease even more extensive, and if not removed it would further endanger the tubes. You must observe that I am using the curet very gently, but still with sufficient force to remove the structures down to healthy tissue, which can be judged by the sound and by the sense of touch that is imparted to the hand through the curette.

The cureting having been completed, we will irrigate the uterus with a 1:3000 bichlorid-solution, using an irrigation-tube that allows the water to flow into the vagina without obstruction; otherwise it is possible that some of it might be forced out through the Fallopian tubes into the peritoneal cavity. I now tampon the cavity of the uterus gently with iodoform-gauze, although I am not positive that this will be of any real value. I find, however, that patients tamponed get well, but cases that I have treated without tamponing also get well, and it is believed by some of our most distinguished operators that tamponing is not necessary; even some operators do not irrigate the uterine cavity, but wipe it out with sterilized gauze wrapped on a pair of dressing-forceps. There may be instances in which the patient will do better by the use of irrigation and tamponing, and especially is this true if there is a tendency to excessive hemorrhage, or if the woman has lost so much blood before the operation that you do not wish her to lose any more.

The success in curing the patient of the infection depends not only upon the thorough removal of all diseased edometrium, but upon preventing a reinfection, which often results because of ignorance of the doctor or nurse. The vagina should be irrigated twice daily with bichlorid-solution 1:2000, and if the case does not progress favorably, the uterus should also be irrigated at least once daily. In using irrigation the hands

of the nurse, the irrigation-tube and everything used should be aseptically clean, and we should not use a bulb-syringe. The bulb-syringe is always septic, and it is almost impossible to prevent this, whereas the douche, when you use a gum bag or the glass vessel, is kept aseptic with but little care. If this be neglected I dare say that many of the cases upon whom you operate will be reinfected very soon because of a septic syringe. Not only do I advise you not to use the bulb-syringe in these cases, but to never use one for any purpose except to give rectal enemata, and even here the douche is preferable.

The nurse will obey instructions, and remove the gauze within from 24 to 48 hours. The patient will be kept in bed for 4 days, but be allowed to pass her water, and her bowels must be moved within 48 hours. After leaving the bed she should remain quiet for a few days, gradually walking, for 8 or 10 days, when she will be able to return to her home. These patients could get out of bed as soon as the effects of the anesthetic pass off, and could walk about the hospital, and, while there might be instances in which they would do just as well by following this method, I do not think it is safe, and advise against it. I feel positive that this patient will be entirely relieved, and that within a few weeks she will suffer no pain, and when her menstruation returns it will be normal as in past years.

Case II.—This patient is a young woman, aged 18, unmarried, who has borne no children, and says she has never been pregnant. I see, however, that the conditions indicate that she has been having sexual connection, and it is probable that she has had one or more miscarriages in the early months. I also infer, from the imperfect history obtainable, that she has had gonorrhea, and that she has not been treated regularly or successfully for any trouble in the past. She has a profuse leucorrheal discharge that is very irritating to the vulva, and is also offensive. She has for two years suffered with severe dysmenorrhea, and has not been able to work. I can find no disease of the ovaries or tubes, nor adhesions about the uterus, so that I feel the only treatment indicated is cureting. She has been prepared just as the preceding patient, and the vagina will now be treated after the same fashion. I will dilate the uterus also with a medium-size dilator and curet as in the first case. You will observe that this patient, just as in the other case, has lost but little blood; also that I have used no speculum in either operation, though I thoroughly expose the vagina so that we plainly see the cervix. The cervix is caught up by a Pean forceps, which holds the uterus firmly, with but little traumatic injury, and brings the cervix plainly in view. I do not see why nearly all operators use a speculum in cases of this kind, because it makes the operation more difficult, more prolonged, and even less perfect, and does no possible good. The argument that not using a speculum requires us to bring the uterus too low has no weight, because, in the first place, we do not bring it down low enough to cause any trouble; but if pulling the uterus down considerably will cause trouble with the ovaries or tubes, then there would be a condition of these organs that would necessitate their removal, and that would not be a case for cureting only. In operations for laceration of the cervix I likewise use no speculum,

and have never had any trouble result from this method of operating. It simplifies the operation so much, that after the vagina has been cleansed, and the uterus has been cureted, the experienced operator, if he uses catgut for suturing the laceration, can denude the surfaces and untie them within five minutes, which you have frequently seen me do before the class. The after-treatment in this case will be the same as in the other patient.

Case III.—This patient, a woman, 30 years of age, unmarried, has had no children, but I think has had several miscarriages, and I believe she has had gonorrhœa. I cannot speak positively about this, because the history of this case, as in many others who come before us, is not satisfactory, the patient either concealing something, or not being able to give us a satisfactory history of her condition at different times. For a long time she has had a profuse leucorrheal discharge and painful and profuse menstruation: the uterus is enlarged to twice its normal size, and I can feel in its walls a myomatous growth, not large enough, however, to indicate the necessity for hysterectomy, and she is unwilling that the uterus shall be removed at this time. It may not be necessary to remove it at any time, because dilatation and cureting very often bring about a condition that prevents any symptoms from the tumor, and it may grow no more. We never can say exactly what will be the course of a myomatous tumor, because there are cases in which the tumor has not increased in size for many years; in fact, has never grown large enough to cause any trouble. There are other cases in which the tumor remained nearly stationary in size for many years, then grew rapidly to large proportions. There are other cases in which from the beginning the tumor grew rapidly. We will watch this case, and if the tumor begins to enlarge rapidly, or causes any serious trouble, we shall advise the patient to have it removed.

We have now dilated and cureted the uterus just as in the other cases. We will irrigate and tampon also, the tampon in this case being more indicated than in the others, because the tumor and the enlarged uterus are likely to bleed more than in either of the other cases.

While I will not say that these patients will remain well, or will all recover from the disease for which we have just operated, I believe, if they will observe the directions given, that they will be practically well within a few weeks, and will remain so unless they expose themselves to conditions that will bring about a reinfection. Let that be as it may, there is no other method known to the surgeon or physician comparable to the plan that has been followed in the treatment of these cases Within a few minutes we do more to remove the disease, and remove it permanently, than we formerly did in as many months by the old-fashioned applications, etc. If they are not permanently relieved, or if the disease returns because of the fault of these patients, another operation may be performed without causing much pain or subjecting them to serious danger, expense, or loss of time.

NOSE AND THROAT.

IN CHARGE OF

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EARLY DIAGNOSIS OF A CASE OF CANCER OF THE LARYNX.

Drs. Clark and Harrington state that slight continued huskiness or hoarseness in a patient beyond middle life is a suggestive symptom. If due to a growth in the larynx it will, probably, be found to be malignant. The dyspnœa and dysphagia will depend upon the location of the tumor. There is nothing characteristic in the early stages of laryngeal carcinoma, and a negative microscopic examination should not be too much relied upon. Prognosis without operation is fatal within two or three years. Prognosis after treatment depends largely upon the time when the operation is done—the smaller the growth the less radical the operation required, and the greater the probability of success.

Czwielitzer (Beitrage zur Klin. Chir., 1896), in analyzing his cases states that the proportion of partial resection is larger, showing that the operation is done earlier than formerly, there being a falling off in total extirpations, owing to the fatal results of this operation. Of thirteen cases reported by this author nine were partial, two of half the larynx, and two total. Five cases, all of partial resection, were living at the time of this report, being six weeks, one and a half, five and eight and one-half years, respectively, since operation.

Most writers have little faith in the intralaryngeal removal of these growths. Frankel, however, is a staunch and able supporter of this method, and he reports nine cases operated on by himself with five cures. Of twenty-two cases collated by Hansberg and Sendziak there were twelve cures.—*Boston Med. and Surg. Jour.*, February, 1898.

PLUGGING OF TRACHEA BY CASEOUS GLAND.

A boy, aged eight, was admitted to hospital in a semi-conscious cyanosed condition, evidently suffering from some obstruction to his respiration. There was no history of foreign body getting into the air passages. Chloroform was administered, giving some relief. Intubation with a catheter did not benefit the symptoms, but evidently indicated some ob-

struction a considerable way down the windpipe. Tracheotomy was then performed, but before its completion the child had ceased breathing. Aspiration with a long india-rubber tube was then tried, but yielded no good result. A long tube was then passed down for the purpose of irritating the mucous membrane of the trachea and bronchi, whereupon the child gave a deep inspiration, and again ceased breathing. The heart beats were now becoming smaller and much more rapid, but artificial respiration, the galvanic battery, and this catheterization were nevertheless continued. Suddenly some cheesy-looking matter, about half the size of a hazel nut, was coughed up, after which the child began to breathe freely, and made an uninterrupted recovery, although on more than one subsequent occasion a little of this cheesy matter was coughed up. This cheesy matter proved to be part of a caseous bronchial gland, which had evidently ulcerated its way into the trachea, about the bifurcation.—LONGBOTTOM, in *The Lancet*, March 19, 1898.

THE INFLUENCE OF DISEASES OF THE NARES AND PHARYNX ON AURAL AFFECTIONS.

In considering the predominating influence nasal and pharyngeal disease exerts upon middle-ear affections, the author bases the following conclusions upon a study of 600 cases of middle-ear involvement:

1. Sclerosis of the middle-ear is usually the result of previous nasal or pharyngeal disease.

2. Otitis media suppurative is a common and frequent result of acute or chronic naso-pharyngeal disease.

3. Fully seventy-five per cent. of all forms of middle-ear disease will show, on examination, or give a history of naso-pharyngeal disease.

4. Sixty-four per cent. of tympanic affections are coincident with pathological changes, either in the nares or pharynx, or both.

5. Sclerotic or atrophic changes of the naso-pharynx are of little consequence in the production of deafness as compared with chronic hypertrophy or any morbid change producing congestion of the nose or throat.

6. Of nasal affections, hypertrophy of the turbinals is the most potent factor in the production of aural disease. Deviated septum and exostoses influence the tympanic cavity by producing changes in the atmospheric pressure.

7. Aural affections are more frequent in hypertrophies of the post-nasal space or naso-pharynx than in either pure nasal or pharyngeal disease.

8. The effects of passing diseases of the nares or pharynx in the production of middle-ear disease are of much importance.

9. General diseases, such as measles, with local naso-pharyngeal manifestations, exert a marked causal influence in the production of middle-ear disease.

10. To a great extent the successful issue of aural disease depends upon naso-pharyngeal disease.—SOMERS, in *Univ. Med. Mag.*, Vol. ix., No. 11.

PARACENTESIS OF THE DRUM MEMBRANE IN MIDDLE-EAR DISEASE.

Dr. St. John Roosa advocates conservatism in the matter of paracentesis in acute middle-ear disease. This is properly and safely undertaken only where there is a bulging membrane, and when the use of leeches and hot water have failed to give relief. The traumatism of a free paracentesis in a subacute case is grave, and unnecessary paracentesis in an acutely inflamed membrane is a more serious procedure than simply opening into the mastoid cells.—*Medical Record*, April 9, 1898.

INTUBATION WITH IMPROVED INSTRUMENTS.

The claim is made that these instruments simplify the operation without in the least changing the method as devised by the late Joseph O'Dwyer.

A troublesome feature of the old instruments is that one needs two separate instruments for either introduction or extraction of the tube. The introducer is a very complicated instrument, and each of the six tubes requires an obturator of its own, which become sometimes very difficult to manage during the act of introduction, as everybody knows, who has had experience with them. Among the many modifications which have been made from time to time, the greatest advance was made in the instrument of Ferroud; but this is rather complicated, as it consists of seven distinct parts; yet it combines the introducer and extractor into *one* instrument. On the principle of this instrument, an introductor and extractor combined has been constructed by a Chicago firm, which surpasses all former attempts at simplifying these instruments.

The instrument which serves as introducer and extractor has at its distal extremity two serrated beaks about two inches long. They are opened by a pressure with the thumb on the upper portion of the lever and are automatically held open by a ratched arrangement, while pressure with the index finger upon the lower end of this ratched bar relieves it and closes the beaks. By *firm* pressure the beaks hold the tube *immovably*, so that it cannot slip off nor turn during an attempt at introduction or extraction.

This whole instrument consists of only two parts, the handle with one beak and the lever and ratched arrangement with the other beak which two parts are readily taken apart by screwing the thumb screw towards the right. This screw has the further advantage of being so fastened to the instrument that it cannot be removed from the shank of it by unscrewing it in either direction, and therefore cannot be lost at a time when such a loss would frequently cause a very disastrous delay.

The tubes also have been slightly modified. While the general configuration of the tube is an exact reproduction of the original O'Dwyer tube, the top of it has been slightly changed, in that the opening has received a funnel shape, slanting from the edges of the rim of the tube toward the center. This facilitates the introduction of the beaks greatly,

when the tube is in the larynx, inasmuch as it allows the beaks to glide from any point of the rim almost automatically into the opening, and what this means can be appreciated by those who have had experience with the old extractor. Another change that the tubes have received is that the lower end has been cut off at an angle of about 45°, slanting from right to left. This facilitates the passage of the tube between the vocal chords, and at the same time will prevent injury to the tissues, as the knob of the obturator, which in the original tubes closes the opening of the tubes, is absent in these tubes. This absence of the obturator and its knob has the additional advantage that air passes through the tube along the side of and between the beaks of the introducer *during and immediately after introduction*, a fact which contrasts with the absolute obstruction to breathing while the obturator of the old instrument is in the tube. Therefore, with this instrument the operator need not be in such a hurry to introduce the tube and withdraw the obturator.

Henrotin's mouth-gag is furnished with this set of instruments which differs from the one usually found in the set of O'Dwyer's instruments. It consists of a wedge-shaped mouth-piece, which is fastened to two steel rings by the aid of a curved bar. In using it the assistant puts two fingers of his left hand through the rings, places the wedge-shaped mouth-piece, which is well covered with rubber tubing, between the left molars, and keeps the left hand firmly pressed against the cheek of the patient. In this manner he not only keeps the mouth opened, but also steadies the head of the patient at the same time.

The old tubes can be used with this new introducer and extractor as well as the new tubes.—Max Thorner, in *Cincinnati Lancet-Clinic*, February 19, 1898.

Antitoxin in Diphtheria.—Prior to the introduction of anti-diphtheritic serum, the mortality from diphtheria at Harper Hospital, Detroit, averaged for a number of years 40 per cent. According to the thirty-fourth annual report of the hospital authorities, as published in the February number of the *Harper Hospital Bulletin*, page 73, 141 cases were treated at the hospital during 1897, with the following results:

	Cases.	Deaths.
Ordinary diphtheria	115	1
Laryngeal diphtheria	26	6
	141	7
Excluding two cases moribund on admission	2	2
	139	5

Mortality under antitoxin treatment 3.6 per cent.—*Therapeutic Notes.*

PAEDIATRICS.

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GONORRHŒAL OPHTHALMIA IN THE NEW BORN.

Pædiatrics of June 1st, 1898, condenses a paper by Pflüger (*Coresp. f. Schu. Ærzte*, 1897), which may be further abstracted as follows:

TREATMENT.—Nothing new is equal to the old nitrate of silver, the chief modification of the use of which lies in the less strength of solution employed. Solid stick may never be used, even by the physician.

1. For cleansing purposes use 4% boric acid, warm, in water or normal saline solution. Use it copiously every half-hour or hour, day and night, and to keep edges of lids from cohering use pure vaseline, with four per cent. of bismuth sub-nitrate.

2. For the initial stages of an uncomplicated case, not more than four or five days, use ice-compresses to the eyes. Remember danger of sloughing from cold after the first stage of acute œdema is over, and suppuration and membrane formation in conjunction are established. Change then to heat, best as hot boric acid compress.

3. After stage of suppuration has begun, and brawny red infiltration and œdema have begun to subside, begin use of silver nitrate. Start with 2 to 3 per cent. solution, and see that it does not increase the œdema and inflammation. Pass on then gradually to ½, 1 or 2 per cent. solution, which should be applied, at the height of suppuration, two to four times a day. As suppuration lessens, restrict the application to, say, once daily, and resort again to the weaker solutions.—J. T. F.

ACETANILID AS A SURGICAL DRESSING.

The recently introduced employment of acetanilid as an antiseptic has led to some accidents. Its use as a dressing for the cord has caused serious poisoning and collapse in the infant, and in cases of extensive burns or scalds it has been repeatedly the cause of great anxiety to the surgeon who used it as a dressing, from the extreme cyanosis, sub-normal temperature, drowsiness, and great heart weakness. Respiration does not seem

to be much affected. The cyanosis has always been attributed to impaired æration of the blood, circulatory or respiratory in origin, and to the breaking down of the red blood corpuscle, with conversion of hæmoglobin to methæmoglobin. A writer in the *N. Y. Med. Journ.*, Vol. LXV., p. 708, says that he has found the cyanosis to be due to the liberation of free aniline in the blood, which soon disappears by elimination in the urine and sweat. The peculiar tint, and the disproportion between the severity of the cynosis and of the subjective symptoms, may well be due to some such cause. It is necessary to remember the danger of absorption from a raw surface.—J. T. F.

BRONCHOPNEUMONIA IN CHILDREN.

The custom of applying hot poultices to the chest in cases of bronchitis and bronchopneumonia in children has fallen into disrepute. The use of the bronchitis kettle, too, is almost an event of the past. The late Sir Benjamin Ward Richardson (*Pediatrics*, March 1, 1898) was one of the first to inveigh against its healthful properties, and in his indictment of it contended that the steam from it condenses on and saturates everything, and claimed that nothing but harm can result from its use. In fact, he remarked that its name of bronchitis kettle accurately describes its hurtful effects. With regard to poultices, Dr. Haviland Hall says: "To watch a small child with extensive bronchopneumonia fighting for breath, and then to further hamper its efforts by ordering a poultice weighing about a pound, can scarcely be regarded as a rational proceeding." Many physicians report the excellent results obtained with children by the application of olive oil to the chest and between the shoulders in complaints of the respiratory organs. Dr. Buxhamer, of Vienna, employs baths of a temperature of from 18° to 22°C. (64° to 72°F.) in the treatment of pneumonia in the young. He asserts that children present but little resistance to reduction of temperature. As a precaution against collapse the bath ought not to last longer than five minutes, and is on no account to be continued if the child shows signs of shivering. In *Le Nord Méd.* of December 15, M. Desmons upholds the use of the warm bath treatment of bronchopneumonia advocated by Professor Lemoine. His experience of the beneficial results of this method of treatment are remarkable, and he says that he not only rarely loses a case from this complaint, but by giving the baths at the first signs of lung symptoms he is able often to nip an attack in the bud. In his opinion it is advisable to give the baths every three, or even two hours, if the case is a bad one. In some instances the addition of mustard meal is said to render the bath more efficacious. There is little doubt that the old-time treatment of heavy poultices and bronchitis kettles will soon, even in the most conservative countries, be relegated to the limbo of the past.—Dr. Abt., in *Medicine.*

[While agreeing in the main with these sentiments, we still think that we have seen relief follow the poultice, especially in the early stage of

broncho-pneumonia, while the child is still strong, and is evidently breathing short from the pain, probably pleuritic, which so often accompanies the disease. The truth probably lies here, as usual, in the golden mean, and the abuse of the poultice should be no reason for its being entirely discarded.—J. T. F.]

The leading article in a recent number of Clark Bell's *Medico-Legal Journal* is a diatribe on vaccination. It is written in the tone of a fretful old woman, and is marked by all the wildness of statement which characterizes most such articles. We are told that small-pox, instead of disappearing, is falling with increased virulence upon all the vaccinating nations with each successive epidemic. This is indeed a surprise to the present generation of physicians, large numbers of whom have never seen a case of small-pox. Statistics are used in a manner to suggest the thought that the author may be attempting to demonstrate the proposition that nothing can be made to lie like figures. We find this interesting statement: "Unfortunately, most of the medical societies of New York are still so benighted and so bigoted that they will not permit the subject to be discussed at their meetings." This is a great and well-deserved compliment to the New York societies.—*Arch. of Ped., June, 1898.*

[We were once foolish enough to subscribe for the *Medico-Legal Journal*, but were so "bigoted" as to find it necessary to "stop the paper" on account of its extraordinary vagaries.—ED.]

NOTICE.

The editors of the Pediatric department of THE CANADA LANCET earnestly request such of our many readers who have had any cases of Tetany or Tetanilla in practice, to send full notes of such cases occurring in infants and young children, supposed etiology, treatment and results. In fatal cases post-mortem appearances, macroscopic and microscopic.

It is the wish of the LANCET to collect as many cases as possible, to arrange in groups, and possibly add some small quota to the very scant literature on this rare and interesting disease.

Kindly address any communications to Dr. Allen Baines, 194 Simcoe St., Toronto.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF
H. B. ANDERSON, M.D., C.M.,
Pathologist to Toronto General Hospital; Professor of Pathology Trinity Medical College, and in charge of the Trinity Microscopic Pathological Laboratory, Toronto General Hospital. 241 Wellesley Street
H. C. PARSONS, M.D., 97 Bloor Street West.

THE FINER NERVE-CHANGES IN INFANTS SUFFERING FROM GASTRO-INTESTINAL DISORDERS.

E. Muller and Manicatide, *Deutsche medicinische Wochenschrift*, March 3, 1898) have examined the cells in the central nervous system of seven infants under three months of age who had suffered from gastro-intestinal diseases. In five of the cases there had been more or less high fever, the other two had been *afebrile*. In all of the seven cases changes were found in the cells of the brain and of the spinal cord. The changes consisted, in the mildest type, in an irregular distribution of Nissl's bodies. Next in severity was the gradual solution of these, which affected the entire cell-body uniformly, or the parts about the nucleus, or the periphery. The solution is accompanied by a diminution in size and haziness of the Nissl bodies. Occasionally they are also enlarged and darker. In advanced cases they disappear entirely and a fine fibre net-work appears. Finally the cells lose their form, become indistinct, and the processes disappear. The nucleus and the nucleolus are often displaced. The latter is enlarged and the former is darker and uniformly stained. The presence or absence of fever seems to have no special influence. The changes just described belong to no special type and resemble those which have been found in experimental intoxications and infections.—*Univ. Med. Mag.*

ETIOLOGY OF CANCER.

Roswell Park (*American Journal of the Medical Sciences*, May, 1898) gives a *resume* of this question, in which especial reference is paid to the parasitic theory. He quotes largely from the papers of Sanifelice and Roncali, and states that they have discovered a fungus belonging to yeasts as the active agent. This germ belongs to the blastomycetæ. They reproduce themselves by budding, and have the form of young cacti. It may be stated positively, he says, (1) that some of these germs may be isolated by culture methods from certain carcinomata and sarcomata; (2) that they belong among the yeasts; (3) they will produce tumors in animals by injections under certain precautions; (4) from these tumors further cultures can be made with which inoculation can be practised.

He also states that Gussenbauer has been able to obtain from seven cases of melanosarcoma an anaerobic coccus, which grows in ordinary culture media.

ANURIA.

Guisy (*Progres Medicale*, February 5th, '98), reports a case of hysterical anuria, with elimination of urea by other organs than the kidneys,

lasting for 12 days. The patient, a woman of 39, had been subject to hysterical attacks for nine years. During the attack reported the patient was troubled with continuous vomiting and severe nasal catarrh; a yellowish fluid of urinous odor was discharged continually, in drops, not only from her nose, but also from her ears and eyes. Small quantities of the fluid, collected and submitted to examination, were found to contain urea, mucus and some pus-corpuscles. The vomited material also contained urea. The patient suffered no serious disturbance of health as a result of the condition.—*Philadelphia Medical Journal.*

A case of anuria quite as remarkable as the above was reported by Dr. A. T. Rice, Woodstock, Canada, before the Ontario Medical Association, June, 1898. In Dr. Rice's case, the patient, a woman aged thirty, voided thrice daily a large quantity of urinous fluid, as much as a gallon at a sitting, from the anterior surfaces of the legs. The fluid was of an amber color, specific gravity of 1010, urinous odor, contained uric acid, and became ammoniacal on standing. It contained neither albumen nor sugar. The fluid simply oozed from the skin, which showed neither abrasion, discoloration nor pigmentation. After a few months the condition gradually passed off, and the patient regained her usual health.

These cases are interesting, as illustrating the community of action possessed by different surfaces in excretion—a relic of the condition found in the lowest forms of animal life, where substances are excreted indifferently by the whole surface of the body. The latter also shows the extent to which compensatory function between the kidneys and the skin is possible.

H. B. A.

NEPHRITIS OF MALARIAL ORIGIN.

At the thirteenth annual meeting of the American physicians, Dr. Wm. S. Thayer, of Baltimore, read a paper with this title, in which he referred to the frequency of albuminuria in malarial fever. *(Medical Record.)* In looking over the statistics and in his own cases he had found that a large proportion of cases of malarial fever had albuminuria and casts, but principally the cases of æstivo-autumnal fever. Of seven hundred and fifty-eight cases of malarial fever there were albuminuria in three hundred and twenty-one, and casts in one hundred and twenty-one. Albumin was present in nearly one-half the cases. He had had nineteen cases of acute nephritis, of malarial origin. He had found in general that his own statistics agreed largely with others he had collected, except in some few cases. In scarlet fever there was, of course, a certain number of cases of albuminuria and casts; also in diphtheria and typhoid fever. Albumin was probably present in about one-half the cases of scarlet fever, and malaria seemed to be the cause of more cases than was generally supposed, but not so often as in yellow fever, and for this reason we could not place too great reliance on the presence of albumin in yellow fever. In one hundred and fifty-two cases of nephritis, seven were tertian, ten æstivo-autumnal, and three of varied type. There were thirteen recoveries and four deaths. Nine cases were doubtful. The speaker also gave statistics of the age, sex and color in these cases. He thought there was a possible etiological relation between nephritis and malarial infection.

The Canada Lancet

A Monthly Journal of Medical and Surgical Science, Criticism and News.

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Editorial.

INTERPROVINCIAL REGISTRATION.

The following is the full text of the report of the Committee appointed in Montreal last year, which was presented to the Dominion Medical Association at its meeting in Quebec last month:

The report was highly favorable to the project in every respect, and not only was it so, but it suggested admirable bases for the rapprochment, the report being essentially in the following sense:

I. There shall be accepted for matriculation:—A B.A. from any recognized university; or in lieu thereof, First-class or Grade A Provincial certificate in any of the Provinces for teachers' license; or an examination in the following branches, which shall be compulsory and conducted by the various Councils of the Educational Departments of each Province, viz.:

1. English grammar, composition, literature, and rhetoric.
2. Arithmetic, including vulgar and decimal fractions, and extractions of the square and cube root, and mensuration.
3. Algebra to the end of quadratic equations.
4. Geometry. First three books of Euclid

5. Latin. First two books of Virgil's Æneid or three books of Cæsar's Commentary, translation and grammar.

6. Elementary mechanics of solids and fluids composing the elements of statics, and dynamics, hydrostatics, and elementary chemistry.

7. Canadian and British history, with questions in modern geography.

8. Translation and grammar of any two of the following subjects, Greek, French, and German.

9. In lieu of the above we also recommend that any student presenting a certificate from the professors of any standard or approved university in Her Majesty's Dominion, of having completed a course of said university, be accepted in any of the provinces of Canada for matriculation and registration.

Fifty per cent. of the marks in every subject shall be required for a pass and 75 per cent. for honors.

II. Professional Education. (a) The curriculum of professional studies shall begin after the passing of the matriculation examination and registration, and shall comprise a graded course in the regulation branches of four yearly sessions of not less than eight months in each year.

(b) The subjects to be Anatomy, Physiology, Chemistry, Materia Medica, Therapeutics, Practical Anatomy, Histology, Practical Chemistry, Pharmacy, Surgery and Clinical Surgery, Medicine and Clinical Medicine, including Diseases of Eye, Ear, Throat and Nose, Mental Diseases Obstetrics, Diseases of Women and Children, Medical Jurisprudence, Toxicology, Hygiene, Pathology, including Bacteriology.

(c) That at least 24 months out of the graded four years of eight months each be required for attendance on hospital practice.

(d) That proof of attendance on not less than six cases of obstetrics and post-mortem examinations be required.

III. Examinations. All candidates for registration in the various Provinces, in addition to having fulfilled the foregoing requirements, shall be required to undergo examination before examiners to be appointed in each of the Provinces by their representative councils.

Fifty per cent. shall be required for a pass, and 75 per cent. for honors.

IV. Your Committee recommend that as soon as the foregoing basis of agreement is ratified by the councils of the various Provinces, each council shall endeavor to secure legislation to authorize the carrying out of the foregoing preliminary and professional curriculum, and to embody the following to secure a Board of Examiners for a Dominion qualification, viz.:

"That so soon as the various councils of the Dominion shall establish an Examining Board for the Dominion, conducted by examiners appointed by the Medical Councils of the several Provinces, those candidates passing a successful examination before the said Board and obtaining a certificate to that effect, shall be entitled to registration in the several Provinces of the Dominion on payment of the registration fee, providing they are not guilty of infamous or disgraceful conduct in a professional respect."

Your Committee desire to recommend that efforts to ascertain the practicability of Federal legislation leading to the establishment of a

central qualification which will place the profession in Canada upon an equal footing with that of Great Britain, and that Dr. Roddick be authorized to take the necessary steps in the matter.

We further recommend that this Association shall appoint a Comm t-tee who shall consider and recommend the details as to the number of examiners to be appointed, the method of conducting examinations, the fees to be charged and other necessary details to bring the aforesaid scheme into active operation, which details the officers of this Association shall with the foregoing send to each of the respective councils for approval.

The Committee who had the matter under advisement were: Dr. MacNeill (P.E.I.), Chairman; Doctors Marcil, Chas. Parke, Marsolais, Roddick (Quebec); Muir (Nova Scotia); Williams, Thorburn, Mullins, Wright (Ontario).

Dr. Ahern moved that the following Committee be named to strengthen Dr. Roddick's hand before the Government: Doctors MacNeill, P.E.I.; Muir, N.S.; Walker, N.B.; Marcil, Quebec; Bain, N.W.T.; McKechnie, B.C.; Thornton, Manitoba; Williams, Ontario. This resolution also acknowledged the Committee's services and was unanimously adopted without discussion.

Dr. Grondin moved that type-written copies of the report be sent to the Registrars of each Province to be laid before their Colleges, and that answers thereto be requested in order to feel the sentiment of the country on the subject.

THE MEDICAL PROFESSION AND THE MODE OF ENTERING IT.

This month will witness the reopening of our ten medical schools, and the return of our fifteen hundred odd students of medicine to their winter tasks.

Those who have already embarked upon a medical course are sounding its depths of difficulty for themselves, but a word may be in season to those who are freshmen.

"The young man entering the medical profession should consider well whether he is suited by mental and physical constitution for an arduous calling.

"Unless a man have a distinct leaning to scientific studies, and unless he be imbued with a belief in the sacred nature of the duties which he will have to discharge towards his patients, he would do better to choose some other walk in life.

"The rewards of the profession, whether measured by social distinction, or by the pecuniary standard, are not great. The relation of the medical profession to the State and to the public has improved and will go on improving, but the recognition afforded to it is still far below that to which it is entitled by the services it renders.

"We read sometimes in the papers of the considerable fortunes left by the deceased members of the medical profession, but to gain riches in the practice of medicine is extremely uncommon, and no man, not even the most able and industrious, can promise himself that he shall obtain wealth:

indeed the bare truth is that the majority of us find the struggle for a competency severe."

These, from a British contemporary are wise words, and should be pondered by every student, new as well as old.

It has always appeared to us that the present tendency of education, at least in Ontario, was to cultivate the youth as we do our cucumbers, in hot beds, forcing them on in every way until they are pitch-forked into the professions by the very process, instead of reaching these by the process of natural selection This does not tend to make the present medical student ideal—a thing of mushroom growth rarely is—and many of them bear throughout life the marks of this hasty, ill-digested preliminary training. High though the standard of matriculation is, it does not secure that thoroughness and breadth of foundation that is so needful, nor would the further raising of the standard be more effectual; what is needed is less cramming, less forcing, fewer subjects, and the *mastering* of these few. Every reader of medical examination papers is struck by the bad spelling, and worse English, exhibited, and yet these do not debar the candidate in any degree, so long as he knows his subject, for once he passes his matriculation examination he may mis-spell every word at pleasure. The reader of the original articles in many of the leading medical journals has his sense of harmony continually jarred by these results of faulty primary training.

It therefore behoves the intending medical student to refrain from cramming his matriculation work so as to hasten his entry into medicine, nor is he less foolish if he delay completing his matriculation till after beginning medical work.

We would like to see the medical student acquire all his knowledge of Chemistry, Physics and Biology outside of medical colleges. This work should be done in the high schools or the universities, and be disposed of by examination before entering in the purely medical training. Anatomy and Physiology are absorbing and extensive enough subjects for both of the primary years.

Could not our useless "fifth" year be employed in this way?

Editorial Notes and Clippings.

BUTTERMILK.

A prescription of buttermilk might be rejected on account of its simplicity, but with some patients it will be considered very grateful. Its therapeutic value ought to be considered, and it may be given in many cases as a food, in some as a relish, and with others as a means of cure.

Papers have been written upon it, one by Henry D. White, M.D., in the New York *Medical Journal*, in which he relates a case of Bright's disease, in which after the ordinary remedies no relief was obtained. The patient finally, of her own solicitation, used buttermilk with the happiest results. In the same journal another case of Bright's disease,

with phenomenally large quantities of albumen, in which iron, pilocarpin, jalap, and other drugs were given. The patient began trying buttermilk; two quarts a day. Its effects being marked, the quantity was increased finally to six and eight gallons a week, with diminution in the quantity of urine passed. Constipation and headache invariably followed upon withdrawal of the buttermilk. An examination of the urine made one year and nine months after the first observation revealed the fact that minute quantities of albumen were still present.

Buttermilk may be used for its laxative and diuretic properties. It has been used with benefit in cystitis, and in all diseases of the urinary organs where soothing mucilaginous drinks are indicated, where an increase of the flow of urine is desirable, and to soothe inflamed and congested mucous surfaces.

Again, in affections of the digestive organs buttermilk may be advantageously given. Dr. S. M. Ward says (*Therapeutic Gazette*), "where there are eructations and vomiting, where there is atrophy of the peptic gland, in that condition known as 'sick stomach,' vomiting of peritonitis, vomiting of pregnancy, etc."

Dr. Ward says when buttermilk is to be used therapeutically it should always be freshly prepared. This is not in exact accord with my experience. I have had cases when it acted better when it was a week old or more. The whey from old buttermilk, where the caseine is entirely eliminated, has been a good remedy in many cases.

The whey from fresh buttermilk in cases of cholera infantum, made ice-cold, will often do well in checking vomiting and diarrhœa, as well as nourish the patient when other things have failed. It should be given in small quantities, repeated often in such cases. In some cases it is better tolerated by making it alkaline by the addition of bicarbonate of soda.—*Dietetic and Hygienic Gazette.*

It must be borne in mind that buttermilk is properly the residue of cream, from which after souring the butter has been extracted by churning, not by the more scientific creamery methods. What is sold as buttermilk in the cities is really the ordinary milk turned sour from too long detention in the retail milk dealer's shop, and after curdling, the curd completely broken up by agitation. This compound has no fat, may be foul from decomposition, and should not be named in the same day with the fragrant drink of the country with luscious butter particles floating in it.—[Ed.]

HYPNOTISM.

I commend to the profound pathologists and the "researchers in blood" who believe in hypnotism as a therapeutic measure the recent statement regarding a subject in *Modern Medicine* as follows:

"Professor Charcot had certainly as good an opportunity to judge of the value of hypnotism as any physician of modern times, yet, as the result of his extensive researches, he arrived at the conclusion that not more than one person in a hundred would be likely to be benefited by the application of hypnotism in case of disease."—*Medical Mirror.*

FORMULÆ.

By H. E. Sanderson, Ph.B., M.D., Assistant Physician State Asylum for Insane, Stockton, Cal.

HABITUAL CONGESTION OF FACE, FROM ACNE, ETC.—Brocq recommends:

Dry extract of hamamelis	gm 0.01
Bicarb. of sodium	gm 0.25
Calcined magnesia	gm 0.20
Powdered ergot	gm 0.05
Socotrine aloes	gm 0.05
Powd. nux vomica	gm 0.02

Two such powders daily for twenty days; then, after intervals, begin again.—*Medical Recora.*

ACUTE GASTRIC CATARRH.—Brunton advises:

Bismuth subnitrate	gr. x
Potass. bromidi	gr. xv-xx
Acid hydrocyanic dilut	m. v
Spt. chloroformi	m. x
Mucilag. Acaciæ	℥ ii
Aq.	*q. s. ad* ℥ i

S.—To be taken every three or four hours, ten minutes before meals.—*Medical News.*

R. AND S. COMP. MIXTURE FOR DYSPEPSIA.—This well-known mixture, so often used in dispensaries, consists of the following:

Pulv. rhei	℥ 1 gr. xxxvi
Sodii bicarb	℥ ss
Pulv. ipecac	gr. vi-viii
Tinct. nucis vomicæ	℥ ii
Aquæ menth. pip q. s. ad	℥ vi

S.—Dessertspoonful before each meal.—*Medical News.*

PINWORMS.—Comby believes that the best treatment for these worms is:

Hydrarg Chlorid. Mitis	gm. 0.10
Santonin	gm. 0.05

To be taken each morning before breakfast, in a little milk; also anointing the anus each night with:

Amyl-Glycerole	20
Ungt. Cinerei	10

—*Médicine Moderne.*

VERTIGO IN ARTERIOSCLEROSIS:

Sodii iodidi	℥ ii
Aquæ distilat	℥ viii

S.—One or two teaspoonfuls, three times a day.—*Rev. de Therapeut Medical News.*

Itching of Urticaria:

Menthol	1 part
Chloroform	each
Ether	each
Spirit of camphor	3 parts

S.—Spray affected parts, and then dust with zinc oxide.—*Province Medicale—New York Medical Journal.*

Acute Eczema.—Stelwagon advises:

Calmine	
Zinc oxidi	āā ℥ ii-iii
Glycerine	
Alcoholis	āā ℥ i
Liq. Calcis	℥ ss
Aquæ	*qs. a d* ℥ ii

—*North Carolina Medical Journal.*

Asthmatic Paroxysm.—Dr. S. Solis-Cohen finds nothing better than the following combination:

Morphin sulphat	gr. $\frac{1}{8}$ to $\frac{1}{4}$
Strychnine	gr. $\frac{1}{60}$ to $\frac{1}{4}$
Hyoscin. hydrobromat	gr. $\frac{1}{200}$

Philadelphia Polyclinic.

Book Reviews.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and one hundred associate editors, assisted by corresponding editors collaborateurs and correspondents.

The first volume of this monumental work is at hand. We have read a number of the articles—those in which we were interested at the time, through the daily routine of practice—and have found them in every respect helpful and satisfying.

The arrangement of the material seems excellent. When completed, the work "will present all the general diseases treated of in the text books on practical subjects—medicine, surgery, therapeutics, obstetrics, etc."

The general text, or description of a disease, is in large type, while the excerpts from journals are in small type, thus avoiding confusion. The subjects have been arranged in alphabetical order, with a system of cross indexes, which greatly facilitate reference.

This work, to our mind, promises the greatest help to the practitioner of anything yet published. It gives the latest ideas regarding disease, its symptoms pathology, etiology, diagnosis, prognosis and treatment, with clinical excerpts for the past ten years, and the literature of '96 and '97, all placed in such a way as to *be easily read*, and *assimilated* without laboring through hundreds of pages of literature; *and when the reader has finished an article, he knows that he has the whole subject, as known at the present day, and presented by men especially capable in their several departments, completely mastered* and this with the smallest possible amount of work on his part.

It is to be completed in 6 vols, of about 3,600 pages each. There will be altogether about 16,000 clinical excerpts, properly classified, in addition to the didactic matter proper. The volumes, which will appear about once in five months are to cost $30 in all, including a service of 3 years of the monthly cyclopædia, ranging along with the work proper, that is, alphabetically.

We heartily commend the work to our readers, believing as we do that it is the most useful work which has yet appeared for the ordinary practitioner. J.L.S.

A TEXT BOOK UPON THE PATHOGENIC BACTERIA, FOR STUDENTS OF MEDICINE AND PHYSICIANS. By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc, etc.,

The appearance of the second edition of this work within two years shows that it has taken its place among the standard words on Bacteriology. It has been thoroughly revised enlarged and brought up to date. The recent advances in our knowledge of the typhoid bacillus, diphtheria bacillus, gonococcus, etc, are given due consideration, and chapters have been added dealing with the bacteriology of whooping cough, mumps yellow fever, hog cholera, swine plague and describing the bacillus aërogenes capsulatus and proteus vulgaris.

We have found the work most satisfactory for students, and in its improved form can heartily recommend it as a concise, attractive, and reliable guide to the study of the pathogenic bacteria. H. B. A.

ELECTRICITY IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE NOSE, THROAT AND EAR. By W. Sheppegrell, A.M., M.D.

No systematic attempt has hitherto been made to present a work which is limited to the consideration of the application of electricity to diseases of the nose, throat and ear, and Dr. Sheppegrell has therefore opened up a new field of investigation, and has done it thoroughly and efficiently in this volume of over 400 pages.

His object in putting forth this work is to systematise the many modes and methods of the treatment of these organs by electricity, as a basis for future investigation.

The earlier part of the book is taken up with a full and moderately lucid description of the general principles modes of production and methods of applying electricity. This is followed by a discussion of the examination of the organs, transillumination, the electric cautery, cataphoresis, massage of the ear, etc.

This work is one which will be hailed with pleasure by every medical man who has attempted to use electricity in the treatment of the special organs, and we can confidently recommend it to the readers of the LANCET. D. J. G. W.

Atlas and Abstract of Diseases of The Larynx. By Dr. L. Gruenwald. Translated by R. Max Goepp, and edited by Charles P Grayson, M.D.

This is the third Atlas of the Lehmann Medicinische Handatlanten to be issued by W. B. Saunders, of Philadelphia.

The original work is too well known to need further commendation. The present volume gives a brief account of the etiology, symptoms, treatment and prognosis of the various affections of the larynx, but its chief merit is the excellent series of over 100 colored macroscopic and microscopic plates, each accompanied by a short description, which follows.

To those who have previously invested in colored plates, it will be welcome news that this really excellent work can be purchased for the small sum of $2.50. It will give a great impetus to the study of laryngoscopy by the general practitioner.

D. J. G. W.

BACON AND BLAKE ON THE EAR.

A Manual of Otology. By Gorham Bacon, A. M., M. D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otologyin the Harvard Medical School, Boston. In one handsome 12mo. volume of 400 pages, with 109 engravings and 1 colored plate. Cloth, $2.00 *net*. Lea Brothers & Co , Publishers, Philadelphia and New York

This new and compendious Manual of Modern Otology owes its text to Professor Gorham Bacon of the Cornell University Medical College in New York City, and it bears a cordial endorsement in an introduction by Professor Clarence J. Blake, of the Harvard Medical School, Boston. It comes to hand with the full stamp of authoritativeness and at a most opportune time.

Though one of the more patient of human organs, the ear has its own share of troubles, and their urgency, painfulness and contiguity to vital spots renders it incumbent upon every student and practitioner to be prepared to meet them. Modern Otology is abundantly resourceful, as shown in this clearly written and well illustrated handbook, which will be of service not only to the undergraduate and the general practitioner, but to the otologist as well.

THOMSON ON CHILDREN.

A Guide to the Clinical Examination and Treatment of Sick Children. By John Thomson, M.D., Extra Physician to the Royal Hospital for Sick Children, London, Lecturer on Diseases of Children, Edinburgh School of Medicine. In one crown octavo volume of 350 pages, with 52 illustrations. Cloth, $1.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The literature of pediatrics is enriched with this compact volume, practically on diagnosis and treatment. The author has properly approached his subject through the field of clinical medicine, in recognition of its rational relationship with other human affections, and the advantages of so regarding it. He points out the initial difficu ties, and encouragingly assures his readers that when once they are surmounted, practice among children is at least as easy as among adults. He has endeavored to convey a command of the neeessary clinical methods, to inculcate the tact and sympathy which are particularly necessary to success, and to show where the line runs between normality and abnormality, a matter of especial and obvious practical importance.

GREEN'S PATHOLOGY AND MORBID ANATOMY.

Pathology and Morbid Anatomy. By T. Henry Green, M.D. Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. New (8th) American from the eighth and revised English edition. In one very handsome royal octavo volume of 600 pages, with 215 engravings, many being new and a colored plate. Cloth, $2 50 *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

When a work has run to its eighth edition in England and its eighth in America it presents credentials of merit which cannot be questioned. *Green's* has undoubtedly been the leading text-book in its department, and as its useful combination of subjects has not been paralleled, despite its success, it is fair to infer that its exceeding merits are its best protection from competitors. This is no doubt aided by the very low price which its large sale has rendered possible. The new edition preserves the characteristics which have won popularity, but shows a revision and rearrangement on every page in conformity with the advances of the subject. The series of illustrations has always been notable for clearness and beauty and in this edition many new ones will be found.

PUBLISHERS' DEPARTMENT.

TREATMENT OF ACUTE URETHRITIS.

Since the discovery of the specific organism of gonorrhœa, the gonococcus of Neisser, the antiseptic treatment of this disease has been established upon a firm scientific foundation. Among the urethral antiseptics the nitrate of silver would rank very high if it were not for its many disadvantages, especially its irritating effects even in weak solutions, and its property of being readily decomposed and precipitated by the secretions, thus impairing its activity as a germicide. For this reason a number of silver compounds have been introduced in late years, none of which has, however, been completely free from these disadvantages. Lately, Dr. Eichengrun has prepared a silver compound, named Protargol, in which the objectionable features of the other silver preparations have been entirely eliminated. Protargol is a firm combination of silver with a proteid base, and is unaffected by alkalies, sodium chloride, albumen, or other substances which decompose and precipitate other silver compounds. For this reason it is not decomposed by the urethral secretions, and, therefore, exerts a more penetrating action than other urethral antiseptics. While an efficient germicide, it is free, however, from any irritating effect upon the mucous membrane, and is indicated even in the most acute stages of gonorrhœa. The experiments made by Professor Neisser and Drs. Goldenberg, Barlow and Benario have shown that it is an ideal remedy in the treatment of cases of acute and chronic gonorrhœa of the anterior and posterior urethra, causing a rapid disappearance of the gonococci and a prompt cure. Protargol is employed in 0.25 to 2 per cent. solutions in water, in which it is readily soluble, either by the method of injection or irrigation. In preparing these solutions it is advisable to stir the powder into a paste before adding the rest of the solvent.

IMPERIAL GRANUM is a prepared food that makes friends wherever its merits become known. The writer has been familiar with it for years, and takes pleasure in relating the following clinical test of its merits: "The patient, reduced by disease and from the effect of the anodynes necessarily given to alleviate her sufferings, developed malignant cholera morbus, and for days lay in an almost unconscious condition. As a last resort, she was taken to a Boston hospital, where the physicians began administering Imperial Granum, prepared as directed for acute cases, in very small quantities. After several trials it was retained, and the strength and quantity was slowly increased. After four weeks' treatment, taking Imperial Granum only for nourishment, she was discharged from the hospital, and a few weeks later endured a severe surgical operation from which she completely recovered, and to-day seems in perfect health.

Dr. Lapthorn Smith's Post-Graduate Classes.—Dr. Lapthorn Smith, who has been studying in Europe during the summer, has returned to Montreal. Following the example of the European gynæcologists, he is forming a post-graduate class limited to six practitioners, each course of demonstrations lasting a month.

District of Columbia Health Report on the Value of Antitoxin.—"It is gratifying to note the general decrease in the mortality of diphtheria. It is now 17.7 per cent. lower than it has been at any time since data became available for calculation. The treatment of diphtheria by Antitoxic Serum cannot be too highly commended.

"Early last fall this department abandoned the plan of producing its own antitoxin, and has since purchased it in the open market, which arrangement has been very satisfactory."

These statements appear in the recent annual report of the Health Officer of the District of Columbia. Mulford's Concentrated Antitoxin was employed to the exclusion of all other serums, and it is specially noteworthy that the large percentage of recoveries here recorded confirms the combined evidence of the collective investigations of the American Pediatric Society and the Ohio State Board of Health, to the effect that this product invariably yields the highest and best results.

Frederick Stearns & Co., Windsor, referring to their new catalogue, say: "We have just completed a thorough revision of our pharmaceutical catalogue and are ready to begin its distribution. It is quite unique in many ways, and is not merely a price-list but is a convenient hand-book of reference which we believe will be of much value to both physicians and pharmacists. It is impossible, in a limited space, to give more than a general mention of its valuable features, but of these we wish to call attention to the following: It will serve as a dose book for nearly all the products (several thousand in number) mentioned therein; as a work of authoritative reference of more than a thousand botanical names and common synonyms; as a condensed materia medica, the properties of the preparations being succinctly stated. In addition to these features of the catalogue proper, a large amount of useful information concerning various drugs and preparations is given in the thirty pages of notes of reference. Following this we find a scheme for urine analysis, written especially for this work by Dr. Chas. C. Yarborough, late Professor of Medical Chemistry in the Tennessee Medical College; various tables of information such as the following: Number of drops in a fluidrachm, percentage solutions, how to dilute alcohol, metric and ordinary equivalents, etc.

"We do not believe that any other pharmaceutical catalogue will be found so replete with valuable information, and it is hardly necessary to add that we have spared no pains or expense to make this a useful and reliable book of reference. We will be pleased to send a copy of it to any physician desiring the same. Ask for the new 'B' List."

THE GREAT FACT IN MODERN MEDICINE:

"The Blood is the Life,"
And Where Nature fails to make Good Blood,
WE CAN INTRODUCE IT.

BOVININE is Bovine Blood Unaltered from the Arteries of the Bullock;
The Universal Auxiliary of Modern Medicine and Surgery,
and the TRUE "ANTITOXIN" of Healthy Nature.

In the more enlightened progress of Modern Medicine, "Blood-letting" has given place to Blood-*getting*.

Aye! Get Good Blood—but How? Not by the Alimentary Process. It has already failed to do its work (else the patient would not be sick); and in acute disease must not even be allowed to do the work it can. Stimulate as you will, the whole sum of the patient's alimentary power when fully forced into play, is unable to keep up the nourishing and supporting contents of the blood. There is absolutely but one thing to do; and, thank God, that can be done, usually with success, as ten-thousand-fold experience has proved. That one thing is this: where Nature fails to PRODUCE good and sufficient Blood, WE CAN INTRODUCE IT from the arteries of the sturdy bullock, by the medium of BOVININE.

The vital activity of this living blood conserve rests on no man's assertion: it speaks for itself, to every properly equipped physician who will test its properties microscopically, physically, or therapeutically.

TRY IT IN PRACTICE.

TRY it in ***Anæmia,*** measuring the increase of red cells and hæmaglobin in the blood as you proceed, together with the improving strength and functions of your patient.

Try it in ***Consumption,*** with the same tests from week to week.

Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

Try it on ***Chronic Ulceration,*** in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power of topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality.*

Try it in ***Chronic Catarrhal*** Diseases; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's); and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

Try it on the ***Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

Try it on ***anything,*** except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

Try it on the ***patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

A New Hand-book of Hæmatherapy for 1898, epitomizing the clinical experience of the previous three or four years, from the extensive reports of Hospital and private practice. To be obtained of

THE BOVININE COMPANY, 75 W. Houston Street, New York.

Leeming, Miles Co., Sole Agents for the Dominion of Canada.

Dr. W. E. Hamill, who for some years has conducted a medical brokerage business under the name of the Canadian Medical Practice and Partnership Office, has changed the name to that of The Canadian Medical Exchange Office.

The Doctor wishes us to state that he always has from 15 to 30 buyers ready to investigate any practice offered, and purchase the same if it suits them. Every prospective buyer is bound in writing as to secrecy and honorable dealings, and to not offer opposition if they do not buy.

Every safeguard possible is thrown around a vendor to prevent any piracy whatever; and physicians who contemplate selling out should make use of his office to prevent publicity, and secure a successor in the quickest and quietest manner possible.

Goods advertised for years are certain to have merit, or they would not be popular. Substitutes are usually unknown quantities. The moral is obvious.

New Hospital for Nervous Diseases

DR. MEYERS (M.R.C.S. Eng., L.R.C.P., Lond.) having found increased accommodation necessary, has removed his Private Hospital to Heath St., Deer Park. The situation of the new Hospital is the best and most attractive in the suburbs of Toronto, having three acres of ground shaded by fine old oaks, and laid out for tennis, bicycling, etc. The interior has been completely renovated and possesses all the necessary appliances for the treatment of

DR. MEYERS' PRIVATE HOSPITAL FOR NERVOUS DISEASES.

Diseases of the Nervous System

Hydrotherapy after the system of Wisternitz, including needle, Russian shower baths, etc., and electricity in its various forms are administered. It has a skilled masseuse and trained nurses, the head nurse having been for several years under Dr. Weir Mitchell, of Philadelphia.

Dr. Meyers devotes his entire attention to Nervous Diseases, having prepared himself especially for this work by several years study both in England and on the continent.

This is the only Institution at present in Canada devoted exclusively to the treatment of Nervous Diseases.

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SANMETTO.—J. S. Jordan, M.D., of Indianapolis, Ind., writing, says: "I have been using Sanmetto for a number of years, and with unvarying good results. In cases of prostatitis, prostatorrhea, cystitis, chronic gonorrhœa, and kindred genito-urinary troubles, I find it one of the most valuable acquisitions to our Materia Medica. In irritable conditions of the neck of the bladder, so frequent among females, Sanmetto has proven a God-send. I can also heartily recommend it as the very best aphrodisiac I have ever used."

ABBEY'S EFFERVESCENT SALT.—There are but few aperients that may be taken constantly without injurious effects, but Abbey's is one of them. A constantly increasing number of physicians are prescribing it for daily use as an aperient on account of its gentle, yet positive action, and by reason of its excellent tonic properties.

OSTEOMYELITIS: (BONE NECROSIS xxiii.) WITHOUT OPERATION.

Annie B——, S. Norfolk; American; age 30; first seen February 3, 1898. Tubercular osteomyelitis of left mastoid, of two months standing. The diseased process proving on examination not to have extended very deeply, I therefore determined, instead of the conventional operation of chiselling out the diseased cells, to clean them out by the bovinine-peroxide reaction with further antiseptic irrigation, and blood feeding through drainage channels. My mode of procedure was as follows: four holes were drilled down into the body of the mastoid process, going deep below the diseased cells, and converging to a junction below them, so that both the clearing and the healing applications going into either of these channels would flow out through all the other three. Secondly, a bovinine-peroxide injection forced through the bored channels was washed out with Thiersch solution. Thirdly, bovinine was dropped into the holes, and they were packed with sterilized gauze saturated with the same. This process was repeated throughout, twice a day, to the 17th, when the diseased parts were found to have been separated wholly from the healthy body of bone, and were lifted out in a mass, with a pair of thumb forceps, leaving the whole interior a healthy granulating surface. The cavity was washed out with Thiersch and dressed with bovinine twice a day, to the 25th, when it had filled with new bone and become covered with skin to a point the size of a split pea. March 1st, the wound was entirely healed over, and the patient discharged.

ELECTIONS TERRITORIAL TO MEDICAL COUNCIL OF ONTARIO.

TORONTO, Oct. 1st, 1898.

To the Members of the College of Physicians and Surgeons of Ontario:

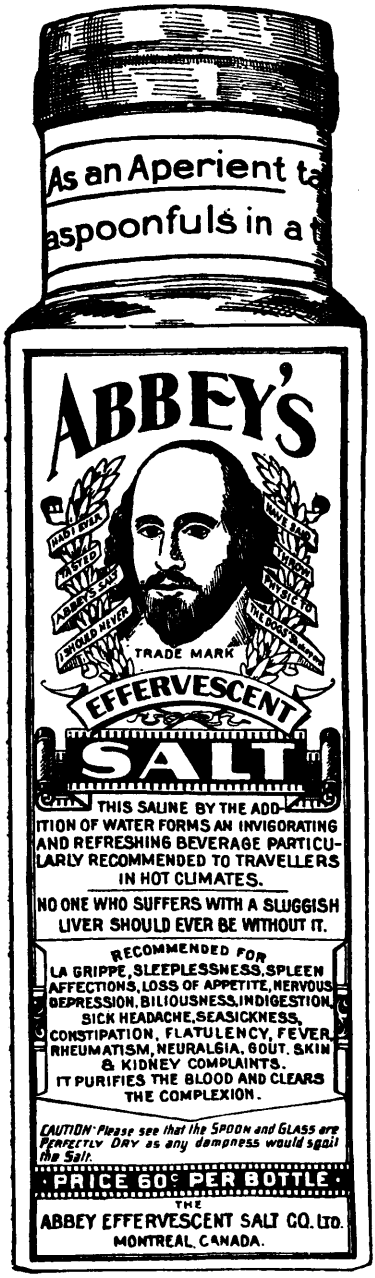
I am directed to notify you, in accordance with the Ontario Medical Act, and the By-laws of the College:

That the time for receiving nominations of Representatives to the Medical Council will close at Two o'clock p.m. on Tuesday, November 8th, 1898. And the time for receiving votes, when more than one candidate has been nominated, will close at Two o'clock p.m. on Tuesday, November 29th, 1898.

By Order,

R. A. PYNE, Registrar.

ABBEY'S . . .



F

Effervescent Salt

A pleasant effervescing aperient, taking the place of nauseating mineral waters. Recognized and prescribed by eminent members of the profession in Great Britain, Europe and Canada.

PICTON, ONT., Aug. 26th, 1897.

I am, both in person and in my professional work, greatly indebted to the preparations introduced by Messrs. Brand, and in particular their well-known Essence of Beef. From experience in a considerable number of cases of continued fever, pneumonia and other exhausting diseases, among which typhoid fever deserves especial mention, I can speak most highly of the strengthening properties of the Essence. In ulcerated stomach, whether simple or malignant, and in intractable dyspepsia, not only can the Essence be borne without discomfort, but frequently paves the way to the exhibition of other forms of nutriment. After surgical operations, nothing I have found more rapidly relieves the patient from shock and from the nausea following anaesthetisation than the repeated administration of the Essence with or without the accompaniment of alcoholic stimulants. In short, as a tonic, a stimulant and a very perfect food, I am sure the preparation deserves the attention of every medical man, and the profession, no less than the public, are indebted to Messrs. Brand, the inventors, for a boon of the utmost value in the very class of diseases most fraught with trouble and anxiety.

ARTHUR W. HARE,
M.B.C.M., M.R.C.S., F.R.C.S.E., F.R.S.E.

Formerly Prof. of Surg. Owens Coll., and Examiner and Professor in the Victoria University, etc., etc.

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TRINITY MEDICAL COLLEGE, TORONTO.

In affiliation with the University of Trinity College, The University of Toronto Queen's University, The University of Manitoba, and specially recognized by the several Royal Colleges of Physicians and Surgeons in Great Britain.

THE WINTER SESSION OF 1898-9 WILL COMMENCE OCTOBER 1, 1898.

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Lecturer on Therapeutics and on Clinical Medicine at Toronto General Hospital

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Assistant in Pathology.

FRED. FENTON, M.D., C.M.

Assistant in Histology.

CLINICAL TEACHING.—The Toronto General Hospital has a very large number of patients in the wards, who are visited daily by the medical officers in attendance. The attendance of out-door patients is also very large, and thus abundant opportunities are enjoyed by students for acquiring a familiar knowledge of Practical Medicine and Surgery, including not merely major operations, but Minor Surgery of every kind, ordinary Medical Practice, the treatment of Venereal Diseases and Skin Diseases, and the Diseases of Women and Children. The Burnside Lying-in Hospital, amalgamated with the Toronto General Hospital, has recently had the staff largely increased, and will afford special and valuable facilities for the study of Practical Midwifery. The large new building, close to the Hospital and School, will be very convenient for students attending in practice. The Mercer Eye and Ear Infirmary is also amalgamated with the Toronto General Hospital, and affords special facilities for students in this department.

Daily Clinical instruction in the spacious Wards and Theatre of the Hospital will be given by members of the Hospital Staff on all interesting cases, Medical and Surgical. ☞ Arrangements have also been made for the delivery of *daily clinics*, out-door, in-door and bedside, in the *Hospital*, by the respective members of the in-door and out-door Hospital Staff, which has been recently largely increased.

FEES FOR THE COURSE.—The Fee for Anatomy, Surgery, Practice of Medicine, Obstetrics, Materia Medica, Physiology, General Chemistry, Clinical Medicine and Clinical Surgery, $12 each. Applied Anatomy, $10. Practical Anatomy, $10. Practical Chemistry, Normal Histology and Pathological Histology, $8 each. Therapeutics, and Medical Jurisprudence, $6 each. Botany and Sanitary Science, $5 each. Registration Fee (payable once only), $5. Students are free in all the regular branches after having paid for two full courses. Surgical Appliances is an optional branch; fee, $5.

Full information respecting Lectures, Fees, Gold and Silver Medals, Scholarships, Certificates of Honor, Graduation, Diplomas, Fellowship, etc., will be given in the Annual Announcement.

W. B. GEIKIE, M.D., D.C.L., Dean, 52 Maitland Street.