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APPENDICITIS WITH SUPPURATIVE  
PYLEPHLEBITIS.\*

BY H. T. MACHELL, M.D.,

On the 26th July last I was asked to see Mr. L. I found him sitting up reading, and obtained from him the following history.

He was thirty-three years of age. He had been perfectly well in every respect up to the evening of the 21st. He had dined between six and seven that day, and felt nauseated a short time after. About 8 or 9 p.m., he vomited freely, and almost immediately afterwards sharp diarrhoea took place. The vomiting and diarrhoea continued at intervals throughout the night. At 5 a.m. he had a rigor, followed by some very slight fever. During the day he was up, but did not go out of the house, as the nausea and diarrhoea continued, though much less than during the previous night. On the 23rd he was at business but was not himself. At 5 a.m., on the 24th, exactly two days from his former chill, he had a second one. During the 24th and 25th he was at business, but feeling quite miserable. On the 26th, at 5 a.m., he had a third chill.

Up to this time he had been living at the west point of the island, not far from the Lakeside Hospital, where he had been all summer,

and where he had spent his summers for several years. Instead of going to business this day (the 26th July), he came to his father's house on Beverleystreet, where I saw him. The diarrhoea and vomiting of his first day's illness had now ceased, and all that remained of it was slight nausea, and sometimes vomiting after each chill. He expressed himself then as feeling very comfortable, without any pain or ache, pulse normal, and temperature  $\frac{1}{2}$  or  $\frac{2}{3}$  of a degree above normal. He was eating and sleeping well and professed himself as well as usual, except for a slight tired feeling which he could not shake off. He said my being sent for was entirely his mother's doing, as he did not feel ill enough to think of calling in a physician.

The case seemed one of intermittent fever. He was living at the island, with a lagoon at the back-door; he had had three chills, forty-eight hours apart, followed by some slight fever, and then the skin became moist. I naturally gave him quin. sulph., and the amount was gr. v. every four hours. In addition he was given calomel, gr. x.

On the 28th and 30th July and 1st August, at exactly the same hour, 5 a.m., he had a chill. These chills were not mild ones by any means. From the patient's description, they may safely be called rigors. Vomiting or nausea followed every chill. The chills lasted from fifteen to thirty minutes. The hot stage varied from ten or fifteen minutes to an hour or two, and as I always saw him about 9 to 9:30 a.m., the skin was nearly always moist and comfortable. The

\* Read before the Toronto Medical Society.

quinine had been taken faithfully and without producing cinchonism.

On August 2nd, when I saw him, I was told that he had had three chills within the last twenty-four hours, each one of which was followed by vomiting, fever, and subsequently sweating. The same evening I saw him again, and found he had had two chills since my morning visit. His temperature then was 99, pulse 76, and respiration 22. He had now had five chills in thirty-six hours, notwithstanding he had taken quinine gr. v. every four hours for some days, and this had been increased to gr. v. every two hours for the last twelve hours.

August 3rd, 10 a.m. The behavior of the chills during the preceding twenty-four hours, considering the amount of quinine taken, compelled me to believe that I had something more than a case of malarial fever to deal with; and as the patient and his friends were each day expecting a cessation of the paroxysms, from the free use of the drug, I was compelled to take them into my confidence, and say that I thought the trouble would more than likely end in typhoid fever, or what, for want of a better name, is often called typho-malarial fever. This morning his temperature was  $98\frac{3}{4}$ , and pulse 72, and though I had spoken of typhoid to the friends, I felt that such a temperature on the thirteenth day of the illness—even if pretty early in the day—was not consistent with the clinical history of that disease. At 3 p.m., Dr. McPhedran saw him with me. His temperature was 100 and pulse 76. The doctor thought that, though there was a strong malarial element connected with the case, it would eventually end in an irregular typhoid. He suggested dropping the free doses of quinine and giving small ones instead. Accordingly he was given gr. i. o. h. 4.

During the next four days his temperature ranged from  $97\frac{3}{4}$  to  $100\frac{1}{2}$ , and his pulse from 80 to 92. By consulting the temperature chart it will be seen that on the 6th his temperature was  $98^{\circ}$  at 9 p.m., a very unusual temperature in the second week of typhoid. As an offset to the temperature and pulse, was the frequency and appearance of the stools. They have been moving from two to seven times per day, always offensive, and as his father described them, "just the color of mustard, and quite loose." Even on the days the evacuations were frequent

he had no pain, and they did not appear to exhaust him. In fact, it required some argument to make him believe it was better to use the bed-pan than walk to the bath-room; no iliac tenderness. His chills have averaged two per day, and very nearly always about the same hours—5 to 6 a.m. and p.m. They are nearly always ushered in with nausea and the frequent eructation of gas. Occasionally vomiting takes place before the chill, usually, however, just as it is over. Fever and restlessness, lasting from half-an-hour to two hours, follow each chill, after which the perspiration commences, when he begins to feel comfortable. As soon as the perspiration becomes free, he expresses himself as well again. Within the last day or two his father and mother have noticed that during the fever-stage his skin is slightly yellowish, and that as soon as the perspiration begins the yellowish tinge fades perceptibly. The patient was very dark naturally, having jet-black hair and whiskers. In addition to this (his natural color), he was quite bronzed from daily exposure on the bay when first ill, and it was difficult to notice any change in his complexion. After his mother called my attention to the decidedly yellowish tinge of his face and neck, during the paroxysm of fever, there was no difficulty in seeing that his conjunctivæ, too, were slightly jaundiced. There was neither pain nor tenderness in the hepatic region, nor was the liver or gall-bladder appreciably increased in size. Since his illness began he felt well in himself, except at the time of the paroxysms. He has had neither ache nor pain in his head, back, abdomen, or anywhere else. He is bright and intelligent as usual, and reads almost constantly, when not occupied with his chills and fever. He takes from two to three quarts of milk a day and enjoys it. He has not lost flesh.

August 8th, 5 p.m. As the illness is evidently not one of malarial fever, and as I am not able to say that it is typhoid, the parents asked to have Dr. Temple see him with me, with a view to throwing some light on it. His temperature was then  $102\frac{3}{4}$ , and pulse 100, while in the morning at 10 the temperature was 99, and pulse 86, and he had had one chill since my morning visit. Dr. Temple said the case reminded him very much of some cases of so-called jungle-fever which he saw when in India,

and was inclined to regard it as typho-malarial in its nature. On the assumption that it was more malarial than typhoid in character, he advised quinine in large doses, gr. x. o.h. 3. This was accordingly given for three days, when, as the chills continued as frequently, and as the physiological effects of the quinine were not very well marked, I shortened the interval between the doses to two hours.

On the 12th, at my morning visit, I noticed a little increase in the liver dulness. At first I thought it was the gall-bladder, from its shape and situation. The greater part of the dulness seemed internal to the right nipple line, and to extend at least an inch below the costal margins. There was no tenderness over this dull surface, but it was decidedly tender in the middle line just below the sternum. His chills continue pretty regularly every morning and afternoon, and his *motions* have varied little or none since the first of the month. They are loose, watery, offensive, and light yellow in color, with a few small curds in nearly every one. At no time since he had been ill have they been white or clay-colored. He passes large quantities of gas, which, at times, is very offensive—the motions always so.

As his chills and fever have continued in spite of the large amount of quinine he has taken, and as his jaundice appears to have steadily increased, and as he is somewhat weaker and has failed perceptibly in flesh, Dr. Temple was asked to see him again.

At 5 p.m., the time of our visit, his temperature was  $99\frac{2}{3}$ ; when I saw him at my morning visit it was 97. The case was gone over again, and the malarial and typhoid and typho-malarial theories were discussed one after the other, and abandoned as untenable. It was very difficult though to give up the malarial theory because of the recurrence of the chills and fever at such regular intervals. The paroxysms have changed in character within the last week. Now, the chills are usually much milder than in the early stage. There is neither so much shaking nor do they last so long. Occasionally a severe one will occur. The fever stage, though, is more prolonged than in the early days, and the patient is much more restless and longs for the perspiration to begin. Yet, if asked if in pain, he invariably gives a negative answer. It was felt

by both of us that the condition of the liver accounted for part, at least, of his illness. The quinine was dropped entirely after having been given gr. x. every three hours for three days, and then gr. x. every two hours for one whole day. In its place was given a mixture, the principal ingredient of which was mag. sulph.,  $3ss$ , o.h. 4, and Wyeth's calomel tablets of gr.  $\frac{1}{10}$  each every hour. The advisability of giving arsenic instead of quinine was discussed, but it was thought suitable for milder and more chronic cases.

From this date, the 12th August to the 16th, when Dr. McPhedran saw him with me, his temperature ranged from  $95\frac{1}{2}$  to  $100\frac{1}{2}$ . The pulse during this time was from 72 to 86, and the bowels moved on an average three times a day. There was no change in the character of the motions. On the 13th and 14th he missed his morning chill; on other days he had two as usual. The jaundice to-day is more marked than when Dr. Temple saw him, four days ago. There was none at all when Dr. McPhedran saw him, thirteen days ago. The liver has steadily increased in size during the last four days. To-day there is less gas than usual in the intestines, and its lower border can be made out very readily. In place of the small semi-circular mass which occupied the situation of the gall-bladder, we can now map out the liver, very much increased in size. The surface below the ribs, as well as the border, is quite smooth, and the dulness extends at least three inches below the lower margin of the ribs in the nipple line. The sulcus between the right and left lobes can readily be made out, and so can the left lobe. In the axillary line and posteriorly the dulness was not so well made out. Palpation and percussion gave rise to no distress or pain. It was impossible to sink the fingers in and feel the under surface, as the abdominal muscles were so tense. This rigidity of the abdominal muscles existed throughout his illness.

In the light of two articles which Dr. McPhedran had run across in his reading, we could not help classing this case as one of "intermittent fever of hepatic origin," or hepatic fever. The articles which seemed to throw more light on the case than anything obtainable are: "Intermittent Fever of Hepatic Origin with Special Reference to Gall-stones," by Dr. Osler, in the

Johns Hopkins Hospital Report, last January; and "Hepatic Fever," by Dr. Pepper, of Philadelphia, which appeared in *The Medical News*, last March. Dr. Osler's cases were all associated with gall-stones as a cause. There was no history of such a thing here. He had never had the semblance of anything like hepatic colic or acute pain in the region of his liver or stomach. One of Dr. Pepper's cases bears considerable resemblance to this case.

The semi-circular increase in the liver dulness has now become broadened out, and to-day there is a general painless enlargement which seems to be steadily increasing in all directions. His jaundice is now more marked during the fever which follows each chill. There is no mistaking this fact, for, with two chills a day, there is ample opportunity for observing it. What else than inflammation of the liver could cause these symptoms? No fluctuating point can be made out, yet we feel sure from the history of this case and Osler's and Pepper's cases, that there must be suppuration either in the liver or gall-bladder or both. Having arrived at this conclusion, and in view of the fact that he is steadily losing ground, an exploratory incision was discussed, and thought to offer the best chance of getting rid of the pus, if it should be found to be localized. If disseminated throughout the liver in minute foci, the wound could be closed up, and he would be very little the worse for the operation. His parents were told of our view of the case, and were quite willing to have anything done that would give him a chance of recovering. Before doing the operation it was arranged that Drs. Temple and Strange should meet Dr. McPhedran and myself, and decide finally as to whether an exploratory incision should be done or not. Dr. Temple was out of town, and Dr. McPhedran and Dr. Strange saw him, with me, on the morning of the 18th.

His temperature was  $102\frac{1}{2}$ , pulse 110, and respiration 24, and he had had three chills since my visit last night. He had slept badly, waking every hour, then taking his milk and dozing off again for a short time. After going into the history of his illness, and examining him carefully, Dr. Strange was inclined to think some obscure condition of the liver was the principal trouble, and that this had been caused by malaria in the first instance. He suggested a

large fly-blister, 4 x 8, over the liver, and arsenic and hydrarg. perchlor. internally. He did not think an exploratory incision advisable—the indications were not sufficiently clear.

The friends were told Dr. Strange's opinion of the case, and the idea of doing laparotomy was given up for the present, so decided were the doctor's views on this point.

From this time till the 21st, when Dr. Temple saw him again, he remained very much in the same condition; that is, his temperature ranged from 97 to  $103\frac{1}{2}$ , pulse from 88 to 132; his chills, fever, and perspiration returned about twice a day; his bowels—always loose—moved from one to three times a day, and, if anything, he took rather more nourishment. Egg-nog, boiled custard, and gruel were taken, in addition to the two or three quarts of milk. He looked better, and said he felt better. There was decidedly less jaundice than three days ago, and certainly less than when Dr. Temple saw him on the 12th. The nurse called my attention to one of the evacuations from the bowels. It was semi-solid, and appeared to be composed of at least half pure bile, the other portion a light-yellow in color. It was the first time anything of the kind had appeared, and both Dr. Temple and myself tried to make ourselves believe that this unloading of almost pure bile, coupled with his feeling decidedly better, was the beginning of a brighter and more hopeful outlook for him. While this improvement continued, Dr. Temple would not think of making an exploratory incision.

Aug. 27th. Liver dulness decidedly less; it measures at least two inches less in nipple line; no fluctuation or tenderness to be made out; the bowels have averaged four evacuations per day, and in every motion large quantities of apparently pure bile are to be seen; less bile in his urine; less jaundice; chills and fever about twice a day, probably not as severe as a week ago. There is this peculiarity in regard to the chills within the last day or two. Shortly after each chill sets in the patient becomes drowsy, goes to sleep, and sleeps or dozes till he begins to be feverish. If then questioned about his chill, he cannot remember it. On one or two occasions the nurse tried to rouse him, but could not do so while the chill continued. As soon as the fever begins he rouses up and gets

restless. The sweats at times are drenching. On the evening of the 21st, free perspiration lasted five hours, compelling the nurse to change night-shirt and the bed clothes several times.

The improvement which was apparent at the time Dr. Temple saw him last, on the 21st, has not continued. On the contrary he seems worse. His temperature is higher and his pulse is weaker and more frequent. He has also lost flesh perceptibly within the past week.

Dr. Osler saw the patient this morning, and was quite positive that there was pus in his liver—whether single or multiple abscesses it would not be possible to say—and advised aspirating.

Aug. 28th, 9.30 a.m. Present, Dr. Osler, Dr. McPhedran, Dr. Temple, and Dr. Sutton, of Pittsburg, who had just been seeing a patient with Dr. Temple.

After chloroform had been given, I introduced a large sized aspirating-needle just below the costal cartilages and a little within the right nipple line—the point designated by Dr. Osler—and directed it backwards and upwards at least three inches. Only a few drops of blood came away. The next point Dr. Osler suggested was in the axillary line, between the ninth and tenth ribs. I put the needle in nearly the full length, and on turning the tap, blood flowed freely and in a large stream—in fact, so large that I felt quite hot and uncomfortable till Dr. Osler assured us all that the hemorrhage did not signify—it would stop of itself almost as soon as the needle was withdrawn. About 6 oz. came away without any sign of pus.

I had gone prepared to do a laparotomy if thought advisable after the aspirating. As no pus was found with the needle, it was thought the patient ought not to be allowed to die—as die he must if he should continue to fail at the rate he had done the last week—without opening the abdomen, inspecting, palpating, and possibly draining the liver or gall-bladder. All were agreed on this point, but as he had already been under chloroform for thirty-five minutes, and his pulse was not very good, the majority thought the laparotomy had better be deferred till next day.

Aug. 26th, 2.30 p.m. Present with me, Dr. Osler, Dr. Temple, and Dr. McPhedran.

Chloroform having been given, at a point midway between the linea alba and the nipple line just below the costal cartilages, I made an incision about four inches long. The muscles and fat were quickly divided and the peritoneum opened, when the liver came into view. It extended as far down as the lower angle of the wound. On its surface was seen a small thin film of clot, while to the outer side of the incision, and along nearly its whole length, was a firm coagulum nearly as large and thick as a small hand. It had evidently come from the second puncture the day before. After removing this clot the liver came well into view, and though large, appeared normal in color. No pus sacs visible, no bulging at any point. The liver felt harder and more brawny than normal. On the anterior surface, well up under the ribs, in a line with the incision, was felt a spot somewhat softer than the surrounding surface. A similar spot, about the size of a silver dollar or a little larger, was also felt on the under surface about a finger's length above the lower border. Both Dr. Osler and Dr. Temple felt these same soft spots, and while none of us could get any fluctuation, Dr. Osler thought it advisable to put in a small aspirating needle and make sure that no pus was there. Only blood came away.

The gall-bladder was examined and appeared normal. Evidently no large amount of pus was present at any one spot. Dr. Osler felt now, after his examination, that it was a case of pylephlebitis, one of the conditions which he thought must exist the first time he saw the patient. But, said he, there must have been a starting point for the pylephlebitis, and with a view of finding it, he made a digital exploration of all the organs within reach through the four inch opening. The pancreas, kidneys and capsules, spleen, and gastro-hepatic omentum, were carefully felt in turn and nothing abnormal found. He then introduced his hand and arm and felt for the cæcum and appendix. It was not found at the usual site, but after patient search he exclaimed, "Here it is, and a thick inflammatory wall about it. This is the origin of his liver trouble."

Absolutely nothing could be felt from the outside, even after the mass was located by Dr. Osler. He said the mass was about the size of a very small orange, and evidently included the

appendix. I then cut down through the abdominal wall, making an incision about  $2\frac{1}{2}$  to 3 inches long parallel with and just above Poupart's ligament. The peritoneum was recognized after a little difficulty and pushed inward out of the way. It was only after I had torn and separated the normal tissues to the depth of at least a finger's length, keeping close to the bone, that I came to the mass. With Dr. Osler's hand still in the abdomen, and his fingers as a guide, I was able to tear the thick inflamed abscess-wall with my finger-nail. I felt that the finger was in a thick-walled cavity, and on withdrawing it the odor was distinctly fecal. The cavity was then flushed out with hot boiled water, and a large drainage tube put in. While I was attending to washing out the abscess, putting in the tube, and a few stitches afterwards, Dr. Temple was saving time by suturing the incision over the liver.

Keith's dressing and iodoform gauze were put over the upper wound, and iodoform gauze and absorbent cotton over the lower one, and outside of all a flannel bandage. His pulse was pretty shaky towards the end of the operation, and whiskey was given freely as soon as he was able to swallow it.

The next morning I was told that at 1.30, 4.00, and 7.00 a.m., he became very weak and collapsed. He rallied somewhat from the first and second collapse, but had never been able to rally after the third. He was sinking. He said he had no pain, and always replied to any question.

He died between 2.00 and 3.00 p.m., twenty-four hours after the operation.

Aug. 31st. *Post mortem* examination twenty-four hours after death. On opening the abdomen the intestines were seen distended and slightly glued together on the right side. They were easily separated except in the region of the groin. The liver was nearly double the normal size. The whole of the upper surface had a very slightly mottled appearance. On pricking the light colored spots a minute amount of pus would well up, and if these were followed inwards, they were seen to be the terminations of the minute branches of the portal vein, and could, with careful dissecting, be traced to the larger vein—in short, there was well marked pylophlebitis. These vessels appeared to be

filled with pus. A very few pus cavities, the size of peas, were seen scattered throughout the liver. On the under surface of the right lobe was a small projection half the size of an acorn, which was filled with pus.

The three punctures made by the aspirating-needle were easily recognized. One of them had gone through the edge or border of the diaphragm and was the cause of the stitch-like pain he had after aspirating. The mesenteric veins were also inflamed and filled with pus, and could be traced downwards towards the pelvis for some inches. The kidneys were enlarged and slightly congested. The spleen was only slightly enlarged; as Dr. McPhedran said, a very unexpected condition considering the amount of pyæmic absorption.

In the right side of the pelvis were many old and firm adhesions. The omentum was firmly adherent to the intestines, and the intestines matted together. Below the level of the upper margin of the true pelvis was an abscess cavity, surrounded by thick walls and extending inwards to the bladder. It was shallow antero-posteriorly, and would scarcely hold two ounces. In the centre of this cavity, or rather running into it, was seen the appendix, the free end of which was in a semi-gangrenous condition. The appendix was about  $4\frac{1}{2}$  inches long. The parts were so much matted together that there was some tearing in getting up the cæcum and appendix. On this account it was impossible to say whether the drainage-tube inserted the day before would have been sufficient to drain the parts properly had he lived. So much pus gushed up on elevating the cæcum that it was thought there must have been a second cavity with which the tube did not connect. It is more than probable that the original appendicitis was not of very recent date. The appearance of the thick-walled abscess-sac, and the firm adhesions, indicated this.

A number of points of more than ordinary interest strikes one on going over this case. Some of the principal ones are:

1. The resemblance of malarial fever in the early stage of the illness. From the 22nd July to 1st Aug.—twelve days—he had six chills exactly 48 hours apart. Besides this he had been living at the island, with a lagoon almost surrounding the house.

2 The large amount of quinine which he took before producing marked cinchonism—gr. 10 o.h. 3 for three days, and then every two hours for another day.

3. The irregular chills during the first week in August; the appearance of the stools; the temperature ranging from 100 to 102, with pulse only a few beats above normal; the prevalence of typhoid in the city and island at that time—all these lent color to the theory of an irregular typhoid.

4. The peculiarity of the jaundice; its becoming more marked during the fever stage, and fading perceptibly as soon as the perspiration started.

5. The absence of pain or tenderness over the liver.

6. The existence of the appendicitis and resulting abscess without pain, tenderness, or the knowledge of the patient as far as could be learned. Neither father nor mother had ever heard him complain of pain in this region, and yet this inflammation must have been there while he was doing business in the city, rowing to and from the island every day.

7. The cæcum and appendix could not, with any degree of positiveness, be felt externally, even with Dr. Osler's hand in the abdomen to guide one to it. Neither do I think it could have been reached per rectum, lying as it was internal to and on a level with or just below the ilio-pectineal ridge.

8. Knowing the condition of the liver, it seems scarcely possible that a man could live an hour with his portal and mesenteric veins almost filled with pus as in this case.

#### DISCUSSION IN SURGERY AT THE BRITISH MEDICAL ASSOCIATION.

COMMUNICATED BY G. A. PETERS, M.B., F.R.C.S.  
ENG.

#### THE SURGERY OF THE LARGE ARTERIAL TRUNKS

Was the subject introduced by Mr. Timothy Holmes, of St. George's Hospital, London. In a very able and concise manner, Mr. Holmes reviewed the various opinions that have been held in modern times upon this very important subject. In the earlier days it was regarded as of indispensable importance that the ligature

should be sufficiently broad, soft, and large to occlude, without injuring the coats of the vessels. After a period during which opposite views prevailed, we are now asked to return to the old practice. Old surgeons injured the vessels as little as possible, and now, after an interval during which Jones' advice, to tie tightly enough to divide the internal and middle coats was followed exclusively, we are returning to the practice of our forefathers.

The material for the ligature should fulfil the following conditions: (1.) It should be trustworthy. (2.) It should be unirritating. (3.) It should be soft enough to tie easily and smoothly. (4.) It should be firm enough to retain the knot. (5.) It should be soft, flat, and large enough to close without injuring the vessel. The substances which have these essential properties are silk, catgut, ox-aorta, and kangaroo-tendon. Silk is good, but it cannot be absolutely relied upon to prove unirritating, and the time required for its absorption is too great. Catgut, as ordinarily prepared, cannot be relied upon either to be strictly aseptic, or to be trustworthy as to uniform strength. Owing to the peculiar manner in which it is prepared, some parts are apt to be weaker than others, and it also contains interstices, which may be the lodging place of germs. It is greatly improved, however, by treatment with chromic acid, which increases its resistance to the absorptive properties of the living tissues, and effectually renders it aseptic. Ox-aorta is admirable. He had used it to tie the external iliac artery and in many other cases with perfect satisfaction. Kangaroo-tendon, however, is equally reliable, and is smoother and more manageable. It is in use largely in St. George's Hospital. The tendon remains trustworthy in the tissues for at least two months. Aorta and tendon ligatures may accordingly be considered the best for ligating the large trunks in their continuity, but catgut may be used with satisfaction upon the faces of stumps.

In discussing the amount of injury that should be inflicted upon the artery, he recalled the practice of Hunter, who held that the ligature should be drawn tightly enough to check pulsation below the point of its application, but not sufficiently tight to injure the coats. The effect of the experiments and teaching of

Jones, however, was to lead to the almost universal practice of dividing the two inner coats by means of the ligature. The formation of the internal clot which this induced was considered a great safeguard against secondary hemorrhage, but it has been abundantly shown that the presence of an internal clot after ligature is not by any means constant, and moreover, that its presence is not essential in preventing secondary hemorrhage. Undoubtedly the best safeguard against secondary hemorrhage is the rapid union of the soft parts around the seat of ligature. Hence the necessity for an unirritating ligature, and perfect rest of the parts after operation. It may, however, still be considered an additional safeguard to tie the artery tightly, particularly on the faces of stumps.

As to whether it is advisable to follow the practice introduced by Abernethy, in 1797, of tying the artery in two places and dividing it between or not, cannot be considered as definitely settled. Abernethy's plan is still universally practiced at St. Bartholemew's. Without doubt, in all cases of injury, whether the artery has been cut partially across or merely bruised, this is the line to be adopted. The great argument in favor of this method is that it places the divided artery in a state of relaxation. But while it is certain that the cut ends retract somewhat on division, it does not by any means follow that the uncut vessel is in a state of tension. On the contrary, the diversion of the blood through the collateral vessels will leave the tied vessel empty and relaxed. Again the simple division of the vessel affords no protection against secondary hemorrhage, but introduces a fresh element of danger in the possibility of slipping of the ligature—a danger which is not merely imaginary.

As a matter of fact, secondary hemorrhage in these days, when we can secure with almost absolute certainty the union of the soft parts by first intention, is extremely rare. The chief dangers to-day are from phlebitis and gangrene, and the comparatively extensive dissection necessary to the performance of Abernethy's operation unquestionably increases the risk of phlebitis from injury to the vein, and of moist gangrene consecutive to this.

In reference to the treatment of aneurism,

various methods of operating are advised by different surgeons. In 1886, Sir William Savory gave the weight of his authority in favor of Anel's operation of tying the artery between the aneurism and the first large branch between it and the heart. In Hunter's operation of tying the artery between the heart and the first considerable branch above the aneurism, it is found that the artery, contrary to the usual teaching, is not obliterated for the whole distance between the ligature and the aneurism. On the other hand, there is obliteration for a distance varying from  $1\frac{1}{2}$  to 2 inches on each side of the ligature, then patency for a variable distance upon the proximal side of the aneurism, and again obliteration at the seat of the aneurism. Hence it is that movement—not amounting to pulsation—is frequently observed in the aneurism for some time after the ligature is applied after the plan of Hunter. But so far from being baneful, it is certainly beneficial that this diminished flow should continue for a short time, as in this way a more solid laminated clot is formed in the aneurism. Another objection that may be urged against Anel's method is the probability of the coats of the artery being diseased near the dilated parts. This danger is however, very much exaggerated by many surgeons who write upon this subject. The advocacy of Anel's method, however, rests rather upon theory than experience. In the vast majority of cases, tying the superficial femoral for popliteal aneurism is found to be followed by cure. Two anastomotic arches are formed by the collateral circulation, one to convey the blood around the seat of ligature, and the other to carry it beyond the obliterated aneurismal sac. In despite of these facts Sir William Savory advocates tying the artery immediately above the sac in the case of popliteal aneurism. This cannot be recommended, as the injury to the sac may cause sloughing or gangrene. It is worthy of remark that Annandale, of Edinburgh, has recently reported several cures by the "old operation," viz., that recommended by Antyllus, of laying open the sac and securing the artery above and below.

When secondary hemorrhage occurs after any operation involving ligature of a large trunk, the choice of the surgeon must lie between pressure by bandaging, re-tying the bleeding

vessel, ligating higher up, or amputation. It is impossible to lay down any rules in such cases; each case must be treated upon its merits. If pressure fails it is very often better to resort to amputation than to subject the patient to the risk of repeated hemorrhages.

Professor Bennett May, of Birmingham, is highly in favor of animal ligature, which we are able to leave to the disposal of the tissues. Silk commonly leaves a sinus which refuses to close before the ligature comes away. With catgut ligature it is necessary to tie tightly enough to divide the inner coats, but by the use of ox-aorta or kangaroo-tendon this may be avoided. He has, however, had a large percentage of cures from the catgut ligature tied tightly. When there is a large stretch of artery such as in the common carotid or external iliac, he prefers to use a silk ligature, one end of which he leaves long. On the other hand in operations on the subclavian or innominate, where there are large branches given off near the seat of ligature, he prefers to use ox-aorta or tendon ligatures, which he ties loosely enough to leave the inner coats uninjured. The large knot formed by these ligatures is a disadvantage, however, as was illustrated in a case in which a patient died from secondary hemorrhage some weeks after ligature of the innominate with tendon. *Post mortem* examination revealed the fact that the impact of the blood against the unresisting knot had gradually worn through the wall of the vessel. He thinks Abernethy's plan of division of the ligated vessel is quite unnecessary.

Mr. Herbert Page, London, related a case of double femoral aneurism which was cured by deliberate manipulation to break up and displace a portion of the laminated clot in the aneurism, after the plan recommended and practised by Sir Wm. Fergusson. In a second case of double popliteal aneurism, as the patient was on the verge of delirium tremens, and the aneurism on the left side was growing very rapidly, threatening gangrene of the leg, it was deemed advisable to amputate in the lower third of the thigh. Recovery followed, and the aneurism on the right side was subsequently cured by a Hunterian operation. He was of opinion that had it not been for the critical constitutional condition of the patient, the old operation

would have been advisable in preference to amputation, as by this means the obstacle to the return of venous blood would have been removed.

Dr. William Thompson, Dublin, favored temporary pressure on the proximal side of the aneurism, and stated that a large amount of success had followed this method of treatment in Dublin. In case of ligature being called for, he preferred not to divide the inner coats, as a ligature which was tied tight enough to do this, also strangulated the outer coat. The material to be used varies in different cases. For ligation in continuity he expressed a preference for aseptic silk. He had found chromic catgut to keep up irritation, and had seen secondary hemorrhage follow its use. He was not disposed to favor Abernethy's method, as it was unsafe to place two ligatures closer than one inch apart, and this necessitated a long incision, and a dangerous amount of exposure both of the artery and vein.

Mr. Damer Harrison considered that the condition of the catgut depended on its preparation, and recommended that the surgeon should prepare his own. He considers it safer to divide the inner coats, and objects, that owing to the elasticity of the ox-aorta, considerable experience is required to know how much force is required to be used in using that material.

Dr. H. O. Marcey, of Boston, has experimented largely with different materials. He finds that silk is rapidly encapsulated even in very young animals. The best catgut is that prepared from the mountain sheep of Italy, but as it becomes a seething mass of putrefaction in process of preparation, special care is required to render it aseptic. Its fibres run in an oblique direction, and hence it is elastic. The fibres of kangaroo-tendon run in parallel lines, and accordingly this material is strong and inelastic. He has found that the catgut ordinarily sold for use as ligatures gives rise to various growths of organisms when cultivated on gelatine plates. Kangaroo-tendon does not cause suppuration, nor does it give rise to growths on gelatine. Dr. Jameson, of Baltimore, used ligatures of buckskin many years ago with success. This material was also used by Sir Astley Cooper.

Dr. C. T. Parkes, Chicago, used silk fifteen years ago in ligature of the femoral with success, and has also successfully applied a catgut ligature to the subclavian. The material used is not of great importance provided suppuration can be prevented.

Mr. Augustine Pritchard, Clifton, considers ligature of the superficial femoral a comparatively safe operation. He always divides the inner coats. He has in one case used temporary ligature of the vessels, applied by slipping a silver tube over both ends of the ligature which was passed around the vessel but not tied. By drawing on the threads and pressing down tube the artery was kept occluded for three days, after which the ligature and tube were withdrawn. Recovery followed.

Mr. Bartleet, of Birmingham, President of the Section, considers that the nature of the material is unimportant, provided it is unirritating and permits of rapid healing. He related two cases in which secondary hemorrhage followed ligature of the femoral with catgut. In one the vessel was ligatured higher up, and the other a ligature was applied to the external iliac. Recovery took place in both cases, showing that amputation is not invariably called for in these cases. Mr. Holmes in reply thanked the section for the kindly reception accorded him.

### AUTO-INFECTION.

BY JOHN CAVEN, M.D., L.R.C.P. LOND.,

Lecturer on Pathology, University of Toronto.

Judging by the results of recent investigations in bacteriology, we are justified in assuming that hereafter the surgeon in his operations must take account not only of infective organisms which may be introduced from without during operative procedure or the process of wound-dressing, but also of others which may have their abode, unfortunately, within the body of his patient. Many of the forms of micro-organisms which have their *habitat* within the human body—and these forms are numerous—will doubtless be found capable of originating sufficiently serious symptoms when the opportunity is afforded them, although hitherto considered harmless, or at least not proven to have pathogenic properties.

One of the commonest forms of bacteria

found in the healthy human body is the *bacterium coli commune*, inhabiting the intestine. Tavel, of Berne, having come to the conclusion that auto-infection had taken place in a surgical case of his own which did badly, undertook a series of investigations in connection therewith, and ultimately decided that the infection had been from the intestine, and that *bacterium coli commune* was *probably* the offending microbe. Later he was afforded an opportunity in connection with a case operated upon by Kocher of strengthening his position. Kocher's case was one of cystic goitre. After operation with antiseptic precautions, the patient progressed favorably for nine days, healing of the wound taking place by first intention. Then redness appeared along the healed line of incision, the tissues softened and finally suppuration supervened, with constitutional symptoms. Examination of the discharge discovered the presence of the *bacterium coli commune* and subsequent experiments showed that in certain animals pure cultivations of this germ produced fatal septicæmia, the blood and internal organs teeming with the microbe. From these facts it was concluded that the *bacterium coli commune* could, under proper conditions, interfere very materially with the success of surgical operations.

Last year Dr. G. Winter gave out the results of his work on the mycology of the sexual organs of women in health (*Zeitschrift für Geburts. u. Gynak.*) He found that whilst the fallopian tube and cavity of the uterus contained no micro-organisms, the internal os, cervical canal, and vagina, were the seat of numerous forms of microbes, staphylococci predominating. These he holds to be identical with various pathogenic forms, although his inoculation experiments gave no positive results. His explanation of the failure of these experiments, and it seems a feasible one, is that by living on a healthy mucous membrane the virulence of the germs has been attenuated, and that they are accordingly too weak to produce such an effect as results when inoculations are made with cocci taken from putrescent matter, their natural *habitat*.

In 1861, Prof. Verneuil noticed the fact that the fluids found in hernial sacs were very irritating to sound tissues. This was apparently

lost sight of again until last year when M. Clado investigated the fluid found in the sac in a case of strangulated hernia. He found bacilli in the fluid. Within an hour of the operation his patient was dead, and the blood, peritoneal serous fluid, and the viscera, especially spleen, were found to contain the same germ in great numbers. The microbe was found also in the strangulated intestinal tissue, in its blood vessels, lymphatics, and glands. Cultivations of this germ made at 37.40° C. caused rapid death in animals, as did also inoculations with the blood of the patient. Inoculations with blood and serum from the first set of animals used, produced the same effects in a second series. Further investigation is no doubt required in connection with this question of hernial infection, but certainly the results obtained are very suggestive, not only of the dangers to which such cases are exposed, but of the direction which efforts to lower the mortality following operations for their relief must take. Still more recently, Prof. Verneuil has demonstrated the presence of a variety of micro-organisms in various malignant neoplasms (*Revue de Chirurgie*, Oct. 1889). Whilst not accepting any of these microbes as standing in a causal relationship to the new growths in which they are found, he still attaches considerable importance to their presence. He thinks that—

(1.) The microbes modify the nutrition of new growths, accelerate their growth, incite to cellular proliferation, and are the principal agents in causing pain, softening, and ulceration.

(2.) These microbes are endowed with intrinsic pathogenic properties, in virtue of which they react on the economy in certain cases after the manner of septic poisons.

*To be Continued.*

## Selections.

### ACROMEGALY, OR MARIE'S DISEASE.

THESIS OF M. SOUSA LEITE.

This disease is very rare, as may be judged by the fact that only thirty-five cases have been recorded.

Four classes of symptoms attract attention in acromegaly :

1. The patient's hands are thick, broad, mas-

sive; the soft parts on the palmar surface are prominent, padded-looking; the fingers are of the same thickness throughout their whole length. Curiously enough, notwithstanding their thickness, there is no notable increase in the length of the hands or fingers. The hands are veritable battledores, and the fingers sausages in appearance. The other segments of the upper limbs and the lower extremities may also be enlarged, but to a lesser degree.

2. The face is changed in an extraordinary manner; it is long and oval; the forehead is low and rests on enormous frontal eminences; the nose is often of a large size; the cheek-bones are prominent, and the lower maxilla much deformed; the chin is large, forming a marked protuberance directed to the front and downwards, which helps to give the strange appearance to a patient suffering from this disease; the upper maxilla, on the other hand, is but seldom attacked; the lips are thickened, especially the lower one, which is projecting and everted; the mouth often gapes, revealing the tongue, which is increased in breadth and thickness.

3. The trunk, in certain cases, presents either kyphosis or lordosis, and in front a protuberance more or less marked which often produces the appearance of a double hump.

4. The subjective symptoms observed at the same time are headache, pains in the bones or in the joints, suppression of the menses, dimness of vision, excessive thirst and desire for food, often polyuria, and sometimes glycosuria. Finally, many of these patients complain of weakness and general lassitude; they become morose and often have a tendency to suicide.

In a general way the disease comes on during adolescence, or in commencing manhood, most often about the 20th year. According to Marie, it is never congenital. It begins slowly, with progressive hypertrophy of the extremities and of the face. No symptoms attract the attention of the patient at the beginning of the disease, and it is often the physician which calls attention to its presence. Certain details give occasion to some remarks: a ring becomes too small, the hat, gloves, or boots, are put on with difficulty; one patient who played the violin was obliged to abandon this instrument, the fingers having become too large, and he took to

playing a wind instrument, but he was soon obliged to have the mouth-piece changed, as it had become too small for his thickened lips.

Once established, the disease advances very slowly, with periods of quiescence followed by exacerbations; little by little the hands and feet attain their enormous, almost monstrous, size; the face and trunk are then involved. A true cachexia may come on towards the last, and the patient sometimes succumbs to syncope and probably to cerebral compression. Some intercurrent affection may shorten the duration of acromegaly which lasts ten, twenty, thirty years, or even more. We are in almost entire ignorance as to the pathogenesis of the disease. —*Journal de Médecine de Paris*, Sept. 14, 1890. —G.A.F.

THE NECESSARY PEROXIDE OF HYDROGEN.  
—Stop suppuration! That is the duty that is imposed upon us when we fail to prevent suppuration. As the ferret hunts the rat, so does peroxide of hydrogen follow pus to its narrowest hiding place, and the pyogenic and other microorganisms are as dead as the rat that the ferret catches when the peroxide is through with them. Peroxide of hydrogen,  $H_2O_2$  in the strong 15-volume solution, is almost as harmless as water, and yet, according to the testimony of Gifford; it kills anthrax spores in a few minutes. For preventing suppuration we have bichloride of mercury, hydronaphthol, carbolic acid, and many other antiseptics; but for stopping it abruptly and for sterilizing a suppuration wound, we have only one antiseptic that is generally efficient, so far as I know, and that is the strong peroxide of hydrogen. Therefore I have qualified it, not as "good," not as "useful," but as "necessary." In abscess of the brain, where we cannot thoroughly wash the pus out of tortuous canals without injuring the tissues, the  $H_2O_2$ , injected at a superficial point, will follow the pus, and throw it out, too, in a foaming mixture. It is best to inject a small quantity, wait until foaming ceases, and repeat injections until the last one fails to bubble. Then we know that the pus cavity is chemically clean, as far as live microbes are concerned. In appendicitis, we can open the abscess, inject peroxide of hydrogen, and so thoroughly sterilize the pus cavity that we need not fear infection of the general

peritoneal cavity if we wish to separate intestinal adhesions and remove the appendix vermiformis. Many a patient, who is now dead, could have been saved if peroxide of hydrogen had been thus used when he had appendicitis. This single means at our disposal allows us to open the most extensive psoas abscess without dread of septic infection following. In some cases of purulent conjunctivitis we can build a little wall of wax about the eye, destroy all pus with peroxide of hydrogen, and cut the suppuration short. Give the patient ether if the  $H_2O_2$  causes too much smarting. It is only in the eye, in the nose, and in the urethra, that peroxide of hydrogen will need to be preceded by cocaine (or ether) for the purpose of quieting the smarting, for it is elsewhere almost as bland as water. It is possible to open a large abscess of the breast, wash it out with  $H_2O_2$ , and have recovery ensue under one antiseptic dressing, without the formation of another drop of pus. Where cellular tissues are breaking down, and in old sinuses, we are obliged to make repeated applications of the  $H_2O_2$  for many days, and in such cases I usually follow it with balsam of Peru, for balsam of Peru, either in fluid form or used with sterilized oakum, is a most prompt encourager of granulation. If we apply  $H_2O_2$  on a probang to diphtheritic membranes at intervals of a few moments, they swell up like whipped cream and come away easily, leaving a clean surface. The fluid can be snuffed up into the nose, and will render a foetid *ozæna* odorless. It is unnecessary for me to speak of further indications for its use, because wherever there is pus we should use peroxide of hydrogen. We are all familiar with the old law: "*Ubi pus, ibi evacua*," but I would change it to read, "*Ubi pus, ibi evacua, ibi hydrogenum peroxidum infunde*." That is the rule. The exceptions which prove the rule are easily appreciated when we have them to deal with. Peroxide of hydrogen is an unstable compound, and becomes weaker as oxygen is given off; but Marchand's 15-volume solution will retain active germicidal powers for many months, if kept tightly corked in a cool place. The price of this manufacturer's preparation is about 75 cents per pound, and it can be obtained from any large drug house in this country. When using the  $H_2O_2$  it should not be allowed to come in contact with

metals if we wish to preserve its strength, as oxygen is then given off too rapidly.  $H_2O_2$  must be used with caution about the hair if the color is a matter of importance to the patient, for this drug, under an alias, is the golden hair-bleach of the *nymphs du pave*, and a dark-haired man with a canary-colored moustache is a stirring object.—Robert T. Morris, M.D., New York, in the *Jour. Amer. Med. Association*, Aug. 9th, 1890.

NOTE UPON CONCEPTION WITH UNRUPTURED HYMEN.—(By W. Macfie Campbell, M.D., Liverpool, before the Edinburgh Obstetrical Society, April 9th, 1890.)—Some months ago a young lady was brought to me, by a relative of the young man to whom she was engaged, as she had not felt well lately. Something about her appearance caught my attention as she entered the room, and I made inquiry as to her menstruation as soon as possible. She had not been unwell for three months, but that had occurred before—she was listless, tired, breathless, and did not know what she felt. She said she was always plump, and did not think her bust or figure increased. Examination of the mammae revealed dark areolæ, distended cutaneous veins, and a milky fluid was easily expressed from the nipples. By the stethoscope the foetal heart was readily detected. I thought it prudent to ask the relative to step into another room, and then told my patient that she was pregnant. I have frequently had to make such an announcement, but have never seen it received with such amazement and incredulity. "Utterly impossible," she said, but still with something in the expression which meant that there was a possibility. Still insisting, she told me that opportunity having twice offered, her fiance had got into her bed, and had imperfect intercourse with her. No penetration nor attempt at penetration had been made. This was afterwards corroborated by the young man, whom I sent for. On examination, the blue appearance of the vulvar mucous membrane was well marked, and the hymen was perfect, but admitted the forefinger without causing much pain. The young man was so positive, that I saw he feared some other paternity, but I could assure him that she was virgo (!) *intacta*. The parties were married soon after, and it was not until six weeks after that, that

penetration was effected, with a sensation of rupture. Some years ago I had two confinement cases within a few days, in which both husbands told me they could not understand their wives' pregnancy, as intercourse had never been perfect. In one case I had to divide the distended hymen bilaterally to allow the head to emerge; in the other there was no great difficulty in dilatation. Dr. Gooch (Important Diseases Peculiar to Women, Sydenham Society, 1859) relates a case of a lady privately married, in whom he diagnosed pregnancy, and was met by the statement of impossibility. Her husband had avoided injury to the hymen, and both considered pregnancy impossible. The event, however, proved Dr. Gooch to be right. In the *Medical Times and Gazette*, vol. i., 1876, Dr. Braun, Vienna, gives three instances of the same. In the first case coition had taken place in a dilated urethra, and Dr. Braun supposes ejaculation had taken place prematurely. Delivery took place without injury to the vagina, the hymen rupturing at the last moment. In the second case, a girl of 16 years confessed to one imperfect attempt at intercourse. The orifice in the hymen only admitted a goose quill. The third case was exactly similar in age and history. Dr. Braun draws the following conclusions briefly, that—1st, An unruptured hymen is no proof of virginity; 2nd, An individual may exist as a virgin in the anatomical, though not in the gynecological sense; 3rd, Pregnancy is possible without penetration. In the same journal, vol. ii., 1881, Surgeon-General Francis relates the case of an officer's wife, in whom pregnancy was declared impossible by husband and wife, the reason being a tense hymen, which had resisted penetration, and which only gave way after a long delay in delivery. These cases are of great interest, as throwing doubt upon the theories of uterine activity in the act of impregnation, and of exact apposition of the orifices of the urethra and cervix as being necessary, and rather point to the entrance of the semen into the uterus, and further, as being due to inherent forces, or ciliary action of the vaginal mucous membrane.—*Edinburgh Medical Journal*.

THE PROGRESS OF BIOLOGY IN CANADA.—We have before us the official account of the formal opening of the new building of the Bio-

logical Department of the University of Toronto, on December 19 last. The building is a substantial stone one in Scottish Norman style, replete with the most modern fittings and accessories; and the lecture hall, which may be approached independently of the main edifice, is benched to seat a minimum audience of 250. The work of the institution is presided over by Prof. R. Ramsay Wright. The classes in biology are said to be among the largest in the University, and the excellence of the new arrangements and teaching appliances elicited, at the opening ceremony (from Prof. Osler, an old student of the parent college), the remark that "it is possible for one to live through a renaissance, similar perhaps in kind, less important in degree, than that" directed against mediæval thought. May this be justified! Certain it is that the biological work now in progress in Toronto was begun under most auspicious circumstances.

Prof. R. Ramsay Wright is well-known and respected in this country, and, at the opening of his new building, allegiance was sworn him by Minot and other biologists of the New World, whose published researches, like his own, rank high in contemporary literature. Investigations like those upon the spiracular cleft of G.noids, the nervous system of the tadpole's epiderma and of the liver, which his school has given to the world, are not to be easily matched as thoroughgoing and honest pieces of work. They denote a high standard of attainment, and one which, in face of the inanities of certain transatlantic workers of another type, must be maintained if the biological brotherhood of the New World is to hold its own.

The Biological Department of the University of Toronto exists in connection with a Medical School, and it is therefore not surprising to find signs of a leaning towards bacteriology and those allied branches of study which, as being furthered by Mentschnikoff and his pupils, by Darier, Podwysozki, Neisser, Ruffer, Macallum, and others, are just now assuming a revolutionary phase. Indeed, the key-note was struck by Prof. Wright in the peroration to his opening address, in which he said that "not only bacteria, but low forms of animal life furnish important pathogenic organisms." We rejoice in this the more now that an outcry against the biological

training of the surgeon-student is being raised at home by persons who clamor for the restoration of an apprenticeship system. From the utterances of distinguished medical experts made at the Toronto ceremony, it is certain that this proposal will meet with no response from the New World.

The Biological Institute of Toronto is detached from the main University building. The latter was, on February 14th last, almost wholly destroyed by fire. During the preparations for the annual conversazione, a wooden tray covered with lighted lamps fell to pieces while being carried; a lamp was upset, and although the burning mass was heroically carried towards the exterior by the sub-curator and a caretaker, the building, its valuable contents, museums, and books, were for the most part destroyed. Prof. Wright has been for some months on a tour of inspection in Europe, seeking, among other things, gifts of specimens and books. Truly, our Canadian brethren do not deserve these unless better able to take care of them than in the past. Prof. Wright assures us that such will be the case, and, on his behalf, we appeal to specialists and others who may be possessed of duplicates, and to those who may be otherwise willing, to help. The position is one which threatens to injure seriously the educational prospects of a rapidly advancing country to which we, at home, are much beholden; and it calls for combined action, by which alone a loss such as that we deplore can be made good.—*Nature*, Oct. 9th, 1890.

THE DOSAGE AND ADMINISTRATION OF CREASOTE IN PHTHISIS.—Dr. W. H. Flint, of New York, has arrived at the following conclusions, as a result of reading and personal experience. 1. Intrapulmonary and intra-tracheal injections of creasote are of doubtful utility, and may be positively injurious. 2. For administration by mouth or rectum, solutions and emulsions are preferable, in most cases, to capsules, pills, or wafers. 3. Milk is an excellent vehicle for the administration of creasote in solution or in emulsion. 4. Each method of administering creasote used by the writer—viz., by inhalation, by mouth or rectum alone, and by both simultaneously—is useful, and may each be

particularly adapted to individual cases. In suitable cases the most rapid progress seems to be made when all these ports of entry are utilized. 5. The best results for each individual attend the administration of the maximum quantity of creasote which the patient can bear. 6. The average patient will not easily tolerate more than ten or fifteen minims of creasote *per diem* for any great length of time, and many will only bear two or three drops *per diem* continuously administered. 7. It is very important that the treatment be uniform and uninterrupted. 8. Consequently, an effort should always be made, if intolerance of creasote is shown by any one mucous surface, to employ some other channel of introduction, in order that continuity of the treatment be not interrupted.—*Coll. and Clin. Rec.*

A PECULIAR CASE OF IDIOSYNCRASY TO THE EXTERNAL USE OF TANNIN.—Lange, of Copenhagen, with a 1 in 15 solution of tannin, painted the throat of a patient suffering from chronic naso-pharyngeal catarrh. Immediately after the application great swelling of the mucous membrane took place, complete stoppage of the nose, and a considerable watery secretion. There was considerable œdema of the soft palate and uvula, the latter resting on the back of the tongue. An hour later there was some numbness, and an unbearable itching of the whole surface of the body, and an urticarial eruption appeared. At the end of twenty-four hours nearly all these phenomena had disappeared. The patient reports that he had observed these results on two former occasions after the application of tannin solution.—*Deutsch. Med. Wochenschr.*, 1889, 91. *Centralbl. f. Klin. Med.*, 1890, 26. *Medicinisch-Chirurgische Rundschau*, Aug. 1st. 10.—*G.A. F 89.*

INDUCTION OF ABORTION FOR UNCONTROLLED VOMITING.—Dr. Pugliatti, of Novara, recommends that in cases of hyperemesis gravidarum, where milder means have failed, abortion should be induced in the following manner: A bougie about two-fifths of an inch thick is pushed upwards to the extent of two inches into the uterus. After two or three hours this bougie is replaced by another slightly thicker,

and, after the same space of time, a third, thicker than the second, is introduced. This last bougie is left in until distinct uterine contractions are set up. This method, according to Dr. Pugliatti, is free from danger. The membranes are not damaged, and in the worst cases there remains the great advantages that the lower uterine segment has been brought into a condition favorable for further proceedings.—*Brit. Med. Jour.*

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TORONTO, DECEMBER 1, 1890.

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THE ADVANCEMENT OF AMERICAN  
MEDICINE.

The opening address of the Medical Faculty of the University of Pennsylvania was recently delivered by Professor Piersol, and devoted to the above topic. It contains much encouragement for those who have the interests of the progress of medical education in this Province at heart, as it discloses a community of feeling, on this important subject, between the Faculty of one of the oldest established American universities and the authorities of the University of Toronto.

The following quotation regarding the preliminary education best fitted for a medical student bears this out: "As far as the acquisition of a professional education is concerned, a fair measure of success is bound to follow energetic and honest application by every one well equipped for the reception of the requisite training. By well equipped I mean not only the possession of that necessary general knowledge and culture essential for the board—liberal education, so desirable as a foundation for the technical acquirements to be added—but more especially the possession of trained faculties of accurate observation, particularly of natural phe-

nomena, and of drawing logical deductions from the same. That such powers are best stimulated and developed by a serious study of the natural sciences, there can be but little doubt. Not the mechanical, and too often meaningless, classroom recitations, but by the live, active training gained by personal examinations and observation in the laboratory and in the field. Since medicine, both as an art and as a science, depends so largely upon direct observation, the cultivation of those faculties by which such fundamental data are obtained is of primary importance."

Prof. Piersol claims that a comparison in this regard between the American and German universities is very much to the advantage of the latter. He thinks the German institutions furnish the most thorough and comprehensive system of medical education of the present day, and attributes this in part to concentration (with a population of about one and a third times that of Germany, the United States have 126 as against 20 medical schools), and in part to the greater attention devoted to science, both in the schools and in the universities. "So important," he says, "for the training of the medical student are the natural sciences regarded by the educational authorities of this latter country that, not content with the attention bestowed on these branches, as part of the work of the gymnasium and realschule, botany, zoology, and physics, are prominent among the studies to which the first four semesters are devoted, and in which, together with anatomy, physiology, and chemistry, the first examination of the medical course—the 'physecum'—is held."

There is no question but that these fundamental sciences are better attended to on the continent of Europe. Prof. Piersol, however, points out that "our students should not be held responsible for the differences, but rather the prevailing system of preparatory education, and the inadequate provisions made to supply the deficiencies. As long as our advanced schools fail to ground their pupils in the natural sciences, and our colleges to include biological studies among the required subjects of their curriculum, so long will our medical classes be composed largely of men lacking this important training. A lad may enter at nine years of age and pass through the entire prescribed course of study of

our most reputable schools, and subsequently take his college degree, without having turned a page, or having listened to a single lecture, pertaining to biology.

"It must be said just here, in justice to this institution, as well as to some other universities and colleges, that, by a judicious selection of elective branches, the student who has already determined to adopt medicine as his profession may secure to himself much valuable training in biological study; unfortunately, however, it often happens that the selection of medicine as a profession is made too late to profit by these opportunities, and unless additional time be appropriated, the college graduate enters upon his professional course without that particular discipline which his years of study should have guaranteed. Had it been possible for each of you to have passed through a course of study similar to that afforded by our own or other biological schools, I am confident that the time devoted to such preparations would have been amply repaid, not only in the knowledge and training directly obtained, but likewise in the higher and more expanded plane from which your professional studies would have been approached."

An increasing number of students are beginning to avail themselves of the facilities offered by the Natural Science course of the University of Toronto to take a degree in Arts, through a channel which admirably prepares them for their future profession. More proceeding to their medical education proper. It is questionable indeed whether the privileges of reducing the four years course in medicine to three years, at present extended, in Ontario, to all graduates in Arts, should be allowed to any who have not devoted special attention to scientific studies during their course.

Referring to the deserved reputation of the American nation for "practicalness," Prof. Piersol fears that that very virtue sometimes leads to depreciation of principles:

"The successful practitioner, the representative, it may be, of several generations of widely useful men, is too often inclined to question the value of studies unknown to his forefathers, and of which he himself has learned little more than the names; to him the many additions occupying prominent places in the latest announcement

of his alma mater are, at best, imported novelties of imaginary consequence. The advice of such physicians to younger men seeking counsel on entering upon their medical studies, is, too frequently, to expend the least possible time and energy on these 'theoretical' branches, devoting the attention to the far more useful, 'practical' subjects.

"Let me most earnestly warn you against adopting notions so mistaken, and so out of harmony with the convictions and conclusions of those best qualified to decide upon the combination of studies most desirable for your professional education; not only for your preparation to cope successfully with disease, but as giving you that generous and comprehensive culture, from the roots of which the growth of your professional attainments may spring, and, tended by your earnest efforts, expand into the symmetrical and well-rounded whole characterizing the completely developed possibilities of the highest type of physicians of to-day.

"Whatever our success in broad fields of practical medicine—and in this we surely have good reason to be gratified—it must be admitted that we, as a profession, are lacking in much of that comprehensive scientific culture which is regarded as essential for the European physician. Few who have had the opportunity for unbiased observation will deny that this deficiency exists. The skilled performer on a musical instrument is not necessarily a musician; one may become a master of execution, a virtuoso in fact, and yet remain ignorant of the true science of his art; the gymnastics of the key-board may be acquired, yet thorough bass, counterpoint, and harmony, continue to be unsolved mysteries. Neither does the dexterity of the specialist, whether exhibited in a difficult resection, a brilliant ovariectomy, an accurate lens extraction, or a well-executed piece of bridge-work, alone serve to raise the skilful operator to the highest plane of professional development; to reach this latter, which should be the goal of every graduate, in addition to and associated with his necessary dexterity, must be the comprehensive learning befitting the man of science."

In speaking of the desirability of adding a fourth year to the present three years medical course of the University of Pennsylvania, Prof. Piersol expresses the hope "that the opportunity

will be embraced to give recognition to those biological studies now completely ignored, to an extent at least sufficient to broaden the basis of our teaching to a degree commensurate with the importance of the results to be attained; such additions, together with the development to desirable proportions of the fundamental studies already taught, and the extended practical work in the clinical branches, will fully consume the time gained from an increase of term. Simply to append an additional clinical year, without remodelling and strengthening our entire course, would be to augment the weight of a structure resting on foundations none too secure. Our system of medical education must form a pyramid in which the broad and stable base of the science leads up to the specialized skill of the art." But Prof. Piersol would not be satisfied with a purely scientific preliminary education for the medical student; he would like to see French, German, and Drawing, included in his matriculation curriculum; the two former for the rich store of information which a sufficient knowledge of them unlocks—the latter, not only on account of the convenience of proficiency therein, but on account of the habits of correct observation developed by the use of the pencil, and especially of that delicacy of co-ordination of the eye and the hand ensured thereby, which is of such infinite service to the medical man.

Dr. Piersol, and those who think with him on these educational matters, have our entire sympathy in their endeavor to elevate medical education in the United States.

#### KOCH'S DISCOVERY.

Dr. Robert Koch delivered an address before the International Medical Congress at Berlin, in which he mentioned a remedy which conferred on the animals experimented upon an immunity against inoculation with the tubercle bacillus, and which arrested tuberculous disease. Investigations have now been carried out on human patients, and these form the subject of a further communication, published in the *Deutsche Medicinische Wochenschrift*, of Nov. 14th. This article was transmitted by cable to the *Philadelphia Medical News*, and appeared in an extra edition of that enterprising journal on Nov. 15th. From the article thus published

in the *News* we gather that the research is still far from complete; and it is only because so many reports have reached the public in an exaggerated and distorted form that Prof. Koch has deemed it imperative to give a review of the position at the present stage of the inquiry, in order to prevent false impressions.

As regards the origin and preparation of the remedy no statement is made, as the research is not yet concluded, and this is reserved for a future communication. The remedy is a brownish, transparent liquid. Introduced into the stomach the remedy has no effect—it must be injected subcutaneously; the place chosen for the injection has been between the shoulder blades and in the lumbar region.

The healthy individual and patients suffering from diseases other than tuberculosis are unaffected by a dose of 0.01 cubic centimetre, whilst this quantity suffices to produce a severe general reaction, as well as a local one, if administered to a tuberculous patient. This circumstance makes the treatment of diagnostic value. The local reaction can be best observed in cases in which the tuberculous affection is visible; for instance, in cases of lupus. A few hours after injection into the skin of the back the lupus begins to swell and redden, and this it does generally before the initial rigor, which is a constant occurrence after the liquid is injected. During the fever which ensues, the swelling and redness increase, and may finally reach a high degree, so that the lupus tissue becomes brownish and necrotic in places where the growth was sharply defined. After the subsidence of the fever the lupus-tissue gradually decreases, and disappears in about two or three days. The lupus spots themselves are then covered by a soft deposit, which filters outwards and dries in the air. The growth then changes to a crust, which falls off after two or three weeks, and which, sometimes after one injection, leaves a clean red cicatrix behind. The reaction of the internal organs, especially of the lungs, in cases of pulmonary disease, is not at once apparent, unless the increased cough and expectoration of consumptive patients after the first injection be considered as pointing to a local reaction in these cases. The general reaction is dominant; nevertheless, one is justified in assuming that here, too, changes take place similar to those

seen in lupus cases. The local reaction in cases of tuberculosis of the glands, bones, joints, etc., are perceptible to eye and touch. In these cases, swelling, increased sensibility, and redness of the superficial parts, are observed.

The remedy does not kill the tubercle bacilli, but the tuberculous tissue; it can influence living tuberculous tissue only, and has no effect upon dead tissue; as, for instance, necrotic cheesy masses, necrotic bones, etc.; nor has it any effect on tissues made necrotic by the remedy itself. In such masses of dead tissue living tubercle bacilli may still be present, and are either thrown off with the necrosed, or may possibly enter the neighboring and still living tissue. If the remedy is to be rendered as fruitful as possible, this peculiarity in its mode of action must be carefully observed; everything must be done to remove the dead tissue as soon as possible; as, for instance, by surgical interference. Where this is impossible, and where the organism is unassisted in throwing off the tissue slowly, the endangered living tissue must be protected from fresh incursions of the parasites by continuous applications of the remedy.

#### POST-GRADUATE LECTURES IN THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

We have to announce with much gratification that the Medical Faculty of the University of Toronto is making arrangements to give a course of lectures and demonstrations on medical and surgical subjects, chiefly for the benefit of general practitioners, in December—probably the last three days of the week before Christmas. Several distinguished men from the United States have promised to assist the members of the Faculty in this undertaking. Among these will probably be the following: Dr. Vaughan, of Ann Arbor; Dr. White, of the Pennsylvania Hospital; and Dr. Robinson, of New York. Dr. Graham has just returned from New York, where he went to complete arrangements, with others who are expected to be present. We are unable to give full particulars now, but we understand a programme will shortly be printed and sent to the members of the profession throughout Ontario, who will be invited to attend.

Among the subjects to be discussed will be

tubercle in its medico-surgical aspects; typhoid fever; some of the more common diseases of the skin; subluxations; and diseases of the genito-urinary organs. It is hoped that within a few days after the delivery of this issue of THE PRACTITIONER, a full and complete programme will be in the hands of the profession. The committee having the matter in charge has endeavored to choose subjects of great practical importance which will be of general interest to all physicians, and will endeavor to have them treated in both their scientific and practical aspects.

We may say that the idea of giving such a course originated in the mind of the Vice-Chancellor of the University, who has shown himself to be a very strong friend of higher education of all kinds, and has evinced a desire to make the re-established Medical Faculty a source of great benefit to both students and practitioners. We hope the friends of the faculty, and others (if there be any *others* in the province), will appreciate the efforts that are being made, and show by their presence their interest in the cause of medical education.

#### THE UNIVERSITY OF TORONTO AND THE KOCH CURE FOR TUBERCULOSIS.

As our readers will have learned through the secular press, Professor Ramsay Wright, through the generosity of Mr. Mulock, the Vice-Chancellor, has gone to Berlin to study Koch's methods of preparing and employing his new remedy for tuberculosis. The Medical Faculty readily gave the required leave of absence, although it happened that this distinguished lecturer could ill be spared during the regular work of the session. It was thought especially important, both in the interests of humanity and medicine, that a scientist should make a thorough investigation of the methods of preparation. The main consideration, as far as Canada is concerned, is to get, as soon as possible, a supply of the curative lymph, or as Dr. Koch proposes to call it—"parataloid." The Faculty is very anxious to be in a position to prepare the material in the University laboratories, and furnish it free of expense to the profession. Of course Professor Wright will not

overlook the clinical aspect of the action of the lymph, but will observe very carefully the results of experiments in this direction. The magnificent generosity of Mr. Mulock will be gratefully appreciated by all classes throughout the country.

### Meeting of Medical Societies.

#### TORONTO MEDICAL SOCIETY.

Oct. 23, 1890.

The president, Dr. Spencer, in the chair.

Dr. B. E. Mackenzie presented a specimen of

#### BONY ANCHYLOSIS AT THE HIP-JOINT.

This occurred in a patient ten years of age. She had been admitted into the Children's Hospital, suffering from hip-joint disease, in 1886. Abscesses had formed at different times about the joint. She had one or two attacks of hæmaturia, accompanied by severe vomiting and purging; during which her vitality was very much lowered, and she became emaciated; she rallied, however, from time to time, and improvement was noted in her general condition. Early in October, '90, she became much worse and died in a few days. At the *post mortem* examination there was found amyloid disease of the kidneys and other internal organs; the kidneys were bound down by perinephric inflammation. The condition about the hip-joint was as follows: Inside the pelvis, on the left side, there had been inflammatory exudation, the lymph had organized, and there had been sinuses formed through this in various directions, one sinus passed through the ischium. Firm osseous anchylosis existed at the hip-joint. Dr. Mackenzie exhibited the joint; a longitudinal section had been made through the bones to show the condition of the parts.

Dr. B. E. Mackenzie exhibited a case of

#### HIP-JOINT DISEASE

in a child in whom a cure had been effected. The child has been under his treatment since June, '89. An American traction-splint had been worn until three months and a half ago. There is no defect at the present time except slight atrophy of the muscles; there is no shortening.

Dr. B. E. Mackenzie also showed a patient suffering from

ROTATO-LATERAL CURVATURE OF THE SPINE.

There has been much improvement under treatment; this is evidenced by the fact that he is one inch taller than at the end of July last; he is eleven years of age. The treatment has been by means of gymnastics; a girdle has been used which has been thrown around the patient's body, and one portion of it fixed to a hook in the wall of the room; the patient throws his weight upon this girdle in such a way as to correct the deformity.

Dr. Price Brown narrated the clinical history of a case of

SUB-ACUTE PNEUMONIA.

Dr. A. F. Mackenzie stated the case of a child who suffered from

APHASIA AFTER TYPHOID FEVER.

Patient æt. 12. At the end of the first week she was delirious; at the end of the second week she talked nonsense, making attempts to speak, but without pronouncing any words. After the third week the temperature was normal, but the patient had lost the power of speech. This continued for a week or ten days, and then she got back her entire vocabulary in the course of twenty-four hours.

Oct. 30, '90.

The president, Dr. Spencer, in the chair.

Dr. Machell read a paper on

APPENDICITIS, FOLLOWED BY PYLEPHLEBITIS, which appears at page 537 of THE CANADIAN PRACTITIONER.

Dr. McPhedran stated that pylephlebitis was always chronic and ran a tedious course. He narrated a case caused by a suppurating gland at the junction of the ileum and the cæcum. The explanation of life being prolonged in such cases is probably the fact that the liver acts as a sentry; cases of pylephlebitis are most common in connection with cæcal abscesses. The abscesses in the liver on section, in Dr. Machell's cases, were probably in branches of the portal vein. We are too prone to consider cases presenting symptoms like the one under consideration as malarial; malaria is, in Dr. McPhedran's opinion, rare in Toronto.

Dr. J. E. Graham had seen well-marked cases of malarial fever, in Toronto, cured by quinine. The frequency of the chills, and the inefficacy of quinine, would have led one to suspect pyæmia. The temperature during the chill in pyæmia runs often to 104 or 105°.

Dr. Cameron thought the case was clearly one of pyæmia, and the abscesses should have been reached per rectum. Such cases do occur from suppurating piles, starting suppuration in the portal system. The change of type in the time of recurrence of the chills was against the theory of malaria.

Dr. Gullen and Dr. Nesbitt also took part in the discussion, and Dr. Machell replied.

Dr. Thos. Mackenzie exhibited a patient, an adult woman, suffering from

DISLOCATION OF THE HEAD OF THE RADIUS BACKWARDS AND OUTWARDS.

Six weeks ago she fell off the steps three feet to the ground, and sustained the injury. The arm was put up in the extended position—the arm is now stiff in that position. It is proposed now to put the patient under chloroform, and forcibly bend the arm.

Dr. Atherton, Dr. Primrose, Dr. Powell, Dr. B. E. Mackenzie, Dr. Doolittle, and Dr. Cameron discussed the case, and Dr. Mackenzie replied.

Nov. 13, '90.

Vice-president Dr. A. A. MacDonald in the chair.

Dr. Holford Walker presented the following specimens:

1. *Nodular myoma*. Removed from a patient who had suffered from very severe hemorrhage. Hysterectomy was performed.

2. *Œdematous myoma*. This was a large tumor, as large as an adult head; it had shrunken to one-quarter its original size since operation. There was no menorrhagia in this case, but the tumor was removed because of the pain and pressure. Under the microscope the tumor shows the structural elements of the uterine wall, but abnormally distributed. Hysterectomy was in this case also performed, and the patient made a good recovery.

Dr. Atherton asked if electricity had been given a fair trial, in the second case, to relieve the pain. Tait is now in favor of removing the

ovaries and tubes in cases of uterine myomata, both of the nodular and cedematous variety.

Dr. Walker is of opinion that electricity is useless in cedematous myomata. She had suffered pain for two years and a half, and operation was necessary.

Dr. J. F. W. Ross showed the following specimens:

1. *Sarcoma*. Two months before coming under Dr. Ross' care, the patient, a young woman, had been operated upon in the Toronto General Hospital. The cervix was at that time dilated, and what was apparently a small myoma was removed. After this something presented at the os, which puzzled one to tell whether it might be a myoma or an inverted uterus. Dr. Ross, after careful examination, concluded that it was a sarcomatous growth; there was a very fetid discharge, and the rapid recurrence pointed to malignancy. The tumor was removed through the vagina. The pedicle was at the fundus, and great difficulty was experienced in getting at it. The wire broke three times in attempting to remove it. An attempt was made to draw it down by means of midwifery forceps; finally the knife was used and the tumor cut into several pieces; a chain was then thrown around the pedicle, and the tumor was removed. The patient made a good recovery.

2. *Cedematous myoma* removed through the vagina. The patient was an elderly lady, who had suffered from menorrhagia for ten years; a very offensive odor simulated malignant disease.

3. *Myoma*. A small tumor was removed from a young lady who suffered from vaginal discharge, and symptoms of falling of the womb.

4. *Hemorrhagic polypus*. Removed from a young negress. This tumor was exhibited to contrast with the last specimen.

5. *Tumor connected with right rectus muscle*. Young woman; first noticed the tumor in May, '90; it was about the size of a tea-cup. She had received a blow on the abdomen, over the portion of the tumor, two years ago, one month after the birth of her last child. The tumor was on the right side of the abdomen, and was freely movable from the umbilicus down to the iliac crest. The diagnosis seemed to lie between solid ovarian tumor and tumor of the mesentery. On September 20th, '90, an operation was performed. On opening the abdomen

the tumor was found adherent to the anterior abdominal wall, and evidently growing from the right rectus muscle. Cutting carefully between clamp forceps the tumor was separated, and it was found that it had no attachments within the peritoneum. The capsule was opened, and the tumor shelled out. The rectus muscle was laid bare in the process. What remained of the sheath of the rectus was stitched over the muscle, and an attempt made in this way to shut off the general peritoneal cavity.

Dr. A. A. MacDonald, Dr. Atherton, and Dr. Walker discussed the cases.

Dr. Cameron presented a

#### VESICAL CALCULUS,

removed from the bladder of an old gentleman, æt. 76. The bladder wall was, in this case, coated with mucus and phosphatic deposit. The patient had suffered from bladder trouble for many years; prostatic enlargement had been found by Sir Henry Thompson, who put the patient on catheter treatment. Eight or nine years ago he lost a broken-off portion of a catheter in the urethra. Dr. Cameron, by introducing the finger in the rectum, succeeded in working the broken piece of catheter forwards along the urethra, and removed it. Last spring the patient began to fail in health, and last July abandoned the use of the catheter, because the water was constantly coming away, and when the catheter was used, nothing was found in the bladder to draw off. On passing a sound a few days ago, a calculus was detected. Median lithotomy was performed; the patient has done well.

Dr. A. A. MacDonald stated that he once removed a stone, the nucleus of which was a piece of catheter.

Dr. Thomas Mackenzie asked if suprapubic operation would not have been indicated in such a case.

Dr. Cameron, in reply, stated that the suprapubic cystotomy was useful in some forms of prostatic enlargement. If there is an annular ring of the prostate around the urethral orifice, then the bladder should be opened above the pubes. If by subpubic cystotomy we find that the prostatic trouble cannot be overcome, then the suprapubic operation should subsequently be performed.

## Hospital Reports.

### SUPRA-PUBIC LITHOTOMY IN A CHILD.

Under the care of I. H. Cameron, M.B., in the Toronto Hospital for Sick Children.

F.B., æt. 3½ years, was admitted Sept. 27th, 1890, with the following history: Two years ago he began to suffer from frequency of micturition and pain during the act. He was placed under the care of a doctor, who administered medicine which relieved his symptoms considerably. Latterly, however, he has been suffering very much, and has not been able to play about without pain. For the past year he has strained at stool, and this has caused the bowel to come down. He wets the bed at night, and frequently wets his clothes during the day; there has never been any blood noticed in the urine. His general health has been good.

On admission to the hospital, it was noticed that the boy was fretful, and objected to be moved about; he preferred lying quiet and undisturbed. The urine was examined; specific gravity, 1012; faintly alkaline in reaction; contained a trace of albumen, numerous pus cells, no blood; there were some pavement epithelial cells, and a few round epithelial cells. Chloroform was administered, and, on sounding, a stone was detected, the surface of which was rough, and it was judged to be a little over half an inch in length. An operation was performed by Dr. Cameron on Oct. 3rd. Chloroform was administered; a soft catheter was passed, and the bladder washed out with warm boracic lotion. A little less than two ounces of warm lotion was now injected into the bladder, sufficient to make the bladder quite prominent and perceptible under the hand placed on the hypogastric region; the catheter was removed and a rubber band tied around the penis, in order to retain the fluid in the bladder. A sausage-shaped rubber bag was now introduced into the rectum, and an ounce and a half of warm boracic lotion was injected into it. A incision two inches long was made in the middle line just above the pubes; the incision was carried through the linea alba; the transversalis fascia divided on a director; the loose cellular tissue covering the bladder was pushed aside, and the bladder wall exposed. Whilst working with a

director and knife, the bladder was inadvertently opened; the director was at once introduced into the opening; a silk suture was introduced through the wound, and made to penetrate the bladder wall, on the right side of the incision, from within outwards; this was carried through the abdominal wall, and the other end of the suture was carried through the same tissues a quarter of an inch lower down; this was drawn tight, leaving the two ends of the suture lying free on the abdominal wall, and a loop within the bladder. This procedure was repeated on the left side. The bladder was incised for three-quarters of an inch between the sutures, and the fore-finger was introduced into the bladder, the stone was detected, and was removed by the aid of a forceps. The bladder was now explored, but nothing further found; it was then thoroughly irrigated through the abdominal wound. The lateral sutures were tied, thus securing the apposition of the bladder to the anterior abdominal wall. A small-sized drainage-tube was passed down to the bladder wound, which was left patent, and was brought to the surface at the lower angle of the abdominal wound. Several points of interrupted suture were introduced in the wound in the abdominal wall. The surface of the wound and the inner aspect of the thighs were smeared with vaseline to prevent irritation from the urine, and a dressing of iodoform-gauze applied, the rubber band on the penis and the rectal bag having been removed. The prevesical fold of peritoneum was not brought into view during the operation.

The stone was ovoid in shape. It weighed 179 grains, and measured 1¼ inches in one diameter and ⅞ of an inch in the other; brown color and hard and roughened on the surface. At one extremity there was a whitish deposit.

Oct. 6. Patient has not had any pain since the operation. There has been slight abdominal distension, which is subsiding; the stitches were removed to-day; urine passes freely by the wound.

Oct. 12. Catheter passed to-day and a small quantity of urine drawn off. Up to this date he has passed water entirely by the wound; in future the catheter is to be used every eight hours.

Oct. 14. Eczematous condition of scrotum

and penis, with considerable inflammation. Catheter had to be discontinued. Zinc ointment applied.

Oct. 28. Passed water voluntarily by the urethra without use of the catheter, which has been discarded since last note.

Oct. 29. He passes all the urine by the urethra, and none by the abdominal wound.

The eczematous condition has disappeared.

Nov. 11. The wound is healed perfectly, and patient now runs about without pain or discomfort of any kind. He is no longer fretful, but is bright and cheery.

### Pathology.

INOCULATION WITH TUBERCLE VIRUS THROUGH A WOUND.—An extremely interesting case of tubercle inoculation has been reported lately in the *Dtsch. Med. Wochenschr.* The facts are as follows: A four months old infant of a phthisical mother fell and cut its scalp upon a vessel used by the mother as a sputum receiver. The wounds were smeared with the sputa, which were shown to contain the bacilli of tuberculosis. The dressing of the wounds was done by iodoform-collodium and sublimate gauze, after washing with bichloride solution. The wounds healed nicely at first, but soon after ulcers appeared in the cicatrices, these being followed by caseation and suppuration of the cervicle glands. Tubercle bacilli were found in the pus. Operations were undertaken for the extirpation of the glands, but the infant died. At the *post mortem* examination tubercles were found in the spleen only. Evidently the reporter considers that death resulted from general tuberculosis originating in inoculation of a skin wound. If this be so, then Payne's statement that the only known instances of tubercle inoculation through wounds are those in which so-called tubercular warts have been produced on the hands of those making *post mortem* examinations can no longer stand.—J. C.

It is said that about two thousand physicians have gone to Berlin to study the mysteries of Koch's parataloid. Many of those who would liked to have gone, but have been unable to do so, are inclined to be both cynical and sceptical.

### Correspondence.

Editor of THE CANADIAN PRACTITIONER:

DEAR SIR,—I regret very much that, in the opening lecture delivered at the commencement of the present session, I overlooked the name of Dr. Julius Mickle, in connection with the diploma of membership of the Royal College of Physicians. Dr. Mickle graduated at Toronto University in 1866, as Gold Medalist, and passed the examination for membership in 1879. He was elected a Fellow in the following year.

The admission does not affect my argument, as Dr. Mickle was thirteen years a graduate before he became a candidate for the membership of the Royal College of Physicians.

Yours very truly,

J. E. GRAHAM.

### Book Notices.

*Transactions of the Michigan State Medical Society for the Year 1890.*

The twenty-ninth annual meeting was held June 19th and 20th, at Grand Rapids. This volume, the fourteenth published, contains a report of the address of the President, Dr. Geo. E. Frothingham, of Detroit, and the various papers read, with the discussions thereon.

*The Medical News Visiting List for 1891.*

Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data, and 176 pages of blanks. The 60 patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, pocket, pencil, rubber, erasable tablet, etc. Leather, \$1.25. Philadelphia: Lea Brothers & Co., 1890.

The *Medical News' Visiting List for 1891* has been thoroughly revised and brought up to date in every respect. The text portion contains most useful data for the physician and surgeon, including an alphabetical Table of Diseases, with Remedies; also sections on Examination of Urine, Artificial Respiration, Incompatibles, Poisons and Antidotes, etc. The classified blanks are arranged to hold records of all kinds of professional work, with memoranda and accounts.

*Annual of the Universal Medical Sciences.* A yearly report of the progress of the general sanitary sciences throughout the world. Edited by Charles E. Sajous, M.D., and seventy associate editors, etc. Vol. II. F. A. Davis, publisher, Philadelphia, New York, Chicago, Atlanta, and London.

Among the contents of this volume are Nervous and Mental Diseases; Diseases of the Brain and Spinal Cord; Diseases of the Blood and Spleen; Diseases of the Uterus, Ovaries and Tubes, Vagina, and External Genitals; Diseases of Pregnancy; Obstetrics; Puerperal Diseases; Dietetics of Infancy and Childhood, etc. Among the authors are Drs. Goodell, Parish, Parvin, Jaggard, Manton, Starr, Minot, Munde, etc. The volume is a very excellent one in every respect.

### Book Reviews.

*A Manual of Modern Surgery for the use of students and practitioners.* By John B. Roberts, A.M., M.D., Professor of Surgery in the Woman's Medical College of Pennsylvania; Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Lecturer in Anatomy in the University of Pennsylvania. Octavo, 780 pages, 501 illustrations. Philadelphia: Lea Bros. & Co.

This is an excellent text-book of surgery, suitable alike for the student and the practitioner. It is thoroughly up to date, and contains clear and concise accounts of all the more recent advances in surgery. Each subject is dealt with in a truly scientific spirit; the pathology of the condition is fully discussed before any particular line of treatment is indicated. The diagrams are excellent, and the book is profusely illustrated. We heartily recommend the book to those in search of a text-book of modern surgery.

*Dust and its Dangers.* By T. Mitchell Prudden, M.D. New York and London: G. P. Putnam's Sons.

This small book of 104 pages deals with a subject which demands the serious consideration of every individual. The fact that dust-laden air is the medium through which disease is so frequently carried from one person to another is well established. There are many, however, who have but a hazy notion of the way in which

infection is thus carried, and who are still further in the dark as to the proper method of preventing the spread of disease through this medium. This book will prove of undoubted value to the class referred to, and will be found most interesting as well as instructive.

*Ointments and Oleates, especially in Diseases of the Skin.* By John B. Shoemaker, A.M., M.D., Professor of Materia Medica in the Medico Chirurgical College of Philadelphia, etc. Second edition revised and enlarged. Philadelphia and London: F. A. Davis, 1890.

This is the second edition of a useful work. Dr. Shoemaker, as an indefatigable worker in the department of pharmacology and therapeutics, is well-known. The book gives the author's opinions, formed on extensive investigations and a large experience. The source of the various ointments and oleates is in each case stated; numerous formulæ are given, and the indications for their use are pointed out. This book forms one of the "physicians' and students' ready reference series," published in neat form by Mr. F. A. Davis, of Philadelphia.

*Dental Surgery, including Special Anatomy and Pathology.* By Henry Sewill, M.R.C.S., L.D.S., Eng.; Past President of the Odontological Society of Great Britain, etc. Third edition, 400 pages. London: Bailliere, Tindall & Cox, 1890.

This book deals with the more modern methods of practising dental surgery. The matter is presented to the reader in a clear and concise manner, and it must be looked upon as an excellent manual for students and practitioners. The drawings are well executed; the neat binding, and clear print on good paper, make a peculiarly attractive volume.

*A Text-book of Comparative Physiology. For Students and Practitioners of Comparative (Veterinary) Medicine.* By Wesley Mills, M.A., M.D., D.V.S., Professor of Physiology of McGill University, Montreal, etc. 627 pages, 476 illustrations. New York: Appleton & Co., 1890.

This work will prove of undoubted value to the student of veterinary medicine; it supplies a want which has been felt more particularly of late years, when great advances have been made in this department of medical science. It has been no easy task for the student who wishes to

perfect his knowledge to apply the principles laid down in text-books of human physiology to the diversity of structure and function which he has to study in the lower animals. Professor Mills, in his text-book, has undertaken the task, and in a most satisfactory manner has placed in the hands of the veterinary student a work which will meet with the appreciation it undoubtedly deserves.

*Irregularities of the Teeth, and their Treatment.*

By Eugene S. Talbot, M.D., D.D.S., Professor of Dental Surgery in the Woman's Medical College, Chicago, etc. Second edition, revised and enlarged. 257 pages, 234 illustrations. Philadelphia: P. Blackiston, Son & Co.

The author of this book devotes a great deal of the space at his disposal to the study of the etiology of the irregularities met with in the human teeth. This undoubtedly paves the way for a rational treatment. The various methods of correcting irregularities are explained with great care and clearness, and many ingenious forms of apparatus described. The work is well illustrated, and in every respect a more satisfactory exposition of the subject could not be desired. The publishers are to be congratulated on producing an attractive volume.

*Annual of the Universal Medical Sciences.* Edited by Chas. E. Sajous, M.D., and seventy associate editors. Volume IV., 1890. F. A. Davis, Philadelphia.

The fourth volume of this popular work contains the following articles: Diseases of the Skin and Syphilis, by Arthur Van Harlinger; Ophthalmology, by Chas. A. Oliver and Geo. M. Gould; Otology, by Charles S. Turnbull and Arthur Ames Bliss; Diseases of the Nose and Accessory Cavities, by Chas. E. Sajous; Diseases of the Pharynx, Tonsils, and Hard Palate, by D. Bryson Delavan; Diseases of the Larynx, Trachea, and Œsophagus, by J. Sallis-Cohen; Intubation of the Larynx, by E. Fletcher Ingals; Diseases of the Thyroid Gland, by Franklin H. Hooper and J. Payson Clark; Inebriety, Morphine, and Kindred Diseases, by W. R. Birdsall; Legal Medicine, by Frank Winthrop Draper; Urinalysis, by Allen J. Smith; Bacteriology by Harold C. Ernst; and Epidemiology, by John B. Hamilton.

## Pamphlets Received.

*The Effects of Dry Atmosphere on Chronic Inflammation of the Larynx and Nares.* By E. Fletcher Ingals, A.M., M.D., Professor of Laryngology, Rush Medical College; Professor of Diseases of the Throat and Chest, Woman's Medical College, etc. Reprinted from *The Journal of the American Medical Association*, October 11th, 1890.

*Pernicious Anæmia*, with a report of five cases. By A. McPhedran, M.B., Lecturer on Clinical Medicine in the University of Toronto. From *The Medical News*, October 11th, 1890.

## Pamphlets and Reprints.

*Should Hypnotism have a Recognized Place in Ordinary Therapeutics?* By Norman Kerr, M.D., F.R.S., London, England. Publisher: H. K. Lewis.

*Description of the Series of Tests for the Detection of Color-Blindness: Designed for Use in Railway Service.* By Charles A. Oliver, of Philadelphia.

*Electricity in Gynecological Practice.* By Herman E. Hayd, M.D., M.R.C.S. Eng., Buffalo, N.Y.

Reprint from the *Buffalo Medical and Surgical Journal*, May, 1890.

*Importance of Œdema of the Vaginal Portion of the Cervix Uteri as a Symptom of Chronic Disease.* By Andrew F. Currier, M.D., New York.

Reprint from *Gynecological Transactions*, vol. xiv., 1889.

## Personal.

DR. JAMES KERR, formerly of Winnipeg, is now practising in Washington, D.C. He has lately been appointed Chief of the Surgical Clinic of the Central Dispensary and Emergency Hospital of that city. He also holds positions on the staffs of the Woman's Hospital and Garfield Hospital.

DRS. GEORGE ROSS and RICHARD MACDONNELL, of Montreal, have gone to Berlin to study the Koch methods.

DR. CARSON, of Toronto, was in London, England, about the first of last month, on his way to France. He had been in Edinburgh and consulted Drs. Fraser and Bramwell, who gave him good encouragement. He expects to spend the winter on the shores of the Mediterranean.

DR. GEORGE A. PETERS, of Toronto, has passed the final examination for the Fellowship of the Royal College of Surgeons of England. We believe that Dr. Peters is the only surgeon in Ontario who has this qualification.

DR. H. P. LOOMIS, on behalf of the Medical School of the University of New York, and Dr. Lindley, on behalf of the Post-Graduate Medical School, have also gone to see Dr. Koch.

DR. ROBINSON, of New York, will deliver two lectures in the Post-Graduate course of the Medical Faculty of the University of Toronto, on "The Significance of the Condition Called Eczema—Catarrhal Dermatitis." He will also deliver a lecture to the Pathological Society in the Biological building on "Psorospermosis Follicularis Vegetante" (Darier); and a lecture to the Toronto Medical Society on "The Treatment of Malignant Cutaneous Epitheliomata."

DR. WHITE, of the Pennsylvania Hospital, Philadelphia, will probably deliver a lecture in the University Post-Graduate course on "The Present Aspect of Antiseptic Surgery." It will be a reply to Mr. Lawson Tait's recent criticism of Lister and his methods.

SINCE writing the notice of Toronto University course of lectures, we have learned from Dr. Graham that Dr. Robert Abbe, of New York, will deliver two or three lectures on the following subjects: (1.) "The Limitations of Spinal Surgery." (2.) "Mastoid Pyæmia—Jugular Thrombosis—Ballance's Operation." (3.) "Technique of Intestinal Anastomosis."

DR. JAMES D. THORBURN, son of Dr. James Thorburn, of Toronto, started for Berlin, Nov. 27th, as the representative of the Toronto University Medical Society. It is expected that he will study in conjunction with Professor Ramsay Wright, and at the same time will consider especially the clinical aspect of the question.

DRS. SYLVESTER AND WARDLAW, of Galt, have entered into partnership for the practise of their profession; and Dr. Sylvester is now spending some time in New York at the Polyclinic, taking up especially gynaecology and general surgery.

DR. J. R. LOGAN, of Grand Forks, N.D., visited Toronto a few days ago.

BEFORE General Middleton left Canada, he stated in a letter addressed "To the People of Canada" that he had recommended the following promotions for surgeons on duty in the Northwest rebellion:

*To Receive the C.M.G.*—Dr. Sullivan; Dr. Roddick.

*To be Brigade Surgeons.*—Dr. Sullivan; Dr. Roddick.

*To be Surgeons-Major, with Rank of Lieutenant-Colonel.*—Dr. Orton; Dr. Gravelly; Dr. Bell; Dr. Strange; Dr. Pennefather; Dr. Ryerson; Dr. Codd.

*To be Surgeons.*—Dr. Whiteford; Dr. Grant, G.G.F.G.

## Births, Marriages, and Deaths.

### MARRIAGES.

SMITH—BROWNLEE.—On Sept. 23rd, J. C. Smith, M.D., of Thompson, North Dakota, to Lillie Brownlee, of Kemptville, Ont.

### DEATHS.

ANDREWS.—At Toronto, on Nov. 5th, Lavinia Eunice, wife of Dr. R. I. Andrews.

## Miscellaneous.

In our issue of September 16th, one of our book reviews contained a reference to *Wood's Library*, for July, 1890. As this may mislead our readers, we beg to state that the publication of *Wood's Library* was discontinued at the end of 1887. The recent series of publications is entitled, *Wood's Medical and Surgical Monograph*.

It was announced that the chair of the Principles and Practice of Medicine at Michigan University had been filled by the election of Dr. William C. Dabney of the University of Virginia, but later advices say that Dr. Dabney declined the chair on account of his health.