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CANADA MEDICAL • RECORD

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VOL. XXIV.

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NO. 1.

Original Communications.

NOTES ON THREE SEPTIC CASES.

By FRANK R. ENGLAND, M.D.,

Prof. of Surgery Bishop's University, Montreal; Surgeon Western Hospital, Montreal.

It has often been noted by medical men, that other than the acute infectious diseases occur from time to time in their practice in endemic form. The busy obstetrician knows well from experience that when his night bell once begins to ring, it seems to become animated, and little rest or sleep is he able to obtain day or night for a week or more until certain "lunar changes" come to his relief, and check for a time further increase in the population of the community.

It is also the experience of many that other diseases, such as cases of appendicitis and various septic conditions, are wont to

appear in batches. This tendency to grouping of medical cases we are apt to look upon as purely accidental, for one often has a like experience in cases of injury. A physician doing a large general practice may pass a number of years without meeting some particular accident, say dislocation of the shoulder, then a number of such cases will occur within a comparatively short time. It is not my intention to bring forward any theory or explanation of these periodic blessings and misfortunes.

I am content to recognize them, and will be satisfied to narrate briefly a group of three septic cases which came under my care about the same time during the early summer. These cases were dissimilar both in ætiology and clinical history.

Each presents some particular interest, and when studied together they are instructive. They show how septic material when introduced into the system may produce symptoms both local and constitutional entirely different.

The severity of the symptoms in a given case it would seem depends upon the quantity of poison entering the system, its virulence, and the resistance offered by the individual.

Case I.—Miss Y., aged 22 years, a well developed and healthy young woman (brunette), with a good personal and family history, received a small abrasion on the heel from wearing a tightly fitting boot. This was followed in six days by swelling, pain, tenderness and redness of the leg. The cutaneous blush was diffuse, extending 3 or 4 inches above the external malleolus, and not spreading up the limb in streaks as one sees in lymphangitis. The constitutional symptoms were slight, temp. 101, pulse 90. Rest in bed for a few days and the application of a lead and opium lotion caused the redness to disappear, but the swelling persisted, and slight tenderness could be elicited on deep pressure for some distance above the ankle.

The temperature though normal in the morning would rise two or three degrees in the evening, and the pulse was correspondingly quickened. An incision made just external to the tibia at about the middle third of the leg allowed a small quantity of pus to escape, which for a time caused the local symptoms to improve.

The evening temperature continued to rise two or three degrees above the normal. The calf of the leg feeling firmer and the limb being much larger than the other one, at the end of a

week an anæsthetic was administered, and upon cutting deeply, a surprisingly large collection of pus was found burrowing between the muscles, and extending from a couple of inches above the ankle to the popliteal space. A number of incisions were made, and connected with tubing for irrigation and thorough drainage. Recovery was rapid and complete.

Case II.—J. S., aged 28 years, of a nervous temperament, and one whose resisting powers were not great. Family history of no special interest. Four years ago he had an attack of pleurisy, from which the recovery was slow.

On April 28th, when I was sent for, he was suffering from a septic lymphangitis, following an abrasion over the shin, caused by striking the leg against a step ladder.

The superficial lymphatics running up the front and inner side of the thigh to the inguinal glands were red and extremely tender on pressure. There had been a rigor, and his temperature was 103° F., pulse 120, and much prostration.

The abrasion was about the size of a five cent piece, and its base was covered with a grayish slough; to the sore a hot antiseptic fomentation of Hg cl_2 1—2000 was applied, also a lead and opium lotion over the inflamed lymphatics.

The lymphangitis for a time seemed to be less acute, but the abrasion continued unhealthy and a little pus collected around the sloughing base. The constitutional symptoms increased in severity, the temperature reaching $104\frac{1}{2}^{\circ}$ F. on the fourth day, when, in addition to the lymphangitis, an erysipelatous inflammation appeared extending down the leg.

At the end of the second week of illness, as the erysipelas disappeared, small subcutaneous collections of pus developed. Numerous and repeated incisions from the dorsum of the foot to the original infecting focus were made; and later on, at the end of the third week, it was necessary to evacuate pus which had formed at different points in the superficial lymphatic vessels about the knee and inner side of the thigh. The highest incision was only a couple of inches below the saphenous opening.

The local and constitutional symptoms throughout were severe. The infective process spread not only downwards, involving the skin as an erysipelas, but also upwards along the lymphatics.

The patient towards the end became pale, weak and greatly emaciated, and for a time his condition was so grave as to make his recovery doubtful.

Eventually he did well, but convalescence was slow. In conclusion I may add that Dr. James Bell saw the case in consultation on the fourth day and considered it one of erysipelas. Dr. Bruère, Professor of Physiology at Bishop's College, kindly examined a specimen of pus from an inflamed lymphatic, and obtained a pure culture of the streptococcus pyogenes. He was not prepared to say that it was the specific organism of erysipelas (the streptococcus erysipelatosus).

Case III.—H. M., aged 10 years, was brought to my office on the 15th May, complaining of pain in the left ear, which had been present with varying intensity for a week. Upon examination nothing abnormal was found, and her hearing was perfect and equally acute in both ears. The mouth upon examination revealed three or four badly decayed teeth, though none seemed to be specially sensitive or painful.

Two days later while at school, at 11 o'clock in the morning, the little girl was seized with a violent rigor, lasting fully half an hour, after which the temperature rose to 104° F., and the pulse was very rapid. During the following two days the symptoms improved, and on the afternoon of the 19th the temp. and pulse were normal. The little one seemed weak, so a tonic, containing quinine and iron, was prescribed, and permission was given to allow her up on the following day. At 9 o'clock in the morning, May 20th, she was again seized with another rigor of great severity, which was followed by high fever and sweating.

May 21st. Looking weak, but temperature and pulse falling, and not much above the normal. Examination of the heart, lungs and digestive tract negative. The ears appear normal, and hearing is good; no pain has been felt in them for some days.

May 22nd. Patient passed a good day, and was thought to be convalescent until 6.30 p.m., when the third rigor occurred.

May 23rd. Ears and eyes were examined by Dr. Proudfoot, and pronounced normal; temperature 99.3, pulse 108.

May 24th. Rigor at 4.30 a.m. and a slight chill at 11 p.m.

May 25th. Patient is unable to move the right wrist joint, and it is swollen and painful; other symptoms slightly improved.

May 27th. Rigor at 8 a.m., which came on suddenly without warning, and was so violent as to alarm her parents and make them feel that she would die before medical aid could reach the house.

Recurring chills coming on without regularity, followed by high fever, sweating and prostration, together with the development of an arthritis of the wrist joint, all pointed to a pyæmic condition. From the improvement in the patient's condition, following the rigors, it would seem that the sepsis was either mild, or only a very small quantity was entering the system. Careful examination failing to reveal any infecting focus, and recollecting the earache from which the child had suffered for days before I was consulted, my attention was again directed to the carious teeth, and though no suppuration or special tenderness could be detected about the gums, it seemed not only possible but probable that they were the source of infection. My friend Dr. Hutchison saw the case, and shared in my opinion. Under an anæsthetic, the teeth were extracted, and pronounced by W. J. Giles, D.D.S., to be in a septic state; no actual pus was noticed, but the tooth pulp was dead, and septic matter could pass directly from the pulp through the small foramen, at the extremity of the fang into the general circulation. After the teeth were extracted no more rigors occurred, the inflammation of the wrist joint slowly subsided without pus formation, and recovery was uninterrupted.

To conclude, the points of interest to be noted in the above cases are in brief as follows:—

Case I.—How from a slight abrasion septic matter may be carried by the lymphatics to the deeper structures of a limb, resulting in abundant pus formation with comparatively slight constitutional and local symptoms.

Case II.—How from a slight abrasion septic matter may, in a given case, be carried quickly along the superficial lymphatics to distant parts, setting up a septic lymphangitis, and at the same time the septic process may spread in an opposite direction in the skin, as an erysipelas. Whether the specific inflammation of the skin and the septic lymphangitis present at the same time in this case were due to the same micro-organism or not, cannot be definitely answered.

Was there in this case a mixed infection; or would the same streptococcus multiplying in the lymphatic vessels produce a lym-

phangitis, and when present in the skin cause erysipelas? Bacteriologists differ in opinion on this question. Some consider erysipelas to be essentially a specific disease, involving the skin and mucous membranes, and due to the presence of a pathogenic organism, which is not pyogenic. Senn, in his book on the Principles of Surgery, page 370, says: "The surgeon will do well to adhere to the teachings of Fehleisen, who is positive in his assertion that the streptococcus of erysipelas never produces suppuration." He holds that when an abscess occurs during or soon after an attack of erysipelas, it is not due to the erysipelatous but to a mixed infection.

Other equally reliable authorities take a wider view, believing that the same organism may produce an erysipelas in one case, and a lymphangitis, a septicæmia, or a pyæmia in another.

This latter view is certainly rational, and is borne out by clinical experience.

Case III.—How a general septic infection of a grave nature may occur from an obscure and apparently trivial cause, and how, when the source of infection can be discovered and removed, alarming symptoms may disappear.

SUDDEN DEATH FROM A RARE CAUSE.

By ROBERT MARKS, M.D.,

Coroner for the County of Carleton, Ottawa.

TO THE MEMBERS OF MEDICAL DIVISION NO. 17 OF ONTARIO
ASSEMBLED IN OTTAWA THIS 3RD DAY OF JULY, 1895.

As our President, Dr. Rogers, asked me to present anything of interest to this meeting that had recently come under my observation, I beg to state that in April I presented a specimen at a meeting of the Ottawa Clinical Society, at which meeting said Society was favored with the presence of members of the Ottawa Medical Society, and it seemed to be the opinion of that united meeting of Medical men of Ottawa, that a similar case was not to be found recorded in our medical standard works, or in other medical literature.

Case.—On April 14, 1895, Mrs. E. M——, mother of Mrs. E. L——, swore before me, as coroner for Carleton, that her daughter, Mrs. E. L——, had died from causes unknown to her,

her death was *so sudden* ; she was well at 4 p.m., and dead at 8 p.m. ; she was 28 years of age, married 2 years, never had been a mother, was expecting to be confined in about one month.

The corpse was in appearance that of a woman eight months pregnant. A post-mortem was made by Drs. I. G. Scott and R. P. Robinson.

The sworn testimony of Dr. Scott was as follows :—

“The body is that of a female of about 35 to 38 years of age, of medium height, and very stout ; the mucous membranes were very pale, indicating want of blood ; no external marks of violence were visible.

“On opening the skull, the brain was found normal.

“On opening the abdomen, a very large quantity of liquid blood escaped, and a very large clot of blood was found. On examining the uterus, a fœtus of about eight months was present. At the upper part of the womb, two ulcerations, larger than a 10 cent piece, were found penetrating through its walls, and extending into the placenta ; several other ulcerations were present, but not penetrating ; the uterus was soft and friable.

“Death was due to internal hemorrhage from the placenta, caused by penetrating ulcers in the uterus.

“Signed, I. G. SCOTT, M.D.”

Dr. R. P. Robinson testified at the same inquest, “that the body was that of a woman of about 35 years, apparently well nourished, having a sallow and anæmic appearance.

“The brain was normal, the womb was that of a pregnant woman within about six weeks of her confinement, and here was found the immediate cause of death. The walls of the uterus were thin, on the surface ulcerations,—two of which penetrated into the placenta, which allowed the woman’s blood to escape into the main cavity of the abdomen, where a large clot had formed in said cavity ; there was a large quantity of bloody fluid.

“The immediate cause of death was internal hemorrhage.

“Signed, R. P. ROBINSON, M.D.”

This case being a very *rare* one, I submitted the specimen for the inspection of the members.

OTTAWA, September 26, 1895.

Selected Articles.

RADICAL CURE OF INGUINAL AND FEMORAL HERNIA.*

By WILLIAM L. RODMAN, A.M., M.D.,
LOUISVILLE, KY.

I shall not spend any of my limited time in discussing the propriety of radical cure operations, as I consider that question settled. Five years ago there was room for honest doubts, and the writer candidly admits that he shared them, as to whether herniotomy should be done except in conditions of strangulation. New methods carried out in a thoroughly aseptic way now yield results quite as good as follow other well-established and unquestioned surgical procedures. The term "radical cure" has led many surgeons to expect permanent relief in every case operated upon, a position which is unfair and not true of other operative measures in surgery.

I shall endeavor to prove that herniotomy is less dangerous than any of the major operations, and followed by lasting results which compare favorably with the best of them. What more can be reasonably asked or expected? The question, then, is not whether we should operate at all, but when to do so, and what method to choose.

At the present day surgeons are more optimistic than they have ever been, and are doing a far greater number of herniotomies than was ever known in the world's history. The limits of the operation, therefore, are becoming enlarged rather than restricted. Cases which were formerly considered inoperable and treated by mechanical means are now promptly submitted to the knife as yielding better and quicker results. Surgeons agree in the main as to the conditions requiring a radical operation.

First. An operation for the relief of a strangulated hernia should, whenever practicable, be supplemented by a radical cure.

*Read at the June meeting of the Kentucky State Medical Society, 1895.

The latter lessens rather than increases the danger, by shutting off the peritoneal cavity from a wound which may and oftentimes does become infected. When shock is great, as a result of strangulation and the measures undertaken for its relief, it is well to postpone a radical operation until a later period, when the question can be taken up *de novo* and decided upon its merits.

Second. Irreducible herniæ so generally cause pain and gastrointestinal symptoms, besides being more likely to be followed by obstruction, inflammation, and strangulation, that as a class they should be subjected to a radical cure. Another danger—rupture of the sac or bowel as the result of external violence—is a perpetual menace in such cases, and should be taken into consideration in deciding for or against a radical cure.

The writer has recently placed upon record an interesting case of this kind. The bowel was ruptured by a kick from a horse; an artificial anus was established spontaneously, and the patient made a satisfactory recovery.

Very large and old irreducible herniæ, where there is every reason to suspect numerous and dense adhesions, should, when occurring in elderly subjects, be let alone.

The last patient I operated upon was a man thirty-five years of age, the subject of a large irreducible hernia which began in childhood. It became strangulated. The size of the hernia, the number and denseness of the adhesions necessitated a prolonged operation. He bore it well, however, and recovered without a bad symptom.

Third. Herniæ accompanied with reducible hydrocele should be subjected to a radical cure. The cases will usually be found in early childhood, but I recently saw and operated upon such a case in a young man twenty-two years of age living in Larue County. Trusses and injections had failed to cure both the hernia and hydrocele.

The three classes already mentioned, without there be good contra-indications, demand a radical cure.

We shall now consider what is to be done in a much larger and therefore more important class of cases, ordinary reducible herniæ. Here many things are to be considered. Age, occupation, position, general health, etc., are all important points. Children will of course be usually treated, and successfully so, by a suitable truss. I wish, however, to state that an impression, more or less

generally shared by the profession and by some high in authority, viz., that children under ten years of age are invariably cured by a truss, is entirely incorrect.

Recent statistics taken from the largest hernia clinic known, the London Truss Society, show that, according to Macready, more than one-third of such cases are uncured by mechanical means.

The results obtained at the Hospital for the Ruptured and Crippled in New York are no better, according to Dr. Coley, who is connected with this institution. Femoral herniæ are infrequently cured by a truss, but, as we shall see later on, give better operative results than other forms of herniæ. Girls, of course, are more likely to be cured of inguinal hernia than boys. A truss cure of either variety of hernia in either sex after thirty years of age is accidental and not to be expected. Advanced age, as a rule, is a sufficient contra-indication to a radical cure, if the hernia can be reasonably well retained by means of a truss. I wish to say, however, that herniotomies in elderly subjects do better than many believe. Occupation and position in life have, in my judgment, much to do with a decision as to whether or not we should operate. The laboring man, accustomed to lifting heavy weights and the like, and who at the same time is either unable to provide himself with suitable trusses, or fails to do so through indifference, is a proper subject for radical cure, and should always be so advised. The merchant or the professional man who takes no violent exercise, and who will as a rule appreciate the necessity of wearing a truss day and night, may properly decline a radical cure as long as his hernia is perfectly retained by mechanical means. If, however, he be fond of athletics, bicycling, shooting, and such out-door sports, he will act wisely in my opinion should he choose a radical operation.

Hernia unfits one for entrance into a public service, as the army and navy, and, wishing to do so, the trifling risk of a radical cure may be properly advised. Of all general contra-indications to operative measures in hernia, none are more potent than damaged kidneys. To examine the urine in every case before operating is an imperative duty.

Having briefly outlined the indications for operation, we now turn to the methods to be chosen. It is needless to say that a description of all the methods would be impracticable in a short

paper. The three operations having the greatest popularity at the present time are in the order named. (1) Bassini's ; (2) Halsted's ; (3) Macewen's.

Bassini's method is by far the most generally practised, though it has been somewhat modified by different surgeons. His operation for inguinal hernia is done as follows : An incision is made parallel to and one-half inch above Poupart's ligament, and should extend from the external abdominal ring to near the anterior superior spinous process of the ilium. It should embrace the tissues down to the aponeurosis of the external oblique muscle. After freeing the sac and cord from the external ring, a grooved director is inserted into the inguinal canal, and the aponeurosis of the external oblique divided well up to and beyond the internal ring. The edges of the aponeurosis are dissected away from the tissues beneath in a direction above and below, above as far as the rectus, below to the deep shelving of Poupart's ligament. This having been done and the edges held up with forceps, it now becomes necessary to isolate by a blunt dissection the sac and cord *en masse* from the surrounding tissues, then to separate them one from the other. The ease with which this step of the operation is done varies in different cases. When the cord has been carefully separated from the sac, it should be held out of the way by a hook, or better, by a loop of gauze. The sac should then be ligated high up, so as to bring it when amputated flush with the peritoneum. Buried interrupted sutures, usually four or five in number, are now introduced. They include the internal oblique transversalis muscle and fascia, and in some cases the rectus above, which are sewn to the deep shelving of Poupart's ligament below. In this step of his operation Bassini uses silk, but in this country kangaroo tendon is preferred, owing to the brilliant results secured by Dr. W. B. Coley, of New York, who in using it in one hundred and eighty cases secured primary union in one hundred and seventy-four of them. It certainly buries better than silk, silk-worm gut, and silver wire, and, besides, is a sufficiently abiding material, requiring ninety days for its complete resorption, as shown by the experiments of Ballance and Edmunds. The next step of the operation is to place the cord in its new position and to suture the severed end of the aponeurosis of the external oblique over it with a continued suture of kangaroo tendon, being

careful of course not to constrict the cord. It only remains to suture the skin; no drainage should be made.

In suturing the internal oblique and transversalis to the shelving of Poupart's ligament, it would not be difficult to injure the femoral vein. To remember this is the best guarantee against accident.

Dr. Dawbarn, of New York City, makes quite a material modification of Bassini's operation in transplanting the testicle from the scrotum to a point just inside the internal ring behind the peritoneum. It is quite easily done, so he tells me, and I must say that theoretically it seems to me most worthy of a fair trial. I mean to follow his method in my next case. The cord is gently wrapped around the testicle, and it is transferred to its new position. Some have suggested transplanting the testis to the abdominal cavity, but experiments on the lower animals have shown that the organ soon atrophies, due, so it is said, to the digestive action of the peritoneal fluid. The problem has ever been to get rid of the testicle and cord as factors in causing a recurrence of the hernia. It is well known that castration was frequently practised in early operations for the radical cure of hernia, and was carried on to such an extent that it was positively forbidden by the State. If the testicle can be transplanted and its functions preserved, it is certainly a "consummation most devoutly to be wished."

Halsted's Operation. This is preferred by many to the method of Bassini. The two operations differ only in two essential features; the chief difference is in the fact that Halsted removes the veins of the cord where they are in the least enlarged, which will be, according to a recent statement of his, in seventy-five per cent. of all cases. In the last few days he has cautioned surgeons against the too free incision of the veins on account of the atrophy of the testicle which results in a certain percentage of cases. The next material difference consists in the cord being placed superficial to the aponeurosis of the external oblique muscle, and being covered only by the skin and cellular tissue. The suturing is done with buried silver wire. It remains to be seen whether he will have better success with the wire suture than Scheds, Banks, Ball, and others, who have given it up on account of the trouble which it caused. It seems to me that the chief objection to Halsted's operation is that he does not construct a new oblique canal for the

cord. Still, his operation has given the most satisfactory results in his own hands, and is thought by McBurney and others to be the best we have.

Macewen's Operation, for a time the most popular of all, and even yet having its advocates, consists in invaginating the sac, plaiting it into folds, and anchoring it at the internal ring, making a living stopper, as it is called. The conjoined tendon is then sewed to Poupart's ligament. The fault of this operation, as I see it, is that catgut, which is used as suture material, is not sufficiently abiding even when chromitized to insure union between muscular and tendinous structures. Substitute for the gut kangaroo tendon, and I believe that a step will have been gained.

We now come to the kernel of the subject, the danger and ultimate results of radical cure operations. Considering statistics made during the last five years only, we find an astonishingly small fatality following this operation. Bassini reports five hundred and sixty successive cases of his operation without a death; Marcy did over two hundred with no mortality; Macewen eighty-one without death; and Coley did two hundred with one death, and this due to double pneumonia on the eighth day, the result of ether.

Think of it, one thousand and forty-one radical cure operations with one death! The mortality of amputating the distal phalanx of the little finger would be as great.

To go back a little further, when asepsis was not usually so well understood and secured as now, and we find the mortality to have been rather less than one per cent. in over three thousand cases reported in Marcy's magnificent work on hernia, published in 1892. These cases were collected from the practice of forty-three different surgeons all over the world. Further, nearly all the deaths were accidental and in no way due to the wound.

Surely no one is justified in advising against an operation the mortality of which is at most one per cent., when the risks of an ordinary reducible hernia are certainly several times as great.

Do radical operations cure sufficiently often to justify the patient in assuming the slight danger, loss of time, and expense incident thereto? Bassini reported 560 cases with 15 relapses, less than 3 per cent. Halsted 180 cases with 3 relapses, 1.6 per cent. Marcy reported 133 cases of his own which have been kept under observation, one-third of them for ten years, with 6 relapses,

or about 4.5 per cent. Coley has recently reported his results in 160 Bassini operations, and there has not been a single relapse as yet, and only six cases were untraced.

You may say that I have selected the statistics of those who have had the best results up to date. True; as I believe in having constantly before us the highest standards in order that we may either reach or come so near to them as not to be ashamed of our own results.

My experience with radical cure operations has been rather limited, as I only began doing them twenty-eight months ago. My records show that out of thirteen radical cures all promptly recovered. Each case has been carefully followed, and there has been no relapse up to the present time. Of the series, ten were inguinal and three femoral herniæ. I prefer Bassini's method, now that I understand it. My first operations were done after Kocher's plan.

Only a few words as to femoral herniæ. Practically all should be operated upon, as trusses do little good, and radical cure operations are even more uniformly successful than in inguinal herniæ. High ligation of the sac is perhaps all that is necessary, as it has not been shown that sewing up the saphenous opening improves the chances of a radical cure. This is what we might expect from an anatomical standpoint. The radical cure of hernia by injections should hardly be dignified by mention of it. Still we must admit that cures are sometimes obtained by injecting hernial sacs with various substances. This plan of treatment is now happily largely relegated to quacks and empirics. That it is uncertain, painful, most dangerous and unscientific none will deny.—*American Practitioner and News*, September, 1895.

Progress of Medical Science.

MEDICINE AND NEUROLOGY

IN CHARGE OF

J. BRADFORD McCONNELL, M.D.,

Associate Professor of Medicine and Neurology University of Bishops College,
Physician Western Hospital.

TREATMENT OF TYPHOID FEVER BY GUAIACOL.

A. P. HULL, M.D.,

MONTGOMERY, PA., in Therapeutic Gazette, August, 1895.

He treats typhoid fever with guaiacol internally and externally, and occasionally $\frac{1}{10}$ gr. calomel three or four times daily until slight purgation occurs, washing out the bowel with large douches of warm soapy water, or if the fever is high, cool water. Guaiacol is given in $\frac{1}{2}$ to $1\frac{1}{2}$ drop doses every two hours, according to the tolerance of the patient for the drug.

The temperature was controlled by the external application of guaiacol and cold sponging. The external application of guaiacol will lower the temperature in about thirty minutes, and is preferable to the cold bath, as it is equally efficacious and can be applied where the latter is not practicable. The effects will last from three to four hours, but the amount should be small at first (from 5 to 10 drops), and gradually increased, as it is liable to give the patient a chill. The largest dose used at any one time was 20 drops. As in the case of any other drug, one person may require more than another, but patients become susceptible to its influence and the effects are greater with each application.

Outside of the chills, which occurred with the larger applications, I observed no deleterious effects from its use. The chills can be avoided by a careful application of the drug, the temperature not being reduced below 100° F. The drug was applied over the abdomen, which was first washed with soap and water, and dried.

The guaiacol was then slowly dropped on the parts, carefully rubbed in, and covered with oiled silk.

The shortest duration of any one of the nineteen cases treated was fourteen days, the longest twenty-four, and the average between nineteen and twenty days.

That typhoid fever is caused by a specific germ—the bacillus typhosus—is now admitted, though their presence is sometimes hard to prove. The activity and life of this bacillus end at the latter part of the second week from the initial symptoms of the disease; but about this time the necrotic and sloughing process of the mucous membrane and Peyer's glands takes place, leaving what is equivalent to an open wound in the intestinal tract.

From this time on the symptoms are kept up by putrefactive bacteria, especially the bacillus coli communis, which becomes virulent during the later stages of the disease.

We cannot put each one of the open wounds in an aseptic condition, as a surgeon would do, but we can, I think, make the intestinal tract less habitable for micro-organisms, and the clinical history of these cases seems to me to prove the antifermentative action of guaiacol and other antiseptics in the intestines.

The phenol group undoubtedly occupy the first rank as germ destroyers and germ poison neutralizers outside of the body, and during absorption, as they are never found free in the blood, and combine with albuminous substances, especially with the most reactive of these, the toxic albumins, the products of microbic life, forming compounds, probably non-toxic. They undergo rapid oxidation in the system, and can be found in the urine. They, therefore, would not only destroy the disease germ in the intestinal tract, but would affect a rapid elimination of the toxic albumins from the system.

From my observations in these cases the following conclusions seem justified :

1. That the antiseptic treatment of typhoid fever is a rational treatment.
2. That guaiacol is a safe remedy in typhoid fever, and prevents the toxin poisoning of the later stages due to the bacillus coli communis and other putrefactive germs in the intestine.
3. That guaiacol will lower the temperature in typhoid fever, when applied externally, and, with ordinary care, can be used with safety.

4. That typhoid patients do better by keeping the bowels acting up to a certain point, rather than checking them, and will derive comfort and benefit from daily douching of the large intestine with warm or cool water.

SYMPTOMS OF RHEUMATISM IN THE ANKLES, WHICH POINT TO CANCER OF UTERUS.

In the *Charlotte Medical Journal*, September number, Dr. Engel draws attention to a symptom the import of which has not generally been recognized. In the cases he has met with, the patients, who were females, about the climacteric period complained of a painful affection of the feet, in which there was a constant and annoying sensation of tingling and pain, which was felt mainly in and about the ankles and resembled acute rheumatism; the joint was slightly swollen; no other evidence of disturbed sensation or motion existed, and no other symptoms other than some malaise and a mild hæmorrhoidal condition were present.

Such cases would most likely be treated for rheumatism, but certainly would not be benefited in the least by such treatment, no matter how long continued, for he states that, in his experience, these symptoms, where there is loss of weight and the least impression of a cachexia, generally indicate cancer of the uterus, especially where the bladder, rectum and broad ligaments are matted together and the neoplasm extends in a posterior direction, when these symptoms in the feet are among the earliest. Hence recognition of their bearing becomes important, as the serious malady they point to might be earlier recognized, and by radical operative interference life be saved.

THE MEANING AND IMPORT OF CASTS IN THE URINE WITHOUT ALBUMIN.

By Dr. LUDWIG BREMER,
OF ST. LOUIS.

A person who constantly or periodically passes urine containing casts, even without albumin, or perhaps with albumin in chemically demonstrable quantity, is not in good health. Such a person has a damaged constitution; his kidneys are, to say the least, vulnerable, and he is prone to contract and to succumb to other

diseases. The irritative process which gives rise to the formation of casts may not amount to an actual state of inflammation, and there may not be the recognized signs of fully developed kidney-disease, and yet the subjective symptoms may be very pronounced. These symptoms are often unaccountable to the attending physician because sufficient importance is not attached to the presence of casts in the urine of such persons. In a number of cases periodic, intermittent albuminuria is the feature, and the albumin is in evidence only when a nerve storm of unusual severity has set in. Such patients may be considered to have vulnerable kidneys. For a long time such patients may not present any albuminuria, the casts only being demonstrable, or even these may disappear, and the urine be absolutely normal, yet there is a dormant pathological condition which may be aggravated into activity. The diagnosis of vulnerable kidney may be doubted by other physicians. Aside from examinations which are based on chemical analysis exclusively, there are several reasons why the search for casts may be negative: first, microscopical incompetency; second, the kidney trouble may have become latent and the casts may be really absent; third, insufficient instrumental equipment,—the centrifuge should always be used; fourth, the examiner, even if he find casts, may not attach any importance to them if unaccompanied by albuminuria. Among other reasons why the presence of casts in the urine is alleged to be compatible with perfect health is the finding of them in the urine of athletes after great muscular exertion. The athletes presenting this condition were certainly damaged men. The symptoms produced by this vulnerable kidney range over the neuroses, particularly neurasthenia, inexplicable gastro-intestinal manifestations, and grippe symptoms, mepgrim, and other forms of periodic headache.—*Medical Review*.

GUAIACOL AS A LOCAL ANÆSTHETIC.

At a recent meeting of the *Académie de Médecine*, a report of which appears in the *Mercredi Médical* for July 31st, M. Championnière related the case of a druggist who had burned his hand during a manipulation. He had at once applied a solution of guaiacol, and immediate relief had followed. This fact had led the author to make a trial of this agent to produce local anæsthesia with interstitial injections of a one-in-ten or a one-in-twenty solution.

A Pravaz syringe of a one-in-ten solution could easily be injected without causing toxic symptoms. The first trials had been made in dental surgery, and the results had been very satisfactory. In general surgery no extensive operations had been performed, but ablation of lupus of the scalp had been done after injections of guaiacol, and the patients had felt no pain. The action of guaiacol, said M. Championnière, was more slowly produced, and subsided more gradually than that of cocaine. Its application to small abscesses had also given favorable results. It could be introduced into the system in rather large doses, without causing any inconvenience; it was perfectly tolerated, and the only symptom that had been observed was a slight local sphacelus near the gums. Three-quarters of a grain of guaiacol in a one-in-twenty solution seemed to be sufficient; it was probable, however, that as much as fifteen grains could be injected without danger.

M. Magitot did not share M. Championnière's opinion regarding the value of guaiacol as a local anæsthetic. M. Ferrand stated that he had frequently employed guaiacol, not by subcutaneous injections, but by thermic applications, and he had found, as a result of these applications with scarcely more than a cubic centimetre of the drug, a rather marked hypothermia and a veritable syncope. These applications had then, he said, produced a valuable anæsthesia, but at the same time symptoms that could not exist without danger. M. Laborde thought that guaiacol was an anæsthetic as well as a hypothermic, and even a very active antithermic. It was, he said, essentially a vaso-constrictor, and, for this reason, dangerous.

M. Ferrand said that he had seen accidents produced with a cubic centimetre of guaiacol. He had employed only from three-quarters of a gram to a gram and a half. With regard to the eschars, they had not been numerous and had always been very limited. He thought the foregoing facts were very interesting and encouraging, and that investigations in regard to this subject should be continued.—*N. Y. Med. Journal.*

Dr. F. J. Smith, Somerville, Mass., in *Medical Record*, states that almost instant relief is given in hay fever by the application of the following ointment on cotton with a tooth pick:—

R. Mentholi, grs. xx; Olei amygdulcis, ʒii; Acidi Carbolici, ʒx; Cocain hydrochlor, grs vi; Ung. zinci oxidi, ʒ ss.

Medical Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, April 19th, 1895.

G. P. GIRDWOOD, M.D., PRESIDENT, IN THE CHAIR.

CYSTIC FIBROMA OF THE RIGHT ILIAC FOSSA.

Dr. J. G. Adami exhibited the specimen, which he described as follows :

The tumor, a fibro-sarcoma lymphangiectodes (areolar fibro-sarcoma) of the fascia over the iliacus muscle, is the size of a grape fruit—roughly after hardening $4\frac{1}{2} \times 3 \times 2\frac{1}{2}$ —possesses a well defined and fairly thick capsule, and upon section presents numerous cavities of various sizes, so that on first removal it had in part a honey-combed appearance. When fresh, these cavities were in the main filled with a straw-colored, thin, transparent fluid. This has become coagulated in the process of hardening, and is recognizable as a yellow gelatinous substance. In some of the cavities there was more or less shrunken white clot; added to this, the cut surface was mottled, and presented darker areas of various sizes where there had been hemorrhage into the tissue of the tumor.

The stroma in between these cavities and hemorrhages had a white fibrous appearance, and was fairly firm. Examined microscopically, the tumor showed itself to be a fibro-sarcoma lymphangiectodes. The capsule was formed of well-developed old fibrous tissue of a laminated type. This merged insensibly into more fasciculated and more cellular fibrous tissue, the strands of which were in part so cellular as only to be so described as fibro-sarcoma, or indeed as spindle-celled sarcoma. In other regions there was mucoid infiltration, in others, following probably upon the hemorrhages, the tissues were disorganized and necrosed. The numerous spaces filled with fluid and white thrombi were clearly dilated lymph channels; they possessed well-defined edges and a distinct lining of flattened endothelium.

We have, therefore, to deal with an aberrant fibroma—aberrant

in position and in structure. It closely resembles in every appearance the fibroma lymphangiectodes of the uterus, and I should like to ask Dr. Gardner if there is the slightest possibility of this being a transplanted pedunculated sub-serous uterine fibroma. Dr. Wm. Gardner said that the tumor had grown very gradually and slowly. He had seen the patient six years before, and the tumor had not increased very materially in that time. It lay in the right iliac fossa with the iliac vessels on the inner side, and was intimately connected with the iliacus muscle, some strands of which were adherent to the mass. The general health of the patient had been unaffected, the only symptoms were those due to pressure upon the anterior crural and genito-crural nerves. The recovery after operation was uneventful.

MYXO-SARCOMA OF THE OVARY.

Dr. C. F. Martin, after exhibiting the specimen, described it as a large, heavy, irregularly oval encapsulated tumor weighing 13 lbs. 5½ oz. In length, it measured 28 cm. The circumference was roughly about 85 cm. The tumor was of fairly firm consistence, though certain areas were softened through degenerative changes.

The surface of the growth was of a reddish drab color, intermingled with patches of a darker, more bluish tint, these latter corresponding to the degenerated portions. Large veins traversed the growth, some being thrombosed, while on the more convex edge of the tumor were two catgut sutures, surrounding evidently the pedicle. Numerous masses of thin fibrous tissue were hanging in shreds from the mass, where apparently adhesions had existed to surrounding tissues and organs. Section through the greatest diameter of the tumor showed its widest portion to be of extreme density, except for the presence of several cystic dilatations of various sizes up to those having a diameter of 8 cm. and 7 cm. These latter were of two varieties,—the one smooth walled and more longitudinal in shape, while the other showed rough, ragged masses adhering loosely to the walls, the remains of a previous degeneration, *i.e.*, portions of tumor mass had undergone degenerative softening and partial absorption, leaving behind at the time of removal these ragged wall cysts. The tumor then being a myxo-sarcoma was interesting for several reasons: Firstly, inasmuch as sarcomata

of the ovary were by no means common ; in second place, its size was certainly unusual, though occasionally sarcomata, as large as an adult head, were placed on record.

Dr. Wm. Gardner said that the history in this case was very vague. The patient first noticed the tumor four years ago, but in all probability it had been present before that. Examination before the operation showed an exceeding degree of density and immobility of the tumor, the hardness being such that it suggested the presence of bone, as the speaker had occasionally noted in dermoid cysts. Vaginal examination showed the mass to be wedged in the pelvis. He had approached the operation with uncertainty, thinking that the tumor would be adherent to the parietes ; but this was not the case, and except for omental adhesions and a corona of intestines along the upper part, there had been no attachment to work through. The pedicle was small and easily managed, and apart from stripping the peritoneum off, a small portion of the adherent intestine, the removal had been accomplished without injury to any part. The other ovary was also found diseased ; it was about the size of a pullet's egg, and was dense. Recovery had been absolutely without any drawbacks.

LATE RECURRENCE OF MAMMARY CANCER.

Dr. F. J. Shepherd reported the following case :—

I was called to see a woman, æt. 45, mother of six children, on November 7, 1888, and found that she was suffering from a tumor, the size of a small egg, situated in the lower zone of the left breast. This was quite movable—nipple slightly retracted, but the glands in the axilla were enlarged. Patient first noticed the growth nine months before, when it was quite small. It had never been painful. The operation of removal of the breast was performed on November 8, 1888. The breast and considerable portion of skin was removed and fascia over great pectoral, the glands of axilla and tissue about them were freely removed. The patient's wound healed by first intention, and she was about in ten days. Was not consulted again until January, 1895, when she came to me for a small, hard, movable lump, two inches about the middle of clavicle, noticed a few months before. This was tender and occasionally painful. A few days later removed this secondary growth, and, as Dr. Adami will tell you, it was carcinomatous. This case

shows conclusively that the three years limit is not sufficient to declare a person free from the danger of recurrence, and also shows that good results in comparatively advanced cases can be obtained without the very severe operations recommended by surgeons during the last year or two. Here was a case that went nearly six years without any sign of recurrence; and when recurrence did occur, it was in the cervical glands, not at the site of the operation at all. Another case of breast carcinoma, on which I operated in September, 1890, had no recurrence until September, 1894, then it was not at the site of the operation, but in the retro-sternal glands; here again the axillary glands were involved, and the contents of the axilla freely removed.

A CASE OF TRAUMATIC TETANUS WITH RECOVERY.

Dr. J. C. Cameron read a paper on this subject. A boy, aged 13, cut his knee on the 11th June, by falling on a lump of hard clay; the wound was healed by the 22nd. On the 25th, symptoms of mild tetanus appeared by stiffness in the neck, passing to back and chest and jaws; on the 29th the whole body was rigid. The treatment was chloral 60 to 90 grs. daily for 1st two weeks and opium as required to relieve pain and alcohol. Treatment ceased Aug. 7th. Dr. Cameron called attention to the large amount of chloral, opium and alcohol which was given without producing toxic effects; and to the fact that no routine treatment can be followed, but the symptomatic indications must be met.

Dr. Shepherd had never seen a good result from the treatment of tetanus, and he had tried chloral, opium, early amputation, etc. He asked about the condition of the wound at the time it set in, and if there could possibly have been any other wound.

The President related the history of a case, in which the patient had injured the ball of her little toe by slipping upon a garden rake. The wound healed completely, but some time afterward great pain set in with stiffness of the jaws, etc. Within a week there was complete opisthotonos. He had used Battley's solution, and had pushed it. The patient recovered, and was alive to-day.

Dr. McConnell mentioned a case of a similar nature. A patient of Dr. Perrigo, who had been left in his care, had been thrown out of her carriage and received severe bruises and cuts on the face; a great deal of dust had got into the wounds. Mild tetanus

followed. Chloral was the remedy chiefly used. In about three months she had recovered. He thought that in these cases where recovery followed under ordinary symptomatic treatment it was explained more by an attenuated form of the Bacillus or good normal resisting power on the part of the patient.

Stated Meeting, May 3rd, 1895.

G. P. GIRDWOOD, M.D., PRESIDENT, IN THE CHAIR.

DISCUSSION ON ERYSIPELAS.

Dr. HINGSTON, on introducing the subject, spoke as follows: My present duties are not at all difficult; I take as much as I choose to take and leave as much as I choose to leave. So many gentlemen are named to present the question in its various aspects before you, and to take part in the discussion, that I think I shall best consult the interests of the Society by saying as little as possible at this stage. First, what is erysipelas? It is a disease known to most of us,—in fact, to the whole of us; a disease met with often, and particularly in hospitals; an inflammatory affection of the outer surface of the skin, characterized by all the usual signs of inflammation, yet with something more. In reading the subject in some of the recent text-books and periodicals, I have been rather interested to learn that very little was known or written upon the subject until the eighteenth century. Yet when I turn to Wiseman, the father of English surgery, I find a very able paper upon the subject; and in turning to the father of French surgery, Paré, who lived in the time of Queen Elizabeth, I find two important chapters devoted to the subject, in which Paré quotes the ancients—Galen and others—as having written on the subject.

A word as to the origin of the disease. Although the inflammation is seemingly of the skin, it does not arise in the skin, but in the lymphatics of the skin. Some authors go further, and confine it to the leucocytes in the lymphatics of the skin. This is a nicety which must be left to bacteriologists to establish or to destroy. Another and most important question is: is the disease specific? or is erysipelas a mere ordinary inflammation? Some contend that it is an ordinary inflammation, modified by such circumstances as atmosphere, constitution and the surroundings of the sufferer. The opinion now, however, is general, that erysipelas is a specific disease differing from ordinary inflammation in having a material organism

or germ which is proper to it. Fehleisen claims to have discovered a microbe, a streptococcus, as it is called, in every case of erysipelas. He found by experiment he could convey the disease to animals; and from man to man. It is now established that, in erysipelas, there is a morbid specific inflammation, and that the streptococcus is always present or is in some way connected with this morbid action. Another feature of interest: the streptococcus is not usually found over the whole erysipelatous blush. As the erysipelas progresses, the streptococcus disappears. The microbe is found in largest numbers at the margins, and in large numbers beyond the inflammatory zone; indeed, these are met with in greater numbers in tissue not yet seemingly invaded, than in parts over which the disease has passed. The streptococci are sometimes met with in such large numbers that leucocytes are found to have disappeared altogether, while the ground that has been traversed by the disease is often as free from the streptococcus as is the prairie free from grass where fire has recently passed. Another question is: how does the microbe enter the body? Most authors agree that the disease enters where there has been created some solution of continuity, some traumatism, some bruise or scratch in the skin; others believe the disease to be purely idiopathic, occurring independently of all traumatism; while not a few are of opinion that erysipelas may occur sometimes in one way, sometimes in another. Another question is as to its contagiousness. One would suppose that question to have been solved long ago; but it is not solved yet. Most men believe that the disease is contagious; some, however, maintain, and even recently, it is not contagious; still larger numbers believe that it is not contagious under ordinary, but only under exceptional, circumstances. Well, for myself, I should say, from a clinical aspect, I should be sorry to place a patient, upon whom I had operated in the immediate neighborhood of a case of erysipelas; not that I believe that the disease is as contagious as some suppose, or that extension to a healthy wound necessarily follows proximity.

How does erysipelas spread? It is believed to spread along the lymphatics, and by the minute capillaries, and by the very small veins. It travels where the lymphatics are most numerous. For instance, a patient suffers from erysipelas of the face, it is often secondary, the disease reaches the upper lip, that it jumps quickly to below the jaw, not frequently attacking the parts between.

There is another form of erysipelas, called phlegmonous erysipelas. Is it the same disease? Here also there is difference of opinion. Some contend it is the same disease; but favored by certain circumstances, either in the condition of the patient, in the atmospheric state, or in the patient's surroundings, the disease goes on to the formation of pus. Some contend that phlegmonous erysipelas has a coccus entirely different: a something superadded, a something unlike the streptococcus which caused the disease in the first instance. Then as to the gravity of the two diseases or of this modification of the same disease: the one—that is, the form limited to the true skin—has a tendency to recovery, while of the phlegmonous variety its course is uncertain, sometimes prolonged, and not infrequently disastrous. Some contend that the streptococcus, finding itself in an unyielding skin, behaves itself with becoming modesty, but that when it gets below the skin into the loose connective tissue, it comports itself in a very different manner; but that notwithstanding a marked difference in feature, it is essentially the same disease caused by the same micro-organism. That I can say,—speaking from a surgical point of view—phlegmonous erysipelas, especially in the neighborhood of the joints, is a disease of which I have very considerable dread, and this dread is increased if the subject of the disease is not clearly and unmistakably free from all taint of a tuberculous character. At the present time I have, under my care, a case of phlegmonous erysipelas, beginning in the neighborhood of the ankle joint, gradually attacking its synovial membranes, and leading to amputation of the ankle, then of the knee, and later of the elbow. Erysipelas is not confined to the skin; it invades the mucous membrane. In the face, it travels up and attacks the eye. It enters the nostril, there giving great trouble. You know the disposition the skin bears to the nostril; it goes in to meet mucous membrane, the reverse of what occurs at the lip. It is there where erysipelas gives much trouble. It is said to attack the mucous membrane of the female vagina, and I am glad that another gentleman is to take up that portion of the question. I should like it established whether the streptococcus of erysipelas has really any relationship or affinity to the gonococcus or other micro-organism which so frequently causes trouble in the tubes—inducing that pyosalpinx of females which gives the gynæcologist so much trouble. There is one other circumstance connected with

erysipelas which I have recognized: I have seen erysipelas, in more than one instance, limit the spread of epithelioma, causing it to remain stationary for months, and even years. In one case, still under observation, more than five and twenty years have elapsed since epithelioma first appeared, and in time, erysipelas has again and again arrested malignant action for months, and, in some instances, for a couple of years. The signs by which erysipelas are recognized from ordinary inflammation are so familiar to us all that I think it unnecessary to allude to them.

ON THE BACTERIOLOGY OF ERYSIPELAS.

Dr. ADAMI—That the disease erysipelas is due to the presence and active growth within the subcutaneous lymph spaces of one special form of micro-organism—a chain coccus or streptococcus—is now generally accepted.* But while we find a very characteristic disease induced by the presence of one special form of micro-organism, it by no means follows that that microbe is specific in the narrowest sense. It by no means follows that that microbe causes a cutaneous disorder alone, and does not have ill effects in other tissues of the body. Indeed, what I wish to point out now is that the tendency of modern bacteriological work is to look upon erysipelas not as a disease *sui generis*, but as one manifestation of the pathogenic action of a germ that is very widely diffused, a germ capable of inducing processes differing in appearance according to the organ affected; the tendency is in short to regard the streptococcus of erysipelas in the same light as we regard the bacillus found in lupus. If Robert Koch had not made investigations into the bacteriology of lupus at the same time that he made his classic studies into tuberculosis of the lungs, of lymphatic glands (scrofula), of bones and joints, and if some other observer had independently discovered the tubercle bacillus in cases of lupus, without recognizing the alliance of the disease to tubercu-

* I would have said universally if it were not that late cases of erysipelas had been described in which the cluster or staphylococci alone have been found. The difficulty of accepting such cases as authentic is two-fold: (1) It is easy to fail in obtaining cultures of streptococci from perfectly typical cases of the disease—thus the absence of chain growths in the culture media does not necessarily imply their absence within the tissues. (2) The ordinary pyococci may be looked upon as normal, or at least not unusual inhabitants of the surface of the skin—thus the presence of growths of these in material gained from a cutaneous lesion does not necessarily imply that they are the cause of the lesion.

losis as it shows itself in other organs, it is quite possible that many would regard the bacillus of lupus as a different species from the *B. tuberculosis*. It would not be difficult to point out differences between the two forms in the rate of growth, in pathogenic properties, and so on, quite as distinct—or indistinct—as the differences that have been drawn between the streptococcus pyogenes and the streptococcus erysipelatis. When, however, we find that the chain coccus obtained from a case of purulent peritonitis will induce a typical erysipelas in the rabbit's ear, and that cultures obtained from an erysipelalous patient will, when inoculated into a series of rabbits, cause in some true cutaneous erysipelas, in others erysipelas associated with cellulitis, in others the formation of abscesses and pyæmia, with foci of suppuration in various organs it is difficult to arrive at the conclusion that there is any line of distinction sufficiently sharp to render it proper to exalt the streptococci of erysipelas and suppuration into distinct species. Add to this, that no single satisfactory characteristic has yet been established distinguishing the cultures of the cocci of one "provenance" from those of the other. All the morphological and cultural character of a series of growths from cases of erysipelas can be seen reproduced in a series of growths from cases of suppuration.

Let me pass now to the clinical side of the case, and see whether this view is upheld. It is true that one meets with very numerous examples of perfectly typical cutaneous erysipelas; we may have cases of oft-recurrent facial disease which never affect more than, the skin. Nevertheless, small as has been my clinical experience as compared with that of most here present, I have for long been impressed by the series of transitional forms to be met with between the typical cutaneous disease and spreading phlegmonous suppuration—and I fancy looking backwards you must be impressed by the same fact. There are the cases that are not simply cutaneous, but are, or rapidly become, cellulocutaneous; other cases in which the erysipelalous disturbance of the skin is associated with very evident advancing deep lymphangitis; others in which, with cutaneous disturbance, there is suppuration of the nearer lymphatic glands; others of most acute phlegmonous disturbance; others of erysipelas followed rapidly by pyæmia, and the production of abscesses in the internal organs. You must all

have come across at least some of these cases. What is more, in hospital practice it is possible to observe that where once erysipelas manifests itself in a ward, there is in addition to be noticed a series of cases of genuine suppurative disease—endometritis, peritonitis, pyæmia, and so on.

Such a series showed itself last year at the Royal Victoria Hospital, beginning with a case of endometritis and peritonitis, and followed by erysipelas in one of the students who pricked his hand during the performance of the autopsy, and by a localized abscess formation in one of the resident staff. Into the fuller details of this very interesting series I doubt not that Dr. Bell will enter. I will go so far as to say that cutaneous erysipelas alone is comparatively harmless. The danger lies essentially in the possibility of its deeper extension and in the development of metastatic suppurative process.

The streptococcus pyogenes is in fact a microbe, not only capable of, but actually producing a long series of diseases ; it is among the two or three most widely distributed and most pathogenic microbes. We find it associated with suppurative disturbances of serous cavities, of cutaneous and mucous surfaces, of the interior of glandular organs, of bones and joints. Not only may it set up primary disease, but very frequently it is discovered in association with the micro-organisms of other diseases—or in the lesions forming the sequelæ of such. I need not dwell here upon its almost constant relationship to the diphtheria bacillus in the false membranes of the throat ; upon its power of inducing the grave throat complications of measles and scarlet fever ; upon its frequent presence in the pneumonic disturbances following upon diphtheria and typhoid, or upon its not uncommon association with the peritonitis following upon perforation of the appendix. These are subjects away from this evening's discussion. They are of interest, however, in connection with erysipelas, inasmuch as there is one fact which is capable to some extent of elucidating all of them. I refer to the fact that the streptococcus has frequently been found in what may be termed a saprophytic condition upon the human organism. It has been found in the saliva of healthy individuals, in the intestinal contents, in scrapings from the skin, and more especially in the dirt under the nails. In this way is to be explained the apparently spontaneous origin of some cases of erysi-

pelas and suppurative complications. So long as the mucous and cutaneous surfaces remain healthy and uninterrupted, for so long would the streptococcus appear to be perfectly harmless; lower the vitality of the defensive zone of cells, either by direct injury or erosion, or by other disease, or by exposure to chemical and thermal influence, and then it would appear that from being a saprophyte the coccus may become parasitic and pathogenic. Granted that the streptococcus happens to be present upon the skin in the immediate neighborhood of a scratch or wound, it is not necessary that the instrument inflicting the wound be infected. Granted also that the streptococcus be present upon the surface, it is possible to explain those cases of erysipelas which appear idiopathic and unassociated with any recognizable erosion or wound of surface. For as Garré proved experimentally in connection with the staphylococcus, boils and furuncles can be induced without erosion of the surface layers, and as Welch has proved, pyogenic cocci can pass down into the deeper layers of the skin passing along the hair follicles. Thus I am indulging in no unwarranted speculation when I say that lowered vitality of the exposed skin by thermal or other influences may form a condition favorable for the development of erysipelas in the absence of any wound or injury recognizable by the naked eye.

But granting all this, there is still a big gap in our knowledge of the streptococci and their action that has to be filled in. Why is it that these micro-organisms at one time induce cellulitis and genuine suppuration, at another erysipelas? That we cannot fill in with complete satisfaction to ourselves. We can only see a possible explanation. We know that, as distinguished from the staphylococci, the streptococci induce inflammations that are not of a sharply circumscribed type, but, on the contrary, tend to spread in the immediate vicinity along the lymph spaces and tracts; that erysipelas, lymphangitis, cellulitis and abscesses induced by streptococci all have this character in common; that, therefore, the difference between these processes is one of degree rather than of kind. We know also, as I have already stated, that equal quantities of the same culture inoculated into a series of rabbits will in some induce erysipelas, in others lymphangitis, cellulitis, and so on, and that therefore the reaction or extent of resistance on the part of the tissues has an important part to play.

We find also that streptococci obtained from a series of cases of erysipelas, or, on the other hand, of suppuration, vary remarkably in their pathogenic properties, and that, therefore, the virulence of these microbes is very far from being constant. Bringing all these facts together, we seem to see vaguely an explanation of the matter. But it is only vaguely; there is still much to be accomplished before the problem can be regarded as completely solved.

Lastly, I would say a few words regarding the development of the ordinary cutaneous erysipelas, a process which can be followed both in man and in the rabbit's ear. Briefly, it would appear that in the earlier stages the virus developed by the growth in the tissues leads to a congestion of the vessels accompanied by exudation and consequent swelling of the area, and that in the earlier stages this is the main reaction. The chains of cocci develop within the lymph spaces at a greater rate than they are destroyed. Eventually in the region where the cocci are present in the greatest quantities, namely, at the original focus of infection, there is much migration of leucocytes, and destruction of the microbes ensues, accompanied by a considerable amount of phagocytosis. Outside this central area of marked congestion and destruction, in the advancing zone of simple exudative swelling, the streptococci are still to be seen in fair quantities. According to Cobbett and Melsome at the height of the erysipelalous process, they can be obtained more than one inch beyond the well defined edge of the congested area. As the process continues in a satisfactory case this outer area of exudation containing streptococci steadily diminishes, and according to these observers there is a more and more rapid response to the injury or stimulus produced by the presence of the coccus and its virus, until eventually the response on the part of the organism follows immediately upon the presence of the cocci, so that now the reddened line of demarcation corresponds perfectly with the limit of extension of the cocci. Where this is the case the process comes to an end, the exudation and diapedesis suffice to destroy the microbes, and resolution sets in. The healing and resolution of erysipelas is thus essentially a process of accustomance or habituation of the tissues of the body to the microbe and its products, a process which, to use a familiar illustration, is like that of accustomance to tobacco, not immediate, but requiring some little period of time, which, unlike this, is not permanent, but lasts only

for a few months. Thus it is that within a year an individual may again become susceptible to the disease, and recurrence may occur.

Dr. RODDICK discussed the treatment as follows: All treatment should be based on the contagious character of the disease, and probably also on its specific character, because, notwithstanding the remarks of my friend Dr. Adami, I am still inclined to think that there is something specific in the erysipelas coccus. However the latter may change during the course of the disease, I am satisfied it has some distinct character at the outset. That it is contagious, however, there can be no two opinions, and hence in the treatment of the disease the first duty of the surgeon is to isolate the patient. Notwithstanding all the antiseptic precautions taken now-a-days, no one is justified in leaving an erysipelas patient near another patient, or in treating erysipelas patients in the same ward with other patients, even though no wounds are present in either case.

The disease is generally treated constitutionally and locally. The constitutional treatment consists first of all in clearing out the bowels and getting the patient into condition for a siege. It is a good old-fashioned plan to begin your treatment with a purgative. The old-fashioned calomel purge, the strength of the dose varying with the condition of the patient, answers admirably. Then, in spite of all that is being said, I have implicit confidence in the use of iron. I think the tincture of the muriate of iron is almost a specific in the early forms of erysipelas; in the later forms it may not be so efficient. Dr. Adami may probably be able to confirm my statement that it has been found that during an attack of erysipelas the blood undergoes a considerable change: the corpuscles assume a shrunken condition, and there is an absence of hæmaglobin. Now, it is contended by many that iron has a decided effect in improving the condition of the blood corpuscles, Bell, of Edinburgh, first originated this theory, and it has since then been borne out by pathologists. Iron, then, in large doses, as much as 25 minims every four or six hours, depending on circumstances and the condition of the patient. The stomach sometimes will not bear the iron, but the addition of a little chloric ether will relieve the stomach. Sometimes you may give the iron in doses of half a drachm. Quinine also, two or three doses daily, is useful: ten grain doses may be given in some cases. Where a stimu-

lating treatment is indicated, camphor may be administered. In some cases camphor suits admirably: it relieves delirium, provided it be not pushed to that excessive stage where it might itself cause delirium. Alcoholic stimulants should be given early: it is a mistake to wait too long, and where a case is likely to be extensive I advise in the first stages to administer small doses, to be succeeded in the later stages by larger doses and of the diffusible kind of stimulants, such as champagne. You have here, then, in my opinion, all the constitutional treatment likely to be of service. I have no faith in salicylates; as a rule they are too depressive. In some cases of strong young men it may do good, but it should be closely watched. Neither have I any faith in aconite or digitalis, which we were wont to administer. The patient should also have milk and strong nutritious broths from the early stage of the disease; eggs and oysters are also to be recommended.

Of the local treatment, I think myself that notwithstanding the bacteriological origin of the disease, we can gain comparatively little by attempting to treat it as we would a septic wound, and cleanse it by antiseptics. The best thing if you want to use a liquid antiseptic is carbolic acid. It has a decidedly penetrating effect on the skin; in fact, you know that in many cases we have to watch it for fear of poisoning. I generally use it in limited cases in the proportion of one drachm to one pint with lead and spirit. Lead is also an antiseptic, so also is spirit, which opens up the pores of the skin. Where an ointment may be employed, the recently recommended preparation of ichthyol has given me admirable results. A solution also of from 2 to 4 per cent. used to wash the skin is useful. I employ it first as a lotion and afterwards as an ointment, the strength of the latter being from 40 to 60 per cent. with lanolin. Its great objection is its offensive odor—a patient in the Royal Victoria Hospital was made quite sick from the offensive odor—but thiol, recently introduced, is said to have all the properties of ichthyol without its offensiveness. Thiol, therefore, might be used. I have no personal experience of it. These ointments should be rubbed well into the skin, and some surgeons advise that fine punctures should be made so that the ointment may actually enter the infected lymphatics. Hypodermic injection of carbolic acid we tried some years ago in the General Hospital, but we were not impressed with the results—we thought the disease extended more

rapidly. It is possible that we may not have gone far enough beyond the zone of the disease—beyond the line of the lymphatics invaded by the streptococcus. The application of carbolic acid in the form of ointment has many strong advocates. Where the disease tends to extend to the cellular tissue, the old-fashioned practice of making incisions should be used ; and here you always use antiseptics as in the case of any wound. Where a wound is present, of course it should be thoroughly cleaned out and made aseptic as far as possible. The hygienic surroundings should undoubtedly be attended to : the patient should be changed not only from the region where he may cause mischief to others, but for his own sake should be again changed, as relapse is very apt to take place if he is left too long in the one place. He appears to inoculate himself. Especially during the stage of desquamation everything must be kept disinfected. I have not exhausted the subject of treatment by any means, nor do I intend to speak of the treatment of any of the varieties of erysipelas, because I think this will be better dealt with by those who are down to speak of the special forms.

As to the remarkable power of erysipelas in curing other forms of disease, there can be no doubt. We all remember about the ulcers which had been in the hospital for months and months, and how, if they happened to contract erysipelas (and did not die), the ulcer was cured. So also, old granular lids were cured by erysipelas. In new growths also it has been found useful, and the injection of the specific coccus in such cases is now a recognized therapeutic measure.

SEMI-ANNUAL MEETING OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

The members assembled in the lecture room of the Laval Medical School on the 25th ult. ;—Dr. Simard in the chair. There were present: Hon. Dr. Ross, Hon. Dr. Marcil, Drs. Austin, Brosseau, Beausoleil, Bissonnette, Gauthier, Laurent, Cholette, Gibson, Morrisette, Verge, Larue, Watters, Fiset (Rimouski), Godbout, MacKay, Bachand, Camirand, Parke, sen., Guay, Rinfret, Grandbois, Roddick, Campbell, McConnell, Plante, Fournier, Latraverse, Fafard, Normand, Cartier, Laberge, Rottot and Belleau, secretary.

Several important questions were considered. A notice of motion was given requiring the regular examinations for the licence to be held on the second Tuesday in June of each year. It will be discussed at the next meeting. The following is the list of those who received their licences to practise Medicine :—

E. Cyr, Maria; J. M. Deschênes, Fraserville; J. P. Sirois, Wolfestown; R. de Lotbinière Harwood, Vaudreuil; A. Cruickshank, Inverness; H. Fiset, St. Lazare de Bellechasse; J. C. A. Ricard, Ste. Flore; L. E. Caron, Natish, R.I.; P. J. L. Fiset, St. Evariste de Forsyth; J. E. Montgomery, Philipburg; P. T. Crispo, Sandy Bay; L. N. Dionne, Victoriaville; E. C. Campeau, A. Lagacé, J. A. Lasalle, of Montreal; A. Constantineau, Rouville; E. Gelinas, St. Thomas; Donat Bernier, St. Henri de Lauzon; A. J. Labrecque, Quebec; J. G. E. A. Clarke, Hébertville; J. A. Dufresne, Deschambault; A. Lacroix, St. Stanislas; G. H. Mathison, Montreal; J. A. Sarrasin, St. Alexandre d'Iberville; A. Trudeau, Longueuil; L. P. A. Rodrigue, Lachute; M. Bélanger, St. Charles; A. Denis, Vaudreuil; Aaron Levy, Montreal; J. R. O'Brien, Ottawa.

A. Blais, B.S., Berthier; Jos. Rob. Bergeron, B.A., St. Antoine; V. D. Desrosiers, B.L., Sandy Bay; L. Desrochers, B.L., Lotbinière; J. E. Giguère, B.L., Quebec; J. E. E. Masson, B.A., Grosse Ile; A. Sylvestre, B.S., St. Barthélemi; F. E. R. LaRue, B. S.; J. L. Gilbert, B.L., Pointe aux Trembles, Portneuf; H. Tousignant, B.A., Chicoutimi; A. Giroux, B.A., Charlesburg; J. E. Dion, B.A., Ste. Thérèse; J. B. Marcotte, B.A., St. George de Windsor; M. R. Masson, B.L., Terrebonne; Chs. St. Cyr, Chipewa Falls; F. T. Tooke, B.A., Montreal; H. Labrosse, B.L., and Chs. Myr. B.A., were admitted to study on presenting their diplomas.

Messrs. H. Schwartz, L. O. Gauthier, Wm. Delaney, Quebec, and Robert Law, Ottawa, were admitted to study after passing a successful examination,—4 out of 27.

In regard to benefit societies, it was proposed by Dr. S. Gauthier, seconded by Dr. Beausoleil: "That a committee, composed of the legislation committee and the mover and seconder, be authorized to study the constitutions and by-laws of the different benefit societies existing in the province of Quebec, and that this committee take measures to remove the despotic rules which these so-called philanthropic associations impose on the Medical profession ;

“That the College of Physicians and Surgeons of the Province of Quebec disapproves of the members of this College engaging themselves to these societies for Lodge practice for a salary fixed in advance ;

“That it is derogatory to their honor and to professional etiquette to engage themselves in all these cases to divulge the name, cause and nature of the diseases for which the members of these associations are treated ;

“That the Committee confer with the different executive committees of these mutual benefit associations, in order to have removed from their constitutions the clauses obliging the physician to certify—even under oath sometimes—the cause which leads to the demand for benefits to the applicant's fellow-members, this obligation being a cause of open abuse in a great many instances, at the same time exposing the medical profession to public discredit.”—Adopted.

Dr. Beausoleil presented the report of the Reciprocity Committee at the meeting of the Canadian Medical Association, held this summer at Kingston. Delegates from the various medical associations of the Dominion met to discuss the best means for establishing general reciprocity.

The platform recommended by the Convention was: 1, A uniform programme of recommendations for admission to study ; 2, a uniform curriculum of medical subjects to be taught ; 3, a uniform method of examination and standard for the Bachelorship and degree of Doctor of Medicine for the whole Dominion.

The president was appointed to consolidate the various by-laws now in force and scattered through proceedings, and have all the existing laws printed. \$400 was granted to him for this work, and it was decided that the president should in the future be paid not less than \$300 annually. Dr. Rottot presented a resolution, the object of which was to change the present method of voting by proxy, in which it was possible for a few members to control the meeting. Although the object aimed at was approved of by many of the speakers, the motion did not seem to be the proper remedy, and it was therefore defeated.

The Credential Committee will be composed of the officers of the College, and of Drs. F. W. Campbell and T. G. Roddick.

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Editorial.

The readers of the RECORD will observe that this the first number of Volume 24 appears under new auspices and in a new form. The Editor will be assisted by a competent staff of associate editors and collaborators, among whom are some whose names are familiar in literary and journalistic circles and medical literature, and who may be expected to devote their energies successfully in placing and maintaining the RECORD in an advanced position among the numerous medical journals published in America,—an ambition harbored by each worker. The CANADA MEDICAL RECORD is not a new venture in the journalistic field, as it has been published since 1872, the Editor then being Dr. F. W. Campbell, who has continued his connection with it up to the present time, and who, it will be observed, will still continue to give us the benefit of his over a quarter of a century's experience in medical journalism. Previous to his connection with the RECORD he was associated with the late Dr. Geo. E. Fenwick in publishing the *Canada Medical Journal* from 1864 to 1872. The latter was continued by Dr. Fenwick, under the name of the *Canada Medical & Surgical Journal*, which is now represented by the *Montreal Medical Journal*. During the twenty-three years of the RECORD's existence, Dr. Campbell has had associated with him at various times as assistant editors: R. A. Kennedy, M.A., M.D.; Casey A. Wood, C.M., M.D.; Geo. E. Armstrong, M.D.; A. H. Kollmyer, M.D.; James Perrigo, M.A., M.D.; James C. Cameron, M.D.; A. Laphorn Smith, B.A., M.D.; and Rollo Campbell, C.M., M.D.

In glancing over the past volumes, one is interested to note the faithful historical record of all the events of interest which have

occurred in the medical realm of this city, province, and Dominion during that period ; we notice with sadness the names and work of many whose labor is over, who were once the active and shining lights in our ranks.

One can glean the progress of Medical education, and note with satisfaction the great strides that have been made in reaching the high standard which now prevails in the general requirements of our provincial boards, and in the facilities for teaching in the various Medical schools of the Dominion, and especially in our own city, where the present hospital and teaching facilities were not dreamt of a few years ago. The pages of the RECORD have not only given us a history of the men and medical institutions of our country, but ably reflect the general progress which has been made in the various branches of Medicine and Surgery.

It will be the aim of the new management to continue this good work, and as far as possible keep our readers abreast with all that pertains to medical progress.

In this city a large amount of scientific medical work is done at the various hospitals, especially the Montreal General, Royal Victoria and Western Hospitals ; this crystallizes into papers and reports, which are presented at the meetings of the Montreal Medico-Chirurgical Society ; occasionally, papers are read by members of the Hotel Dieu staff. We will endeavor to give a condensed account of these proceedings each month, as has been done in the past. Each of the more important branches of Medicine will be placed in charge of one or more collaborators, who will give a bi-monthly or quarterly résumé of the progress made in these departments. Clinical lectures will be reported for the RECORD from time to time, and abstracts and papers from current medical journals will be given, and selected with a view of giving what is latest and most valuable to the general practitioner and what represents true scientific progress.

About a year ago the annual subscription price of the RECORD was made one dollar. We do not propose to change this, but with the increased size of the Journal and the increased expenditure such enlargement will entail, we look for a large addition to the subscription list, in order that it may be self-sustaining.

We would take this opportunity of inviting contributions to

the pages of the RECORD from its friends and subscribers; correspondence, papers, reports of Medical meetings and items of interest to the profession, will be gladly welcomed to our columns.

MONTREAL MEDICAL SCHOOLS.

MCGILL UNIVERSITY.

The Medical Session in this University was opened on October 1st by an introductory lecture from Dr. F. G. Finley. The attendance of students was large. Principal Peterson was present. The new Principal has made a most excellent impression, and promises to be most popular among the students.

LAVAL UNIVERSITY,—MONTREAL BRANCH.

The splendid building just erected on St. Denis street, for the occupation of the Montreal Branch of Laval, was formally inaugurated on the evening of the 8th October, Abbé Proulx, vice-rector, being in the chair. The immense Convocation hall was crowded by a brilliant audience. Addresses were made by several clergymen, and by His Honor the Lieut.-Governor, the Hon. J. A. Chapleau. Dr. Rottot, Dean of the Laval Medical Faculty, gave a history of its foundation. The Archbishop occupied the seat of honor, having the Lieut.-Governor on his right, and Principal Peterson of McGill University on his left. On the platform were representatives from the McGill and Bishop's Faculties of Medicine, and other friends of the University. The various Faculties have ample accommodation in the building.

UNIVERSITY OF BISHOP'S COLLEGE.

The twenty-fifth Session of the Medical Faculty of this University opened in Montreal on the 2nd of October. There was not any formal introductory, the various Professors at once entering upon their work. The class will be the largest this School of Medicine has ever had.

Personal.

Dr. C. A. Wood (M.D. Bishop's 1877), of Chicago, formerly of Montreal, and for over ten years on the teaching staff of the Medical Faculty of Bishop's College, was in Montreal at the end of August. He came from a holiday trip in Europe by the "Parisian." Dr. Wood has for the past five years been a resident of Chicago, devoting himself entirely to ophthalmology. His success in bringing around him a large *clientèle* has been phenomenal, and to-day no man in his specialty is better known in the Western States. Dr. Wood is ophthalmic surgeon to Cook's County Hospital, and on the teaching staff of the Chicago Post Graduate School.

Dr. R. C. Blackmer (M.D. Bishop's 1884) is a successful practitioner in St. Louis, Mo., U.S. He is professor of Medical Jurisprudence in Barnes Medical College, and editor of the *General Practitioner*. During his last college session he was *locum tenens* at the Western Hospital. In an article in a recent number of his Journal, he contrasts the facilities enjoyed by students of Bishop's College at the Women's Hospital, Montreal, with those provided for students in the State of Missouri, and states they are much in advance in the former institution.

Dr. C. E. Elliott of Quebec (M.D. Bishop's 1889—Wood and Nelson Gold Medalist) is practicing in Quebec, and is rapidly taking a first place among the leading practitioners of that city. A wealthy patient of his, who recently died at a very advanced age, left him some property on the Restigouche River, valuable on account of possessing salmon privileges, which he has disposed of for a handsome sum.

Dr. Douglas D. Macrae (M.D. Bishop's 1894) has left for England. He proposes passing the best part of a year among the London and Edinburgh hospitals.

The Rev. Jabez B. Saunders (M.D. Bishop's 1885), for a short time on the teaching staff of his Alma Mater, is Pastor of the Dominion Methodist Church, Ottawa.

Dr. Geo. F. Slack (M.D. Bishop's 1873), of Farnham, has just returned from a trip to Europe. On his arrival home he received quite an ovation from his friends.

Dr. C. R. Wood, formerly of Brockville (M.D. Bishop's 1891) is at Malwa, Central India, as a medical missionary in connection with the Presbyterian Church in Canada. We are given to understand that since his arrival in India his health has greatly improved.

Dr. T. Bannerman (C.M., M.D. Bishop's 1895) has sailed for Europe, where he intends remaining a year or more.

Dr. Frederick Benoit (M.D. Bishop's 1875) has removed from Mattawa, Ont., to Montreal.

The following changes have taken place in the Faculty of Medicine of Bishop's College: Dr. James Perrigo becomes Professor of Gynæcology; Dr. Springle has resigned from the chair of Anatomy; Dr. A. Laphorn Smith has been appointed Professor of Clinical Gynæcology; Dr. England, Lecturer on Clinical Surgery; Dr. G. T. Ross, Professor of Laryngology and Rhinology.

Dr. F. W. Campbell, Dean of the Faculty of Medicine of Bishop's College, has been appointed a Deputy Surgeon General in the Canadian Militia from 21st February, 1895.

Dr. Stirling, Professor of Ophthalmology in Bishop's College, has just returned from a visit to the principal centres of Medical education in Europe.

Dr. J. Leslie Foley (M.D. Bishop's College 1880), Dermatologist to the Western Hospital, has just returned after a prolonged visit to Boston.

Dr. G. T. Ross, Professor of Laryngology and Rhinology in Bishop's College, has been appointed specialist in these diseases at the Western Hospital.

Dr. Walker (M.D. Bishop's College 1895) has been appointed House Surgeon to the Western Hospital.

J. J. Benny has been appointed Assistant to the House Surgeon at the Western Hospital.

Dr. Montgomery (B.A., M.D. Bishop's College 1894) is, we are informed, about to commence practice in St. Johns, Que.

Dr. Morrow (M.D. McGill 1892) has been appointed Lecturer on Physiology in the McGill Faculty of Medicine.

Dr. C. F. Martin (M.D. McGill) has been appointed an Assistant Physician to the Royal Victoria Hospital.

Obituary.

LOUIS PASTEUR.

M. Louis Pasteur died 28th September, at 4 P.M., in Paris, of paralysis. The disease was one of long standing and first manifested itself thirty years ago. Yet he experienced good health till 1886, when he was affected with a marked derangement of the circulatory apparatus accompanied by the usual symptoms, palpitation and insomnia. Three years ago ureamia manifested itself, and was the immediate cause of death.

Everyone knows the mere personal facts of his existence: born in 1822, the son of a soldier-tanner, a half-pay scholar at the Communal college, a tutor in the college of Besançon, a pupil in the Ecole Normale, gratifying his passion for scientific exactitude, assistant professor of chemistry at Strasburg, where he married a daughter of the rector of the college, henceforth living in Paris the laborious life of a man given over to the passion for scientific pursuit. The figure of Pasteur in his laboratory was familiar enough to many students: a man of slight build, well trimmed beard, wearing a skull cap and modestly attired, in every respect the studious savant, eager to learn and eager to teach. In his death the French nation delighted to do him such honour as is rarely given to a private man. His funeral was a *staté* function with all the pomp which the civil and military authorities could bestow, and his resting place is with the other great ones in the Cathedral of Notre Dame.

Up to a month ago the most prominent figure in the Medical world, though himself not a physician, was that of Louis Pasteur. The rare thing is, that it was a world which he created for himself. In the shiftings and changings which the time spirit has occasioned in recent years, no branch of science has suffered more or rather profited more by its working than that of Medicine. Formerly the study of disease was a thing apart from the main current of scientific thought: it was a mixture of paradoxes and surmises, and disease itself was looked upon, not so much as a manifestation of beneficent laws, as an aimless or hurtful departure from them. The most ever conceded was that Medicine

might be a pseudo-science,—that is, a mere collection of empirical rules. But now, after much clearing away of underwood, a foundation has been laid, and every worker, however humble, who observes a fact or disproves an untruth long believed in, has the assurance that his little piece will be tested and tried, and, if found real, that it will receive its place for the upbuilding of a great work. The days are all gone when Medicine consisted of shreds and patches of old learning, imperfect observation, hasty conclusions and foolish reasonings. Instead of this, the method at least has been learned, and Medicine is in its true place, duly authenticated and in relation with all the other elements which go to constitute Science. This has been a great task, though not a long one. Indeed, the name of Louis Pasteur, who chiefly effected it, does not occur in the last edition of the *Encyclopædia Britannica*, so newly has it arisen. The turgid lines which Pope applied to Newton might with equal truth be applied to Pasteur, for what the law of gravitation did for astronomy, Pasteur's law of fermentation did for the study of disease. There have always been glimmerings of this truth. The demonstration of micro-organisms in the saliva with the first rude microscope, the *contagium vivum*, and the speculations concerning it, the experiments of Gay-Lussac, and finally the discovery that alcoholic fermentation was due to a living organism, all opened the way for Pasteur, who disclosed the truth concerning fermentation, and disposed of the delusion of spontaneous generation which was as old as the beginnings of things.

Pasteur was not a physician, of course : he was a man of science alone. His labors covered the whole range of molecular dissymmetry, spontaneous generation, fermentation, the diseases of wine, the manufacture of beer and vinegar, the diseases of silk worms, and the artificial cultures of living contagia which have been converted into vaccines. This was surely sufficient to give a man breadth of view. His earliest studies were in molecular physics upon the right-handed and left-handed tartarates, which latter he discovered. Then he applied his mind to the idea of molecular dissymmetry, which was introduced by Biot, and he believed that his researches pointed to a physical barrier between organic and inorganic life ; this barrier has long since been broken down. Next, he worked out the conception that ferments are living things,

dealing with the process in lactic acid, butyric acid and beer, in which he showed that the capacity of an organism to act as a ferment depended on its power to live without air. To-day, the meanest brewery profits by his research. No one could accuse Pasteur of being a mere savant, for now he turned his attention to the manufacture and maladies of wine, and by a simple device at a stroke he abolished them all. The business of the silk worm followed, and all the world knows its issue. Up to this time his labors did not carry him into the field of medicine. But now he was led by the germ theory of disease to the process which he called "virus attenuation," and first taking the fatal virus of splenic fever, he rendered it not only harmless but a shield against the disease, and saved to France in one year the lives of half a million beasts. Next, he investigated with equal success cholera in chickens, and plucked out his secret from the mysterious disease of rabies.

No great scientific theory has ever been made to prevail without conflict, and it is well it should be so. The theories of gravitation, of evolution, the dynamical theory of heat, had all to fight for their lives, and so it was with all that Pasteur propounded. Time enough has elapsed to judge fairly of his work and the benefits of it to mankind, now that it has been tested and errors of detail passed away. So long as men seek knowledge they will have to seek it after much the same method as did this investigator. This was his great achievement: he showed men how to work. Theories may change, and conclusions pass away, but scientific experiment endures for ever, and such durability pertains to Louis Pasteur and his work.

DEATH OF DR. E. P. WILLIAMS.

The Profession in Montreal have, by the death, on the 8th September last, of Dr. E. P. Williams, lost one of its promising young members. Dr. Williams was born in Ottawa in 1867, and graduated M.D. from McGill University in 1887. He at once entered the surgical service of the Canadian Pacific Railroad, but in 1889 removed to Montreal, and began practice. His onward progress was steady, and he soon became attached to the teaching staff of his *Alma Mater*, being appointed Assistant Demonstrator of Pathology. About the same time he became Assistant Pathologist to the Montreal General Hospital. His death was due to septi-cæmia, contracted, it is believed, while performing his pathological duties. It is sad to see so bright a life cut short in the very hey-day of youth, yet he lived long enough to give an example of honest sincere work.

Miscellaneous.

DENTAL EXAMINATIONS.

SUCCESSFUL CANDIDATES FOR MATRICULATION, PRIMARY AND FINAL.

The regular semi-annual matriculation and special examinations of the Dental Association of the Province of Quebec have just been completed. The examination in practical, operative and technical work has been going on during the last two weeks, and the written and oral examinations began on the 2nd of October, and continued for three days. The examinations were held in the Dental College, corner of Phillips square and St. Catherine street.

In the matriculation examination Doctor H. Aspinwall Howe and Rev. Abbé Verreau were the examiners. There were thirteen applications for admission to study. The following received a matriculation certificate :—Rosario Horace Brazien, John Albert Butler, Walter Elliot, F. A. Howard, Thomas L. Marseneur, Hardouin Lionais and F. L. Wilkinson.

On the whole the results of the examinations were more satisfactory than at any former time.

For the primary examination there were six candidates. The results were as follows :—

Passed in Anatomy—S. W. Boisvert, D. C. Martel, A. E. Vadeboncœur, P. P. Vosburgh and J. H. O'Connor.

Passed in Chemistry—E. C. Martel and A. E. Vadeboncœur

Passed in Physiology—E. C. Martel, P. P. Vosburgh.

Passed in Metallurgy—A. E. Vadeboncœur, A. D. Garneau, J. H. O'Connor.

There were eight applications for licenses, of which the following passed and received diplomas as licentiates of dental surgery :—W. S. Allan, E. C. Martel, H. C. McConnell, C. W. H. Rondeau, P. P. Vosburgh.

The Board of Examiners consisted of Messrs. S. Globensky, L.D.S., president ; E. B. Ibbotson, L.D.S., vice-president ; Geo. W. Lovejoy, M.D., L.D.S., secretary ; H. E. Casgrain, L.D.S. ; J. Nolan, L.D.S. ; and L. J. LeBlanc, L.D.S., registrar.

ZYMOTIC DISEASES.

RETURNS OF DISEASES IN THE VARIOUS MUNICIPALITIES IN THE PROVINCE.

According to the returns received at the Provincial Board of Health office, the mortality from contagious diseases in the province for last month was as follows. The first named is the county and the second the municipality :—

Montreal—Diphtheria, 59 ; scarlet fever, 18 ; typhoid fever, 46 ; measles, 2.

- Quebec—Diphtheria, 10 ; typhoid, 9.
 Bagot—St. Pie, typhoid fever, 1 ; Ste. Rosalie, typhoid, 2.
 Beauce—St. Joseph village, typhoid, 2 ; North Adstock, diphtheria, 1.
 Beauharnois—Valleyfield, scarlet fever, 3 ; typhoid, 3.
 Bonaventure—St. Charles de Caplan, diphtheria, 1.
 Brome—Sutton, typhoid, 2.
 Champlain—St. Tite, diphtheria, 2 ; whooping cough, 10.
 Chateauguay—Ste. Martine, whooping cough, 18 ; St. Jean Chrysostome, diphtheria, 1.
 Compton—Scotstown, diphtheria, 1 ; Compton township, whooping cough, 6.
 Dorchester—Ste. Henedine, diphtheria, 2.
 Drummond—Wickham West, measles, 2 ; St. Germain, typhoid, 1.
 Gaspé—Malbaie No. 2, typhoid, 2.
 Hochelaga—Westmount, diphtheria, 2 ; Outremont, scarlet fever, 3.
 Huntingdon—Typhoid, 2.
 Jacques Cartier—Lachine city, diphtheria, 1 ; typhoid, 3.
 Kamouraska—Stc. Anne de la Pocatière, typhoid, 6 ; grippe, 2.
 L'Assomption—St. Roche, typhoid, 1.
 Levis—St. Romuald d'Etchemin, typhoid, 4.
 Maskinongé—Typhoid, 1 ; St. Paulin, typhoid, 3 ; whooping cough, 3.
 Megantic—Kingsville, whooping cough, 6.
 Montmagny -- St. Pierre, typhoid, 1.
 Montmorency—Ste. Brigette de Laval, whooping cough, 1.
 Napierville—St. Michael, whooping cough, 5.
 Nicolet—Becancourt, typhoid, 1.
 Ottawa—Ange Gardien, typhoid, 1 ; Masham, scarlet fever, 2 ; Clyde, scarlet fever, 1 ; Thurso village, typhoid, 1 ; Hull city, diphtheria, 8 ; scarlet fever, 1 ; typhoid, 1.
 Portneuf—Cap Santé, typhoid, 1 ; St. Augustin, typhoid, 1 ; grippe, 1.
 Quebec—St. Gabriel west, diphtheria, 5 ; Beauport, typhoid, 1.
 Richmond—Stoke, whooping cough, 2.
 Soulanges—Coteau Station, whooping cough, 10 ; St. Polycarpe parish, diphtheria, 2 ; St. Téléspore, diphtheria, 4.
 Stanstead Plain, diphtheria, 1.
 St. Hyacinthe parish, typhoid, 1.
 Terrebonne—St. Sauveur, diphtheria, 1 ; Terrebonne city, scarlet fever, 1.
 Vaudreuil parish, typhoid, 1.
 Yamaska—St. François du Lac, typhoid, 1 ; La Baie de Febvre, typhoid, 1 ; St. Elphège, diphtheria, 1.

Book Reviews.

LECTURES ON APPENDICITIS AND NOTES ON OTHER SUBJECTS, by Robert T. Morris, A. M., M.D., Fellow of the New York Academy of Medicine, American Association of Obstetricians and Gynæcologists, American Medical Association; member of the New York State and County Medical Societies, Society of Alumni of Belasco Hospital, etc., with illustrations by Henry MacDonald, M.D. G. P. Putnam's Sons, New York, 27 West 23rd Street; London, 24 Bedford street Strand, 1895.

This is a handsome volume of 160 pages, properly illustrated, full of original ideas. Dr. Morris possesses the happy faculty of convincing his readers and hearers, because he is himself convinced of the truth of what he teaches before trying to convince anyone else. There is a useful chapter on preparation of surgeon and patient, the appendix *vermiformi ceci*, appendicitis, surgical treatment of appendicitis, and a collection of notes on various surgical types collected for the various journals to which Dr. Morris has been a steady contributor for several years past. We congratulate Dr. Morris on this his second book, and trust that it will not be the last from his pen.

LE PALUDISME. Etude de quelques-unes de ses causes, sa prophylaxie et son traitement. Par le Dr. A. F. Dubergé, médecin principal de la Marine en retraite. Paris: Société d'Éditions Scientifiques, Place de l'École de Médecine, 4, rue Antoine Dubois, 1895.

This work has been written after great study by a gentleman who, having had a long experience in the French navy on foreign service, seems especially qualified to deal with this subject. Among his most interesting chapters is one on the accidents of quinine. The style is easy and pleasant to read, and as much of its contents are entirely new, the work will prove a valuable addition to the literature of the subject.

THE THEORY AND PRACTICE OF COUNTER-IRRITATION, by H. Cameron Gillies, M.D. McMillan & Co., London and New York; Copp, Clark & Co., 9 Front street west, Toronto. Price \$1.50 nett.

The author has hunted up nearly everything that has ever been written on this subject, and collected it into this volume. Although he has made a very exhaustive study of counter-irritation, he has not made a hobby of it; he is quite impartial, giving it no more credit than is its just due. As we are of the opinion that counter-irritation is not at the present day employed as often as it might be to advantage, we think that the volume will be productive of much good in drawing more general attention to the advantages of counter-irritation.

Pamphlets Received.

- PUERPERAL PELVIC CELLULITIS AND PUERPERAL PERITONITIS.
By Charles P. Noble, M.D., Surgeon in Chief Kensington
Hospital for Women, Philadelphia. Reprint from The Amer-
ican Gynæcological & Obstetrical Journal.
- CÆLIOTOMY FOR PUERPERAL SEPTICÆMIA AND PERITONITIS.
By Charles P. Noble, M.D., Surgeon in Chief Kensington
Hospital for Women, Philadelphia. Reprint from The Amer-
ican Gynæcological & Obstetrical Journal.
- SOME IMPRESSIONS OF GYNÆCOLOGY IN EUROPE. By Hunter
Robb, M.D., Professor of Gynæcology, Western Reserve Uni-
versity. Reprint from Western Reserve Medical Journal,
January, 1895.
- TUBERCULOSIS IN THE ANO-RECTAL REGION. By Thomas H.
Manley, M.D., Visiting Surgeon to Harlem Hospital, New
York, 1894. Reprinted from the Medical Brief, St. Louis,
Mo.
- INTESTINAL ANASTOMOSIS. With the Report of a Case. By
Frederick Holme Wiggin, M.D., Visiting Surgeon to the City
Hospital, Gynæcological Division; Assistant Visiting Surgeon
to the Lebanon Hospital, etc. Reprinted from the New York
Medical Journal for December 1, 1894.
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To keep pace with the large and steadily-increasing demand for their "Blaud Pill Capsules" on this side the Atlantic, Messrs. DUNCAN, FLOCKHART & CO. have found it necessary to establish a CANADIAN AGENCY, particulars of which will be found on 3: i page. These Capsules hold place in the esteem of the Profession corresponding with that attaching to the Chloroform of this world-famous firm. They are of GUARANTEED STRENGTH, and perfectly soluble, and will never oxidize or harden.

PRE-SENILITY—OVARIAN PAINS—CHRONIC ENDOMETRITIS.

I have been using Sanmetto for the past two years, with surprisingly good success. As a remedy for declining virility there is no equal,—in fact, it is a *sine qua non*. Have also given it with success in ovarian pains, and in that troublesome and painful condition due to chronic endometritis. Sanmetto is an important addition to our therapeutic means. Its beneficial effects are simply marvelous.

J. D. BENNETT, M.D.

Crystal River, Fla.

CHRONIC CYSTITIS WITH STRICTURE.

My experience with Sarmetto is quite extensive. I could give special cases in which its action was simply astonishing, but in this report I wish to summarize my experience by saying I have given Sanmetto a long and thorough trial in a case of chronic cystitis, accompanied with stricture, the result of which warrants me in saying Sanmetto is unsurpassed by any other preparation with which I am acquainted. Its effects are prompt and positive.

RACHAEL J. KEMBALL, M.D.

Buffalo, N. Y.