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THE
Montreal Medical Journal

A MONTHLY RECORD OF THE

PROGRESS OF MEDICAL AND SURGICAL
SCIENCE.

EDITED BY

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Original Communications.

REMARKS ON TWO OR THREE POINTS IN THE TECHNIC
OF THE OPERATIVE TREATMENT OF ACUTE
APPENDICITIS.

BY

GEORGE E. ARMSTRONG, M.D.

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The frequency and importance of operation for acute appendicitis, renders a discussion of the technic of great interest to surgeons. Operations for the relief of this, most fatal disease, are performed more frequently than for any other acute surgical affection. The mortality rate is being lessened year by year. The greater number of recoveries now than formerly is due chiefly to four factors:

- I. An earlier and more correct diagnosis.
- II. Earlier resort to surgical treatment in suitable acute cases.
- III. Improved methods of operating.
- IV. To operation in the interval.

My purpose this evening is to excite a discussion on one or two points in the operation for acute cases.

One question that frequently arises at the operating table is, what is the best course to pursue in the case of a localised abscess.

This question really includes two questions; the treatment of the appendix vermiformis, and the treatment of the abscess walls. If the appendix is easily found and is free, undoubtedly it should be tied off. The cause of the condition is before the operator, is accessible, and on general principles it should be removed. This unfortunately is not always the case. Only too often, after the abscess contents are removed the appendix is not visible and cannot be felt, and it is at this point that difference of opinion, as to the proper course to pursue

arises. One naturally turns to the writings of well known surgical authors for light, and while many state that the appendix should always be looked for, found and removed, and the operation completed, other writers of equal or greater experience, would be satisfied to drain the abscess cavity, and to do nothing more. Treves in his recently published System of Surgery says: "The abscess should be opened and drained. It should not be scraped and it is of no avail to make search for the appendix."

Maurice H. Richardson, who wrote the article on Surgery of the Abdomen in Park's Surgery by American Authors, says: "In cases of abscess incised through strong adhesions, the operator should be satisfied with simple drainage when the appendix is not easily accessible." Compared with Mr. Treves this statement of Richardson is considerably modified and guarded.

McBurney advises against the breaking down of adhesions indiscriminately, in search for the appendix for fear of infecting the general peritoneal cavity.

In view of the difference of opinion among operators, one is driven to closer study and more careful observation of his own cases. There seem to be two objections to searching for a hidden appendix in the wall of a foul abscess cavity. One is that it is unnecessary and the other that the peritoneal cavity will be exposed to infection thereby. As to the first, it may be said that the patient generally recovers when the appendix is left behind, often promptly: sometimes only after a tedious convalescence, and occasionally, the recovery is followed by a relapse. The possible infection of the peritoneal cavity is a matter of graver importance. The search for the appendix generally means the breaking down of the limiting adhesions, and the exposure of the peritoneal cavity to infection. In hospital practice, a surgeon should be able to do this without infecting the peritoneum. This has been my practice in recent acute cases, and so far I have never known infection of the peritoneal cavity to follow. It is difficult to attain this perfection of technic in private houses, and probably an operator who only does this operation once or twice a year would do more wisely to stay his hand and simply drain, but I feel quite sure that in hospitals, cases are saved by this procedure that would otherwise be lost. The appendix can not be considered alone. The operator must have regard to the tissues that form the abscess wall. The abscess wall is often formed partly by a portion of the omentum, rich in veins and lymphatics along which infection may spread. Again the wall may be partly formed by mesentery, and when the foul abscess contents are

removed one not infrequently finds the veins of the mesentery lying alongside, and in a position to be easily infected.

The first case of appendicitis that I operated upon presented this condition. In Feby. 1884, I operated upon a young man, 19 years of age, for acute appendicitis on the 24th day of his illness. A large pericæcal abscess was opened and drained. He died on the 6th day after operation, and at the autopsy, performed by Dr. Osler, the mesentery was found forming the inner wall of the abscess cavity and the veins of the mesentery right away up to the liver were found full of pus, and the mesenteric glands involved.

In two cases of operations since that time, Dr. Wyatt Johnston has found a similar condition, pylephlebitis of the branches of the portal vein and liver abscess. One of these cases had been under treatment for a period of about six weeks for malaria before being brought to the hospital, the recurring chills and sweats being mistaken for that condition.

The question, then, what to do in abscess cases resolves itself into, what is the structure, condition and age of the abscess wall. The change in the form of the question does not however, lead to a more ready answer, although I think, it puts the question in a clearer light. These abscess cases call forth the operator's best judgment, and each case must be decided on its merits. I may say that at present I think that as a rule, in recent cases with easily separated adhesions, it is wise to remove the appendix and as much of the abscess wall as in the operator's judgment, can be removed safely, thereby removing the cause and insuring rapid convalescence, freedom from recurrence, and preventing disastrous sequelæ. In cases of long standing, that have lasted over a week, a more conservative course is, perhaps, wiser. The abscess walls are probably at that stage made up chiefly of a thick layer of fibrous tissue, which is not absorptive, or the patient is not in condition to bear a prolonged operation. Such abscesses are often prominent in front or latterly, are not in contact with the mesentery, and are not likely to give further trouble after being incised and drained. The fact that the patient is alive, a week or ten days after the onset of the disease, is evidence of the nature and composition of the abscess wall.

The objections to leaving the appendix, and being satisfied with incision and drainage are several. I have already mentioned the danger of septic pylephlebitis and thrombo-phlebitis. This condition is generally disastrous in its results and the early removal of the septic focus is the rational preventive measure that suggests itself.

Recurrence, due to septic centres being left behind is another not

very infrequent result of leaving the appendix. The second operation if required, is, as a rule, a safe one, but it is an operation, a thing which a patient once operated upon dreads, to say nothing of the chances of a fatal result.

Another very serious objection to simple incision and drainage in abscess cases, is the danger of leaving a second abscess unopened. It has probably happened in the experience of all operators, that at the autopsy a second abscess, unsuspected and unopened has been found from which the septic absorption which caused death took place.

In one of my recent cases, I was asked to examine a patient who was said to be suffering from a prostatic abscess. The patient gave no history of urethral or bladder disease. Upon examining per rectum the prostate felt normal as to size, consistency and tenderness, but above the prostate in the recto-vesical pouch a distinct fluctuation was felt. This together with a history of abdominal pain, of sudden onset, accompanied by nausea and elevation of temperature, led to the diagnosis of appendicitis. The abscess was readily reached through an abdominal incision, and the pus removed. Nothing was to be seen or felt of the appendix. Search being made for it, a second abscess was discovered situated behind and external to the cæcum and ascending colon, and the appendix was found lying in this second abscess and removed. It is highly probable that had search not been made for the appendix, the second abscess would not have been found and the patient would very likely not have recovered. Such experiences are not uncommon, and they lead one to hesitate, in recent cases, when advised to simply incise and drain.

The other point that I will mention is drainage in cases of septic peritonitis, local and general.

After the fluid has been removed from the peritoneal cavity as thoroughly as possible, how are we to prevent a re-accumulation. If one may judge from what one reads in books and medical journals, gauze, generally iodoform gauze, is very largely used by surgeons for this purpose. Others prefer drainage by tubes, glass or rubber. In my hands gauze drainage in septic peritonitis has never been satisfactory. I have dropped it again and again firmly resolving never to use it in another case. A few weeks or months later an article strongly advocating drainage by gauze written by some one in whom I had confidence would appear, and I would use it once more. But in each instance the same results would be obtained. The gauze would remove some of the most liquid portion, the serum, and leave the thicker part, the pus, behind, in the bottom of the cavity. I have used for drainage gauze prepared in many different ways, different

kinds of iodoform gauze, and plain washed gauze, and I have never yet seen gauze that would drain pus out of the bottom of the pelvis or from one of the flanks. Not only will it not remove the pus, but it will actually dam it back and more or less obstruct its outflow. Of course it is not possible, probably, to get perfect drainage up hill, but much better results may be obtained by using tubes than by using gauze. By using tubes one can obtain, so far as the abdomen is concerned, dependent drainage. A glance at the morphology of the posterior wall of the abdominal cavity or what forms the floor, when the patient is in the recumbent position as after an operation for septic peritonitis, shows that there are three dependent regions, the two flanks and the pelvis. In emptying the abdomen of fluid the last will be taken from one or the other of these regions. All the fluid in the abdomen gravitates in this direction, and if the fluid is removed from the two flanks and the pelvis as fast as it accumulates there will be attained practically, dependent drainage of the abdomen. Now this cannot be brought about by gauze but it can be by tubes. I prefer large rubber tubes. I sometimes use them as large as $\frac{5}{8}$ inches in diameter. They should not be perforated. Perforation only gives a chance for a piece of omentum or intestinal wall to enter and give trouble, and they are useless. The fluids will gravitate to one of these regions without help. This large tube can be sucked out with a syringe or wiped out with bits of gauze, without causing the patient any inconvenience whatever. This is one of the great advantages of the large tube. The dressings are absolutely painless. I leave a small strip of gauze through the tube, right to the bottom which drains away the serous part and renders the necessity for dressing and cleaning the tube less frequent. One, two or three tubes should be used, according to the number of dependent regions, that, in the opinion of the operator should be drained. On the contrary, if these spaces are not kept empty they become filled first and then the fluid backs up among the intestines. This plan lessens the necessity of trying to drain away the fluid from among the coils of small intestines. I never could succeed in placing gauze strips between the coils in a manner at all satisfactory to myself. The strips soon become more like ropes and if peristalsis is at all active and it should be, the strips soon become displaced.

During my last term of attendance there were admitted to my wards in the Montreal General Hospital twenty-six cases of appendicitis; of these seven were discharged well, without operation. Nineteen were operated upon and they all recovered but one. There were four cases of general peritonitis, with commencing paresis of the

intestinal walls. They all were treated by drainage in the way that I have indicated and they all recovered. Five were abscess cases, and the only death in the seven occurred in one of these cases. The patient was a young girl, in whom the disease began five days before admission to the hospital. An abscess was opened, cleaned with swabs and the appendix removed. During the succeeding eleven days she did well. The temperature became normal, the pulse improved and she was regarded as convalescing, and out of danger. On the twelfth day after operation she was suddenly seized with a chill, the temperature rose to 104° F. and subsequently became decidedly septic. Four days later, or on the sixteenth day after the first operation a second was performed by my colleague, Dr. Kirkpatrick. It was unsatisfactory. No peritonitis was found, and her condition was not improved. She died four days afterwards, or twenty days after the first operation. Unfortunately we were unable to obtain an autopsy and the cause of the septic condition and death is a matter of conjecture. The symptoms however closely resembled the cases of pylephlebitis and liver abscess that I have referred to and I think that probably that is the condition that would have been found in this case had an autopsy been permitted. Nevertheless, one death in five abscesses and four general peritonitis cases is a good result, and I believe was attained by the application of the principles and methods of technic which I am advocating.

EXPERIMENTAL RESEARCH ON THE ACTION OF ANTIPYRINE.¹

BY

ANDREW HALLIDAY, M.B., C.M. Shubenacadie N.S.

The antipyretics may be classified according to either their chemical construction or their clinical action. *Les Nouveaux Remedes* (1895) divides them into the following six classes (1) Phenols; (2) Aromatic acids; (3) Anilides; (4) Phenylhydrazin; (5) Quinolin; (6) Pyrrol,

Laborde divides them into (1) Fundamental analgesics and (2) True Antithermics which are also antiperiodics.

The following extract from the British Medical Journal (March, 1894) expresses so very fully the usually accepted views of the physiological action of antipyrine that I quote it at length. "All the aromatic compounds have a definite action upon protoplasm and to this as Schmiedeberg points out the influences upon the temperature and metabolism in febrile states are probably related. Antipyrine acts on the cerebro-spinal nervous system, in moderate doses effecting a fall of temperature and slightly raising the blood pressure. This action on the heat mechanism has received widely different interpretations and experiments have only yielded contradictory results. Wood and others hold it is due to decreased heat production, while Gottlieb from calorimetric observations affirms that antipyrine quickens the heat dissipating mechanism. However that may be, large doses depress the nervous system and lower the blood pressure, and symptoms varying from an unpleasant diaphoresis to severe collapse have been met with after administration. . . . Marked palpitation and disturbances of the heart's rhythm are not uncommon and while these symptoms are referred with some probability to changes in the vaso-motor system we cannot altogether exclude a toxic effect upon the cardiac muscle. This should be borne in mind in acute pneumonia where cases of death after antipyrine have been recorded. Again the cardiac and respiratory systems may be influenced directly through the medullary centres; or on the other hand secondarily from changes in the hæmoglobin of the red blood corpuscles resulting in methæmoglobin-æmia. This is seen in various degrees of cyanosis which is so common. . . . In small doses antipyrine acts as a stimulant to the nervous system, and like quinine and salicylic acid may induce a

¹ (Abstract of paper read before the Nova Scotia Branch, British Medical Association.)

slight rise in the body temperature. This action is sometimes present after moderately large doses and instead of the anticipated fall there is a rise in the temperature curve with an exaggeration of symptoms already existing. This has been explained by vasomotor changes leading to dilatation of capillaries in the thermogenic centres. Gottlieb's experiments show that while loss of heat is much increased after antipyrine, heat production is likewise stimulated and it is possible therefore to account for these anomalous results by assuming the failure of the former action."

Whitla states that antipyrine produces convulsions in the lower animals, that it paralyses the frog's heart, that it alters the colour of the blood, and that it diminishes heat production by its action "upon the heat centres situated in the corpus striatum."

In this paper the subject will be treated in three divisions:

- (1) Experiments on frogs.
- (2) Experiments on rabbits.
- (3) General observations on the action of the drug.

EXPERIMENTS ON FROGS.

(1) Antipyrine in a toxic dose injected into the dorsal lymph sac causes paralysis. This begins in the posterior extremities and gradually extends forwards. At first the hind legs are dragged when a leap is accomplished but ultimately the frog is perfectly unable to leap at all, and when placed on its back is unable to regain its normal position. Tapping the spine or making a sharp sound will cause a spasmodic kick when voluntary motion is lost.

Spectroscopic examination of the blood gave the distinct bands of oxyhæmoglobin and never those of methæmoglobin.

(2) Sometime after injecting a toxic dose, (*a*) muscle nerve preparation was made and the muscle curves were taken in the usual way. Both "make" and "break" contractions were obtained, a large "break" and small "make." In half an hour the small contraction had disappeared, and the large though considerably diminished was of a fair size an hour later.

(3) Antipyrine was injected into a frog and preparations were made of both legs. The left was brushed with a normal saline solution and the right with a 4% antipyrine solution. The left gave contractions, but the right gave neither a "make" or "break" curve.

(4) Preparations were made of both legs of a frog to which no antipyrine had been administered. The sciatic nerve of one was allowed to lie for 5 minutes in an antipyrine solution and the other in normal saline. The one treated with antipyrine gave a "make" contraction

only while the other gave both "make" and "break," strength of current, direction, &c., being the same in both instances.

(5) A frog was anæsthetised and one leg amputated and a preparation made of it. The frog was then poisoned with antipyrine and a preparation made of the other leg. Both legs gave a contraction of about equal magnitude but with the poisoned one the period of latent stimulation and also the period of contraction was much prolonged.

(6) The cerebral lobes of a frog were removed and the reflexes of the cord tested by Türck's method before and after poisoning. The average time before was about ten seconds, and half an hour after administration it was about 2 minutes.

EXPERIMENTS ON RABBITS.

General symptoms of poisoning.—In a short time after administration of the drug the gait of the rabbit becomes ataxic, and when sitting still has a swaying movement as if due to want of equilibrium; the eyelids partly closed and the pupils contracted. The hind legs get spread out (just like the frog's) and in a short time the animal falls over on its side and goes into active clonic convulsions. These always commenced in the hind legs. The whole four limbs now make regular purposive movements like those of swimming. They move very rapidly. The body now is convulsed and thrown backwards (opisthotonos). The legs gradually become less rapid in their action and remain to some extent in a state of tonic contraction, but the muscles of mastication and the protruders of the tongue exhibit the clonic spasms just as the limbs previously had done. Cyanosis was distinctly evidenced by the colour of the lips and tongue. Slight stimulation such as blowing the breath gently on the surface of the body greatly intensifies the reflex movements and convulse the animal.

The experiments on rabbits are divided into two classes (1) Those in which the thermal centres were intact and (2) Those in which they were destroyed. These may again be sub-divided into calorimetric and incubator experiments.

A.—EXPERIMENTS WITH THERMAL CENTRES INTACT.

I. Calorimetric.—These experiments showed that normal rabbits on an average raised the temperature of 14 litres of water 1° F. where as when antipyrine had been injected less heat was given off, the water being raised only 0.5 F. even although the temperature of the rabbit fell still less.

This series of experiments went to show that the actual amount of heat generated by the rabbit was less when antipyrine had been administered and it is only fair to assume that, since all the other

conditions were the same, antipyrine was the agent to which this was due.

II. Incubator Experiments.—The temperature of rabbits was taken and they were put into an incubator and their temperature thus raised artificially by it. These were repeated but with the difference that antipyrine was administered to show if it prevented or checked the rise.

In some cases it seemed to prevent it rising so rapidly or so high but in others it seemed absolutely without any effect.

III. Incubator and Calorimeter Combined.—In this series the temperature was artificially raised and the animal was then put into the calorimeter and the heat given off estimated. The experiment was varied by the administration of antipyrine before putting the rabbit into the calorimeter.

The general conclusions arrived at were that thermogenesis was actually checked.

B.—EXPERIMENTS IN WHICH THERMAL CENTRES WERE DESTROYED.

In such a class of experiment as this it is very difficult indeed to exclude error and fallacy. We have to remember that the shock of the operation itself has a decided effect on the temperature apart from actual destruction of the thermal centres, so it is by no means a simple case of *post hoc ergo propter hoc*. A test experiment was first tried and the conditions were as far as possible maintained the same in all the cases. The skull was trephined and the area of the thermal centres, between and encroaching on the optic thalami and corpora striata, destroyed with a needle. The rabbits were then put into the calorimeter with and without the administration of antipyrine; also into the incubator under like conditions.

It actually did seem as if even then antipyrine diminished the quantity of heat produced, thus the following results were obtained and corroborated on several occasions although not always.

A rabbit's temperature was 100° F. It was put into the calorimeter for an hour and the temperature of 14 litres of water was raised 2° F. while the rabbit's fell from 100° to 84° F.

Antipyrine was then administered and after another hour the water was raised 1° F. and the rabbit's fell 4°.

From this it would appear that 15.5 calories were given off in the first hour and 7.7 calories in the second.

The question arises however, as to whether it was due to heat dissipation or diminished production and how many calories in these cases represent the specific heat of the rabbit.

(All of these experiments were frequently repeated as given in detail in the original paper).

GENERAL OBSERVATIONS ON THE ACTION OF THE DRUG.

I. Effect on the Protoplasmic Elements.—The mesentery of a frog was drawn out and the movements of the corpuscles observed under the microscope.

I was unable to determine that antipyrine had much effect on the leucocytes. I am persuaded however, that it has an effect on the red nucleated corpuscles of the frog and that it will prevent and arrest diapedesis when applied locally in a fairly strong solution.

II. Effect on the Blood.—Henocque,¹ at the French Congress of Internal Medicine, held at Bordeaux, Aug. 1895, communicated on the action of antipyrine. He claims for it a local hæmostatic action and then states that the action of antipyretics when given in toxic doses is to change the oxyhæmoglobin into methæmoglobin, and when the elimination of the latter is hindered cyanosis is the result. He says that these phenomena may be studied hæmato-spectroscopically.

Bartholow (7 Edn. p. 881) says: "Antipyrine diffuses into the blood promptly and when the quantity is sufficient, brings about important changes in its constitution; the corpuscles are altered in form, the hæmatin separates and the whole mass of the blood assumes in consequence a chocolate tint."

I have made many observations of the blood after poisoning, both microscopically and spectroscopically. I have made cover glass preparations of the blood before and after poisoning and cannot detect any change in the form of the corpuscles.

I have examined the blood of the frogs spectroscopically and never got anything but the distinct bands of oxyhæmoglobin, even with blood taken from the liver, cavities of the heart and elsewhere. Blood was also taken from the cyanosed lips and other parts of a rabbit both *ante* and *post-mortem*. The rabbit had gr. 50, of the drug, and died from its toxic effects, yet the spectrum of methæmoglobin was certainly not present.

Last November I was unfortunate enough to have myself a temperature of 102° F. I took antipyrine and examined my blood spectroscopically every ten minutes till the temperature was reduced to 99° but still I got no spectrum of methæmoglobin.

Thus then I am forced to the conclusion that while acetanilid and the other congeners of antipyrine may change the blood in this respect, antipyrine itself does not in clinical doses and I question very much if it does in toxic ones.

¹ British Med. Journal.

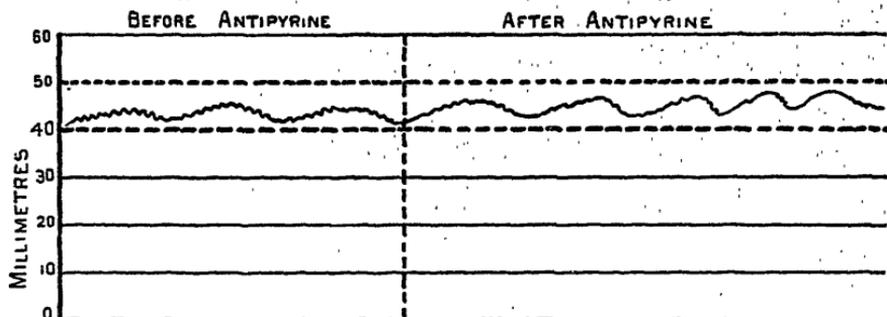
Dr. Wilkinson, from the Pathological Laboratory of University College, Liverpool, gives a report in the *British Medical Journal*, Sept. 26th, 1896, on "The action of drugs on the leucocytes of the blood." He states that the drugs he used, of which antipyrine was one, caused first a diminution and then an increase in the number of leucocytes, the poly-nuclear relatively more than the mono-nuclear.

I took the drug myself and examined frequently the blood stained (eosin and hæmatoxylin) and unstained.

I cannot say I noticed the diminution Dr. Wilkinson speaks of, but I can corroborate the fact of the increase, and that particularly as regards the poly-nuclear forms.

III. Effect on the Blood Pressure.—I took the drug myself and then sphygmographic tracings of my pulse at frequent intervals and did not find the blood pressure in any way diminished with a dose of XV grains.

I also took the pressure directly from the carotid of a rabbit to which the drug was administered with the following result :



A perfusion experiment through the heart of a frog was also performed with an antipyrine solution and it certainly did not depress, but rather stimulated it to more active contraction.

IV. Effect on the Urea.—Antipyrine was taken on three consecutive days, gr. 40, 60 and 60.

	Sp. Gr.	Quantity.	Solids.	Urea.	% Urea.
1st Day.....	1016	1.155 cc.	45.058 gms.	21.945 gms.	1.9
2nd "	1013	1.320	39.982	18.320	1.4
3rd "	1020	1.030	60.580	20.238	2.0
Average.....		1.168 cc.	47.873	20.184	1.76
Average after 3 days on same diet without drug}		1.342	49.05	20.230	1.52

We thus see that antipyrine decreases the total urea by 9 grammes.

V. *Effect on the Nervous System.*—Langlois and Guiband gave graduated doses to animals in which the spinal cord had been divided below the medulla and distinguished several stages of poisoning. They conclude that “antipyrine has an eclectic action on the higher centres and this explains why its sedative action is more marked in head affections than in spinal.”

I have endeavoured to repeat their experiments and have entirely failed to observe their somewhat arbitrary division or stages of the nervous phenomena. Neither does my description of the phenomena accompanying the death of a rabbit from a toxic dose quite agree with their classification. From my observations of the action of the frogs and rabbits and also clinically, I am led to the opinion that the *primary action* of antipyrine is, in moderate doses, essentially sedative to the cerebro-spinal system, although this does not seem to obtain with large doses. That it has a sedative action or at least a depressing one on the motor nerves is seen from its effect on the muscle curve.

The effect on the sensory nerves is more difficult to determine. I tried several experiments with this object in view but the results were much too unsatisfactory to draw any conclusions from. But the very fact that the drug is analgesic is in itself a proof, and if we take into account the existence and structure of the neuro-dendron and the sedative action on individual motor-fibres we can thus have a fairly accurate idea of how the effect of the drug is produced.

It probably has a sedative action on the spinal cord when given in properly graduated doses. This is borne out by the fact that it is of such great benefit in the neuralgic pains of locomotor ataxia.

Again, while one large dose may exalt the condition of the spinal reflexes as seen from the experiments, it may be given in increasing doses without these appearing. Dr. McCall Anderson gave 25, 30 and even 40 grams thrice daily to patients of the ages of 9, 12 and 13 years respectively, and thus claims to have found almost a specific for chorea.

VI. *Antipyretic or Antithermal and other Effects.*—These have already been taken up under the various series of experiments so I will not add anything further here.

One point of very great interest physiologically is this: with the centres destroyed it was very difficult indeed to raise the temperature in the incubator, while when these were intact the temperature would rise rapidly and this indeed with a lower temperature of the incubator; thus the temperature of one rabbit rose to 105° with the incubator a little over 100° but in a case in which the centres had been

destroyed, and with the incubator at 112° , the rabbit's temperature was only raised 1° .

This then shows that such are not merely "cooking experiments" as Peters, of France, characterised such when performed by Bernard, because the incubator must after a time have raised the temperature of a dead rabbit to one uniform with its own.

Again, we see how rapidly the temperature falls. If it is not due to increased dissipation of heat it must mean diminished metabolism and this again diminished thermogenesis, which would point to the theory that the nerves, anabolic and katabolic, are intimately connected with the heat regulating centres.

Another interesting fact is that the centres are so much more easily exalted than depressed from the normal. It would seem that they keep up a constant watchful action over the vital processes in the body, and when irritated they cause an intensified activity of the same. Their action seems to be somewhat analogous to that of the motor centres, maintaining as they do a certain degree of muscular tonicity and yet causing an intensified action when irritated.

Again, shock itself is probably among other things depression of the thermal centres.

In considering all such experiments, however, as the foregoing it must be remembered as Dr. Wesley Mills so well points out and insists on, that the results must not be taken alone for they do not always represent the whole facts, since physiological isolation is more or less impossible.

Again, while there may be thermal centres presiding over the production and regulation of heat in the animal body, nevertheless thermogenesis is ever and always must be, co-extensive with life itself.

A CASE TREATED WITH ANTI-STREPTOCOCCUS SERUM INJECTIONS, WITH RECOVERY.

BY

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Sarah McM., aged 36, single, weight, 116 lbs., was admitted to the Brockville General Hospital, February 1st, 1897. The patient had been under my care for a short time, and as the result of repeated examinations and a more or less well defined train of symptoms, I advised an operation, which would allow me to examine the gall-bladder and at the same time fix in position a wandering right kidney.

Her general condition was fairly good though she had not enjoyed robust health for two years, and was slowly but steadily losing strength.

Her family history was decidedly tubercular, several brothers and sisters being afflicted.

The heart and lungs were normal, and the urinary analysis negative.

A few days after her admission I operated, assisted by Drs. Cornell and Judson. My incision was made in the right linea semi-lunaris, from the costal margin, three inches in length.

The right kidney was found to have risen from its bed, and could be easily moved to the left of the median line and downward to within an inch of the anterior superior spine of the ilium; it was easily replaced, and with more difficulty fixed by means of chromicised catgut, my suture being passed deeply into the right quadratus lumborum and through the cortex of the kidney.

An exploration of the gall-bladder revealed a calculus about the size of a marble embedded and acting as a ball valve in the neck of the bladder and preventing the entrance of bile and the exit of mucus, which was evidently secreted as a result of a catarrhal process in the mucous membrane.

The calculus was removed through an incision at the fundus and the patency of the cystic duct restored.

The margins of the opening in the fundus were stitched to the upper angle of the abdominal wound.

The right ovary which had undergone cystic degeneration, with an abnormally large (size of a walnut) "hydatid of Morgagni," attached by a fibro serous band, four inches in length, was removed.

The appendix vermiformis, which had evidently been the cause of several attacks of "colic" (?) was next examined. It was found

congested and stenosed at its base; it was accordingly amputated, the peritoneal cuff being closed with horse hair sutures.

The abdominal wound was now closed in layers, except at the upper angle, through which the gall-bladder was drained with gauze.

The patient rallied nicely from what proved to be a tedious operation, and no constitutional or local evidence of infection was visible until the fourth day, when an abscess at a stitch at the lower part of the wound was detected.

The source of infection could not be discovered, no fault in the technique being revealed: and in spite of careful dressings, the proto-nuclein course, saline irrigation, formalin flushing, and the thorough opening of all septic foci, the suppurative process continued, remaining however, extra peritoneal and dissecting between the abdominal muscles.

The temperature ranged between 100° and 103° , and the pulse from 100 to 140; every symptom of septic intoxication presented itself and the patient gradually sank into a pitiable condition.

The loss of flesh was very pronounced, and five weeks after operation, my resources about exhausted, I decided to test the efficacy of serum therapy. I communicated with Parke, Davis & Co., of Detroit, and promptly received a fresh preparation of their anti-streptococcic serum.

I injected 10 cc. under the left mamma. No physiological effects were apparent until four hours after the injection, when her pulse dropped from 126 to 116, remaining regular and with no variation in volume, and the temperature from 100.2 to 99.6° ; the patient complained of nausea for some hours and vomited.

Fourteen hours after the injection the patient voluntarily expressed herself as feeling much better than she had felt for days, and the quantity of pus had decreased materially. Eighteen hours after the first injection I gave a second 10 cc., and on this occasion a slight reaction occurred three hours afterwards, the temperature rising 1.2 points, and the pulse from 116 to 124; both subsided gradually and twenty hours after the second injection, the temperature touched normal for the first time in 38 days and remained at that point for 30 hours, rising half a degree towards the evening of the 40th day. The wound had almost ceased secreting pus, and the granulations were rapidly filling in what had been a gaping cavity in the abdominal wall.

From this period the patient's convalescence proceeded in leaps and bounds, and the cadaverous, hollow-eyed perspiring wreck became imbued with new life and vigour; she gained flesh rapidly with the

assistance of Extract of Malt and Hypophosphites, and her craving for food could hardly be satisfied.

The patient whose wound had entirely closed fourteen days after the administration of the serum, is now, three and a half months since the operation, doing her own housework ; she feels well and strong and has more than regained her weight ; upon examination I can find no evidence of any displacement of the refractory kidney.

This report I have thought well to publish as being of interest to those who have been worried, and may again be, by cases such as mine, and to offer to them this small measure of assistance which has proved so beneficial to my patient and so grateful to myself.

SEPTIC THROMBOSIS OF THE LATERAL SINUS WITH REPORT OF FOUR CASES.

BY

W. G. REILLY, M.D.

Resident Physician, Royal Victoria Hospital.

Cases of sinus thrombosis are of more than usual interest, being often among the most difficult of diagnosis, and exemplifying some of the most brilliant achievements of modern surgery.

While in the first place, the condition is time and again mistaken for tuberculous meningitis, typhoid, simple broncho-pneumonia or influenza, at other times there are no signs of any kind, to give evidence of the seat of affection. Typical cases are of course easy to detect, but where no history is given of previous ear disease, or of acute inflammatory disease of the mouth, pharynx or tonsil, the true condition will readily escape the clinician's observation, and what is most important of all a general sepsis or suppurative pneumonia may result, because of the fatal delay. When taken in time the surgeon may accomplish, in many cases at least, every success, and for this reason timely detection is a matter of life or death to the patient.

Macewen, in his work on Pyogenic Infective Diseases of the Brain and Spinal Cord, says that "the great majority of cases of infective thrombosis allowed to run their course without treatment, end in speedy death; while cases treated early, by thorough removal of the source of contamination from the sinus and its vicinity offer a reasonable prospect of recovery." This author gives reports of seven cases, of which five were operated upon, with one recovery. Since the publication of his work in 1893, a number of surgeons have reported cases in which operation has been followed by success.

The following series illustrate some typical and other atypical cases whose history is, I think, worthy of record:

Since January 1st, 1894, four cases of septic thrombosis of the lateral sinus were admitted into the Royal Victoria Hospital. Of these, three were operated on with one recovery, the balance died. I am indebted to Drs. Stewart, Bell, and Buller, for permission to publish these cases and to Dr. Adams for the report of the autopsies.

CASE I.—*Thrombosis of the Lateral Sinus—Operation—Recovery.* D. K., male, æt 10, was admitted under Dr. Buller, May 18th, 1894; complaining of frontal headache and pain behind the left ear, which began one week previously. In addition to the above he had had some vertigo and there had been elevation of temperature.

For five years there had been a discharge from the ear intermittently and during this period some deafness and considerable distress from noises in the ear.

On examination he was found to be fairly well nourished and healthy looking.

There was evidence of chronic suppurative otitis media in both ears and of a comparatively recent exacerbation in the left ear. The auditory canal contained a small quantity of very foetid secretion consisting of epithelial debris and purulent material. The floor of the canal was occupied by a polypoid excrescence which half filled the lumen. There was a perforation in both membranæ tympani. The left mastoid was tender on pressure and there was some swelling below the ear and in front of the sterno-mastoid muscle.

The day following admission, Dr. Buller opened the mastoid antrum and evacuated a quantity of pus and caseous purulent material. In following the direction from which the pus came the lateral sinus was opened but very little pus escaped.

There being no change in the patient's symptoms in the following 24 hours, Dr. Bell cut down along the course of the jugular vein and ligatured the vessel above and below, excising the intervening portion. There was considerable infiltration of the structures around the sheath of the vessels and the dissection was difficult. The opening in the mastoid was enlarged, the wall of the lateral sinus exposed and the parts thoroughly irrigated and packed with iodoform gauze. Two days later, on removing the dressings a quantity of foul smelling pus escaped from the lateral sinus, and for nearly two weeks the discharge continued although in decreasing quantities, while with this decrease there was a fall in the temperature and a marked improvement in the general condition. Eventually the discharge ceased altogether and the wound closed up although there still continued a slight discharge from the ear.

CASE II.—Thrombosis of the Lateral Sinus—Cerebral and Cerebellar Abscess—Broncho-Pneumonia.—Death—Autopsy.

E.M., female, æt. 13, was admitted under Dr. Bell, March 19th, 1895, complaining of pain and swelling in the left side of the neck and pain in the left ear, headache and dizziness.

For five years she had a discharge at intervals from the ear, but no acute symptoms until two weeks before admission. She complained of severe headache, followed soon by pain in the ear, and three days later by swelling in the side of the neck with excessive tenderness over the swelling and behind the ear.

On examination she was found to be pale, delicate looking and

poorly nourished. There was a large mass between the angle of the jaw and the mastoid on the left side, which extended downward along the sterno-mastoid muscle. The skin over this was red, cedematous, and very tender, but no fluctuation could be made out.

There was a profuse purulent discharge from the ear, and on account of the pain caused by manipulation, the auditory canal could not be examined. The head was inclined to the left. There had been elevation of temperature for some days, and there was suppuration in the lymph glands on the left side of the neck. Soon after admission the patient had a chill, in which the temperature rose to $105\frac{1}{2}$. The skin over the most prominent part was incised and a large quantity of foul smelling pus escaped. Several days later there having been no change in the patient's condition, the mastoid antrum was opened and a quantity of inspissated pus and necrotic tissue found. The opening in the mastoid was enlarged, the lateral sinus exposed and emptied and the whole thoroughly irrigated and a dressing applied. Large quantities of pus continued to be discharged, but the headache persisted and the temperature was markedly septic. Optic neuritis was noted, there was nausea, vomiting and pronounced nervous manifestations, and death occurred one week later.

The autopsy showed great pallor, with a slight yellowish tinge to the skin. There was well marked lividity and rigidity. Through the operation wound, the opening in the mastoid could be seen and from this an opening leading into the middle fossa of the skull and into a cavity in the petrous portion of the temporal bone. This latter was 18 mm. deep and contained purulent material; the roof was membranous and situated on the surface of the petrous bone towards the middle fossa. Beyond this membranous portion, the roof of the channel became thick and deeply situated, running in the petrous bone nearly parallel to the superior border and through the hiatus Fallopii, and was altogether 4 cm. long and of an average breadth of 4 mm. It contained pus save in the last 5 mm. internally, while 20 mm. from the external end it communicated with the cavity of the middle ear, which also contained a considerable quantity of purulent matter. No trace of the tympanic membrane could be found. Over the region of the tympanum there was an area of eroded bone, 10×4 mm. in extent. A collection of pus covered the lateral sinus. The dura mater was tense and there was pus between the dura mater and the bone over the left occipital region. The longitudinal sinus contained in front a fairly firm clot, which became blackish towards the posterior part. The outer portion of the left lobe of the cerebellum was the seat of extensive destruction of brain tissue, covered with

dirty pus, and had an area of necrosis extending 3 c.m. into the substance. There was a layer of pus between the cerebellum, and the under surface of the hemisphere. The cerebral tissue was soft, and towards the posterior and outer portion there was an irregular area of destruction, 15 x 5 mm. in extent, and from this a sinus passed upwards and forwards communicating with the posterior limb of the lateral ventricle. The ventricle itself was relatively full of curdy, greenish pus, but it was not distended, while a layer of pus covered the roof of the fourth ventricle. There were firm adhesions of the left pleura from apex to base, and a bilateral lobular pneumonia. The heart, liver and lungs presented the usual signs of cloudy degeneration.

CASE III.—*Thrombosis of the Lateral Sinus—Cerebellar and Pulmonary Abscess—Death—Autopsy.*

W. B., male, æt 12, was admitted under Dr. Stewart, November 24th, 1895, complaining of headache, diarrhoea, pain in the back and abdomen and in the left ear. For one year he had had pain in the ear at intervals, but there never had been any discharge from the meatus. Two weeks previous to admission the patient was first taken seriously ill, while during the second week he was able only with difficulty to turn the head from side to side. On examining his ear, the mother noticed a little puffiness about the mastoid, but no discharge was observed from the meatus. The auditory canal was syringed with hot water, and a poultice applied, on the removal of which a discharge of fetid, reddish pus was noticed, while the puffiness over the mastoid had disappeared. Headache still persisting he was admitted to the hospital when he was seen to be a delicate looking, poorly nourished lad, with a flushed face and anxious countenance. The lips were parched, tongue heavily coated, teeth covered with sordes, temperature $104\frac{3}{4}^{\circ}$, pulse 92, respiration 24. There was tenderness on pressure about the meatus and mastoid and along the course of the jugular vein. The meatus contained some muco-pus, and there was a perforation in the tympanum. The pulmonary second sound was accentuated and reduplicated. The abdomen was retracted and tender on pressure, especially in the region of the splenic and sigmoid flexures, and the spleen was readily palpable. The urine contained a minute trace of albumen but no casts.

In this case the history of the onset, the headache, and pains in the back, the gastro-interstitial disturbance, the elevation of temperature and the enlargement of the spleen, at once suggested typhoid fever and with it an acute mastoiditis, and it was not until the second day after admission that the diagnosis of septic thrombosis was definitely made.

The subsequent course of events is briefly as follows : On the day following admission there was a slight puffiness and tenderness at the angle of the jaw and the facial muscles were slow in action. During the day the patient had a rigor in which the temperature rose to $104\frac{1}{2}^{\circ}$, and on each of two successive days he had a rigor with elevation of temperature. Following the last rigor he had distinct facial paresis, and in addition a left external strabismus. Four days after admission, he had a clonic spasm of the arms and legs lasting ten minutes. Operation having been recommended, he was transferred to the surgical department, and operated on by Dr. Bell, who made an incision immediately behind the bony meatus, obliquely upwards and backwards. The periosteum was stripped away and the antrum opened with a drill, so that the lateral sinus was thoroughly exposed, with the result that a quantity of foul smelling pus escaped, apparently arising from below. The sinus was well irrigated, packed with iodoform gauze, and the wound dressed in the usual manner. The patient, however, showed but little signs of improvement, the symptoms became more aggravated, the respiration reached 48 per minute, harsh breathing and crepitations were heard over both sides of the chest. Coma supervened on the following day and the patient died 30 hours after the operation.

The autopsy showed marked post-mortem lividity and rigidity. The lower end of the operation wound was open, exposing an area of bone, whitened and necrosed, for a considerable distance around a small trephine opening. The periosteum was loosened over an area 8×5 c.m., and on removing it from the balance of the skull cap there was considerable oozing of blood. On removing the skull cap it was seen to be thin ; there was no pus between the dura mater and the bone. The longitudinal sinus contained a loose mixed clot of a greenish colour, and some semi-fluid blood. On removing the dura mater from the right side the convolutions seemed to be flattened and the vessels congested, while on the left side the convolutions were even more flattened. There were no signs of pus between the dura mater and the brain, and there were neither adhesions nor evidence of suppurative meningitis either over the hemispheres or at the base of the brain. In the hemispheres there were no signs of abscess or focal inflammation. The ventricles contained rather more fluid than normal. The outer extremity of the left lobe of the cerebellum was softened and somewhat discoloured, and upon cutting into it an abscess was found, 25. mm. in diameter, containing dark green fluid. The walls of the abscess cavity were smooth, save where it approached the surface. In the left lateral sinus in the neighbourhood of the artifi-

cial perforation, there was greenish pus, which gave place to a thick mixed partly broken down clot, extending backwards as low as the torcular Herophili, forwards and inward along the internal limb of the lateral sinus. Metastatic abscesses were present only in the lungs.

The heart, kidneys and liver presented the usual signs of parenchymatous degeneration.

CASE IV.—*Thrombosis of the Lateral Sinus—Pleurisy—Pulmonary Gangrene—Death—Partial Autopsy.*

L.M., female, æt. 25, was admitted under Dr. Stewart, March 16th, 1897, complaining of chilliness, cough and loss of appetite. Three weeks previous to admission she had what was thought to be influenza, characterised by chills, which occurred every second day and which lasted about five minutes, slight cough, general malaise and weakness. She had had no headache nor had she pain elsewhere during this time, but from her husband it was learned that one week before onset of illness, she had had slight pain in the left ear and a very slight discharge, but she herself regarded this as unimportant. On examination, she was seen to be fairly nourished, but very pale, rather dull and apathetic. The tongue was coated, the lips dry, and the teeth covered with sordes. Temperature $101\frac{2}{3}^{\circ}$. pulse 132, respiration 60. The pulse was regular but dicrotic. There was some deafness in the left ear, and a perforation in the membrana tympani, but no discharge, nor evidence of recent acute exacerbation. There was a systolic murmur at the pulmonary cartilage, and the second pulmonary sound was accentuated. The examination of the lungs showed a few rales in either axilla, and at the bases, while in the right axilla there was in addition a faint friction rub.

The abdomen was moderately distended, there were a few indistinct reddish papules and the spleen was palpable.

The urine contained a trace of albumen and a few casts.

The diagnosis here lay between typhoid fever, pneumonia and septicæmia. In favour of the former were the elevation of temperature, the enlargement of the spleen and the fading spots, but the constitutional disturbance and the general aspect of the patient seemed altogether too grave; the physical signs of pneumonia were very few, while the temperature, rigor and general condition pointed strongly to septicæmia with secondary involvement of the lungs.

The subsequent course of events was as follows: Four hours after admission the patient had a chill lasting twenty minutes. The following day, in addition to what was noted above in the examination of the lungs, there was dullness at the right base, while the general condition of the patient was worse than on admission. Two days

later the examination of the chest showed marked friction in both axillæ and behind and in addition there were numerous high pitched crackling rales, especially numerous at the right base. The general condition of the patient had become alarming, although, even yet, she complained of no pain, slept fairly and took nourishment and stimulants well, but the temperature ranged from $98\frac{1}{2}$ to $105\frac{1}{2}$, the pulse was rapid, small and weak, the respirations rapid and shallow. On the fourth day after admission the patient complained of pain on pressure over the mastoid, and there was slight discharge from the ear. The general condition gradually became worse, and the patient died on the morning of the fifth day after admission to hospital.

The autopsy showed considerable pallor, but with a slight yellowish tinge to the skin. There was moderate rigidity and well marked post mortem lividity. There was a slight discharge from the left ear. The spleen was large, soft and pulpy. Both pleural cavities contained fluid in small amount, which was thin, turbid, pale greenish in colour and containing a few flakes and a number of leucocytes. The surface of both lungs was generally covered by a layer of lymph, finely ridged and netted. This was wanting over three or four circular patches in the lower lobe of the right lung and over one well marked patch in the left lung. These patches were from 1.5 to 2.5 cm. in diameter and corresponded to areas of subpleural pulmonary gangrene. On section both lungs, but more especially the right, exhibited areas of metastatic abscess formation and gangrene leading to cavitation, these cavities being filled with glairy and foul smelling fluid. The rest of the organ was crepitant and not greatly congested.

The left internal jugular vein in the upper two inches, close to the bone and behind the tonsil, was filled with a thin grumous fluid having a very foetid odour. This gave place lower down to a well formed clot, while the other veins of the neck were filled with clotted blood.

The heart, kidneys and liver presented the usual signs of cloudy degeneration.

As permission could not be obtained for a full autopsy, the condition of the sinus itself was not ascertained, but it seemed probable from what was found in the vein that the sinus was involved and that the venous condition was an extension of the infective process.

RETROSPECT OF CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

Repeated Hæmoptyses in Non-Tuberculous Subjects.

DAVID NEWMAN, Glasgow. "Repeated hæmoptyses in non-tuberculous subjects."—*The British Medical Journal*, May 29, 1897.

Under this heading, Dr. Newman reviews his three cases, published in 1890, illustrative of this sign. Then three other cases are added.

Perhaps the strongest point in favour of the correctness of his diagnosis, *i.e.*, that the patients were non-tuberculous subjects, is the fact that under local treatment for a lesion of the mucous membrane discovered by laryngoscopy, the hæmorrhages ceased. He has furnished a report of the condition after several years: 1. After eleven years, perfect health; no recurrence of hæmoptysis. 2. After eight years, no recurrence; no pulmonary disease. 3. After four years, no recurrence; reported well.

The three added cases may be briefly summarized: The first case had cough and repeated hæmoptysis for 17 consecutive months. There was hoarseness with hypertrophic laryngitis. The lungs were negative on several examinations. The left arytenoid cartilage showed a distinct erosion of its mucous membrane. Local treatment was applied and the hæmorrhage ceased, and five years afterwards he reported himself well. The second case had recurrent hæmoptysis for seven years. An attack of pleurisy years before, together with a chronic cough and expectoration, pointed strongly toward tuberculosis of the lungs as the origin of the hæmorrhage, and such a diagnosis was made. On examination of the air passage a "small highly vascular area" was found on the posterior wall of the naso-pharynx. Irritation of this spot induced severe coughing and hæmoptysis. Treatment was applied locally and no recurrence was noted. The patient died from septic renal disease after 8 or 9 years. No signs of old or recent tuberculous disease were found at the post-mortem. The

third case, the sixth of the kind reported by Newman, had repeated attacks of hæmoptysis during eighteen months. He became anæmic and emaciated. Phthisis was strongly suspected, as an area at the right apex presenting diminished resonance and slightly prolonged expiration was detected. However, on examination of the posterior nares the left inferior turbinate bone was found enlarged, and its posterior limit was seen to be the site of a dark reddish copper coloured tumour, which bled very readily. After removal of this growth, with subsequent treatment of the base, the hæmorrhages ceased, and in 1893, nearly three years after the operation, there was no recurrence, and his general health had improved.

W. F. Hamilton.

The Sero-Diagnosis of Typhoid Fever.

“The sero-diagnosis of typhoid fever.”—From the proceedings of the recent meeting of the American Medical Society.

The subject was introduced by Dr. W. H. Welch, of Baltimore, who read a very important and interesting paper on “The principles underlying the sero-diagnosis of Typhoid,” in which he first briefly referred to the historical aspect of the case, tracing the numerous attempts, most of them unsatisfactory, to obtain cultures of the bacillus typhi from the spleen, rose-spots, blood and stools. In 27 per cent. of cases positive results had been got from the blood, but the method had the disadvantage of requiring a rather large quantity of blood, viz., 10 cc. The Elsner method of obtaining cultures from the stools marked an advance in the diagnosis of typhoid fever, but its field of usefulness was too limited.

The principle of Widal's test was that by the addition of one part of blood serum to ten parts of fluid containing the bacilli, a reaction takes place whereby the bacilli lose their motility and clump together. It had been found that the same power was possessed by serum from a blister and the fluid from a serous cavity. It had further been discovered by Dr. Wyatt Johnston, of Montreal, that dried blood was also capable of producing a similar agglutination. It was so far a matter of discussion whether more importance should be attached to the loss of motility or the clumping.

Dr. Welch further pointed out that cultures under twenty-four hours old should be always used, and for his own part was accustomed to recommend those only fifteen hours old.

He indicated that the degree of saturation was of considerable importance and deserved further study. Widal had recommended

saturation of 1:10 or 1:15, but it had been found that strengths of 1:40 or 50 gave better results. In cases where there was a suspicion of an infection with the colon bacillus, it was important to make the test with a weak solution as the colon bacillus had never been known to act with a dilution greater than 1:40.

A source of difficulty also lay in the fact that in some cases the reaction appeared late. In the majority of cases it could be found in the first week, but some undoubted cases failed to give a positive result until the second or third week, and in a few cases the reaction had been absent altogether. He concluded from this that a negative result was not conclusive proof of the absence of typhoid. A third source of error lay in the fact that the blood of persons who had suffered from typhoid fever retained the power of agglutination for a considerable time.

Dr. Wyatt Johnston, of Montreal, whose experience covered 600 cases, more than half being typhoid, then followed. He considered that the alkalinity of the culture was important, as if it were acid the reaction did not take place. He also preferred young cultures. It could only be regarded as a proper reaction when both loss of motility and clumping were present. If either occurred singly the reaction was to be regarded with suspicion.

In a clinical report on sero-diagnosis, Dr. R. C. Cabot, of Boston, cited the following figures from statistics which he had compiled :

In 1826 cases of supposed typhoid, in 95 per cent. the autopsy, confirmed the serum test.

In 1649 cases, not typhoid, 96 per cent. were negative. Total, 3475 cases ; 95.8 per cent. confirmed test ; 2 were incorrect.

In 101 cases supposed to be typhoid, 96 had given a positive reaction, while 5 failed. Three of these were seen late in the disease. One, seen early, which proved to be typhoid at autopsy, persistently gave a negative result. In 301 cases other than typhoid, 300 gave a negative result ; one, a case of pernicious anæmia in a negro gave a positive reaction.

He also concurred in the view that for a true reaction both elements, the loss of motility and the agglutination, should be present.

The length of time during which a patient would show the reaction was still *sub judice*. The longest period reported was 13 years. The reaction also might be intermittent. The susceptibility of the blood of negroes to the reaction was also referred to.

Dr. Bloch, of Baltimore, had found that the earliest date on which the reaction was found was on the sixth day, the first day being considered to be the first on which the patient was obliged to give up

work. 107 examinations in 46 cases of typhoid gave 6.5 per cent. of failures. He pointed out the possibility of making an early diagnosis between typhoid and the various forms of tuberculosis.

The conclusions come to by Drs J. H. Musser and John H. Swan, of Philadelphia, were stated by Dr. Swan to be as follows :

1. That age and sex have no influence.
2. That the reaction could be obtained as early as the 7th day.
3. The reaction disappeared at varying periods after cessation of the disease.
4. The reaction could not be obtained from the blood of patients suffering from diseases other than typhoid.

Dr. Richardson, of Boston, read a paper on "Elsner's Method of Diagnosis in Typhoid Fever." Elsner's gelatin culture medium had first been prepared with carbolic acid, but as a result of later experiments he had been led to substitute iodide of potash. No other bacteria than those of typhoid would grow on this medium. As a result of his investigations he thought that the Widal method was to be preferred on account of its greater simplicity, but suggested that in cases of doubt Elsner's plan of examination of the stools might, with advantage, be tried and would sometimes give a satisfactory result, when the former method failed.

Dr. N. S. Davis, of Chicago, stated that according to his experience 90 per cent. of typhoid gave a positive reaction. The time at which the reaction could be obtained varied and had no relation to the severity of the attack. He considered that the test did not give conclusive evidence.

Dr. J. B. Herrick, of Chicago, gave the experiences of Dr. Weaver, of the Rush College. Several of the cases examined had all the symptoms of typhoid fever and were also tuberculous. In all these the test failed to give a reaction. It was possible that this might be a mere coincidence, but it opened up the question whether the test was applicable to cases of mixed infection.

A. G. Nicholls.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Catheterism of the Ureters in the Male.

MEYER. "Catheterism of the ureters in the male with the help of the ureter cystoscope."—*New York Medical Record*, May 1, 1897.

The value of the information derived from catheterism of the ureters in the female is well established. It has been given a great impetus by Kelly and is now practised somewhat generally. It seemed for a long time as if the anatomical structure of the male urethra with its curve and its situation, through the prostate, would prevent a similar examination of the male ureters. But the difficulties seem to be overcome, and now it is practicable to catheterise the male ureters with almost as much ease as the female.

The principles are, however, different. The male urethra is less dilatable than the female, and it is impossible to balloon the male bladder and catheterise the male ureters through a straight tube as is done in the female, but the same end is attained by the use of instruments that are handled in front of the external meatus of the urethra and the ureteral catheter can be introduced into the ureteral openings under the guidance of our eyes. This operation is best carried out with instruments the principles of which have been laid down by Nitze.

The three cardinal conditions which permit cystoscopy are :

1. The calibre of the urethra must be sufficient to allow the instrument to pass.
2. The bladder must have a capacity of at least four or five ounces.
3. It must be possible to keep the fluid in the bladder transparent.

Now and then these conditions obtain, and yet the method proves unsuccessful owing to the fact that the mouths of the ureters cannot be found, or that they cannot be approached, or that they are too small to allow the entrance of even the finest of catheters. Sometimes the catheter has well entered the ureter, but it soon becomes plugged by descending blood or pus.

Dr. Meyer reports seven cases in which he employed this method of diagnosis with success.

A new and very interesting point discovered in the examination of two of these cases is that a crystalline deposit may descend from one

kidney alone and thus enter the bladder urine. This is apparently a new and original observation by Meyer.

Meyer has done all his work with a Caspar instrument and with cocaine anæsthesia.

Geo. E. Armstrong.

The Treatment of Ulcers and Wounds by Oxygen.

STOKER. "The treatment of ulcers and wounds by oxygen."—*Clinical Society's Transactions*, Vol. XXVIII.

STOKER. "The treatment of ulcers and wounds by oxygen."—*British Medical Journal*, Oct. 24, 1896.

In the above mentioned papers, Dr. Stoker calls attention to the value of oxygen gas applied surgically. He recommends that the gas be used pure at first, but that later in the course of treatment a solution varying from 25 to 75 per cent. is preferable. When it is thought well to lessen the strength of the gas, a current of air which has been passed through bottles, one containing lime water and the other a permanganate of potash solution, is mixed with the gas. By means of the "enclosure," any part of the body may be thus treated. The enclosure consists merely in the appliance adapted to the region of the body which is to be treated, fitted with the necessary openings for the inlet and escape of the gas. It is not necessary that it be absolutely air-tight; on the contrary, it is well that there be free ventilation. The apparatus must, however, be so applied that the current of gas comes in contact with the diseased area. For the treatment of wounds, &c., of the leg, an ordinary oblong wooden box with a glass lid and an india rubber funnel is required. The funnel is secured about the limb. Similarly simple contrivances may be used for the application of the gas to the various other regions.

Dr. Stoker finds that the oxygen treatment brings about healing when every other method has failed; that it produces rapid healing; that it allays pain, checks foul discharges and forms a healthy new skin which is vascular. He records several cases which testify as to its beneficial results, and particularly are these results noticeable in the treatment of chronic ulcer. Some cases which for years had gone the round of hospital and private treatment without benefit, were cured rapidly by the use of the gas.

From Dr. Stoker's experience, he concludes that oxygen has a selective power in reference to micro-organisms, favouring the growth of some and retarding that of others. He considers the staphylococcus albus, and staphylococcus aureus favourable micro-organisms, as they

are found in healthy and rapidly healing wounds under oxygen treatment. In unhealthy wounds, streptococci, bacillus fluorescens, b. foetidus, &c., are found, and these he terms unfavourable micro-organisms. If, in the treatment of the wound by oxygen, the unfavourable micro-organisms are found to predominate, an increase in the strength of the gas solution will be followed by an increase in the number of the favourable micro-organisms with a corresponding decrease in the unfavourable, and a consequent amelioration of the diseased parts. He further considers that the presence and abundant growth of the favourable micro-organisms greatly add to the rapidity of the cure.

E. J. Semple.

Obstetrics and Diseases of Infants.

UNDER THE CHARGE OF J. C. CAMERON.

Case of Recto-Vaginal Fistula from Pressure of the Foetal Head.

J. A. DOLÉRIS ET E. LENOBLE. "Rupture de la cloison recto-vaginale consécutive à la pression exercée par la tête foétale chez une primipare à tissus peu résistants."—*La Gynécologie*, 15 Avril, 1897, p. 134.

The patient, æt 22, I-para, entered hospital (La Pitié) under Dr. Doléris on 6th February, 1897. She was small, poorly nourished and presented the group of symptoms described by Prof. Hayem as *chloro-tuberculosis*. Any attempt to make a vaginal examination caused a vaginismus immediately, and she admitted that sexual intercourse was painful. Labour began on 15th March, at 10 a.m., the os was fully dilated at 6.30 p.m., and then the liquor amnii came away. Rotation took place in the excavation, but the progress of the head was arrested by the active resistance of the perineum. Chloroform was given on account of the vaginismus, and forceps applied to the sides of the head, rotation being complete. Delivery was effected without difficulty, and a slight superficial tear of the perineum was closed with two catgut sutures. Two days afterwards, the patient complained that she was passing flatus *per vaginam*, and an enema having been administered, part of the fluid escaped through the vagina. On examination, the sphincter ani and constrictor vulvæ were found to be normal, but 2 centimetres above the anus, a little to the left of the median line, was a small round fistula, with irregular borders, covered with foul-smelling mucus. The same evening the temperature rose and did not become normal again till the 11th day. On the 15th day the operation of perineorrhaphy and radical cure of the fistula was done by Doléris, and the patient made a good recovery.

As regards the causation of the fistula, three hypotheses were possible :

1. It was of old standing, not sufficiently marked to attract attention, but aggravated and made visible by traumatism occurring during labour.

2. It was caused directly by the forceps.

3. It was the result of a difficult labour, produced by the pressure of the foetal head on tissues of feeble resistance.

The first two hypotheses were untenable, for there was no history of an old fistula, and the forceps blades did not come near the seat of the lesion. The only explanation, therefore, is that in a difficult labour in a highly nervous woman the soft ill-nourished tissues offered but feeble resistance to the pressure of the head increased by the vaginismus even though the pressure lasted for but a short time. This case is interesting from a practical point of view in shewing how important is the condition of the maternal soft parts in the production of lesions in the recto-vaginal wall. Vaginismus causes spasmodic resistance of the perineum, a depression is formed in which the head lodges when it comes down upon the pelvic floor, the tissues which are compressed become paralysed, and fistula may result, or even a central perforation of the perineum.

The Function of the Levator Ani.

W. W. BROWNING.—“A Contribution to the Knowledge of the Anatomy of the Levator Ani Muscle.”—*Medical News*, 12th June, 1897.

Considerable difference of opinion exists among obstetricians and gynecologists respecting the anatomy and functions of this muscle. Dr. Browning has made dissections in the male and female, both in man and the lower animals. The most interesting from the obstetrical point of view, was the dissection of the pelvic floor over which the head of an eight-months foetus had passed within 48 hours. There was no evidence of the stretching of the fibres as described and illustrated by Dickinson in his comprehensive article in the *American Journal of Obstetrics*, Sept. 1889. On the contrary the muscle was compact, firm and well developed.

All are agreed that this muscle originates (1) in front, from the posterior surface of the body of the pubic bone on each side of the symphysis; (2) behind from the internal aspect of the ischiatic spine; (3) in the interval included between these points from a sort of fibrous arch extending between them, which may be regarded as a thickening on its margin of the obturator fascia.

Respecting the functions of the muscle, the views of Savage have been accepted by some, and those of Von Luschka by others. Savage divides each *levator ani* into two portions, the *pubococcygeus* and the *obturator coccygeus*, which differ in arrangement and function. The former arises from the posterior surface of the pubes and the posterior layer of the triangular ligament. Its fibres pass backward on the side of the lower part of the vagina, and on the side of the anal canal, to the last two pieces of the coccyx. A few fibres turn inward in the

perineal body in front of the internal *sphincter ani*. Behind the anus and in front of the coccyx, the fibres of opposite sides partially blend in the middle line. The *pubococcygei* act as sphincters of the lower portion of the vagina and anus, but can not compress the upper portion of vagina or rectum. They also draw upward and forward the perineal body and coccyx.

The *obturator-coccygeus* arises from the pelvic fascia between the pubes and ischial spine; its fibres run backward and inward to the coccyx. It is a thin layer of muscle which raises the coccyx and can elevate the pelvic floor somewhat, after it has been depressed.

Von Luschka and Dickinson hold that *no* fibres of the muscle reach the vaginal wall; that a few coming from the pubic band and deeper than the rest turn into the perineal body; that most of the pubic fibres unite with their fellows of the opposite side behind the rectum *without the intervention of tendon* and *none* reach the coccyx; that the fibres from the ischial spine are inserted into the coccyx; that those of fascial origin curve downward and backward with varying obliquity and with the concavity forward, to be inserted into a raphe reaching from the rectum to the coccyx. The muscles of the two sides form a sort of funnel-shaped sheet, slung about the rectum posteriorly "hugging the concavity of its end curve."

Dr. Browning's investigations tend to show that Savage's description is more correct than that of Von Luschka, and that Dickinson's illustrations create an entirely erroneous impression. He says there can be no doubt but that the muscle from its insertion into the perineal body, the external sphincter ani, the post-rectal raphe, and the coccyx pulls upward and forward the post-vaginal structures of the pelvic floor, and that traction upon the pubic band everts the anus. In the lower animals the levator ani is more developed in those having a tail, and the function of the muscle in such animals is almost entirely to act upon the tail. He offers the following objections to the claims that the levator ani is the principal support for the pelvic contents of woman;

1. That in the human subject it belongs to the class of rudimentary muscles.
2. That the weakness of its origin as well as the direction and the insertion of its fibres is inconsistent with such design.
3. That it is unphysiologic for a muscle to furnish a continuous support.
4. That the rectovesical fascia is in itself sufficient, when intact, to afford the required support.

5. That the muscle is no better developed in the female (in whom support is most required) than in the male.

Quinine in the Treatment of Incomplete Abortion.

SCHWAB. "De l'emploi du sulfate de quinine dans le traitement de l'avortement incomplet."—*L'Obstétrique*, 15 Mai, 1897.

Considerable difference of opinion exists among obstetricians respecting the treatment of incomplete abortions, the foetus having been expelled and the placenta remaining wholly or partially in the uterus. Tarnier and his followers advocate expectant treatment, taking care to keep the vagina aseptic, and do not interfere actively to empty the uterus unless hæmorrhage or sepsis occurs. They consider that removal of the placenta by means of the fingers or instruments may cause danger. The fingers may not suffice to detach and extract the placenta completely, placental forceps and the curette may injure or even perforate the uterus and are apt to leave portions of placental debris behind. Tarnier and Budin conclude that incomplete abortion left to itself rarely gives rise to serious complications.

Those who advocate active intervention hold that so long as the placenta or any considerable part of it remains in utero, the patient runs grave risk of hæmorrhage or septicæmia. The hæmorrhage may occur suddenly and unexpectedly, and septicæmia may develop insidiously. The placenta, which is partially detached and is retained *in utero*, putrefies rapidly. They do not advise waiting longer than six hours for the natural expulsion of the placenta. They begin with hot vaginal or intrauterine douches, then apply the intrauterine tampon or endeavour to separate the placenta by means of the fingers; if these measures fail, they use the curette. If hæmorrhage or sepsis occurs, they remove as much as possible by the fingers and then curette thoroughly.

Others distinguish between the treatment of incomplete abortion in hospitals and in private practice. In the former, where the patient is under constant supervision and where douching can be readily and systematically employed, the expectant plan may be tried. But in private practice, where the patient is not under such careful supervision, hæmorrhage and sepsis are more to be feared and immediate emptying of the uterus is safer practice. When the foetus is dead and macerated, infection is more apt to occur rapidly, and the expectant treatment is so much the more dangerous.

In 1888, Cordes (Geneva) called attention to the ecbotic action of quinine. Schwab used it in seven cases of incomplete abortion in the Lariboisière and Saint-Louis Hospitals in Paris, in the service of

MM. Magnier and Tissier. Given in doses of 1 gramme (15 grains) in two cachets of half a gramme each, at an interval of 10 minutes, quinine set up sharp uterine action. It acts as an ecbotic when the uterine muscle has already been in a state of contraction, but it differs from ergot in being harmless, in not producing tetanic contraction of the uterine muscle or provoking a contraction of the uterus *en masse*, the cervix included. There is not the same danger of increasing the chances of placental retention, as when ergot is employed. Schwab draws the following conclusions ;

1. The retention of the after-birth in abortion being always a serious complication, whether simple or accompanied by hæmorrhage or sepsis, we should endeavour to secure its expulsion as soon as possible.

2. Placental retention is always a menace to life from hæmorrhage or infection, consequently strict antiseptic precautions should be observed.

3. Digital or instrumental intervention to empty the uterus may be insufficient or dangerous.

4. Quinine, 1 gramme in divided doses, has a manifest action upon uterine contractility, and may, therefore, be suitably employed as an ecbotic to detach the placenta in abortion.

5. Unlike ergot, it is harmless in all cases ; if it fails, the expectant plan or active intervention may be tried.

6. It should be prescribed if simple placental retention has lasted for six hours ; sooner, if there is hæmorrhage or fever.

7. The administration of quinine should be the first step of active treatment, when rapid emptying of the uterus is indicated.

Formaldehyde as a Disinfectant.

H. C. WOOD. "Formaldehyde."—*University Medical Magazine*, June, 1897.

In an interesting article upon the properties and uses of formaldehyde, Dr. Wood throws out a suggestion to surgeons, that it may be possible by means of the simple formaldehyde lamp to immediately disinfect wounds by allowing the vapour to be discharged for a few moments into the wound. The penetrating character of the vapour is such that it seems probable that it would penetrate into the recesses of the wound much better than would a liquid solution. In bad cases of general peritonitis, laparotomy is almost invariably followed by death. Dr. Wood suggests that the rapid disinfection and purification of the whole abdominal cavity by a gaseous and seemingly scarcely toxic vapour, might possibly open out an avenue of safety. In cases of septicæmia, where thorough disinfection of the uterine cavity is

essential, it seems that formaldehyde vapor is worthy of trial. Formalin is the trade-mark name of an aqueous 40 per cent. solution of formaldehyde. Under the name *Formaldehyde*, Messrs. Merck & Co., supply an aqueous solution of the same strength at a cheaper price than formalin. It is only feebly toxic, and may be used with far less danger than corrosive sublimate or carbolic acid for intra-uterine and intra-abdominal disinfection. Besides its germicidal properties, it is one of the best deodorants and does not in any way affect instruments. In the disinfection of cutting instruments, it may prove more convenient than boiling, which dulls the edges. Dressings and vulvar pads might be thoroughly and quickly sterilized by allowing a current of formaldehyde vapour to pass through them. For washing out and purifying infected wounds, Professor Willard uses a 2 per cent. solution; for continuous local application or for free irrigation a quarter of a 1 per cent. solution. Winckel finds it valuable in gonorrhoeal vaginitis and other infective diseases of the genitals; he paints a 4 per cent. solution upon the infected cervix, but finds a solution of 1 in 10,000 sufficient for irrigation.

J. C. Cameron

Pharmacology and Therapeutics.

UNDER THE CHARGE OF A. D. BLACKADER.

On the Action of Strophanthus.

WOOD, H. C. "Lectures on Therapeutics; Strophanthus, Caffeine, &c."
—*Boston Medical and Surgical Journal*, Vol. CXXVIII, No. 21.

WILCOX, R. W. "Strophanthus: a Clinical Study."—*American Journal of Medical Sciences*, May, 1897.

MACGREGOR, A. "Two Cases of Œdema of the Lungs in Children treated with Strophanthus."—*The Lancet*, March 13th, 1897.

Strophanthus up to the present does not appear to have realised clinically the expectations that were raised among the profession after the brilliant studies on its action, carried out by Prof. Fraser, of Edinburgh. Employed originally by the natives of Africa as an arrow poison, it was shown by Fraser that it acts not only on voluntary muscle, but affects promptly and powerfully the muscle of the heart. This action at first consists in increasing the elastic tone of the muscle so that the individual fibres expand more slowly, and contract more completely. As the effect deepens, this tonicity increases to a stiffness which may finally terminate in a fatal rigidity, if the dose be sufficiently large. The cardiac muscle appears to be peculiarly sensitive to the action of this drug, responding to doses which scarcely affect the muscles of voluntary movement, and the result obtained is, according to Prof. Fraser, a very powerful one, exceeding far the effect produced by any other cardiac stimulant. One part of the dry alcoholic extract in ten million parts of water, he tells us, causes extreme systolic contraction in the living heart of a frog in fifty minutes, while the most active of the soluble principles of digitalis have but little effect in a solution of one in fifty thousand. On the other hand, the solution of digitalis exerts an influence on the muscular coat of the arterioles fifty times exceeding that of a similar solution of strophanthus.

In small doses the drug produces only slight gastric irritation, and may as a bitter even stimulate digestion; in toxic doses, however, it gives rise to considerable gastric distress, followed by purging and diuresis. The action on the kidneys would appear to be a direct one and not due simply to the rise in blood pressure. In experiments

with the oncometer it was found that strophanthus greatly increased the flow of urine from the kidney without increasing the bulk of the kidney, that is without increasing the amount of blood in the kidney, evidencing that it directly affects the secreting structure (Wood). Unlike digitalis, however, it appears to have no stimulant action on the pneumogastric nerves, which many regard as the trophic nerves of the heart. The active principle of strophanthus is very soluble dissolving in less than its own weight of water, and although a glucoside, possesses the diffusibility of a soluble crystalloid. Hence it can be rapidly absorbed into the blood, and rapidly eliminated by the urine; elimination, however, appears to proceed somewhat slower than absorption, a fact which may permit to a certain extent of accumulation in the system, if the drug is administered too frequently.

Comparing its physiological action with that of digitalis we note that strophanthus acts more promptly and more powerfully on the heart muscle, slowing and strengthening the pulse, and raising blood pressure, but its effects are less permanent, and as it has little or no influence upon the calibre of the blood vessels the effect on the blood pressure and pulse is seldom as marked as that of digitalis; the nutrition of the heart muscle appears to be less influenced by strophanthus than by digitalis; strophanthus has a distinct diuretic action, acting as a stimulant to the renal epithelium as well as by increased blood pressure; lastly, in small medicinal doses strophanthus may not only prove less of a gastric irritant than digitalis, but may even act as a bitter stomachic.

A drug with such a well defined action should give us in suitable cases good results clinically; nevertheless, the reports of different observers have so far been very contradictory. In a discussion on the subject of cardiac therapeutics, at a meeting of the Edinburgh Medico-Chirurgical Society, Prof. Fraser strongly urged the value of strophanthus as a cardiac stimulant. Prof. Balfour, on the other hand said of it, "Strophanthus is the only member of this group which has any pretension to rival digitalis, yet it is so much more uncertain in its action, and so devoid of tonic properties that we are seldom tempted to displace digitalis by it." We have therefore read Prof. Wilcox's article with much interest. Dr. Wilcox is of the opinion that many cases of failure to obtain good clinical results are due to the use of a tincture prepared from a different species of strophanthus to the official. He reports in detail a number of cases, giving sphygmographic tracings in which from the use of a carefully prepared tincture in moderate doses he obtained a more speedy relief of the symptoms than can ordinarily be expected under the employment

of digitalis. He says that he has found it of much value in the cardiac asthenia of corpulency, and in that of chlorosis and other forms of anæmia; in the so-called irritable heart, relieving pain and palpitation: in debilitated hearts associated with dyspeptic symptoms, and particularly with flatulence; and in the aged, where vertigo is often the result of cerebral anæmia. In the last class of cases his experience differs from that of Balfour who does not find this remedy serviceable in the conditions met with in advanced life.

The indications for its employment may be stated as follows: (1) In rapidly acting hearts with systole of lessened force and irregular rhythm. Strophanthus strengthens the ventricular contraction, slowing the pulse rate and lengthening the diastole; the irregularity of rhythm disappears and with improved nutrition a permanent strengthening of the heart muscle ensues. (2) In some cases of permanent high tension with a failing heart, such as are met with in Bright's disease, in arterio-sclerosis, and in the rigid arteries of the aged, strophanthus, owing to its comparatively slight action as a vasoconstrictor may give good results. (3) In urgent cases where a prompt action is desired, a single dose usually produces in from half an hour to an hour a fall in the frequency of the pulse with a distinct increase in its force, effects which last from four to eight hours. (Wood). (4) In cases where a diuretic action is desired. As its action is entirely upon the muscular tissue of the heart, it will prove of no avail in cases of advanced degeneration of the myocardium.

Dr. Wilcox is thoroughly in accord with Hare in acknowledging its value in the cardiac diseases of children. Dr. Macgregor reports two interesting cases illustrating its prompt action in acute œdema of the lungs in children. In the first, a lad of seven years suffering from chronic peritonitis and pleurisy, œdema of the lungs developed suddenly with lividity and intense dyspnoea. Ammonia and digitalis appeared to give little relief but strophanthus brought about marked improvement in the distressing symptoms. The second case occurred in a girl of nine years suffering from acute nephritis following scarlet fever. Under the influence of strophanthus the patient made a rapid and complete recovery.

On Alarming Cerebral Symptoms Produced by the Use of the Bromides.

MITCHELL S. WEIR. "On the Exceptional Effects of Bromides."—*Transactions of the Association of American Physicians*, Vol. XI., 1896.

HARE, H. A. "Some of the Untoward Effects Produced by the Administration of the Bromine Compounds."—*Therapeutic Gazette*, June 15th, 1896.

In a very interesting paper read before the Association of American Physicians last year, Dr. Mitchell called attention to the occasional occurrence, under the use of the bromides, of grave mental disturbance. The ordinary untoward effects of these drugs manifested in eruptions on the skin, mental torpor and the development of a profound cachexia, with general enfeeblement, are sufficiently well-known to all. Very occasionally, however, symptoms manifesting themselves in great irritability of temper, suicidal or homicidal tendencies, or delusions, are met with as the result of their employment. In some instances these alarming symptoms appear not to be due entirely to the drug, but to be associated, to some extent, with conditions in the patient. The prodromes or consequences of an epileptic fit may, because of the bromides, be intensified even in cases where the attacks are lessened in number. The menstrual wave in women occasionally appears to predispose to these symptoms; the irritability or melancholy occasionally present at this time has, in a few instances, been much increased by the use of a bromide salt. Cerebral lesions produced by traumatism may also unfavourably affect the action of these medicines, and necrotic changes in the brain due to emboli or thrombi, have appeared to favour the development of these unusual symptoms.

In illustration of these statements, Dr. Weir Mitchell mentions the case of a girl of 15 years, the subject of attacks of Jacksonian epilepsy who, under the influence of 150 grains of the bromide per day, became in ten days an apparent imbecile. She was unable to stand, and when seated her head dropped forward, the eyes were a third open, the pupils large, the sphincters relaxed, and the saliva flowed from the fallen jaw. As to her mind, she was quite imbecile, hard to arouse, and stupidly indifferent. The general convulsions had ceased, but the lesser fits were quadrupled in number. A few days without the bromides entirely restored her to normal condition of body and mind, and the state of partial idiocy was exchanged for a normal condition of rather unusual intelligence.

In another case, large doses in a few days brought two children into a condition of extraordinary feebleness of mind and body, with a peculiar impairment of the memory in both. One forgot the letters of the alphabet, and so could no longer read; the other had a curious confusion as to the time of events, misplacing them. The symptoms in

both passed away completely within two days of the withdrawal of the bromides.

In another instance, a lady, aged 47 years, the wife of a physician, had for four years taken a daily dose of sixty grains of the mixed bromides. The medicine did not trouble her, nor was there the slightest sign of acne. For twelvemonths, for the few days preceding and during the period of the menstrual flow, she was profoundly depressed and had suicidal impulses. The mid-interval was free from this symptom. At Dr. Weir Mitchell's advice the drug was abandoned, and to her surprise she soon lost her depressing melancholia.

Mere irritability of temper, occasioned by the bromides, Dr. Weir Mitchell thinks, is not very uncommon. He mentions several instances and adds, "In old epileptics, this symptom is laid to the score of the disease; but that it is not always of this parentage is a matter worth remembering in extreme cases."

He mentions also several instances of epileptics in whom even a few doses of the bromides produced dangerous symptoms. The patients grew sullen, or violent, or dangerously homicidal. In another, a lady in middle life, suffering from some disturbance of general health and loss of sleep, under the advice of Prof. Charcot, was given bromides. Very soon she became excited and wildly delirious. On the withdrawal of the bromides these distressing symptoms ceased.

Dr. Hare, in his paper, relates other instances in which the exhibition of even very moderate doses produced symptoms of mental aberration. With the hope of gaining additional information about such unusual manifestations of the action of these drugs, he addressed a letter to a number of well-known alienists and neurologists, asking them for their experience in connection with the administration of the bromide salts. While many of his correspondents had not met with any cases of excitement produced by the bromide salts, several had. Among the replies received, the following are of interest: Dr. Brush stated that while he could not recall a single instance in which mental alienation or true delusion followed, or was apparently caused by bromides, if the patients were of a sound mind before the drug was given, yet it was common in institutions to receive cases, clinically resembling cases of confusional insanity, in whom the symptoms rapidly cleared up on discontinuing the bromides, and prescribing a more generous diet. Dr. Alison said there was a condition of excitement which he believed was produced by the excessive use of bromides combined with chloral, in persons who were not epileptics, but who were simply suffering from mental disturbance, constipation and loss of

nourishment. The histories in such cases often showed that the patient had been systematically drugged with large amounts of both bromide and chloral, and that too little attention had been paid to other features of the disease.

In the discussion which ensued on the reading of Dr. Mitchell's paper, Dr. Hare emphasised the depressing action of the potassium base in the administration of large doses of that salt, an action which is not shared by the sodium salt.

A. D. Blackader.

Canadian Medical Literature.

UNDER THE CHARGE OF KENNETH CAMERON.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL. Such reprints should preferably be addressed to Dr. Kenneth Cameron 303 Dorchester street, Montreal.]

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Difficult labours—D. G. Fleming, Chatham, Ont., p. 481.

THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

Crime and criminals—A. B. Eadie, Toronto, p. 235.

Prostatic hypertrophy—T. H. Manley, New York, p. 238.

THE MARITIME MEDICAL NEWS.

- Experimental research on the properties of antipyrine—Andrew Halliday, Shubenacadie, N.S., p. 189.
 The ductless glands in therapeutics—L. M. Silver, Halifax, N.S., p. 193.
 Diphtheritic croup—M. Chisholm, Halifax, N.S., p. 201.
 Recurrence of rash in scarlet fever—L. R. Morse, Laurocetown, N.S., p. 203.

L'UNION MÉDICALE DU CANADA.

- Quelques suggestions pratiques au sujet des tubes du Crookes—A. A. Foucher, Montréal, p. 321.
 L'Anthropométrie—L. H. Roy, Montréal, p. 324.
 Cancer primitif de l'œsophage—M. T. Brennan et A. Ethier, Montréal, p. 335.
 Pleurésie purulente à pneumocoques (pneumonie lobaire gauche épanchement purulent consécutif, mort)—E. P. Benoit et T. Parizeau, Montréal, p. 340.

BRITISH MEDICAL JOURNAL (JUNE 5TH).

- Observations on broncho-biliary fistula, with report of two cases—J. E. Graham, Toronto, p. 1397.
 Remarks on a case of pancreatitis followed by cyst of the pancreas—Alexander McPhedran, Toronto, (illustrated), p. 1400.
 Clinical lecture on hæmaturia—F. R. Eccles, London, Ont., p. 1402.
 A clinical lecture on the treatment of diphtheria—John Herald, Kingston, Ont., p. 1403.
 Three cases of Friedreich's disease, all presenting marked increase of the knee-jerk—George Hodge, London, Ont., (illustrated), p. 1405.
 A respiratory symptom of tobacco poisoning and its experimental investigation—William S. Morrow, Montreal, (with tracings) p. 1406.
 Aikin's hoop-iron splint in fractures of the humerus—Geo. A. Peters, Toronto, (illustrated), p. 1409.
 Intubation and antitoxin—J. C. Connell, Kingston, p. 1410.
 A case of malignant pleurisy—J. T. Fotheringham, Toronto, p. 1411.

Aikin's Hoop-iron Splint in Fractures of the Humerus—George A. Peters.

This splint had been used with much satisfaction for many years by the inventor, the late Dr. W. T. Aikins, of Toronto, and by a large number of his old pupils, but a description of it has never been placed on record. The material used is the ordinary band or hoop-iron, one inch wide for young children, and from one and a quarter to two inches wide for an adult. The material can be shaped by hand or by a pair of pliers or monkey-wrenches. It is, at first, so bent and twisted that an arch is formed over the top of the shoulder, the anterior limb reaching downwards over the front of the chest in a direction approximately towards the umbilicus, and may be from 8 to 12 inches in length. The posterior limb forms the vertical part of the splint, and passes down the back part of the shoulder and arm to a point about an inch below the point of the bent elbow. At this level the iron is again bent somewhat obliquely so as to pass under the forearm in a direction towards the mid-line of the body. The splint, thus, almost forms a triangle, the sides of which, however, do not lie in the same

plane. The distinctive feature is that the distance from the shoulder arch to the bend at the elbow should be such that when the arch is fixed in position by strapping, considerable extension can be made on the muscles of the arm by drawing the forearm down to the horizontal limb of the splint below the elbow. In applying the splint, after being well padded, it is placed with the arch over the shoulder and secured very firmly (but quite free) by one or two strips of rubber adhesive strapping about an inch and a half broad, and long enough to reach well down upon the back and front of the thorax. For the sake of additional security, one or both straps may be given a turn round the top of the arch. Similar straps are made to embrace the anterior limb of the arch, and pass horizontally round the thorax. A moulded splint for the upper surface of the forearm should be very carefully padded and fitted and then bound down to the horizontal limb of the splint by strapping, thus setting up very effectual counter extension. If desirable short coaptation splints may be applied over the fracture.

The advantages claimed for the splint. It is the only splint described which furnishes in itself the means of making effectual extension of the muscles of the arm.

It is cool, light, and affords ready means of examining the parts during healing, with the minimum of disturbance.

It permits the direct application of evaporating lotions or the cold coil where indicated.

In compound fractures, ready access may be obtained to the wounds, and if the iron of the splint be brushed over with melted paraffin, it can be readily rendered aseptic and lotions and discharges leave it unaffected.

A Case of Malignant Pleurisy—J. T. Fotheringham.

The case was a man of 56, who complained of shortness of breath on exertion. There were present the ordinary signs of a large effusion in the right pleural cavity. The heart was much displaced downwards about an inch, and to the left as far as the anterior axillary line. This malposition it retained with very little change to the last. The patient had never had any pleuritic pain at any period of his illness. The physical signs presented during the first half of his illness were diametrically the opposite of those seen during the later stages. In the latter half, while the heart remained fixed in its malposition, the hypertrophy of the left lung and the gradual compression of the right, with the failure of the effusion to return gradually changed the physical conditions to be seen in the thorax

so that in place of the full bulging, immobile right thorax of large effusion, one saw the small collapsed fixed chest wall of cured empyema, a chronic cirrhotic disease of the lung. This marked change in general appearance was due to two causes, first, the non-return of effusion after aspiration ; and, secondly, the scirrhotic contracting growth which was found *post mortem* spreading *en cuirasse* over the whole pleura and compressing the lung to much less than its ordinary size.

Reference is made to two cases, almost exactly similar, described by Delafield in his *Text-book on Pathology*, and to his bibliographical references which make it plain that primary new growth in the pleura does certainly occur.

Kenneth Cameron.

Reviews and Notices of Books.

A Treatise on Surgery. By American Authors. Edited by ROSWELL PARK, A.M., M.D. Volume II. Special or Regional Surgery. 8 vo. pp. 768, with 451 engravings and 17 full page plates in colours and monochrome. Philadelphia and New York: Lea Brothers & Co., 1896.

The publication of this volume, completes practically three works on Surgery by American authors within a year, viz., "The Text-Book," edited by Keen and White, and "The System," edited by Dennis and Billings. In size it stands midway between "The Text Book" in one volume and "The System" in four volumes. This is a source of strength and weakness. It is shorter, more quickly referred to and more terse, but also less complete in detail in many subjects.

Like the first volume, it bears a strong impress of its editor, who has contributed the chapters on surgical diseases and injuries to the head; chancre and venereal ulcer, and that on skiagraphy, or the application of the Roentgen rays to surgery.

Many articles are defective because of what is not said rather than because what is said is not correct. In the article on hernia for example, only a mention is made of Macewen's method of treating the sac. Even a student preparing himself for examination before any Board of Surgeons should know the details of the operation. The whole subject of fractures is disposed of in about fifty pages. The surgery of the gall-bladder and gall-ducts is not fully given. In fact, one who attempted cholecystotomy or a choledochostomy, with only such information as is given, would be in a sorry plight before he was through. Hypospadias and epispadias receives less than two pages, including illustrations. Cæsarean section and symphysectomy are not mentioned, and one searches in vain for the descriptions of the modern high operations for cancer of the rectum as performed by Heinicke or Hegar or Rehn.

The work will prove disappointing as a book of reference, and will be found too incomplete in detail for students. G. E. A.

The American Year Book of Medicine and Surgery; being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery drawn from journals, monographs and text-books of the leading American and Foreign authors and investigators. Under the general editorial charge of GEORGE M. GOULD, M.D. Large 8vo. pp. 1183. Philadelphia: W. B. Saunders, 1897.

This volume gives evidence of very careful preparation and wide reading. The chapter on general medicine contains a review of the progress made in the United States and other parts of the world during the year,

and by a judicious mixture of essays and illustrative clinical reports, is made most readable and instructive. The chapter on diseases of the stomach will be read with very great interest. It contains a *resumé* of the more recent advances in our knowledge of the diseases of this important viscus as well as a description of the different methods of investigating and treating them.

In the chapter on general surgery are many most valuable articles. The new methods of antiseptic wound treatment are described. The article on anæsthetics and anæsthesia is particularly good. Gallstone-surgery is treated very fully, and the different operative procedures described, their relative merits compared and the more recent advances indicated. Fractures receive full attention, and several illustrations of different methods of treatment are found. A *resumé* is given of Krauso's report on the ambulatory treatment of fracture. A most interesting article is the one on military surgery.

Obstetrics receives, as it should, a careful review. Twenty-two pages are devoted to maternal and fetal dystocia.

Gynæcology, of course, is always very much in evidence, and in the article on this subject the more scientific aspect receives the fullest consideration at the expense of less important details.

Pathology is dealt well with in 46 pages, and is most instructive.

Most interesting and instructive are the articles on pediatrics and infectious diseases, nervous diseases, orthopædic surgery and ophthalmology.

Such a book is exceedingly helpful ; it is a necessity of the times in which we live.

G. E. A.

Lectures on the Treatment of Fibroid Tumours of the Uterus, Medical, Electrical and Surgical. By FRANKLIN H. MARTIN, M.D. Chicago : The W. T. Keener Co., 1897.

Dr. F. H. Martin has written a very complete monograph upon the modern treatment of uterine fibroids, although the English is not exactly what one would expect from a man of the author's high standing in the profession. Another objection is the adoption of the phonetic method of spelling, which ought to be frowned down upon by all educated people, as our present method of orthography gives not only the correct spelling, but also the derivation and meaning of the words. The following are examples of the spelling used in the text, viz., "fiber," "center," "feces," "valerinate," (the latter being the result of careless pronunciation of the word valerianate, the *a* following the *i* not being sounded) etc.

A useful anatomical classification of uterine fibroids into sub-mucous, interstitial, intra-mural and sub-serous, is adopted by the author.

The description of the macroscopical character of these growths is excellent, as is also the article upon the local examination of the abdomen and pelvis, although no mention is made of auscultation of fibroids for the souffle, except quite casually in the differential diagnosis between pelvic cysts and fibroids.

The author's advice against the too free use of chloral and opium should be taken to heart by those who are fond of prescribing these drugs without reflecting upon the possible future consequences.

The electrical treatment of fibroids is very fully described, and is advocated for suitable cases, viz.: "1. Bleeding fibroids in women approaching the menopause; 2. All inoperable cases; 3. In incipient fibroids in women over 40 years of age; 4. In bleeding fibroids of the smooth interstitial variety; 5. In all cases (not accompanied with pelvic pus accumulation) which refuse to have an operation."

Drainage in abdominal section receives careful consideration, although it is somewhat of a surprise to find that the author advocates the removal of fluid from Keith's tubes by means of a suction apparatus, as this method has been abandoned by the vast majority of operators. Another recommendation with which few will agree is that of changing the abdominal dressing, even in closed aseptic wounds, in four days after the operation, and, at the same time, washing the wound with alcohol and sublimate. Unless there is evidence of infection of the wound, it should not be disturbed for ten or twelve days, when the stitches should be removed.

Altogether, the book is a good *resumé* of the treatment up to date of fibroid tumours of the uterus, and contains a very clear description of vaginal ligation of the uterine arteries and their branches in the treatment of uterine hæmorrhage and tumours.

F. L.

A Text-Book of Genito-Urinary Surgery and Venereal Diseases. By J. WILLIAM WHITE, M.D., Professor of Clinical Surgery in the Medical Department of the University of Pennsylvania, and EDWARD MARTIN, M.D., Clinical Professor of Genito-Urinary Diseases in the Medical Department of the University of Pennsylvania. Illustrated with two hundred and forty-three engravings and seven coloured plates. Pp. 1081. J. B. Lippincott Company, Philadelphia. Charles Roberts, Montreal.

The publishers state that "The aim of the book is to be concise, lucid, thorough, and modern—to give the best," and the authors have succeeded in their task. They have given us a book which really covers the ground, but they do not enter into useless discussions and so confuse the reader. The treatment of the various diseases is described clearly and in a manner that will commend itself to all; great stress is laid on antisepsis in all operative work, especially in such procedures as "passing of catheters," where the need of cleanliness is emphasised as the principal means of preventing urinary fever. In speaking of stricture, the theory of stricture of large calibre is not entertained, but these narrowings are called by their right name, points of physiological narrowing. In describing the situation of the stricture the writers follow Sir Henry Thompson rather than Otis, and give as the common site the bulbo-membranous urethra.

The most modern treatment, both of diseases of the ureters and of the prostate, is given, in the latter, the relative advantages of the various operations being discussed. And so all through, all subjects of interest are discussed in a bright, and readable manner, while at the same time, the essential facts are all given. The type is large and clear, a not unimportant matter in these days when so much reading has to be done. The illustrations are well chosen and show what they are intended to show. Altogether it is a work to be strongly recommended. R. C. K.

The International Medical Annual and Practitioner's Index.

By Forty-one Contributors. Pp. 637. 1897. Fifteenth year. New York : E. B. Treat. Toronto : J. A. Carveth & Co.

The plan of this work is quite different from that edited by Gould. Part I. is devoted to new remedies, and it is well done. The number of new remedies brought forward each year is so numerous and their variety so great, that a work of this kind, bringing their composition, physiological and therapeutic action before the profession in tabulated form is a necessity. The general practitioner and the specialist will find here brief and concise reports of these remedies that cannot but prove to be of great assistance. Splendid work has been done in this department of medicine during the past year, and therapeutics is rapidly approaching a more exact science than formerly. Part II. deals with new treatment. It is a dictionary of new treatment in medicine and surgery. The name of the writer on each disease is given. The diseases are arranged alphabetically. A busy man can easily turn up any disease that he wishes to refer to readily, and in a few moments get a short report of the advances made in treatment during the year. Part III. includes a very good article on sanitary science by a recognised authority. It treats of several important subjects in sanitation and is well illustrated. At the conclusion is a chapter on new inventions, illustrated. No practitioner can afford to be without such a book.

G. E. A.

Lectures on Pharmacology for Practitioners and Students

By Dr. C. Binz. Translated from the second German edition by Arthur C. Latham, M.A., M.B., Oxon. London: The New Sydenham Society. 1895-1896.

We have read with much interest and profit these two volumes, translated and published under the auspices of the New Sydenham Society. Pharmacology has no clearer or more scientific exponent of its truths than the writer of these volumes, and we can cordially recommend them to our readers. At the same time we would call attention to the very excellent selection of classical works which are being published by this society. The selection for 1896 contains, besides the lectures which we noted above, a Treatise on Cholelithiasis, by Prof. Naunyn, and Essays on Leprosy.

A. D. B.

On Deafness, Giddiness and Noises in the Head. By EDWARD WOAKES, M.D., Lond., assisted by CLAUD WOAKES, M.R.C.S., L.R.C.P. Fourth Edition. London: H. K. Lewis, 136 Gower Street. 1896. (All rights reserved.)

This, the fourth edition of Dr. Woake's work on deafness, giddiness and noises in the head, forms very interesting reading. It has been considerably enlarged and rewritten almost entirely since the third edition appeared years ago.

It is an elaboration of Dr. Woakes' ideas on these symptoms, based upon the theory of correlation of tissue areas.

This theory certainly does account for the phenomena in certain cases but one can hardly follow Dr. Woakes to the extreme that he goes.

To enter into any detailed description of this work would be too extensive for this article.

The above will, however, suffice to indicate the lines on which this book is written.

The book itself has a few illustrations and is otherwise brought out in H. K. Lewis' usual good style. J. W. S.

Feeding in Early Infancy. By ARTHUR V. MEIGS. Philadelphia: W. B. Saunders, 1896.

This small brochure is a clear exposition of the views which have been so strongly urged at various times during the past fourteen years by the writer. The key-note, he says, to the successful feeding of infants lies in the appreciation of the fact that human milk contains only about one per cent. of casein, and that if cow's milk, which contains three per cent., is to be used as the basis of the food, it must first be fittingly diluted, and then other changes be made to bring the various constituents to the same percentage as they exist in human milk. While we must differ from the author in believing that the amount of casein in human milk is always in the neighbourhood of one per cent., we know by experience that his directions make a good working formula with which to feed infants. We have pleasure in recommending the article to those of our *confrères* who are interested in the subject. A. D. B.

The Ready Reference Handbook of Diseases of the Skin. By GEORGE THOMAS JACKSON, M.D., (Col.) Professor of Dermatology in the Women's Medical College of the New York Infirmary, etc., etc. Second Edition. Lea Brothers & Co. 1896.

This book, the first edition of which appeared in 1892, deals mainly with the symptomatology, diagnosis and treatment of disease. The arrangement of diseases in alphabetical order, although of advantage for ready reference, renders the study of the diagnosis of a doubtful case much more difficult, allied diseases not being grouped together. G. G. C.

Transactions of the Association of American Physicians.
Vol. XI. Philadelphia. 1886.

This volume, both in the number and excellence of its papers, is fully equal to any of the previous volumes. Among the more important we notice the following: Leukomain Poisoning, by B. K. Rachford; Habit-Chorea, by Wharton Sinkler; Periodical Neuralgias of the Trigeminal Nerve and their relation to Migraine, by J. J. Putnam, of Boston; Tricuspid Stenosis, by George Doch; Syphilitic Nephritis, by H. A. Lafleur; Meschal Buttons, by D. W. Prentiss and F. P. Morgan; Diagnosis of Dilatation of the Stomach, by William Pepper and Alfred Stengel; Notes on X Rays in Medicine, by Francis H. Williams, and a case of Wandering Phlebitis, by W. P. Northrup, of New York, etc.

We congratulate the Association on the very high character of all the papers read before it.

A. D. B.

Notes on the More Common Diseases of the Eye By ROBT. W. DOYNE, F.R.C.S. London: H. K. Lewis, 136 Gower Street, W.C. 1896.

Mr. Doyne's little Brochure on the more common diseases of the eye is very readable.

It is really a very condensed epitome of the contents of the larger works on this subject, and is intended for the general practitioner who may be too busy to consult these more extensive books.

The author evidently presupposes in many places that the reader has studied already the subject of ophthalmology, and if so, it is difficult to imagine the particular niche this present publication is to fill.

The descriptions, although of necessity very condensed, are yet well done.

J. W. S.

The Tonic Treatment of Syphilis. By E. L. KEYES, A.M., M.D. Revised Edition. New York: D. Appleton & Co. 1896.

Dr. Keyes' name is well known to the profession as an authority on the treatment of venereal disease, a position to which his large and long experience as Professor of Syphilology in Bellevue Hospital Medical College entitles him. In the present small brochure of 80 pages he explains his method of administering mercury so that its action may prove tonic and not harmful. The details of the general and local treatment are given, with the special means which he employs to relieve special lesions. We can recommend the work to our readers.

A. D. B.

Essentials of Physical Diagnosis of the Thorax. By ARTHUR M. CORWIN, A.M., M.D., Demonstrator of Physical Diagnosis in Rush Medical College, etc., etc. Second Edition, revised and enlarged.

This book of 200 pages, contains a systematic arrangement of the subject in tabular form, taking up the landmarks, methods of physical diagnosis, and signs in the separate diseases, in order.

G. G. C.

A Manual of Venereal Diseases. By JAMES R. HAYDEN, M.D., Chief of the Venereal Clinic at the College of Physicians and Surgeons, New York. Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of New York; Visiting Surgeon to the New York City Hospital. Lea Brothers & Co., New York and Philadelphia. 1896.

This work, though in a compact form, gives a clear and practical knowledge of the three venereal diseases, gonorrhoea, chancroid and syphilis. The lines of treatment suggested are conservative; only those well-known and well-tried methods are given place, and the many recent novelties are conspicuous by their absence. Those who have not the time nor the inclination to read the large works on this subject, will find this little volume a valuable and safe guide.

K. C.

Literary Note.

Mr. W. B. Saunders announces the following books for early publication :

An American Text-Book of Genito-urinary and Skin Diseases. Edited by L. Bolton Bangs, M.D., and William A. Hardaway, M.D.

An American Text-Book of Diseases of the Eye, Ear, Nose, and Throat. Edited by G. E. de Schwenitz, M.D., and B. Alexander Randall, M.D.

Surgical Diagnosis and Treatment. By J. W. Macdonald, M.D.

A Text-Book of the Theory and Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D.

Tuberculosis of the Genito-Urinary Apparatus, Male and Female. By Nicholas Senn, M.D., Ph.D., LL.D.

A Text-Book of Gynæcology. By Charles B. Penrose, M.D.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D.

A Manual of Orthopedic Surgery. By James E. Moore, M.D.

A Text-Book of Embryology. By John C. Hensler, M.D.,

Pathological Technique. By Frank B. Mallory, A.M., M.D., and James H. Wright, A.M., M.D.

Diseases of Women. By J. Bland Sutton, F.R.C.S., and Arthur E. Giles, M.D., B.Sc.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY

Stated Meeting, March 12th, 1897.

J. GEORGE ADAMI, M.D., FIRST VICE-PRESIDENT IN THE CHAIR.

Discussion on Isolation and Disinfection of Scarlet Fever, Measles and Diphtheria.

Dr. G. GORDON CAMPBELL exhibited a table which he had compiled showing the facts, so far established, concerning the period of incubation, duration of infection, date of appearance of the eruption, etc., in these three diseases.

Dr. E. P. LACHAPPELLE discussed first the management of infected cases in the house. With regard to scarlet fever, isolation should last from the time of diagnosis for forty or fifty days and should be absolute the nurse chosen should be one who had previously had the disease. The patient, before leaving the room, should be thoroughly disinfected and dressed in clean clothes, and then the room also should be thoroughly disinfected before other members of the family were admitted.

Diphtheria, with ordinary precautions, was much more easily isolated, as air was not a medium of transmission of the infection. It was impossible to determine how long isolation was necessary; it should be kept up as long as bacilli were found in the throat.

Of the three diseases, measles was much the most difficult to isolate at home, and as the contagion was well marked even before the diagnosis could be made, the whole family would already have become contaminated. The whole household must therefore be quarantined, and as the disease was not a long one, this was not a very great hardship. Though not usually fatal, statistics showed that measles in a large proportion of cases, left serious sequelæ, the physicians were not careful enough in making the family understand that strict isolation would do away with the periodical outbreaks at present experienced.

The question of transmission of these diseases by the attending physician was a very important one. He must remember that he was liable to convey the disease unless proper precautions were taken to prevent it. Dr. Lachapelle advised that the infectious cases should be seen last, and that the physician should have a wrapper or overall

in the passage near the door of the patient's room to wear while making his visit. This garment should be put aside and disinfected before the next visit. He should also disinfect his hands and face before leaving the house. These procedures would not only protect other families, but would serve to educate the public to the necessity of taking rigid precautions against infection, and the physician must also make them understand that they must give up all social engagements, shopping, etc., and that if the head of the family must attend to his work he must live elsewhere.

On making a diagnosis, the first duty of every physician was to report to the local Board of Health so that they could, in some measure, control the spread of the disease. The Board might also aid the doctor in the discharge of his duties by having a little pamphlet, instructing people in the methods of isolation, etc., which could be distributed by the officer whose duty it was to placard the house.

Dr. WYATT JOHNSTON stated that by order of the Provincial Board of Health he had recently been investigating the question of disinfection, especially by means of formaldehyde. In discussing the usual means of house disinfection after contagious disease, he pointed out the necessity of waiting until the inmates of the house were no longer a source of infection before disinfecting the premises. In the case of diphtheria, the throat should be free from the bacilli.

In disinfecting articles of clothing, bedding, etc., it was necessary to have a rapid and certain method which would not damage the goods. Steam under pressure answered these requirements well for most articles, the only precaution needed being that of warming the articles to about 180°F., and thus avoid condensation, before letting in the steam, as it was moisture from condensation and not that in the steam vapour itself which did mischief.

Expensive and fine goods, such as laces, silks and velvets stood steam disinfection better than the cheaply dyed fabrics belonging to the poor. The colours of the latter were liable to run.

With reference to sulphur gas, it appeared now to be generally admitted that this was only a surface disinfectant, and had not sufficient powers of penetration to disinfect bedding, clothing, carpets and hangings.

In the absence of better means of disinfection, sulphur could be used, but all that could be reasonably expected of it would be the destruction of germs on the bare walls and floors. There was some epidemiological evidence to prove that in the case of smallpox and yellow fever sulphur was more efficient than in other infectious diseases.

Sulphur gas to be efficient required the presence of moisture, and this was liable to injure delicate goods. Chlorine or hydrochloric acid gas were both powerful but very destructive germicides; for disinfecting stables and outbuildings they were excellent.

A large number of things were injured by steam treatment, such as furs, leather, books and toys and upholstered furniture. These, for the same reason could not be thoroughly treated with antiseptic solutions. For these the use of formalin vapour was admirably suited, as it gave complete disinfection without any injury to the textures or colours. Prolonged contact with formalin solutions would, however, act on iron somewhat. Formaldehyde vapour also offered a good means of sterilising walls, hangings and curtains. A sufficient quantity of the gas could be disengaged in a room to thoroughly sterilise the exposed surfaces and even to secure a certain amount of penetration. For this later object, however, the disinfection in a closed chamber was more certain and economical, as it enabled more work to be done with less material.

The Health Board of the City of New York proposed issuing formaldehyde for treating certain goods. Formaldehyde was officially recognized as a disinfectant in the State of Maine.

Formaldehyde could be generated in the room by means of a lamp converting methyl alcohol quickly. In this case at least one quart of alcohol per 1000 cubic feet should be used and the lamp should be capable of converting at least one quart per hour.

A better means of evolving the vapour was by regenerating it from a solution, for example, of formalin by treating it under pressure and allowing it to escape under a pressure of about three atmospheres. The presence of calcium chloride in the solution apparently ensured the gas being given off in a more effective state. Equal parts of formalin and a 10 p.c. or even a 20 p.c. solution of calcium chloride in water formed a convenient formula. From this mixture the gas was generally supposed to be all disengaged before the water had evaporated.¹

The proper amount to be used was not yet fully determined. The Board of Health of the Province of Quebec, as the result of a number of experiments, advised at least one pound of formalin per 1000 cubic feet, while double that amount would be of advantage when penetration of bedding and upholstery was considered necessary. These amounts were larger than those usually recommended; and the printed directions generally given by the vendors of special patented appliances for this were usually far below the safety limit.

¹ A statement which does not appear to be very satisfactorily proved.—W. J.

In disinfecting a room the doors and windows, as well as any other openings, are usually pasted up and the gas blown in through the key hole for a period of a half to two hours, according to the effect desired. The room was then left closed for two or three hours more. When opened the fumes of formalin could be instantly neutralised by ammonia vapour. The resulting *formamide* compound had no noticeable smell, but was liable later on to decompose and liberate formaldehyde afresh, hence repeated applications of ammonia might be necessary. By simply opening the windows and waiting a few hours this late evolution of formaldehyde could be avoided.

Formaldehyde vapour penetrates clothing and bedding much more slowly than steam, but it is very efficacious in the dry state.

The capacity of formaldehyde for killing spores is relatively high, whereas sulphur gas has practically no action upon spores.

Much of the apparatus sold for formaldehyde disinfection is very inefficient.¹

Dr. A. D. BLACKADER pointed out the possibility in some cases of effectually isolating scarlet fever even after the disease had actually commenced. He cited the following case. In a family of two children, brother and sister, the boy while suffering from vomiting, sore throat and fever, was repeatedly kissed by the little girl who lay beside him on the sofa with her arms around his neck. The patient was seen by him thirteen hours later, at once isolated, and later on developed a moderately severe case of scarlet fever, and yet the little sister escaped. He had isolated scarlet fever as late as sixty hours after the appearance of the rash and in no case was there an outbreak in the family.

With regard to the length of time the infection lasted, he thought we were not able to speak in an absolute way, and that it depended upon the duration of desquamation, which in some cases it was possible to shorten so as to allow isolation to be completed at four weeks. The physician should also take into account the condition of the nose, throat, and ears in determining this point.

He thought that in children returned from hospital more or less isolation should be kept up for a few days, as Ashby's statistics showed that from two to four per cent. of returned cases communicated the disease.

¹ A number of different models of formaldehyde apparatus, the property of the Board of Health of the Province of Quebec, were shown at the meeting. The officials of the Board are willing to furnish any information in their power as to the most efficient forms obtainable. Changes and improvements in the apparatus are so frequent and considerable, that it does not appear desirable to specify here which forms comply with the requirements mentioned above.

In measles, probably more could be done in the way of isolation than was generally supposed. The probability of the physician carrying disease from one house to another was not great where proper care was exercised, and he thought the plan suggested by Dr. Lachapelle, of having a coat for the physician's use while in the house a very desirable one.

Dr. MACPHAIL considered the time had come for a revision of our views upon disinfection and isolation, just as the views upon antiseptics and quarantine had been revised, and that the present discussion tended in that direction. He believed that isolation should hold first place, combined with instant destruction of all the infected secretions and excretions of the patient, in the same definite way as is practised in the laboratory. If, he said, in cases of diphtheria and scarlet fever, the secretions from the air passages were received and burned, and if, in cases of intestinal infection, the discharges were properly sterilised at the time, it would be a far safer method than depending upon indiscriminate disinfection. From bacteriologic evidence he showed the difficulty in the way of effective household disinfection. It was quite impossible in ordinary cases to ensure even a reasonable degree of isolation; it should be made a public duty and a public charge.

Dr. D. F. GURD thought that if the doctor would wear his overcoat buttoned up at infectious cases and take it off before entering the rooms of non-infectious ones the danger of carrying infection would be minimised. He always followed this practice and had never carried any disease to his own or anybody else's children. The linen duster mentioned by Dr. Lachapelle would be a source of increased danger, for if kept in the sick room it must surely put contagion on the doctor's clothes, and if brought and kept out of the room it would rightly frighten the well persons.

Dr. F. W. CAMPBELL had understood Dr. Lachapelle to say that if these three diseases had been effectively isolated they would have been got rid of just as in the case of smallpox. He did not agree with him here, but considered that we were free from smallpox because of vaccination rather than isolation.

Dr. WESLEY MILLS thought that the principle of educating the public on the subject of isolation and disinfection, as advocated by Dr. Lachapelle, was the most powerful means of all of preventing the spread of these diseases.

Dr. J. G. ADAMI felt that it was the duty of the physician to ostentatiously educate the patients in these principles, and it would be ridiculous to demand precautions from others which we did not

observe ourselves. Among the poor the only way of entirely stamping out these diseases would be by compulsory isolation in a proper fever hospital.

Dr. LACHAPELLE, in replying to Dr. Campbell, said that he did not intend to classify these three diseases with smallpox, but, if isolation were properly carried out, they would be checked or reduced to a minimum. Though the real cause was unknown one case certainly followed another, and if the first case were isolated there would be no epidemic.

In replying to Dr. Gurd, he thought that visiting with one's overcoat on was not a safe practice.

Stated Meeting, March 26th, 1897.

GEORGE WILKINS, M.D., PRESIDENT IN THE CHAIR.

Lefort's Amputation of the Foot.

Dr. J. H. HOGLE reported for Dr. Armstrong the following case and exhibited the patient:—

C. I. F. was admitted to the wards of the Montreal General Hospital on February 20, 1897, suffering from severe laceration of the foot. The bones of the tarsus were fractured and displaced, leaving the foot hanging by the skin of the plantar surface. Immediate operation was advised, and Lefort's modification of Syme's operation was performed. An incision, commencing half an inch below the external malleolus, was made across the front of the ankle with a slight convexity downwards to the corresponding point half an inch behind the internal malleolus, and the ends connected by an incision transversely across the sole from point to point, slanting a little forward. The joint was then opened. The foot being depressed the lateral ligaments and the tendo Achillis were divided. The malleoli were removed, leaving the surface convex. The articular surface of the os calcis was then sawn through, leaving a concave surface. The posterior tibial artery was carefully avoided, the tendons were shortened, hæmorrhage checked, the bony surfaces brought together and wired with silver wire (No. 4), and the flaps sutured with silk-worm gut. Drainage was left at the most dependant part for forty-eight hours. Union took place by first intention, and the patient was able to stand on the stump of the foot four weeks after the operation.

Compound Depressed Fracture of the Skull.

Dr. J. H. HOGLE exhibited the case for Dr. Armstrong, and read the following report:—

J. H., male, æt. 50, was admitted to the Montreal General Hospital with

a compound depressed fracture of the skull. Over the squamous portion of the temporal bone there was a large hæmatoma with a punctured wound in the centre admitting a large probe. Fracture of the skull was made out just above the auricle. The patient was in a semi-conscious condition, with pupils dilated, acting sluggishly to light, but there were no changes in the fundus. He remained in the same condition for two days when operation was advised. The incision was enlarged for two inches, the tissues were reflected and the fracture exposed. The thin squamous portion of the temporal bone had been fractured in a number of pieces with fissures running into the sphenoid. The pieces of bone were depressed, making a considerable indentation in the membranes. The blood clot was all turned out, twelve pieces of bone removed and placed in a warm carbolic solution. Considerable hæmorrhage followed, but was checked. Six pieces of bone were replaced over the membranes and the incision brought together, with drainage for forty-eight hours. Union resulted by first intention. The patient was discharged in three weeks in good condition, and on return three weeks later he showed no signs of necrosis of bone.

Suffocation and Intussusception.

Dr. ANDREW MACPHAIL showed the specimens, a trachea and œsophagus occluded with a piece of meat, and an intestine obstructed by the process of intussusception. In the former case the piece of meat was impacted in the upper part of the gullet, and a small projection from the side was inserted beneath the epiglottis into the windpipe. The intestine was obstructed for the space of six inches, the bowel intensely congested, but no appearance of lymph or gross signs of peritonitis. The patient was picked up on the street and died, it was thought, from chloral poisoning so marked was the intestinal lesion.

Dr. WYATT JOHNSTON thought the condition of suffocation was more common than was generally supposed, and that many cases were mistaken for sudden syncopal attacks. In sudden obstruction of the larynx a person might fall dead without a symptom. Statistics of autopsies of sudden death showed six per cent. due to this particular cause. An instance was recorded where a man falling off a load of grain got a grain of wheat in his larynx and died of suffocation.

The PRESIDENT referred to a case reported in Taylor's Legal Medicine in which a sudden death occurred after a brawl and the cause of death given at the autopsy was congestion of the brain. Further investigation proved it to be due to suffocation from a small piece of meat in the larynx.

Plague Bacilli.

Dr. J. G. ADAMI gave a demonstration of the plague bacilli, and showed a rat killed by the disease and exhibiting the characteristic glandular enlargements.

Doctors and Law.

Mr. PEERS DAVIDSON, of the Montreal Bar, read this paper. (See May and June Journals.)

Stated Meeting, April 9th, 1897.

J. GEORGE ADAMI, M.D., FIRST VICE-PRESIDENT, IN THE CHAIR.

Apparent Primary Cancer of the Inguinal Glands.

Dr. A. E. GARROW reported this case. (Will be published later.)

Dr. F. J. SHEPHERD asked how Dr. Garrow explained the enlargement of the corresponding glands on the opposite side seeing that there was no connection through the lymphatics.

Dr. J. G. ADAMI drew attention to the fact that it was not unusual to find in mammary cancer both glands affected. The explanation might be that there were two primary foci.

Dr. J. C. WEBSTER stated that the so called primary cancer of the inguinal glands in women was sometimes secondary to cancer of the cervix or side of the bladder, the connection between the inguinal and hypogastric glands being through the glands of Guerin. He, therefore, asked if a careful examination of the inside of the pelvis had been made.

Dr. A. E. GARROW in replying, stated that a careful examination of the pelvis had revealed nothing more than an enlarged prostate. On his patient's first visit Dr. Garrow had detected an indurated mass on the dorsum of the penis but a tight foreskin had prevented examination and he had since refused operation.

Perforated Gastric Ulcer.

Dr. R. C. KIRKPATRICK exhibited a patient and gave the following account of the case:—

The patient whom you see before you was taken suddenly ill on the morning of March 3rd. She complained of intense pain in the upper part of the abdomen. She had previously been in good health with the exception of a slight amount of indigestion. On this morning she had gone to her work as usual and about eleven o'clock was suddenly seized with intense pain in the region of the stomach. She became very faint but did not lose consciousness. She was conveyed to her home, where I saw her shortly after one o'clock. At that time she was pale, with a rapid pulse and sub-normal temperature. On

examination the whole abdomen was tender but the point of maximum tenderness was in the epigastric region. She was removed to the Montreal General Hospital and at three o'clock, four hours after the onset of the attack, the abdomen was opened. Stomach contents escaped as soon as the peritoneum was cut through and a short search discovered a perforation in the anterior wall of the stomach, four inches from the cardiac orifice and near the lesser curvature. The opening was about the size of a bean. The edges were drawn together by a row of continuous sutures and then inverted by a double row of Lembert sutures. The peritoneum in the vicinity was cleansed by sponging, no irrigation being used. A rubber drain was inserted and the abdomen closed. A glass drainage tube was inserted into the pelvis through a small opening made just above the pubes, and from this latter opening fully a pint of turbid serous fluid escaped. The upper tube was removed in twenty-four hours and the lower tube in forty-eight. In twelve hours, small quantities of hot water were given by the mouth, and in twenty-four hours milk and lime water was given. The patient made an uninterrupted recovery.

The diagnosis was based on the suddenness of the onset, the signs of peritoneal irritation with the point of maximum tenderness over the region of the stomach, and the previous history, indefinite though it was, of derangement of the stomach. Such a combination of symptoms point very strongly to a perforated gastric ulcer.

Dr. JAS. BELL emphasised the fact that in early operations success was almost certain, but if a number of hours was allowed to elapse one would be almost sure of failure.

Epithelioma of the Floor of the Mouth.

Dr. JAS. BELL exhibited this patient. (Will be published later.)

Brains of Four Epileptics.

Dr. J. A. MACPHAIL exhibited the brains of four epileptics, in course of preparation by Jones' method, which were not yet examined in sections. They formed part of a series of ten epileptic brains, prepared for examination in various ways. The gross appearance of the brains varied greatly, depending upon such associated or causative conditions as those arising from alcoholism or connective tissue changes. It was mentioned that the brains examined showed a uniform appearance, namely, a fatty degeneration and a vacuolation of the nuclei, when stained with aniline blue black. He thought the statement would have to be altered that "the changes in the nerve centres in epilepsy elude the most minute research."

Resection of Gangrenous Intestine.

Dr. JAS. BELL showed a section of intestine removed for gangrene and exhibiting some unusual features.

Three Cases of High Operation for Cancer of the Rectum.

Dr. JAS. BELL read a paper on this subject. (See page 929 of the June Journal.)

Dr. F. J. SHEPHERD agreed with Dr. Bell that the sacral was the only proper method. He thought preliminary colotomy was a very important point in the treatment, as it was possible by this means to keep the bowel clean. He felt that an uncontrollable anus low down was not as valuable as a controllable one higher up.

Dr. G. E. ARMSTRONG felt that the sacral incision could be made safely and successfully when inguinal colotomy previously performed ensured asepsis. Heinecke's incision allowed of the greatest degree of access to the pelvis and the whole of the rectum, thus hæmorrhage could be controlled and the operation performed with a minimum loss of blood. He referred to a man shown before the Society a year ago, upon whom he had practiced the high operation, and who was still well and defecating through his colotomy wound.

Early diagnosis was a most important point, and he felt that every man getting up in years, anæmic, losing weight and complaining of diarrhœa, should have his rectum examined.

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No. 1.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING.

The time of the great medical event of the year at Montreal is not now very distant, and it behooves all who may not have decided to be present at the meeting to speedily make up their minds, and if the visit is contemplated, to at once inform the Committee at Montreal of the fact. We learn that they are very anxious to know approximately how many they will have to entertain, and urgently request all who intend going to at once inform the local Secretary, Dr. J. A. Springle, 2204 St. Catherine street, of the fact. The probable attendance of medical men is estimated at the present time to be about one thousand: two hundred and fifty from England, fifty from other Colonies, three hundred from the United States, and four hundred Canadians. Three or four lady members have signified their intention of coming across the Atlantic, among them Mrs. Garrett Anderson. Dr. Saundby, Dr. Barnes and Mr. Fowke will arrive in Montreal on the 14th August by the Parisian.

Dr. Adami writes that the names of members who intend coming across are coming in daily, but when he wrote was not certain that a special steamer would be required, but he is prepared at any moment to charter a vessel in the event of a sufficient number of late applicants appearing.

Several eminent men who cannot be present at the meeting have promised to send demonstration specimens. The English secretaries are generally working in this direction.

Among the interesting discussions which are being arranged for is one on syphilis, between the dermatological and pharmacological sections, introduced by Dr. Whitla, of Belfast, Ireland, members of other sections being of course invited to attend.

Full arrangements will be made in advance whereby members intending to land at Quebec may obtain cards of membership entitling them to half fare and the privileges granted by the Customs Department. The vessels conveying members will be met by Canadian representatives, probably at Rimouski.

One of the most interesting and pleasant of the numerous excursions will be the one arranged for to Ottawa, probably on Saturday. Dr. Roddick met the profession in Ottawa some days ago, and subsequently the Finance Committee of the City Council, who promised to undertake all the expenses connected with the giving of a luncheon to the visiting members of the Association.

During Dr. Roddick's recent visit to Toronto he spent some time with Professor McCallum, Secretary of the B.A.A.S., from whom much information was obtained regarding the arrangements for that meeting. He found that a great many purposed attending both meetings, more especially those belonging to the physiological section. Dr. Roddick arranged with the President of the branch, Dr. I. H. Cameron, to have any members of the B. M. A. entertained during their stay in Toronto. He found the profession as a whole very enthusiastic regarding the meeting, and very anxious to assist their Montreal brethren in every way.

It was Dr. Roddick's intention to have formed other branches in Western Ontario, in such places as London and Hamilton; but there was a feeling on the part of the profession in these places that there was not room for branches which might interfere with the existing local medical societies.

Rev. Dr. Norton has kindly offered the Association the English Cathedral for a special service, and Dr. Adami has arranged with Bishop Dumoulin who is now attending the Lambeth Conference, to officiate.

Some six hundred invitations have already been sent out to American physicians and specialists and replies have been received from two hundred and twenty-one. Among those who have intimated their intention of attending the meeting are: A. C. Abbott, Department of Hygiene, University of Pennsylvania; John Ashhurst, Jr., L. D. Bulkeley, W. T. Bull, H. T. Byford, H. P. Bourditch, J. Solis Cohen, T. M. Cheeseman, D. W. Cheever, W. B. Coley, J. McKeen Cattell, Fred S. Dennis, D. B. Delavan, Reginald Fitz, Geo. H. Fox, Frank P. Foster, Christian Fenger, Virgil Gibney, H. G. Garrigues, E. H. Grandin, Landon Carter Gray, Geo. M. Gould, Hobart A. Hare, C. A. Herter, James Nevin Hyde, E. Hodenpyl, B. C. Hirst, A. Jacobi, Chas. Jewitt, M. McKeen, Howard A. Kelly, C. A. Lindsley, John H

Musser, W. F. Mittendorf, Hunter McGuire, Thos. G. Morton, H. H. Mudd, J. B. Murphy, Paul F. Munde, W. P. Northrup, Wm. Pepper, Roswell Parke, Fred C. Shattuck, Louis Starr, W. Allen Starr, J. N. Shoemaker, E. C. Sitzka, Geo. F. Shrady, E. L. Trudeau, James Tyson, Hiram N. Vineberg, Wm. H. Welch, Casey Wood.

The English list of members coming has already appeared in the *British Medical Journal* and in the daily papers, but it will be of continued interest to know that those coming will have the privilege of listening to such men as Richet, of Paris; Prof. Charles B. Ball, William Mitchell Banks, Henry Barnes, Prof. R. Boyce, Watson Cheyne, Sidney Coupland, J. Ward Cousins, J. H. Crocker, Prof. E. M. Crookshank, Christopher Heath, Arthur Kelsey, D. J. Leech, Right Hon. Lord Lister, Harvey Littlejohn, Donald MacAlister, Stephen Mackenzie, Thomas M. Madden, Malcolm Morris, E. Nettleship, Robert Saundby, W. J. Sinclair, Prof. W. Whitla.

Replies have been received from twelve of the branches of the British Medical Association accepting the invitations tendered requesting them to send delegates.

The Museum Committee report that all their space has been taken up, and they probably will have to secure another building besides the large Victoria Skating Rink. This department will prove one of the most interesting features of the meeting. A rare opportunity will be afforded to see pharmaceutical preparations, surgical and medical appliances, and everything that interests the physician, from the leading firms of America and Canada, as well as from across the Atlantic. Among the leading surgical instrument manufacturers will be Collin, of Paris, and Down Brothers, of London, the latter making a special exhibition of antiseptic hospital furniture, which will be worthy of inspection. Among the leading pharmaceutical houses who are making elaborate displays will be R. K. Mulford, & Co., of St. Louis; Parke, Davis & Co., Detroit; Wyeth, of Philadelphia; Sharpe & Dohme, of Baltimore, and others. Zeiss is making a special display of microscopical apparatus. There will be also a great variety of exhibits from leading firms in Vienna, Berlin, Edinburgh, London, Paris and New York.

The local Entertainment Committee are being assisted by a committee of ladies, consisting of the wives of the members of the profession in Montreal and others. Among the entertainments provided for, in addition to those mentioned before, are numerous afternoon teas and garden parties. The Ladies' Committee will specially interest themselves in looking after lady visitors, and will make ample provision for continuously entertaining them during the progress of the

meeting, so that members may without hesitation bring their ladies with them, and be assured that, while they themselves are fully occupied with the essential features of the meeting, the former will be so well looked after that the time will not hang heavily. The annual dinner will be held at the Windsor Hotel. The large dining room will accommodate six hundred. The dinner will cost members five dollars, including wines.

The Excursion Committee has arranged a varied and attractive programme which cannot fail to meet the desires of all. We have already mentioned some of the excursions which have been arranged.

Among other excursions not noted before is the one on Lake Memphramagog to Newport and Magog. This is one of the most picturesque spots in the Province of Quebec, and the trip will carry the tourist through one of the most fertile portions of Canada, with scenery of mountain, lake and river, fairly typical of what is characteristic of most of the Province, and to be seen more especially in almost endless variety in the Laurentian district, which for want of time cannot be visited. A special train will be provided which will enable the party to return in the evening. The steamer will accommodate about eight hundred. Lunch will be taken at Newport, or probably at the foot of Owl's Head, if it is found that the hotel there can supply refreshments for the number expected to go. The excursion will be arranged for Saturday, and it is thought probable that for those desiring it the privilege of remaining over Sunday and returning on Monday will be obtained.

A trip is proposed to Shawenagan Falls, on the St. Maurice River which are said to almost rival Niagara.

Among other local trips on different afternoons are a ride around the Mountain on the electric cars and through some of the more interesting parts of the city; a trip to the top of Mount Royal, where a luncheon will be served by the Mayor and Corporation of Montreal. The incline railway, carriages or bicycles may be the means of arriving there; a steamboat trip down the St. Lawrence; another to Ste. Anne and down the Lachine Rapids. It can be gained from what we have indicated that those going to the Montreal meeting will not only be benefited from a medical point of view by coming in contact with the leading members of the profession from Britain, the United States and Canada, and taking in the various discussions and papers which may be expected to represent the most recent advances, but that they will also be fully repaid by a varied and full round of social enter-

tainments and pleasure trips, such as has not been privileged to the members of any previous meeting.

The first Colonial Meeting of the British Medical Association which is to be held in Montreal, August 31st, and September 1st, 2nd and 3rd, is now an assured success. The latest news from England is that members are deciding to come in daily increasing numbers, and already papers from the leaders in the great educational centres of Great Britain, Europe and the United States are promised in large numbers.

We hope that the members of our profession in Canada are alive to the great importance and interest which attaches to this coming meeting. It is not at all probable that again during the life time of our readers will such another opportunity occur of meeting so many men whose names have been familiar to us since our student days as authorities upon the various departments of medicine and surgery and public health. Representatives from Australia, India, Hong Kong, France and the West Indies have signified their intention of being present. The advance in medical knowledge and the treatment of disease from such a congress of medical men from different clinics can hardly be overestimated. No wonder Russia is envious of the Montreal meeting.

The members of the medical profession suffer from over-work, anxiety and isolation. Now comes an opportunity to break loose and have a holiday, a rest; an opportunity of meeting congenial spirits, and of getting the cobwebs brushed away. The papers and discussions will be of a high order and practical character. It has long been noticed that the doctor who takes an occasional holiday, who meets his confrères in medical congresses advances beyond the stay-at-home, who never goes away for fear of losing a patient. The coming meeting of the British Medical Association will have attractions greater than the ordinary, and no practitioner in Canada can afford to stay away.

Although the meeting will be a very large one, probably two or three thousand medical men being present, no one need fear being unable to secure accommodation, and at not more than ordinary rates. The reception is an active committee, and is in a position to promise that all who come will be welcome and will be able to secure comfortable quarters.

Very exceptional privileges have been granted to members of the British Medical Association and their wives in the unusually low

rates quoted by all the Canadian railroads. Any member of the Association can come to Montreal for half of one single first-class fare or can buy a return ticket for one single first-class fare. Those members who have no certificate of membership on starting can pay one single fare coming to the meeting and secure a pass back to starting point free. The same rates and privileges are granted to members wives and children. These rates are unusually low. They apply of course to Canadian roads only.

We would strongly urge as many as possible to take advantage of these very low rates, not only by coming to the meeting but by improving the opportunity thus afforded of seeing something of Canada. No one can appreciate Canada, its enormous wheat growing area, mineral resources and unrivalled scenery, until they have travelled across the continent to the Pacific coast. By the payment of an extra five dollars members can return from the coast by the Northern Pacific and disembark at Livingstone and visit the Yellow-Stone Park. The trip through the Park is, of course extra.

A still further attraction is that the Canadian Pacific Railway will grant to all members going across the continent free passes over all their branch lines of railway in Manitoba and the North-West Territories and over all their steamboat lines in the Canadian North-West.

These rates are good from the 1st July to the 30th September.

The extent of territory, fertility of soil, mineral deposits and beauties of landscape seen on this trip will prove a revelation to all those going for the first time. The trip is not a tedious but a thoroughly enjoyable one and a more favourable opportunity of going may never occur.

It is a good thing to know something of one's own country and such a trip as this will develop loyalty and confidence in Canada's future.

PRELIMINARY PROGRAMME.

A. MEDICINE.

Macdonald Chemical Building.

The following discussions will probably take place :

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby, and will be continued by Dr. Osler and Dr. Sidney Coupland.
2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis. This discussion will probably be opened by Professor J. Stewart (McGill University).

3. On Gall Stones, with reference particularly to Biliary Colic, Cholangitis, and Hepatic Intermittent Fever without Icterus. Dr. Graham, Dr. Osler, Dr. Handford, Nottingham, Dr. Sidney Coupland, London, and Dr. Wm. Hunter, London, intend to take part in this debate.

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz, Boston; Dr. Jacobi, New York; Dr. Musser, Philadelphia; Dr. Pepper, Philadelphia; Dr. F. C. Shattuck, Boston; Dr. E. L. Trudeau, Saranac Lake, N.Y.; Dr. Jas. Tyson, Philadelphia; Dr. Wyman, Marine Hospital Service, Washington.

B. SURGERY.

Large Lecture Room, McGill Medical College.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong, Montreal; and Dr. J. Ward Cousins, Southsea.

A discussion will take place upon the Treatment of Cancer of the Rectum with special reference to the high operation, opened by Dr. James Bell, Montreal.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen, Philadelphia; Dr. John Ashurst, Philadelphia; Dr. Cheever, Boston; Dr. Dennis, New York; Dr. Murphy, Chicago; Dr. McGraw, Detroit; Dr. J. W. White, Philadelphia; Dr. Chas. T. Bull, New York.

The following gentlemen have given notice of their intention to read papers in this Section:

James F. W. Ross, M.D., Toronto: Some Rare Conditions of the Kidney. H. O. Marcy, M.D., Boston: On the Suturing of Wounds. Theo. A. McGraw, M.D., Detroit: Invagination of the Cæcum and Vermiform Appendix. F. J. Shepherd, M.D., Montreal: A Case of Abdominal Tumour, in which nearly eight feet of the Small Intestine were Resected. A. B. Atherton, Fredericton: Report of a Case of Strangulation of a Loop of Ileum with an Attached Meckel's Diverticulum through a hole in the Mesentery.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

The President will give an address on the Sanitary movement in Canada.

The subjects more particularly proposed for discussion are:

1. How Far should Mandatory Measures go in Dealing with (a) Measles, (b) Whooping Cough, (c) Tuberculosis, (d) Leprosy. To be introduced by Dr. P. H. Bryce, Toronto.

2. As to the Utility of Quarantine as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least. To be opened by Dr. F. Montizambert, Grosse Ile, Quebec.

3. The Control of Venereal Disease by Restrictive Legislation.

Among those who have expressed their intention to take part in the work of the Section and to read papers are:

G. Janin, Montreal: The Conditions Necessary to the Success of Sewage Farming. J. R. Kaye, (M. O. H. to the Council of the West Riding of the County of Yorkshire); The Relationship of the Health Officer to the Registration and Certification of Deaths. Wyatt Johnston, M.D., Montreal; Experiments with Disinfectant Gases. A Newsholme, M.D., (M. O. H. Brighton); A Plea for the International Study of Diphtheria, Illustrated by Facts and Figures.

D. OBSTETRICS AND GYNÆCOLOGY.

Large Lecture Room, McDonald Physics Building.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements.

The following papers are promised:

T. More Madden, M.D., F.R.C.S.I., Dublin: 1. On some Points in the Modern Treatment of Tedious Labour with description of a new Traction Forceps. 2. On the Conservative Treatment of Fallopian Tube Disease. John Campbell, M.D., F.R.C.S.I., Belfast: Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.

Among those who are expected to take part in the work of this Section are: Professor A. W. Mayo Robson, Leeds; Mr. Lawson Tait, Birmingham; Dr. T. W. Eden, London; Dr. Inglis Parsons, London; W. H. A. Kelly, Baltimore; Dr. P. F. Munde, New York; and W. R. Goffe, New York.

E. PHARMACOLOGY AND THERAPEUTICS.

Lecture Hall of the Wesleyan College.

It is intended that discussions shall be held upon the following subjects :

1. The Treatment of Insomnia, embracing (a) general treatment ; (b) the value of individual drugs, especially the newer hypnotics ; (c) their ill effects and the contraindications to their use ; (d) their mode of action. This discussion will be opened by Dr. Clarke, of the Rookwood Asylum, Kingston.

2. On Diuretics, including (a) their pharmacological action, and (b) their therapeutic uses.

3. On the Treatment of Syphilis, to be introduced by Dr. Whitla, Belfast.

Among the papers those who intend to take part in the proceedings of the Section are : Dr. A. R. Cushny, University of Michigan, Ann Arbor ; Dr. A. D. Blackader, Montreal ; and Dr. H. A. Hare, Philadelphia ; who will read a paper on The Importance of Studying the Absorption and Elimination of Drugs.

F. PATHOLOGY AND BACTERIOLOGY.

Lecture Room II, McGill Medical College.

The following will be the subjects for discussion :

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston, Montreal.

2. Immunisation.

3. The bubonic plague.

Papers have been offered by Dr. Sydney Copeman, London, on Vaccine ; Dr. Herter, New York ; Dr. C. F. Martin, Montreal ; Dr. Hamilton Wright, Montreal ; Dr. Adami and several others.

Among those who will take part in the discussions will be Professor Welch, Johns Hopkins ; Professor Crookshank, London ; Dr. W. Hunter, London ; Dr. A. C. Abbott, Philadelphia ; Dr. T. M. Cheesman, New York ; Dr. R. Fitz, Boston ; Dr. E. Hodenpyl, New York ; Dr. Trudeau, Saranac ; and Dr. F. F. Westbrook, Minneapolis.

It is urged that British pathologists unable to be present should send to Dr. Rupert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are: R. M. Bucke, M.D., London, Ontario, Asylum; On Mental Evolution. W. Clarke, M.D., Toronto Asylum; The Reflexes in Psychiatry. — Hobbs, M.D., London, Ontario, Asylum; Surgical Gynæcology in Insanity. J. Russell, M.D., Hamilton, Ontario, Asylum; Insanity in its Relation to the State. George Villeneuve, M.D., Longue Pointe; Crime and Insanity.

Among those who intend to take part in the business of the Section are: Dr. N. H. Beemer, Mimico Asylum, Ontario; Dr. G. Alder Blumer, Utica, New York; Dr. C. K. Clarke, Rockwood Hospital, Kingston, Ontario; Dr. Edward Cowles, Waverley Mass.; Dr. T. D. Crowthers, Hartford, Conn.; Dr. G. Stanley Hall, Worcester, Mass.; Dr. Hazlitt, Sunbury; Dr. Henry Hurd, Baltimore; Dr. Rogers, Asylum for the Feeble Minded, Faribault, Minn.; Dr. George H. Rohe, Maryland Hospital for the Insane, Catonsville; and Dr. Rothesay Stewart, Leicester.

H. OPHTHALMOLOGY.

Lecture Room I, McDonald Engineering Building

It is intended that a discussion should take place on the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments. The following gentlemen have expressed their intention of contributing papers to the Section: Charles G. Lee, Liverpool; On an Unusual Case of Orbital Tumour. T. H. Bickerton, Liverpool; 1. The Question of Colour Vision in the Public Services; 2. On Mules' Operation.

Specimens.—Specimens will be shown by Mr. Treacher Collins and Mr. Priestly Smith.

I. LARYNGOLOGY AND OTOTOLOGY.

Lecture Room II, McDonald Engineering Building.

The following papers are announced in this Section: J. H. Bryan, Washington; A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions. Arthur G. Hobbs, M.D., Atlanta, Ga.; When not to Inflate the Middle Ear. Jobson

Horne, M.D., and Yearsley McLeod, F.R.C.S. 1. On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose and Ear. 2. On Turbinectomy. Fletcher E. Ingals, M.D., Glasgow: On the Relation of Nasal Diseases to Pulmonary Tuberculosis. Chas. H. Knight, M.D., New York: Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure. J. O'Dwyer, M.D., New York: Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation. John O. Roe, M.D., Rochester, New York: The Correction of Nasal Deformities by Subcutaneous Operation. Scanes Spicer, M.D., London: 1. On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. 2. On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. 3. A Case of Multiple Papillomata of Larynx in a Managed 73.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen, Philadelphia; Dr. Birkett, Montreal; Dr. Chretien, Montreal; Dr. G. R. McDonagh, Toronto; Dr. D. B. Delavan, New York; and Dr. J. W. Mackenzie, Baltimore.

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

The following have been selected as subjects for the discussions:

September 1st.—Anæsthetics, to be introduced by the President of the Section, Dr. A. Walker. Among those who are expected to take part in this discussion are Dr. Shore, Cambridge; and Dr. Kemp, Baltimore.

September 2nd.—The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister, Cambridge; and Dr. F. J. Shepherd, Montreal.

September 3rd.—The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, Cambridge; and Professor T. Wesley Mills, Montreal; Dr. Porter, Boston; Dr. Howell, Baltimore; and Dr. Bowditch, Boston; are expected to take part in the discussions.

The following papers have been promised:

Professor Alex. Macalister, Cambridge: The Influence of Head-Shape on Cranio-cerebral Topography. Professor W. H. Thompson, Belfast: Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh, Edinburgh, will exhibit specimens illustrating the His-

tology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer.

K. DERMATOLOGY AND ORTHOPÆDICS.

Lecture Room III, McDonald Engineering Building.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis.

The following papers are announced:

James Galloway, London: On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin. T. Colcott Fox: Demonstration of the Biology of the Trichophyte. R. Tait McKenzie, Montreal: The Accurate Measurement of Spinal Curvatures, with the description of a new instrument for the same.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson, New York; Dr. L. D. Bulkley, New York; Dr. J. A. Fordyce, New York; Dr. J. N. Hyde, Chicago; Dr. G. T. Jackson, New York; Dr. Stephen Mackenzie, London; Dr. A. Eldows, London; and Dr. White, Boston.

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Sub-committee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and micro-photographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

FOODS, DRUGS AND APPLIANCES.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretary, Dr. J. M. Jack, 2204 St. Catherine Street, British Medical Association Rooms.

2. Applications for space must be in the hands of the Secretaries before July 25th, accompanied with a brief descriptive account of each exhibit for insertion in the Museum Catalogue. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

CANADIAN MEDICAL ASSOCIATION.

The annual meeting will be held in Montreal on August 30th, next. It is proposed to adjourn on the Tuesday morning in order that members may attend the sessions of the British Medical Association, and consequently most of the programme will, of necessity, be presented before the various sections of the latter association. It is proposed to open the meeting by a clinical demonstration at one of the hospitals, and at three o'clock the general session will begin. A short session will be held the next morning, Tuesday, to receive the report of the committees, after which the meeting will adjourn in time for the members to attend the opening exercises of the British Medical Association. It is hoped that on this occasion there will be a large turn out of the members. It is expected that when the committee on inter-provincial registration meet, material progress will be made towards the settlement of this vexed question.

MONTREAL GENERAL HOSPITAL.

JUBILEE NURSES' HOME.

For some time the question of better accommodation for the nurses has been engaging the attention of the Committee of Management of the Montreal General Hospital. At the last quarterly meeting, the Governors empowered the Committee to proceed at once with the construction of a building for a Home for their accommodation. In accordance with this, ground has already been broken for the foundation of this building, which is to be situated on the hospital grounds at the corner of Laugauchetiere and Cadieux streets. This step has been necessitated by the want of space in the quarters at present allotted to the nurses. With the advent of the training school and of modern methods of nursing, the number of nurses has been

increased without any corresponding increase in their residential accommodation, and as a result the Committee felt that the nurses were not as comfortable as they should be.

But this is only part of the scheme which the fertile brain of the President has evolved. Not content with labouring incessantly to reconstruct and modernise the Hospital building and equipment, labours in which he has been ably seconded by the members of the Committee and the citizens of Montreal, he desires to extend the sphere of usefulness of the Hospital itself by bringing the advantages of trained nursing within the reach of all. The idea, which was first publicly announced at the quarterly meeting, is, that the Hospital shall retain the services of one or more graduate nurses who will reside in the Jubilee Nurses' Home and be paid a definite salary by the Hospital. These nurses shall spend their time in visiting sick persons who require their services. In this manner, one nurse can attend to a number of patients. For these services the patients will pay a sum to be arranged by the Hospital authorities for each case. It has been proposed that the guarantee fund for the salaries should be raised by the churches, and that in return they should have the right of recommending patients. It is expected, however, that the scheme will be largely self supporting.

As a proof of how the idea of a Jubilee Nurses' Home has been received, we need only say that at the time of writing fully two-thirds of the amount required for its erection has been subscribed.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The next meeting of the Mississippi Valley Medical Association will be held in Louisville on Oct. 5, 6, 7 and 8, 1897.

All railroads will offer reduced rates.

The President, Dr. Thos. Hunt Stucky, and the Chairman of the Committee of Arrangements, Dr. H. Horace Grant, promise that the meeting will be the most successful in the history of the Association, and this promise is warranted by the well-known hospitality of Louisville and Kentucky doctors.

Titles of papers should be sent to the Secretary,

DR. H. W. LOEB,

3559 Olive Street, St. Louis.

NEW BOOKS, &c., RECEIVED AND NOTED.

Aphasia and the Cerebral Speech Mechanism. By William Elder, M.D., F.R.C.P., Ed. H. K. Lewis, London, 1897.

The Dispensaries of New York City; their Use and Abuse. By Walter Brocks Brouner, A.B., M.D. Reprint from Medical Record, March 6th, 1897.

A New Operation for Extroversion of the Bladder. By Reginald Harrison, F.R.C.S. Reprint from Medical Press and Circular, April 28th, 1897.

Strophanthus : A Clinical Study. By Reynold W. Wilcox, M.D., LL.D. From The American Journal of the Medical Sciences, May, 1897.

Primary Sarcoma of the Lachrymal Caruncle, with the report of an additional case. By C. A. Veasey, M.D., Philadelphia. Reprint from Archives of Ophthalmology, Vol. XXVI., No. 2, 1897.

Teratogenesis. By J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S.E. Edinburgh, Oliver & Boyd. 1897.

The Action of Taka-Diastase in various gastric disorders. By Julius Freidenwald, A.B., M.D. Reprint from New York Medical Journal for May 29th, 1897.