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# CANADA MEDICAL RECORD

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MARCH, 1899.

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## Original Communications.

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### PROGRESS OF GYNECOLOGY.

By A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., Eng.

Fellow of the American and British Gynecological Societies; Professor of Clinical Gynecology in Bishop's University; Gynecologist to the Montreal Dispensary; Surgeon-in-Chief of the Samaritan Hospital for Women; Surgeon to the Western General Hospital.

*Gynecology at the Edinburgh Meeting of the British Medical Association.* On the way to the meeting I had the pleasure of hearing an address by Martin, of Berlin, on the Progress of Ovariectomy in the last twenty years. It was a remarkable paper by a remarkable man. He has adopted the vaginal route to a great extent, and he closed his paper by giving the results of 131 vaginal laparotomies for diseased ovaries and tubes and for retroversion, ovarian cysts and small fibroids, etc. Out of these 131 cases he lost 2. Since my return from Berlin I have performed a number of these cases at the Samaritan, Western and at my private hospital, with the most gratifying results. They will be reported in full later on, but in the meantime it is of interest to note that all the patients operated by the vaginal route made a much quicker recovery than those by the abdomen. Although they included pus tubes, tubal pregnancies, retroversion with fixation, cystic ovaries, and closed tubes which were opened, yet not one of the patients died. Another striking advantage was the absence of the abdominal scar; and the pain from the incision which these patients generally suffer from very acutely was entirely absent. In fact, most of these patients did not require any anodyne whatever.

During the discussion at the recent meeting of the British Gynecological Society, a gentleman reported a number of cases by the vagina with bad results, and the other speakers all pointed out with great stress that the vaginal route is not suitable for large tumours of any kind, whether fibroids or collections of pus, because it is almost impossible to deal with the adhesions which are so often present in these cases. In properly selected cases I feel sure that the vaginal route has immense advantages over the abdominal one.

One of the most interesting figures at the meeting was Doyen, of Paris, who showed two new instruments; one for automatically holding open the abdominal incision, and the other his instrument for arresting hæmorrhage without ligatures by means of an enormously powerful crushing machine. The broad ligament with the ovarian artery is seized and compressed for a minute with such force that it is completely crushed, and when it is taken off no blood flows. I was told in Paris that it was not to be depended upon, as several times secondary hæmorrhages had followed. I would prefer to trust Dr. Skene's electric clamp, which dessicates the artery. One of the most interesting features of the meeting was a cinematographic representation of an abdominal hysterectomy given by Doyen in one of the large halls of the University, at which there were over six hundred doctors present. He is a very rapid operator, and has devised a new method which only requires four minutes from the first incision until the whole uterus, including the cervix, is in the dish. The salient feature of his method is to put a clamp on the two ovarians and then to catch the cervix through an opening in the vagina in Douglas' cul de sac and draw it up forcibly, tearing it away from its connections laterally and to the bladder in front. The uterine arteries are thus distinctly brought into view and clamped. It only takes two or three minutes for removing the uterus, and some eight or ten minutes more are used in tying the arteries and closing the opening in the pelvic peritoneum. I had the pleasure of being one of eight or ten who saw Doyen do two total abdominal hysterectomies for fibroid in Prof. Simpson's service at the Royal Infirmary, and he did one of them quite as

quickly as the six hundred saw him do it by the cinematograph.

The hottest discussion of the meeting was on Dr. Milne Murray's paper "On the Use and Abuse of the Forceps," and incidentally Dr. Japp Sinclair's excellent paper read at Montreal last year condemning the too frequent and too early use of the forceps came in for a great deal of abuse. Dr. Sinclair stated that the forceps was responsible for a great deal of injury to women who were confined in the neighborhood of Manchester. It was evident that the majority of those present at the meeting were general practitioners who used the forceps to save time and did not want to be reproached for causing puerperal lesions.

There were several interesting papers on the proper time for removing pus tubes, and the general feeling was that it was safer to operate during the interval than during the attack, as is also the case in appendicitis. There was also a very warm discussion as to the relative advantages of the abdominal and vaginal route for removing pus tubes, and the general feeling was that it was easier and safer to remove them by the abdomen. As disease of the vermiform appendix frequently complicates pus tubes, it was pointed out that the possibility of having to remove it in any case was a sufficient reason of itself to induce us to operate by the abdomen. Dr. Macan, of Dublin, laid great stress on the importance of making a careful bi-manual examination under narcosis before deciding upon the vaginal route. Landau, of Berlin, was strongly in favour of the vaginal route even for bad pus cases, and he has the courage of his convictions, for I saw him removing the uterus and both tubes and ovaries by the vagina in a very bad case while I was in Berlin. One thing was very evident on this occasion, that, while it is difficult to remove large pus tubes even after the splitting of the uterus in two, and consequently sacrificing it, it is well nigh impossible to remove them through an opening in either the anterior or posterior vaginal vault without removing the uterus. Some years ago I attempted to do this, and was compelled to abandon it by the vagina and to complete the operation by the abdomen. This combined operation by

the vaginal and abdominal route was the subject of a long discussion at the December meeting of the British Gynecological Society. Dr. Arthur Giles summed up the general opinion very concisely by saying that the *raison d'etre* of the vaginal operation was to obviate the necessity of opening the abdomen, and that there was nothing that was done by the combined method that could not be done by the abdominal alone; consequently it seemed to him that to open the abdomen after beginning an operation through the vagina was practically a confession of failure; it meant that the operator had found himself unable to carry out his original intention. It was not his experience that abdominal operations for pyosalpinx had a specially high mortality, for it happened that a rather large proportion of his cases of abdominal section had been for pyosalpinx, and so far there had been no death among them. I might add that my own experience agrees with Dr. Giles, as I have often been agreeably surprised to see patients recover from the most serious operations for pus tubes when neither the assistant nor myself had thought it hardly possible.

Conservatism in Gynecology has been receiving a good deal of attention during the last few months. Up to within a year or two ago it was the custom to remove both tubes and ovaries when even one tube was diseased, even though the other tube and both ovaries were apparently healthy. When this was done in young women the artificial menopause was brought on so suddenly that it was accompanied with great inconveniences, so much so that many of these young women declared that they regretted having had the operation performed. This led us to remove only the tube and ovary on the affected side, and although we occasionally were reproached for not making a complete cure by removing both, mostly in cases of sclerotic ovaries, yet these cases were much fewer than those who complained of the miseries of the premature menopause. More attention was then directed to the matter, and now we frequently leave both ovaries in even when we have to remove both tubes for suppuration. Nearly a year ago such a case came under my care—a young lady who was infected by her fiancée with

gonorrhœa leading to two very large pus tubes. He so regretted his crime that he was anxious to make amends by marrying her, and she begged that I might leave her ovaries. The pus sacs were, therefore, removed, without tying the ovarian artery or otherwise hurting the ovaries except that the adhesions were stripped off them, and they were carefully cleaned. This patient made a splendid recovery, and is now very happily married. She menstruates regularly and normally, and has all her womanly feelings and attributes. As I used catgut to tie off the tubes at the cornu, I would not be surprised should she become pregnant. In many other cases I have removed three-quarters of one or both ovaries and a part of one tube with very satisfactory results. As many of them were done during the last few months, it is too soon to expect them to become pregnant, but there is no reason why this should not occur. Since beginning this article I have operated on a lady for retroversion with fixation, who was most anxious to have children. I found both tubes closed and imbedded in adhesions, the result of a severe attack of pelvic peritonitis, from which she nearly died eight years ago. Both ovaries and tubes were torn almost to shreds by the enucleations, and nearly an hour was spent in patching them up with fine silk; but finally a good tube was left through which a probe could be passed into the uterus. She is making a remarkably pleasant recovery from the operation, and I have yet hopes of her becoming pregnant.

250 BISHOP ST.,

Montreal.

## DISCUSSION ON TYPHOID FEVER.

At the meeting of the Montreal Medico-Chirurgical Society held on January 23, 1899, a special discussion took place on Typhoid Fever, mostly from a therapeutic point of view. We reproduce the discussion from the official report in the *Montreal Medical Journal*.

Dr. James Stewart gave the introductory address on the Medical Treatment of Typhoid Fever as follows:

As yet we are not able to speak of a specific treatment

of typhoid. We are unable to destroy or counteract the typhoid bacilli, or prevent or even limit the effect of their toxins in the human subject. The results obtained by immunizing and curative inoculations in hydrophobia, tetanus and diphtheria have naturally led to a search for similar antitoxic principles in typhoid. Hammerschlag and v. Jaksch have reported a number of cases treated by serum taken from convalescent typhoid patients. Beumer, Peiper, Klemperer and Levy have obtained a serum by treating dogs with gradually increasing doses of bouillon cultures of typhoid bacilli, which was found sufficient to immunize susceptible animals, such as mice and guinea-pigs. With these measures they were also able to effect a cure some time after, infection had been induced. They tried the serum in a few cases of typhoid in the human subject, but with no definite result, except, perhaps, to show that it could be used without inducing any unpleasant or dangerous symptoms. Other interesting work of this character has been carried out with the serum of convalescents and immunized animals, but the result, although apparently effective in the disease as it is met with in susceptible animals, still has been disappointing when applied to counteract the disease in the human subject.

In this connection I will refer to a form of treatment which is very old, but has lately been revived by a few physicians in the United States and in Canada. I refer to the use of purgatives and intestinal antiseptics. W. B. Thistle, of Toronto, who read a paper on this subject at the meeting of the Canadian Medical Association in this city two years ago, is a strong advocate of this method of dealing with typhoid fever. He highly recommends calomel and salines. He appears to believe that the intestines are, by these measures, swept clear of bacilli and the further production of toxins prevented. It is claimed for this method that the disease is aborted. Another so-called abortive method of treating typhoid is known as the Woodbridge method. It appears to be a favorite way of dealing with typhoid fever in the Southern and Western States, especially in the country districts. It consists in the administration of podophyllum, calomel, guaiacol, eucalyptol and menthol

according to some definite formulæ. Many physicians have written claiming abortive power over the disease by this method, but all the reports that I have examined bear the evident stamp of inaccuracy in observation, and are, in consequence, of little or no value. To claim for any drug, either antiseptic or cathartic, that it is capable of destroying or removing all noxious micro-organisms from the gastro-intestinal tract is simply absurd. As the typhoid bacilli are not present in the intestinal tract prior to the breaking down of the lymph tissues, it is impossible for antiseptics to reach them except through the blood, and it is, of course, vain to expect that any medicinal agent that we know of can exert a germicidal action on the organism collected in the lymph tissues. Dr. Woodbridge proves too much. He claims, for instance, that in upwards of 8,000 cases of typhoid treated after his method, the average duration of the disease was only twelve and one-half days. Now, as the infiltrated tissue does not commonly break down before the end of the second week, it follows that his remedies have no exposed surface to work their antiseptic action on, hence the action must be through the tissues, a claim which is utterly unworthy of anyone possessing even an elementary knowledge of pathology.

The number of different antiseptics that have been used in typhoid is numerous. The old iodine and carbolic acid combination was for a long time a favorite; at present it is rarely heard of. Calomel, naphthalin, naphthol, iodoform, salol, salicylate of bismuth, boracic acid, chlorine, turpentine, have all been used at one time or another with the idea of producing a specific effect, but there is no evidence to show that any of them, or any combination of them, has any effect in lessening the duration, or to any appreciable degree modifying the severity of the disease.

Of all these agents, calomel is the one that has been the longest and probably the most favourably known. Many physicians believe that the early employment of a few small doses of calomel have a favourable influence over the course of typhoid. It is not unlikely that after the breaking-down of the lymph structures its action may help in preventing the



development of a secondary infection, but more than this I think few would claim for it.

#### THE ANTIPYRETIC TREATMENT.

One of the most noticeable changes in the method of treating typhoid during the past few years is the constantly lessening use made of antipyretic drugs. Ten or fifteen years ago it was the rule, even in hospitals, to use these drugs very freely. Many here may remember the time when it was a common practice to give quinine in very large doses—20 to 40 grains. Following this we have the slavish employment of the synthetic alkaloids, from antipyrine down to the most recent new antipyretic advertised by the manufacturing chemist. Antipyrine, phenacetine and lacto-phenine, are the drugs of this class that are the most frequently employed at present, but they are rarely resorted to in the very full doses that was formerly the practice. To give large doses of any of these to reduce the fever of typhoid is a practice which is fraught with danger, without any compensating advantage whatever. Guaiacol applied externally quickly reduces temperature, but it is open to the same objection as the synthetic alkaloids, inducing, when effective as an antipyretic, marked nervous disturbance, and so, consequently, lessening the resisting powers of the patient.

I will now refer to the treatment of typhoid by systematic cold bathing according to the method of Brand. This method has now been extensively employed for many years in Germany, France, Australia and on this continent, and with such universally favorable results that it is generally allowed, even by those who do not carry it out in practice, to be the most effective method at present known.

The great superiority of the Brand over other methods of treating typhoid has been so conclusively proven that it seems almost unnecessary to add anything further to the long list of series of cases that have been treated in this way. What is particularly conclusive about the evidence of the value of this treatment is the uniformly favourable results obtained in different parts of the world. "The mortality

the Red Cross Hospital at Lyons amounted to 7.3 per cent.; that of Dr. Hare, in the Brisbane Hospital, in Queensland, 7.84 per cent.; that of Osler, in the Johns Hopkins Hospital, to 7.8 per cent.; that at the German Hospital in Philadelphia, under Wilson and his colleagues, to 7.8 per cent. These results are most impressive; they show that in the method of Brand, systematically carried out and applied to successive cases, as they present themselves, we have the means of saving, out of every hundred cases of the great endemic disease of the present epoch of our civilization at least seven more lives than by any other plan" (J. C. Wilson, American Text-Book of Applied Therapeutics). Since the opening of the Royal Victoria Hospital on the 2nd of January, 1894, this method has been the routine treatment of typhoid fever. In the following table the number of cases admitted each year, with the number of deaths and the percentage mortality, are recorded.

TABLE I.

CASES OF TYPHOID FEVER ADMITTED INTO THE ROYAL VICTORIA HOSPITAL DURING THE FIVE YEARS ENDING DEC. 31, 1898.

Year.	Number of Cases.	Number of Deaths.	Percentage Mortality.
1894.....	84	3	3.5
1895.....	84	4	4.7
1896.....	72	0	0.0
1897.....	75	7	9.3
1898.....	93	4	4.3
Totals .....	408	18	4.4

The bath treatment was carried out in every case where the temperature rose above 102.2° F., except where there was some especial complication, as hæmorrhage or symptoms pointing to perforation.

The following table shows the cause of death in the eighteen fatal cases with the percentage mortality from each cause:

TABLE II.

## CAUSES OF DEATH IN EIGHTEEN CASES.

	1894.	1895.	1896.	1897.	1898.	Percentage Mortality.
Perforation .....	..	3	..	2	1	1.47
Intoxications .....	1	..	..	2	2	1.22
Hæmorrhage.....	1	..	..	1	1	.73
Septico-Pyæmia ....	..	1	..	..	..	.24
Suppurative cholecystitis.	..	..	..	1	..	.24
Broncho-Pneumonia....	1	..	..	..	..	.24
Abdominal distension....	..	..	..	1	..	.24

In our 408 cases we have nine deaths from perforation and hæmorrhage, being exactly one-half.

If a large series of cases of typhoid fever treated by measures other than by bath treatment are taken, it is found that perforation and hæmorrhage taken together cause only about one-fourth of the total deaths, while under the bath treatment the mortality from these two causes amounts to one-half of the total mortality.

The following table, prepared by Dr. F. E. Hare, late resident Medical Officer of the Brisbane Hospital, shows the modification which has been imprinted upon the constitution of the typhoid mortality list by the introduction of the bath treatment :

Causes of Death in Typhoid.	According to Murchison.	Brisbane Hospital before Bath Treatment.	Brisbane Hospital after Introduction of Bath Treatment.
Perforation.....	3.0	3.0	2.9
Hæmorrhage.....	1.4	1.88	1.2
Other causes.....	12.8	9.73	3.4
Total mortality, per cent.	17.2	14.5	7.5

There is no doubt great difficulty to be encountered in the endeavour to carry out the bath treatment in private practice, but that it is possible to do so, even in remote country districts, the letter of Dr. Gordon, of Aylwin, in the November number of the *Montreal Medical Journal* will, I think, prove convincingly. A good deal has been written about the harshness of the treatment, and, no doubt, many patients complain of it at first, but, as a rule, they soon find

out that they are much more comfortable after it, and are usually glad to bear with patience the immediate disagreeable effects. It is, of course, impossible to carry out this treatment in private without the assistance of one or two skilled nurses. Portable baths can now be obtained, and, provided the practitioner can obtain the assistance of one skilled nurse, there is no valid excuse for its non-employment.

It is said by some observers that relapses are more frequent after the bath than after other methods of treating the disease. There is, however, no proof of this. It is strange what confusion exists as to the real meaning of relapse in typhoid, and this is the reason for the great discrepancy of opinion as to their frequency, ranging between two and four per cent.

Many include all after-febrile attacks, no matter what their duration may be, under the head of relapses, while others call relapses those exacerbations of pyrexia which occur during the course of the disease. Taking a large series of cases, relapses may, in a rough way, be set down as occurring in from about 3 to 12 per cent. of all. In 325 of the 408 Royal Victoria Hospital cases, where particular pains were taken to closely investigate this point, it was found that relapses occurred in about eight per cent. of the cases. This proportion is exactly the same as in Osler's and Liebermeister's series, and is not any larger than that given by observers in different countries where other plans of treating the disease have been followed.

The reduction of temperature effected by the cold bath, although an important factor, is not the chief one in its beneficial effects. The most obvious effects are seen in the nervous, respiratory and vascular systems. The marked stimulating effect of the cold on the peripheral nervous system, and reflexly on the nerve centre, is undoubtedly a powerful means in preventing the supervention of a low typhoid state, which is so common a feature of severe cases treated on the expectant plan. Robin has shown that the processes of oxidation are decidedly reduced during the course of this disease. He has further pointed out that the cold bath in-

creases oxidation, there being a distinct increase in the exchange of gases and in the whole process. He considers that the beneficial effects of cold bathing are due to this increase of oxidation, whereby the toxic products of the tissue destruction are reduced to less harmless excretory bodies. Whether the leucocytosis observed after bathing has any influence has not yet been determined.

#### THE TREATMENT OF INTESTINAL HÆMORRHAGE.

Intestinal hæmorrhage is, next to perforation, the most common alarming symptom in typhoid fever. In our eighteen fatal cases it was the cause of death in three instances (1.5 per cent.). We had in all 13 cases of hæmorrhage in 408 cases (3.18 per cent.). It is not infrequent to meet with concealed hæmorrhage. This occurred in a good many cases. A sudden fall in temperature should always be looked upon as suspicious of the occurrence of a hæmorrhage, even if no blood appears externally; if there is no other likely cause for the sudden lowering of the temperature, the condition should be treated as one of hæmorrhage. Hæmorrhage in typhoid fever is frequent enough to constitute it a symptom rather than a complication. No doubt one frequently sees cases where a slight hæmorrhage appears to be beneficial, convalescence setting in apparently soon after its appearance, still it is always wise to take a serious view of even a trifling hæmorrhage, and to place the patient at once under such measures as are suitable.

In a few cases, hæmorrhage from the bowels appears to be a simple oozing from the blood vessels. In cases of profound toxic poisoning, the blood breaks down and finds its way out of the vessels without any special lesion of continuity of the vessel walls. Even severe losses of blood may not be attained by fall of temperature, as much as 80 ounces in three days having been lost without affecting the temperature. In dealing with hæmorrhage it is important to lessen the amount of nourishment given by the stomach, or wholly stop feeding except by the rectum. The foot of the bed should be elevated and a Leiter's metallic coil applied to the abdomen. There is no remedy to be compared with

opium. It should be given in doses sufficient to cause either slight drowsiness or contraction of the pupils. It is often a difficult point to decide how far it is advisable to push opium in these cases. The reaction following the effect of large doses, given for some days, may be very considerable. In one case it looked as if such a deleterious after-effect of opium were manifest. A man, aged 31, was admitted in October, 1897, on the ninth day of the disease, in a very apathetic state. Between the 27th and 28th of October he had repeated hæmorrhages, the loss it was computed being upwards of 83 ounces, but after the 28th there was no further bleeding. On the 28th the abdomen was distended, and the distension continued to slowly but gradually increase, day by day, up to November 4th, when he succumbed, death apparently being due to the very great distension. After death, numerous ulcers were discovered in the lower ileum, cæcum and ascending colon, but in no instance had perforation occurred. The source of the previous bleeding could not be traced.

The practice of giving astringent drugs, like iron, tannic acid, turpentine, etc., is, fortunately for the patient, becoming less and less frequent. Whether ergotine, hypodermically, has any influence in checking intestinal bleeding I am unable to say.

#### THE TREATMENT OF PERFORATION.

When perforation occurs, the sooner the case is transferred to the surgeon the better. It is no doubt possible for spontaneous recovery to take place, but it is too rare an event as compared with the result following early operation to be for a moment considered. The result of operation, considering the gravity of the condition for which it is performed, must be looked upon as most gratifying. Keen has collected 83 cases with 18 recoveries, a result which justifies interference in every case where the condition is recognized. Here, however, we meet with great practical difficulties. The so-called typical symptoms of perforation were, in most of our cases, conspicuous by their absence. Perforation may occur in persons extremely ill without any pain, tenderness,

distension, rigidity or vomiting, and it may be found at the *post mortem* without having been suspected during life. Again, the symptoms may be developed very slowly where a patient is stuporose from the intoxication of the disease, deep-seated tenderness and a gradually increasing abdominal distension may be the only signs. In several cases I have noticed symptoms of the same character without any perforation, recovery having taken place afterwards.

Peritonitis may be set up in typhoid from other causes than from perforation, and I believe this to be a more common event than is generally believed. I believe I have met with several instances of a more or less generalized peritonitis where recovery took place.

#### THE DIET.

There is an almost universal agreement as to the best way of feeding typhoid patients, but now and then one reads in medical journals about pleas for a more liberal feeding than is usually the custom, some going so far as to advocate the administration of solid food, not alone in early convalescence but even during the active course of the disease. Barr, of Liverpool, and Fred Shattuck, of Boston, have recently urged very cogently for a more liberal feeding of typhoid patients. Dr. Shattuck, for upwards of five years, has been allowing his typhoid patients a more liberal diet, and with, as he says, satisfactory results. The tendency to relapses to perforation and to hæmorrhage he finds not increased. He does not advocate an indiscriminate diet, but feeds his patient with reference to his digestive power rather than solely or mainly with reference to his fever. In addition to the ordinary diet he often allows either soft-boiled or raw eggs finely minced or lean meat, scraped beef, the soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, wine jelly, apple sauce, etc. Cases are not infrequent where fever persists for some days after convalescence has been established, the temperature keeping up from weakness and impoverished blood rather than from the persistence of local lesions. In such cases, appropriately called "starvation fever," a more liberal diet is soon followed by the establishment of health.

Dr. G. E. Armstrong then introduced the discussion on the surgical treatment of Typhoid Fever :

I think that the committee that arranged this discussion would have done wisely to have indicated certain features of typhoid for consideration rather than the whole subject. To do justice at all to the surgical complications and sequelæ of typhoid alone would require many meetings, and in the time allotted I can only most briefly refer to some of the most important ones. What I say can only be suggestive ; to deal at all fully with any one, this evening, is hopeless.

The bacilli of typhoid can live in the living human body for such a long period of time, and are so widely distributed through the different tissues of the body, that evidence of their work is widespread, and in many tissues long delayed. Professor Keen has lately published a most valuable work on the surgical complications and sequels of typhoid fever, and from it much that I have to say is taken.

*Gangrene.*—Under this head I do not include bed-sores, although these sometimes are very much of the nature of gangrene. Typhoid gangrene is rare. Neither Murchison nor Flint met with a case in their large hospital experience. It may occur in mild forms of the fever, and generally late in the course of the disease, or early in the stage of convalescence. It may be due to an embolus from the heart, but more frequently to an autochthonous thrombus. In these cases a pure culture of the typhoid bacillus has been found in the walls of the artery and vein, and in the thrombus. The distribution in the cases collected by Keen is as follows : Ears, 6 cases ; nose, 10 cases ; face, neck and trunk, 47 cases ; anus, 5 cases ; genitals, 20 cases ; legs, 126 cases.

The veins are affected by thrombosis more frequently than the arteries, but the results are, as might be expected, less disastrous.

The preventive treatment consists in the attainment of good hygienic surroundings, the sustaining of the heart by cardiac tonics and stimulants, and the careful avoidance of injuries or any undue pressure upon any part. When gangrene has already occurred it is considered wise to wait for a line of demarkation, and then to amputate. One case of amputation of the legs is reported followed by recovery.



*Affections of the Joints.*—During the course of typhoid there may occur a rheumatic, septic, or pure typhoid, arthritis. As a rule more than one joint is affected, but in monarticular variety, the hip is most frequently and seriously involved. While the rheumatic and septic forms of arthritis not infrequently terminate fatally, the pure typhoid joints practically always recover, and ankylosis is very rare.

The distension and destruction of the joint may end in dislocation. I have recently had under my care in the Montreal General Hospital a young girl, brought in from the country, in whom this serious complication had occurred. The physician who brought her, a most able and careful man, told me that she had lived in a poor damp house, many miles from his residence, and that he had not been able to secure any nursing other than that supplied by kindly-disposed neighbours. On admission to the hospital she was thoroughly crippled, both hips and both knees had been involved, and the right hip was dislocated on to the dorsum ilii. Most extensive bed-sores, laying bare each hip, and nearly the whole of the sacrum, were almost healed over. The right knee lay fixed across the lower end of the left thigh, and the two legs were flexed upon the thighs. By means of apparatus of one kind or another, the legs were straightened, and when she left the hospital she could stand and walk a little. She was advised to spend some months in the country to recuperate, and then to return to the hospital. I have not seen her since. In this case it seems reasonable to suppose the arthritis to have been partly septic, although perhaps purely typhoid at the onset. The contraction deformities are probably reflex. A knowledge of the occasional occurrence of arthritis in typhoid should lead the physician to examine from time to time the joints of the body, and particularly the hip joint, to take heed to complaints of pain in the neighbourhood of joints, and to carefully relieve painful joints by position, the use of sandbags, and, where indicated, to apply moderate extension. If effusion threatens to produce dislocation, the joint should be aspirated under the strictest antiseptic precautions, and, if

pus is found, which is seldom the case, the joint should be opened and treated according to the indications.

*Affections of the bones.*—Keen has collected 205 cases of typhoid bone disease. Bone disease is a late sequel of typhoid, often appearing weeks or even months after the patient has left the hospital. The pain is not generally acute, and patients frequently return to the hospital with a discharging bone sinus. These sinuses may have been discharging for months with every opportunity and probability of ordinary pyogenic infection, and yet the pus yields a pure culture of the typhoid bacillus.

It would appear that, while no bone is exempt, yet some are more frequently involved than others. For instance, the ribs were affected in 40 cases; the humerus, in 11 cases; the ulna in 15 cases; the pelvis in 8 cases; the femur, in 22 cases; the tibia in 91 cases; the fibula in 3 cases; and the foot in 8 cases. The extraordinary frequency of bone disease in the lower extremities is noticeable. This may be due to the frequency of injuries, or, as Keen thinks, to their being more distant from the centre of the circulation and where nutrition is more sluggish and its activities most easily disturbed and impaired. The date of onset has been ascertained in 186 cases, and is as follows:—

In the first two weeks, 16.

From the third to the sixth week, 66.

From months to years after the fever, 104.

So that bone disease is more frequently a sequel than a complication of typhoid.

Usually the first symptoms are local pain, tenderness, and swelling. Frequently there is a slow subsidence of the symptoms. Recovery may follow, or the parts may become red and soon after may fluctuate. In other cases, after a slow subsidence, the pain and swelling may reappear. Osler and Parsons refer to excellent examples of such oscillating cases.

The surgical treatment of typhoid bone lesions, although often tedious, operative measures being repeated in some cases more than once, is in the end almost always satisfactory. The surgical treatment is generally called for when the patients are fully recovered and their reparative power

fairly good. When fluctuation can be perceived, unquestionably immediate operation should be done, and it is still better to operate before fluctuation appears, unless resolution is fairly certain to follow. I have had, in the Montreal General Hospital, some cases of very extensive necrosis of the long bones, which early operation would probably have limited.

In operating upon typhoid abscesses and bone lesions great thoroughness is requisite. The bacilli are found more in the abscess walls than in the pus. If the periosteum is involved, it must be removed, and the bone beneath chiselled away. If indications are present that the medulla is involved, the trephine must be used and all the infected area gouged out. Repeated operations are sometimes needed because of the lack of thoroughness in the first instance. Chantemesse relates a case in which, for osteomyelitis, the tibia was trephined three times. No pus was found, but the disease persisted, and the patient was only cured a year later by opening the tibia by an extensive operation, forming a long gutter in the bone. In my own cases I have found at times a mixed infection, and in other cases a pure culture of the bacillus of Eberth. Recently I had to deal with an extensive abscess over the left parietal, the pus from which gave a pure culture of the bacillus of typhoid. Recovery followed after a free incision with thorough scraping of the soft tissues and a superficial chiselling of the exposed bone.

Passing over, for want of time, typhoid abscesses, typhoid hæmatoma, the cerebral complications of typhoid, otitis media, and the typhoid affections of the larynx, pleuræ, lungs and heart, the stomach and œsophagus, I will speak of intestinal perforation in typhoid.

*Perforation of the Intestines.*—In 4,680 cases tabulated by Fitz, the mortality from perforation was 6.58 per cent., which may be accepted, therefore, as fairly representing its frequency. It is certainly much more frequent in men than in women, for what reason we do not know. In children it is very rare. Fortunately for the surgeon and the patient, there is generally only one perforation, although two have

been reported in 21 cases, and in two cases there were 25 to 30. In 81 per cent., the perforation was in the ileum, in 12 per cent. in the large intestine, and in a few instances in the vermiform appendix, Meckel's diverticulum and jejunum. The greatest number of perforations have occurred during the second, third or fourth weeks of the fever. The mortality has, up to the present, been very high. It is a debatable point whether perforation of the intestine in typhoid fever ever recovers without operation. Murchison placed the mortality at 90 per cent., and the mortality after general peritonitis had occurred at 95 per cent. With our present knowledge of the results of infection of the peritoneum by intestinal contents, and the experience gained by operators in the uncertainty of the diagnosis of perforation by the most careful and experienced clinicians, one may reasonably doubt the existence of perforation in any case when recovery follows.

There are 89 well-authenticated cases of operation for typhoid perforation recorded, with 17 recoveries, a mortality of 81 per cent., which, when compared with Murchison's unchallenged figures of 90 or 95 per cent., may well give us hope for still better results in the future. Keen's analysis of Westcott's table of 83 cases show some surprising results. Under fifteen years of age there were five cases and two recoveries, or 40 per cent. of recoveries. From fifteen to twenty-five years of age there were 23 cases and three recoveries, or 13 per cent. of recoveries. From twenty-six to thirty-five years of age there were 24 cases and 5 recoveries, or 20.8 per cent. of recoveries. Over thirty-five years of age there were 11 cases, with 5 recoveries, or 45.5 per cent. of recoveries.

These figures show that operation for typhoid perforation of the intestines are more fatal between sixteen and thirty-five than under sixteen and over thirty-five.

A critical enquiry into the cause of this tremendous mortality, which is far and away beyond that attending perforation of the alimentary canal from other causes, as, for example, perforative appendicitis, perforating gastric ulcer, gunshot and other wounds of the intestine, leads one, in the first place, to consider and try to improve upon our present methods of diagnosing typhoid perforation.

The first and great step in advance is to be made just here. Operations undertaken after a general septic peritonitis has developed will not be more successful in the presence of the other unfavorable conditions always present in the third and fourth week of typhoid than elsewhere. To obtain better results in the future than have been attained in the past, operations must be performed earlier; they must be done as soon as perforation occurs, and before the infection has spread.

The signs of perforation are sudden onset of abdominal pain, accompanied by localized abdominal tenderness, and in some cases nausea and vomiting. The pulse may become altered in rate and quality, but not always at first, to a marked degree, and the temperature may suddenly lower. Each of these symptoms must be separately and carefully estimated and collectively considered. They may be masked by typhoid toxæmia, and the most careful clinician may occasionally err.

I have operated ten times for typhoid perforation, and in none of my cases was the occurrence of perforation marked by those well-marked, striking symptoms so generally mentioned in text-books. The symptoms often simulate very closely those of perforative appendicitis, even in the right-sided tenderness.

It would seem that the presence of leucocytosis may in the future prove to be a valuable sign of intestinal perforation in typhoid when considered together with the presence and absence of other symptoms. According to Thayer, there is no increase in the proportion of white blood-corpuscles during the fever, but rather a slight diminution in their number, which gradually diminishes until convalescence. During the fever the number may fall even below 2,000, and sometimes below 1,000 per cubic centimeter. The lowest count seems to be about the end of the third week. Sometimes the white blood-cells increase markedly in number with the fever, even without any complication. Four cases were observed by Cabot in which the count was over 11,000, and ran as high as 17,000, without any other than the typical typhoid lesion. But the effect of complications is very marked and undoubted.

Cabot mentions one case of perforation in which five days before perforation the number of white cells was 8,300, and at the time of perforation 24,000. In another case, at the time of perforation the number of white blood-cells was 18,500. The increase of white blood-cells may be almost, if not quite, as great upon the occurrence of phlebitis or otitis media, or the development of a typhoid abscess. General bronchitis and cystitis have usually no such effects. It seems clear then, that it is correct to make an occasional count of the white blood-cells, as a routine practice in typhoid fever, and, if with the development of symptoms that lead to the suspicion of the occurrence of a perforation, the count should be repeated, and if leucocytosis is found present, and other typhoid complications can be excluded, this symptom would justify the assumption that a perforation has occurred. In some cases of profound typhoid toxæmia leucocytosis may not occur.

It would be well in suspected perforation to have a surgeon see the case with the attending physician, and it would be a good hospital practice to adopt Osler's suggestion that the house-surgeon should visit these cases in the wards with the house-physician.

The dangers of surgical interference are unquestionably very great. The following words of Wilson, written twelve years ago, state the question very clearly: "Granted that the chances of a successful issue are heavily against you, that the patient is in the midst or at the end of a long sickness, that his tissues are in the worst state to stand the injuries from the knife, that the lesions of the gut may be very extensive, that the vital forces are at the lowest ebb; no one has yet hesitated to perform a tracheotomy in the laryngeal complications of typhoid fever which requires it to save life for these reasons. The operative treatment of purulent peritonitis has been performed many times successfully by the gynecologist in conditions less promising. In point of fact, the objections that may be urged against laparotomy in intestinal perforation in enteric fever are no more forcible than those which would have been made use of at first against the same operation in gunshot wounds of the abdomen. The courage

to perform it will come from the knowledge that the only alternative is the patient's death."

I am sorry that I can only count one recovery among my ten cases, and that one was not an ordinary perforation. I will allude to it again. Another of my cases lived over six weeks and ultimately died, subsequent to the occurrence of the third perforation. This young man did well for four weeks after I closed his first perforation. I regarded him as saved, when the second perforation occurred. The incision had not fully closed and the second perforation occurred *in situ*, and the contents of the intestines all escaped externally, and I think that had not a third perforation occurred within the abdomen on the forty-second day after the operation, that he would have survived the first two. In one case I opened the abdomen and failed to find any evidence of perforation, only about two feet of completely collapsed bowel, from some cause undiscovered. This has occurred to other surgeons, and only recently a similar case occurred in the Johns Hopkins Hospital. My patient, as well as the one in Baltimore, recovered, the operation apparently having had no retarding influence on the convalescence. Three points have been conspicuous in my cases :—

1. That in all of them the operation had been too long delayed. In all of them, on opening the abdomen, gas and faecal matter escaped, and it was quite evident that a very considerable portion of the peritoneal cavity was already infected.

2. That, notwithstanding the poor reparative power of the patient, the closure of the perforation in the intestine healed readily and shortly. At the autopsies performed on these patients, the portion of intestine involved was distended with water and air, and in every instance proved tight, and no leakage was possible.

3. The great lack of reparative power was manifest in the failure of union in the abdominal incision. In the man who lived forty-five days no union occurred, and when the stitches were removed the edges of the incision fell apart. About the twenty-first day after operation, the edges were scraped and brought together by sutures, but again union

failed to occur. In the case of the man in whom no perforation was found, the union of the edges of the incision was very imperfect, although not a drop of pus formed. The man left the hospital with ventral hernia, and was directed to return in six months and have the edges again united.

The result of perforation is sometimes a localized abscess similar to the localized abscess which sometimes follows a perforative appendicitis. My last case was of that character. The man was admitted to the Montreal General Hospital under the care of Dr. Finley. He had been treated in the country for typhoid, and during the course of the fever developed pain, tenderness, and, later, a tumour mass of very indistinct outline in the umbilical region. His condition was a very puzzling one, and it was thought at one time that it might possibly be tuberculous. About a week after his admission to the hospital he developed symptoms of intestinal obstruction, distress, pain and faecal vomiting. I opened the abdomen in the median line below the umbilicus to relieve the obstruction. Upon opening the abdomen a large quantity of pus escaped, twenty ounces or more. It seemed to lie in a walled-off space in front of the intestines, which were pushed backward and upward. The space was irrigated and drainage provided. During his convalescence he passed some faeces and gas through the drainage tube at different times. His blood gave the typical typhoid reaction. He has quite recovered and has gone home. He told us that his wife and daughter had enteric fever at the time that he was taken ill. I think there can be little doubt that this was a case of typhoid perforation followed by localized abscess.

*Liver and Gall-Bladder.*—Typhoid affections of the liver and gall-bladder are extremely interesting and far-reaching, but the time limit set by the committee prevent me entering upon their discussion.

Dr. F. G. FINLEY—I think the chief interest that typhoid fever has at present is as to its treatment and the use of cold water bath. The advocates of this method claim that it diminishes or alleviates certain nervous symptoms. This testimony is so universal, and everyone that carries it



out must have observed it for himself that it must be accepted. The second point is that it diminishes mortality. Different writers give different numbers, from 4 per cent. to 7 per cent. With a view to see what the results have been in the General Hospital here, I have looked over the reports for a number of years past, and compared the statistics of cases treated before the introduction of the bath with those treated after. For this purpose I have used Dr. Bell's statistics from 1870 to 1879. He reports 600 cases with a mortality of 10.4 per cent. In the period of 1892 to 1898, 600 cases were treated, of which 2-3 or 3-4 were submitted to the cold bath treatment (three out of four physicians using this treatment in the General Hospital) and the mortality was 9.4 per cent., showing a diminution of 1 per cent. in the later series of 600 cases. This result does not seem encouraging when we consider that the hygienic conditions are now better than they were formerly, and I am disappointed with the results in finding they have not improved more. I see in a number of statistics reported that the mortality rates are not given previous to the use of the cold bath; with the exception of Hare, who is one of the few who compares results before and after the use of the bath. Osler and Wilson do not mention the mortality before the cold bath. We know that the mortality differs very much in different localities, and it is necessary to have the mortality rate for each separate locality.

Our results do not show a great lowering, but I can testify that it mitigates the suffering of the patient, and certainly what Dr. Stewart says can be corroborated.

So far as perforation goes, I think the most prominent symptom is acute pain in the abdomen, which marks the onset of perforation in probably more than half the cases, and we now teach our house physicians to summon the surgeon or physician in attendance when this symptom arises at once. In the next few hours it is followed by the other signs of this complication. Where we can get an absence or diminution of liver dullness early before distension has set in it is a valuable sign. It is only valuable when distension is absent, as distended bowels may produce

marked diminution or even absence of liver dullness. I think Dr. Armstrong's results disappointing, but we do not however, know what the results are in such cases ; most men do not publish their fatal cases, but only the successful ones, so that the mortality is, no doubt, higher than has been given in the tables. When we consider the almost uniformly bad results of operation, we can hardly expect any marked diminution of mortality by surgical interference.

Dr. J. B. MCCONNELL.—Not having been able to review the recent literature of the subject, I am afraid I shall not be able to add anything new to the discussion. In regard to diagnosis, which has been in the past one of the most important features in the consideration of typhoid fever, on account of its many difficulties, the modern method of serum diagnosis has removed many of these. The only new point I have taken note of is the palmo-plantar symptom, a yellow condition of the palmer and plantar surface of the hands and feet respectively, which Quintin claims is always present, and that this skin peels off at the end of the fever. This would help in some cases where the serum test could not be applied. With regard to treatment and statistics, I think we should not place too great reliance upon the percentages of recoveries under different methods. Epidemics vary much in the character and intensity of the fever. Some recent authorities state that typhoid in late years is much less virulent than it was twenty or thirty years ago, and that the old mortality of 18, and the present one of 7 or 8, might not be less than we should expect without reference to any special method of treatment. I think that it is of the greatest importance in the treatment of these cases to get the patient into a perfectly comfortable condition, with nothing to annoy him, and to attend to the diet properly. As a rule I prescribe small doses of nitro-muriatic acid, combined with a little boracic acid, and syrup of orange, which is easily taken, and is refreshing to the patient. The acid may help digestion and serve as an antiseptic to the upper alimentary tract.

With regard to the cold bath treatment, while it is undoubtedly the most efficient means of combating the fever and preventing complications by toning the system, increas-

ing the elimination of toxins, and by the hyperleucocytosis produced, I do not think it is absolutely necessary to plunge a patient into a cold bath every time the temperature rises to 102 1-2, according to the direction of Brand. In these milder ones, which constitute the majority of cases we have to treat, I find that cool sponging is sufficient. When the temperature rises to 104, or keeps up continually with slight morning remissions, I think then that the cold water bath is the best method of treatment. The easiest way to carry this out is to use the cold pack, as advocated by Fitz. The bed is raised at the head and a rubber sheet is placed under the patient, the body is wrapped in a sheet and cold water is soused on with a sponge. This, I think, gives the patient much less shock, and causes less disturbance, and reduces the temperature quite as satisfactorily.

With regard to hæmorrhage, in a case which I had recently in the Western Hospital where there was a profuse hæmorrhage and collapse, the treatment which was successfully adopted was to restrict the diet for several days, not a few hours as some recommend, to much below what he had been getting before, and to use camphor and opium. I do not think that astringents are of much service. Lead should not be given, as it adds an additional toxic element; it is absorbed from the stomach as an albuminate, appears in the intestines as a sulphide, and has no effect in stopping hæmorrhage at the bottom of a slough in the intestine. I think that opium is the only part of the incompatible lead and opium pill that we can expect any good from. Camphor and opium is a much better combination. Ergot is, I think, harmful rather than beneficial. In all kinds of medical hæmorrhage a remedy that contracts the blood vessels generally, increasing the intravascular tension, will increase the outflow where you have a lesion in any part, except the uterus. A vessel cut straight across might have its calibre lessened by ergot, but all hæmorrhages in typhoid fever are rather from erosion on the sides of the vessel which it will open rather than constrict. The opposite treatment of nitroglycerine or any nitrite, which dilates the vessels and distributes the blood under a lessened tension throughout the

vessels, I think is more rational. I have had better results, in some recent cases of hæmoptysis from these remedies than from ergot or astringents. Owing to the wide distribution of the specific bacillus, intestinal antiseptics cannot be of much avail, even if any thing could inhibit the bacillus in this tract, which is improbable.

Dr. JAMES BELL.—There is no doubt that perforation in the course of typhoid fever is the most important subject in connection with the treatment of the disease to-day. The medical treatment has possibly not reached its final stage; but, at any rate, everything seems to be pretty well looked into in that respect, as far as the physician can see at the present time. Perforation is responsible for more deaths, according to statistics of observers, than any other cause; and while it is generally admitted that some few cases get better without operation, it is an off chance, and no physician should submit his patient to that chance by neglecting operation. As Dr. Armstrong says, it is hard to say whether perforation has occurred or not. When perforation does occur, the operation must be performed early. I have not had any recovery after operation, but my cases were all operated on too late. Operation should be carried out within twenty-four hours, and the sooner the better. There may be a reservation here, that one should not operate on a patient in a condition of collapse, when he is actually dying; within a few hours he may have rallied and then the operation should be carried out as quickly as possible. The great point is early diagnosis, and there is greater difficulty in making an early diagnosis in typhoid fever perforation than in gastric perforation or in appendix perforation. The reason is that in typhoid fever the patients are more or less stupid and heavy, with high fever, and there is more or less discomfort about the abdomen, with distension. Very likely the early symptoms will not be marked at all; but if one waits until what I may call the classical symptoms, distension and absence of liver dullness and collapse are fully developed, he will have waited until the time has passed to do any good by operation.

I agree with Dr. Finley that there can be only one

reliable early symptom, and that is pain. I think alteration in pulse and temperature is apt to occur about the same time, and I feel that, in order to do any good in operating for typhoid fever perforation, there must be far less timidity about making the diagnosis on the part of the physician, and on the part of the surgeon in operating on an uncertain diagnosis.

Look back ten years and consider how appendicitis was treated, when the physician hesitated to consult the surgeon or recommend operation until he was sure that perforation had taken place. And the same was true with regard to the surgeon. To a less extent there has been the same history in recent times, with regard to gastric operations. We must be prepared to open the abdomen and take chances of an unnecessary operation, when there is *prima facie* evidence, which the physician and surgeon agree is probably of the nature of perforation. The history of operative treatment has reached a stage in which there is no question of its having saved life that otherwise might have been lost. There is no doubt that to open an abdomen unnecessarily in typhoid fever is more serious than in any other disease than when the patient is not suffering from disease which is serious in itself. I am pleased to hear Dr. Stewart's remark with regard to antipyretic treatment. I remember very well 20 years ago when large doses of quinine were being used so freely for typhoid fever. I expressed some doubt of its value to some of the physicians of the General Hospital—where I was house surgeon, but it was the overwhelming opinion that such criticism as I showed was quite improper, that quinine was the remedy. I say this because physicians to-day have the fullest confidence in the cold bath treatment. Dr. McConnell is a skeptic; but a change of opinion may take place in this respect. I do not know if it is so important; but, whether it is or not, the same cannot be said with regard to the antipyretic treatment by drugs in typhoid fever.

Dr. ADAMI—It has, I believe, been the general wish of your committee that to-night, in discussing typhoid fever, attention should be drawn to its incidence in Montreal, its

relative frequency here,—and it is painfully frequent,—its spread, and any possible local characteristic of the disease in recent epidemics. To this end we especially depended upon Dr. Wyatt Johnston with his peculiar knowledge of the subject gained in connection with the Board of Health, and with the numerous studies which he had made in connection with local epidemics. But his recent indisposition has made it obviously impossible for him to take an active part to-night. The subject of etiology is so large and so important that it is most satisfactory to have his promise to introduce the matter at a later meeting. It will be well, therefore, that the discussion to-night be confined to the matter brought forward by Drs. Stewart and Armstrong, namely the medical and surgical treatment of enteric fever, matter amply sufficient for a full discussion. But, this being accepted, I find all the ground cut from under my feet, for, as a pathologist, I came to say a few words upon etiology. Under the circumstances I trust that the meeting will not consider me over bold if, forced to confine myself to treatment, I, as an outsider not in practice, venture to propound views upon practice.

Taking first the surgical treatment of typhoid: Why is it that one finds perforation to be so dangerous and operation so rarely successful here, in Montreal, as elsewhere? It was you, Mr. Chairman, who first indicated to me the reason. When, two sessions ago, I read a paper upon omental adhesions, you called attention to the fact that in typhoid such adhesions are practically never met with, and asked why this should be the case. At the time it may be that I gave you a lame answer. But the question has often recurred to me, and, if I mistake not, I answered it when I discussed the subject of these omental adhesions more fully at Toronto last year.

It is not quite correct to say that such adhesions are never found in typhoid fever. Very occasionally they occur, and I have met, with them, just as very occasionally operation following perforation is successful. And the explanation of the absence of these adhesions is the explanation why operation so rarely results in recovery, namely, it is that the type of inflammatory reaction in typhoid is low and enfeebled.

Lowered leucocytosis is characteristic of the disease, and, following upon perforation or injury of serous surfaces, in place of the healthy rapid exudation of abundant leucocytes, and development of abundant fibrino-plastic material in the region of injury, there is, almost, a thin serous exudate with small plastic powers. Instead, therefore, of the region of perforation becoming walled in, the contents of the intestine have a fatal tendency to infect the peritoneum generally; and, after operation, the primary union in the parts is feeble; one must expect the wound to heal badly.

This, it seems to me, is the rational explanation why the results are so poor. Indeed, we must expect them to continue poor.

Now, to turn to the medical treatment. In his introduction to his son, Stephen Paget's *Life of John Hunter*, recently published in the "Masters of Medicine" series, old Sir James Paget makes the striking and paradoxical statement that, more especially in medicine and the biological sciences *facts are not truths*. I do not quote the identical words, for I have not the words by me, but this is the essence of the paradox. Sir James points out that the facts gleaned by one generation and serving as the basis of rational practice during that generation become so modified by the facts gathered later that they are seen in their true light of half facts. And I may add half facts are only half truths.

May we not apply this thought to typhoid and its treatment as well as to its etiology? Everyone who studies must admit, for example, that the cold bath treatment of the disease has done more to lower the mortality and alleviate the symptoms than any other means so far at all generally employed. Dr. Stewart's tables place this fact in a most convincing light. Does this fact, however, imply that the cold water treatment is the only rational treatment of the disease? May it not be only a half fact? Is it not possible that other means may be employed, in addition to cold water, to alleviate certain symptoms and to further lessen the mortality? For myself, from pathological considerations, I cannot but feel that though at first he overloaded his writings with hypothetical considerations about endosmosis and exos-

mosis, Dr. Thistle, of Toronto, has done yeoman service in directing forcible attention to the value of clearing the bowels during the course of the disease.

Whether there be constipation or diarrhœa the peculiar foulness of the typhoid evacuations is, shall I say, notorious. There must be abundant and abnormal putrefaction, that is, there must be, and we know there is, abundant bacterial growth in them. We know, further, that there is a greater or less number of open ulcers along the course of the ileum. Is it rational to permit, without an effort to arrest it, the absorption of toxic materials from the gut, the actual secondary infection of the system through these open wounds?

In a short notice in the *Lancet*, at the end of 1897, another member of a family already referred to, my old friend and pupil, Owen Paget, states the results obtained by him by what, at first thought, seems to be the utterly childish if not absurd treatment of dosing the patient with *salad oil*—salad oil, by the cupful *per os* and *per anum*. Under most unfavorable conditions in Western Australia, without proper nursing aid and without hospital care, he (I believe I state it correctly) brought through by this means one hundred patients without a death, when in the same town the hospital cases showed no lessening in the ordinary mortality. The explanation he afforded me recently, and it appears to me most sensible, is that salad oil is easily administered, the patients rapidly come to take it without trouble; it is a mild laxative, and at the same time acts usefully as a food stuff; by it the bowels are kept well cleared, and are not irritated. In short, by this means is avoided the dangerous irritation of the bowels which constitutes the strong objection to mercurial and other purgatives, which otherwise would be useful. So soon as the stools are perfectly sweet he ceases to give it.

May it not be wise, therefore, to utilize to the fullest all the advantages gained by cold bathing, and at the same time—whether using salad oil or other laxative, internal antiseptics (if they are of the least use), or by any other means—to employ means to keep the ulcerated surface as free from irritation and secondary infection as possible? Assurance as to the value of any mode of treatment and loyalty to the same



is not incompatible with willingness, nay anxiety, to employ every rational means to arrest disease. And while to-night Dr. Stewart has especially dwelt upon the value of the cold bath treatment, and while he has been a consistent advocate of the same, as a colleague, I know that in his wards this principle is ever kept in mind.

Dr. W. E. DEEKS.—I would make a few remarks in connection with my own experience with fevers. About what has been referred to here to-night, I think those who advocate the cold bath so strongly ought themselves to have typhoid to have some practical experience, and possibly they would not recommend it so strongly. I think in the treatment of typhoid every individual is a law to himself, and has to be treated as such. There are some in perfect health who enjoy a cold bath, and others to whom the cold bath is distasteful. When I had typhoid—it was not very severe—a cold bath would have been misery. I have seen some patients shiver in the bath for a long time, and shiver after it was over, and I have never thought that they reaped the advantage from it they might have done. I do not think a patient who fears cold baths, and who, after being brought out chatters for fifteen or twenty minutes on the bed, gets benefit from them.

I think Dr. Finley referred to a very important matter in connection with the mortality. The mortality of typhoid has certainly decreased in recent years. Is it due to the cold bath treatment, or to improved hygienic conditions in our modern hospitals? It was a different thing to put a patient on a straw pallet, changed every week or two, to putting him on springs, and that itself ought to reduce the mortality.

I think there are some persistent cases of high fever where baths ought to be resorted to in private practice, but I have never done so, and I am thankful to say I have never lost a case. Where patients have headache and the cold pack did not relieve them, I have found that a few grains of phenacetine helped them temporarily, and tided them over the crisis.

About purgation and the remarks of Dr. Adami, I have never used salad oil, but I have used calomel. In my own

experience, when I had typhoid, I felt stuffy and miserable, and the abdomen was distended. I asked the nurse for 3 grs. of calomel, and got relief from it. Dr. Stewart did not disapprove of it ; and I used it afterwards on two or three occasions. When the patient is distended and the stomach full and he feels miserable, 3 or 4 grains of calomel give the greatest relief ; the abdominal distension disappears, and they have asked to have the same dose repeated. I have rarely even tried the cold pack to the head. The sponge bath, with either ammonia or alcohol, according to the financial condition of the patient, applied more or less constantly, was sufficient in every case to reduce the temperature to a moderate degree, and I think that the much vaunted cold bath is not by any means all that it is claimed to be.

Dr. J. M. ELDER.—I quite agree with Dr. Deeks, from the standpoint of the general practitioner ; I have dealt with typhoid off and on, as general practitioner, and had my fair share of it, though I have had Dr. Deek's results. I have had more than one case of perforation, and I have expected more. I think to put typhoid patients on one line of treatment medically, or one diet, everlasting milk, and nothing but milk, is slightly irrational. I do not think everyone can digest milk, and we should not be restricted to one thing. We neglect too much, and it is true of our hospitals where we follow out a routine practice, the personality of the patient.

I will not find any fault with the hospital statistics, but I think we cannot compare them with the results in private practice. The private practitioner ought to get the better results ; but I do not think the private patient can get the attendance a hospital can give. The hospital patients are not in as good a condition as the private patients ; they only come to the hospital two or three weeks after the disease has begun ; they do not go to bed early ; they are a poorer class, and their health is not as good very often as that of private patients.

Dr. D. J. EVANS.—I have not had a very extensive experience of typhoid in private practice, but, with regard to the diet of typhoid patients, I was struck about four

years ago with the fact that a diet limited to milk entirely, more or less diluted, was nauseous to some patients, and I not infrequently found that the milk produced some bad effects. I saw some caseine curds in the motions, and that led me to modify the milk in various ways. I have fed patients on modified milk, and then on paps and gruels, etc., which had no bad effect; then I used malted milk and meat juice occasionally, and got quite an extensive dietary. About a year ago I noticed this was coming out in the journals, and that many were using this dietary. The result of my experience has been quite satisfactory.

With regard to the cold bath treatment, I have always tried it, because I was told, and saw in the General Hospital, that it is the best. In private practice one is not able to carry out this treatment satisfactorily; and where I have wished to produce the same effect, I have got very satisfactory results from the careful use of the cold pack, with, I think, less discomfort to the patient. I have put them in the half-pack, the trunk of the body wrapped in iced sheets, three to four thicknesses, and the feet kept warm, with hot bottles, and wrapped in a blanket during the time they are in the pack, and kept them 10 to 12 hours, as the temperature indicated. The patient very often falls asleep, and nervous symptoms subside. I can recommend this treatment as a very efficient substitute for the bath, and somewhat better than the sponge treatment.

SIR WM. HINGSTON.—I was sorry I was not in time to hear the medical aspect of the question. In listening to the discussion, the fact forces itself on my mind that typhoid fever to-day is not what it was thirty or forty years ago; it runs a milder course, shorter in its duration by nearly a half. I recollect when typhoid was a disease of five or six weeks' duration; and now I hear of cases getting well in half, and less than half, that time.

I do not think that we have reached the best form of treatment; certainly the indiscriminate use of cold water has never recommended itself to my judgment. I share the opinion of other gentlemen who have spoken to-night that there are cases where cold water would be of service; there

are others where it would be fatal. There are no two persons who have the same views with regard to the use of cold water. Cold water to me is torture; I like warm water. Two men who held opposite views on this subject were Dr. Campbell, formerly Dean of McGill, and his associate, Dr. Sutherland. Dr. Campbell never recommended the warm bath, thought it was foolish; Dr. Sutherland never recommended a cold one, and took the warm one. To have put Dr. Campbell into a warm bath, and Dr. Sutherland into a cold one, would have caused each of them great discomfort. If a man like Dr. Sutherland had fallen under my care, I should probably have put him into a warm bath, and continued it as good hygiene; if it had been Dr. Campbell, I should not have done so. The indiscriminate use of cold water is a mistake, and an act of cruelty; I have seen persons blue in cold water and remain blue for some time afterwards, and not recover their normal colour.

I think there is a huge mistake made in the matter on diet. The pouring in of enormous quantities of milk, giving persons, as they got weaker, an increased quantity of milk far more than the stomach can digest, and far more than is absorbed, so that large quantities pass into the intestine, to my mind is not wise. I think it is Osler who says that the duty of the physician is to watch carefully the evacuations, and see that no undigested milk passes away. I suppose when persons get better from fever, a relapse from meat-eating may take place. In order to obviate that, physicians do not permit their patients to take meat, but they suggest to them to take large quantities of broth and beef tea and bouillon. I think that question of liquid meats was disposed of nearly thirty years ago, and I am astonished that anyone recommends them to-day. It was found that they are incapable of supporting strength, utterly valueless, and even mischievous. What will you give? I would certainly say milk, with persons who are accustomed to take milk. There is as much difference in the matter of milk as there is in the matter of cold water. If you give some persons milk, in health, you may produce constipation, in other cases diarrhoea. Give milk to a person accustomed to milk, not

to those to whom milk is disagreeable and nauseating. It has always appeared to me that crushed wheat, rejecting the fibre, and using it as you would gruel, is perhaps, the best.

A word as to purgatives. I must appeal from Dr. Adami, to Graves, who contented himself with giving a laxative at the very onset of the disease, but never afterwards. If one proportions the food to what the patient can dispose of, there will be very little that will pass down the intestinal tube.

With regard to surgical interference, I think, unhesitatingly, one should cut into the abdomen whenever there is the slightest evidence of perforation; and I do not think that it is always difficult to establish when perforation has taken place. Pain follows a very rapid course, and the pulse will be somewhat clear; but, even if one does cut, and not find perforation, I do not know that a great deal is added to the risk of the patient. It is better, when one is in doubt, to operate, and I should be disposed to operate early. But the result has not been very encouraging.

Dr. F. R. ENGLAND.—Just one word which has not been touched on. Purgatives have been spoken of, but I do not think that anything has been said with regard to enemata. I remember that the late Dr. George Ross taught that purgatives were very dangerous; and I recollect one case where a dose of castor oil had apparently caused death in a patient who was doing well, with the exception of a little constipation. He taught that in cases where constipation was the rule they were generally favourable cases and got well; but if the bowels caused anxiety, and he desired to act on them, he would prescribe a small enema of glycerine and warm water. I have generally followed that plan since, with very satisfactory results. I may, perhaps, refer to a very serious case I was asked to see a few weeks ago, where perforation was supposed to have occurred by the attending physician. It was a young woman, 18 or 19 years of age, in whom symptoms had rapidly become serious. There was present a great deal of distension, and the bowels had not been moved for seven or eight days. The pulse was rapid, and there was a great deal of pain. Taking the whole

clinical picture into account, I was reluctant to open the abdomen in that particular case, and assumed the responsibility of waiting and watching. Fortunately, the patient recovered. The symptoms immediately improved, after I had succeeded in getting a very copious discharge from the bowels, which I effected by repeated moderately small enemata of glycerine and warm water thrown into the rectum and colon. I considered well before deciding against operation. I was not positive that perforation had occurred, and I felt that if I opened the abdomen with the girl as sick as she was that the result would be very likely fatal. Not very long before I was present at an operation where appendicitis was supposed to exist. Laparotomy was performed, and the case was found to be typhoid fever. There was no perforation, and death occurred. I was struck with what Dr. Adami said. We are bound to consider it as it is borne out by Dr. Armstrong's experience in the cases which he has operated upon. Dr. Adami tells us that he believes that the important reason for the great mortality in these cases where operation is performed for perforation is due to the fact that there is a great want of the fibro-plastic exudate thrown out, and that the powers are lowered, the patient is in a bad state to stand operation.

While Dr. Armstrong tells us that the intestine united well, he says that the abdominal wound was slow to heal, and after twenty-one days he scraped the abdominal wound, and it again failed to unite, because, I believe, the exudate was not thrown out which produces union. It seems to me in severe cases we cannot expect any very great advance in the results obtained, in those cases, from surgical treatment. Of course, there is no question it is the only means offered to a patient; nevertheless, it will continue to be a grave condition, and one where I think no very brilliant results can be expected.

Dr. WESLEY MILLS.—It seems to me that this discussion is characterized by one thing at all events, namely, healthy difference of opinion, and, seeing that the history of medicine is rather characterized by a tendency to follow what is new and restricted rather than some broad princi-

ples, I think it is to be welcomed. I suppose we are all trying to get at some general line which will guide us in details; I could therefore have heard with pleasure the *rationale* of different methods somewhat more fully dealt with. The popular method of treatment by the cold bath is one about which I have never heard a perfectly satisfactory explanation. The difference of opinion seems to be not about the feasibility of the use of cold water, but the particular method of its use. Now, in reality, as follows from what Sir William Hingston and others have said, the personal element and one's habits would lead one to expect that such difference of treatment should prevail. I suggest that the different expression here to-night is more apparent than real; it is one of detail rather than of principle; and as a physiologist looking for new light as to principles, to apply to the living body, I have had to try and build up a certain interpretation for myself. When one considers the use of cold water to the sleepless, to the weary, to the insane, and the use of baths generally, and compares it with the effect in typhoid fever, it seems to me that one can strike a guiding principle. If I am right the teaching of the multitude of investigators on the nervous system is that we can no longer look to regeneration originating independently; they are all related to ingoing impulses; and I have long entertained the idea of the relation between function and nutrition. But I can understand why the use of cold water should so affect the nervous centres that the nutrition should be profoundly affected thereby.

Now, Dr. Armstrong has very clearly brought out the fact, I think, from his experience and that of others, that not only is typhoid not a disease of local lesions, but one which affects the vitality of all the tissues; and, if that is so, and this treatment of cold water effects the centres which preside over nutrition, it must be a sound principle. But I think there is need of greater conservatism in surgery, if I may venture to express an opinion, with the facts before us, and that also seems to be a point in the history of surgery, a return to greater conservatism in some respects at all events.

But, with regard to diet, I think we should be aware of

what I may venture to call our profound ignorance on the subject of digestion. I think we do not realize fully the depth of our ignorance; I do not think that we take into account the separate transitions which we name separately, but which are small parts of one thing.

Now, for example, the digestion of a fluid like milk is affected by its temperature, as it is in my own case. I may take a little milk and it may upset my digestion, or quite the reverse, according to the temperature. I have never heard the temperature referred to with reference to the typhoid patients. It may be worthy of consideration, both as regards a good tonic effect and otherwise; so that this plea for a less restricted diet seems to me as being on a good, sensible and physiological foundation, that is to say, with such a limited knowledge of the digestive process and such a defective knowledge of individuals to meet this case. For instance, some think that milk is taken directly into the system, and I am not sure that they are not right. But here again there is not really so much difference of opinion as there seems to be. As I understand, it is not a question of liquid or of solid diet, but as to whether there should be a greater variety of diet, and certainly if this variety can be obtained without danger to the patient it is a good principle, because all are agreed that it is more important with the typhoid fever patient with what is long weariness to him, in the bad cases—that his comfort in every little detail should be attended to, which means that his nervous centres should be disturbed as little as possible by things which are calculated to disturb it. So I would submit that this discussion has led to the conclusion that there is less difference of opinion as regards essential principles than might at first be supposed, and that the result of it will be to show that there may be variety with union.

Dr. KERRY—In connection with the fibro-plastic exudate in typhoid, it might be interesting to refer to the *post-mortem* condition of two of Dr. Stewart's cases. I happened to be in the Royal Victoria Hospital, and I was pressed into service at the *post-mortem*. In the first case, in which the diagnosis for several days was not certain, it was



thought it might be miliary tuberculosis or typhoid, and showed a very marked reaction. Patches were standing out a quarter of an inch from the intestine. In the second case there was scarcely any reaction, but there was a little patch up in the caecum, and there was a marked ulceration inside the intestine, which may account for the reaction.

Dr. H. A. LAFLEUR, the Chairman—In the first place, I would like to say something about diet. It has been apparently assumed to-night that most physicians who treat typhoid fever confine their patients to an exclusive diet of milk. That is an absolute mistake. I think I can speak for Dr. Stewart and myself. We do not pretend to confine our patients to milk. Maybe this was true ten years ago, but not now. I have jotted down a few things I allow at the height of the disease: Coffee, tea, thin gruel, egg-nog, any clear soup, koumiss—which is pretty fair diet. They are all fluid, or nearly so. I might have added jelly, and even in cases where patients refuse milk I do not refuse a soft-boiled egg, even at the height of the disease; so that an exclusive diet of milk does not refer to the general practice here. I think Sir Wm. Hingston has drawn a picture of the horrible; we do not drench our patients with anything except cold water, and that externally.

With regard to the bath, I think I was one of the earliest in America to advocate and use it. In 1890 I advocated it at Johns Hopkins in Baltimore. I had seen Wilson use it in Philadelphia, and I was so struck with the result of the treatment, although it had had a trial in Johns Hopkins, I decided to wait no longer, but subject the patients to it; and according to the subsequent statistics the results obtained fully justified it.

There has been a great deal said about the disadvantages, but not enough about the advantages—and perhaps the special advantages. It should be remembered that the treatment by cold bathing is, in the main, an eliminative treatment. It has been shown conclusively that the urine of patients subjected to the bath treatment is a great deal more toxic than other urine; which shows that the kidneys are stimulated chiefly by the action of the nervous system. That

accounts for the fact that, in any series of cases that have been bathed, we see fewer instances of toxemia. We may combine it with the internal administration of antiseptics. I quite agree with Dr. Adami that we have not reached the perfection of treatment ; but those that compare the two kinds of treatment, the expectant and the bath, will certainly be struck by the lack of delirium in such cases. I remember in the hospital we used to have four or five delirious patients during the night ; but this has been practically abolished, and we may see only a little wandering delirium, and that very rarely. In many instances the patients object to this bath. They also object to surgical operations, but that does not prevent us from operating when we think it necessary. To those patients who object to the initial cold bath, we begin with a graduated bath ; and I practically always do this with females. The first at 90 degrees, lowered to 80 ; the second at 80 degrees, and lowered to 75 degrees ; the third at 75 degrees, and lowered to 70 degrees, or 68 degrees. Under these circumstances, I find that, as a rule, patients take the bath very well. It is only the exceptional patient that gets blue and shivers, and then it is a sign to remove him. One should not point out all the disadvantages, without also pointing out the great number of advantages that other people have found in it.

Dr. STEWART, in reply.—The Chairman has saved me from replying to a good deal that has been said. There are other ways of using water besides the cold bath, but they are for the most part poor substitutes. Of course, sponging with ice cold water does reduce the temperature considerably, but, in the cases I have used it in, the patients complained more than they did of the cold bath. I am sorry I am not eloquent to preach about the advantages of the bath ; but the figures I showed to-night are quite eloquent, and I think anyone with extensive experience—and you need extensive experience—must be convinced of the advantages of that way of treating typhoid fever, the marked change it makes in the appearance of the patient is enough to convince the most skeptical. To-day you rarely see a delirious patient under the cold bath treatment—in fact, you might go through

a ward, and you cannot tell whether they are suffering from typhoid fever or not ; which is not the case under the expectant treatment. If that is not evidence, I do not know what some people need to convince them of it.

I was going to say that all the surgeons here to-night were in accord about the advisability of early operation in typhoid fever, as indicated by the onset of sudden pain. If a man were to rely solely on that in the months of August and September, I expect the surgeons would be kept pretty busy opening the abdomen, because abdominal pain is a very frequent symptom. Everyone recognizes the importance of early operation ; but you do not want to be opening abdomens and not find the intestines perforated. Whether it is not possible to employ other measures in conjunction with cold bathing, which will be effective in further reducing the mortality, is of course a great question. As I pointed out in my paper, the chief influence of the cold bath is in reducing the mortality from other causes than from perforation and hæmorrhage. If you can get anything that will have an equally good effect on the prevention of these two conditions, you may say good-bye to typhoid fever, but it is doubtful whether we shall attain to that degree of perfection. I expect that the first and most marked advance will be in some antitoxine treatment. I think that is the direction in which we ought at present to look.

Dr. ARMSTRONG, in reply.—I would like to draw Dr. Stewart's attention to the fact that I did not rely on one of the symptoms, but on several symptoms and the consideration of each, and from their consideration collectively, added to the steady appearance of the leucocytes.

There is only one other point I did not think of in my notes. In some of these cases, in operating for a perforation, I have found a number of other ulcers very thin, not perforated. I put a row of sutures over them, with the view of preventing a perforation at that spot, which, I think, is a very good practice.

# Medical Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

*Stated Meeting, December 5, 1898.*

H. A. LAFLEUR, M.D., VICE-PRESIDENT, IN THE CHAIR.

Drs. A. A. Robertson and Mackenzie Forbes, of Montreal, were elected ordinary members.

Drs. John McIntyre, James Allan and James Maclean, of the Western Hospital, were elected temporary members.

## PATHOLOGICAL SPECIMENS.

Dr. A. G. NICHOLLS showed the following specimens :

*A Case of Myodegeneratio Cordis with Atheroma of the Coronary Arteries.*—This was taken from a female, aged 70, whose main trouble had been shortness of breath. There had been no pain, headache nor oedema of the body, but she had occasionally suffered from blindness. The cardiac area was increased, and there was a loud blowing systolic murmur at the apex.

The heart weighed 440 grammes. The right side was hypertrophied and dilated ; the left ventricle was dilated. Both coronaries showed extensive adhesions. In the anterior vessels, beginning 2 c.m. from the origin and extending for a distance of 2.25 c.m., the artery was converted into a calcareous tube, into the lumen of which projected two hard nodules which greatly narrowed the lumen. Microscopically, the heart showed diffuse fibrosis. Death occurred suddenly.

*A Case of Mitral Stenosis and Aortic Regurgitation associated with Adherent Pericardium and Corbovinum.*—The patient was a young man of 24, who had suffered from severe attacks of inflammatory rheumatism. The heart dullness was greatly increased in both directions ; the apex in the 6th space and outside the nipple line. There was a marked presystolic thrill felt at the apex, a presystolic and systolic murmur was heard also at apex. At the aortic cartilage there was a diastolic murmur transmitted down the sternum.

The heart was very large and the pericardium generally adherent by old adhesions. The mitral orifice was stenosed, being of a funnel shape, with great calcareous deposit. There was evidence of regurgitation through the aortic valves.

*Two Cases of Uicerative Tuberculosis of the Kidneys.*—The first was found unexpectedly at an autopsy performed on a female of 36 years. The left kidney was enlarged; the capsule adherent; the surface coarsely granular. On the surface little groups of abscesses like hemp-seeds were noticeable. At the upper end was a cavity filled with cheesy material connected with a calyx. At the lower end was a larger caseous abscess and several papillae were seen to be involved in an early process. The ureter was thickened and the mucosa of the upper third showed minute tubercles.

The left kidney was represented by a small fibroid mass with only a small portion of kidney cortex recognizable. It contained firm cheesy material becoming absorbed. The bladder showed tuberculosis about the orifice of the left ureter and near the neck of the trigone. The second was a man of 47. He gave a history of untreated gonorrhoea 25 years before, and "grippe" (?) four years before, after which he had noticed a urethral discharge with pain and frequency of micturition.

During the six weeks before admission all these symptoms were very marked, and he had had chills. The urine was 1020 sp. gr., contained pus and a little blood. No tubercle bacilli were found.

The left kidney had a puckered surface with numerous miliary tubercles fairly generalized, but most numerous in the lower portion.

On section an abscess the size of a hickory-nut was seen at the upper end filled with caseous material. Below this was a second focus, the size of a bean, not communicating with the pelvis. One small focus about the middle was in communication with a calyx. The ureter was dilated; the lumen showing numerous small tubercular foci. A few tubercular nodules were found at the trigone of the bladder. The vesiculæ seminales were caseous, as was also the left epididymis. In the apices of both lungs were fibrous nodules with calcareous spicules, with some recent tuberculosis about them.

There was also miliary tuberculosis of the lungs, liver, right kidney and spleen, also tubercular enteritis.

Dr. G. E. ARMSTRONG asked, in regard to the first kidney exhibited, of which Dr. Nicholls stated that the tuberculosis of the kidney was apparently secondary to a focus in the lung, if there was any evidence of the way in which the infection passed from the lung to the kidney, whether it was through the blood or the lymphatics. And, also, whether there was any history of traumatism in the case. If so, he thought that this might have some bearing on the case as tending to produce blood stasis in the organ.

Dr. J. M. ELDER, referring to the second kidney exhibited, asked if it was common to find a kidney so shrivelled up as this one was, without anything in the organ itself to account for it. Might it not be a congenital condition, a want of development of the kidney?

Dr. NICHOLLS, in reply to Dr. Armstrong, said that it was, perhaps, a little hypothetical to say where the disease started. He had made the statement that the primary focus was in the lungs because the lesion there was apparently the oldest one in the body. The condition of the kidney itself did not throw much light on the subject, but the fact that the pelvis was not involved would point to the blood rather than to the genito-urinary tract. If coming from below, one would expect to find the pelvis of the kidney diseased. There was no history of traumatism in the case, but a previous history of gonorrhoea, and of possible influenza, the bacillus of which is extremely liable to attack the kidney and lessen its resisting power.

In reply to Dr. Elder, he did not think that it was possible that the atrophied and fibroid kidney in the other case could be due

to a congenital condition. He had seen three cases of this kind, and one in Vienna was even smaller than the specimen shown.

With regard to the Chairman's remarks, he had seen in the autopsy room on several occasions an adherent precardium which was not suspected during life. There was no symptom definitely pointing to adherent pericardium except retraction of the chest wall from adhesions between it and the pericardium, and this latter condition was not often present.

#### MULTIPLE TUMORS OF THE HANDS.

Dr. W. M. NELSON, referring to the case exhibited by Dr. Springle at the last meeting, said that when he had first heard of the case he had thought that it might possibly be multiple fibromyomata, but he had thought worse of it. On looking up the subject he had come upon a very similar case in Hutchison's Archives, and, by the plate given (shown in meeting), it was seen to closely resemble Dr. Springle's case. Crocker had also reported a case with a coloured plate (shown), which was considered to be of the same nature as Hutchison's.

#### HÆMORRHOIDS IN CHILDREN, WITH REPORT OF A CASE.

Dr. E. W. ARCHIBALD, the author, being unavoidably absent, this paper was read by Dr. A. G. Nicholls.

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*Stated Meeting, December 5, 1898.*

#### H. A. LAFLEUR, M.D., VICE-PRESIDENT, IN THE CHAIR.

Dr. N. C. Smillie and J. A. Dickson, of Westmount, and Dr. W. H. Smyth, of Montreal, elected Ordinary Members.

#### TUBAL PREGNANCY.

Dr. A. LAPHORN SMITH read the report.

#### URINARY INCONTINENCE TREATED BY TIGHTENING THE SPHINCTER VESICÆ.

Dr. A. LAPHORN SMITH read the following report:

During the last twenty-four years I have been consulted by a number of women for incontinence of urine following a very severe labor. A few of these were found, on close examination, to have a vesico-uterine or a vesico-vaginal fistula, which were dealt with in the usual way and cured by operation. Nearly all the others were treated for two or three months with a mixture of iron, strychnine and phosphoric acid in full doses, and were also cured; the cause in their cases being weakness of bruised and over-stretched muscular fibre. But about six months ago the present case came under my care at the Montreal Dispensary, and proved an exception to the rule of my experience. Mrs. M., age 40, had a very severe instrumental labor about a year ago, ever since which time she has had to wear large pads to catch her urine. Her physician was unable to stop it in any way. If she remained in bed

she could hold water for an hour or two, and then it would trickle out if she moved or took a long breath, and when she went about her work it kept running all the time, keeping her clothes wet and always smelling of urine. I put her on the above tonic treatment, and in order to observe her better took her into the Samaritan Hospital for a couple of weeks. A careful examination failed to detect any fistula; in fact, in filling her bladder with warm salt solution the latter flowed out, beside the catheter; there seemed to be no life in the sphincter. There was a large rectocele and cystocele and lacerated perineum. Although I have seen a great many patients with this condition and quite commonly causing desire to micturate frequently, and also a sensation as though some urine still remained in the bladder, as indeed it does, yet I do not remember to have had a case in which it caused incontinence. I, therefore, feared that the cure of these conditions alone might not suffice to cure her of her trouble, and I had some intention of, at the same time, shortening or taking a reef, so to speak, in the relaxed sphincter. This I found was quite easy to do, when I had removed the vaginal mucous membrane to the extent of two and a half inches in length and an inch and a half in breadth. In order to tighten up the sphincter I made the denudation further down towards the meatus than usual, and, instead of drawing the edges surrounding the denuded area with a purse string suture, as I usually do, I tightened up the sphincter by means of a running catgut suture which was buried in the muscular layer of the bladder right down to the urethra. The vaginal mucous membrane was then accurately brought together over this. Hegars' operation on the posterior vaginal wall was then done, with a buried and a superficial row of catgut. This made a good support for the bladder. Fortunately the catgut was good and her tissues healthy, so that in both primary union was obtained. The result was all that could be desired. She could cough and turn in bed from the first day without wetting herself, and at the end of two weeks she could walk about with comfort and without a single drop of urine passing involuntarily.

#### FOREIGN BODY IN THE NASO-PHARYNX.

Dr. H. S. BIRKETT read the report of the case.

#### VOICE FROM A MEDICAL STANDPOINT.

Dr. H. D. HAMILTON referred to the accessory parts of the body concerned in voice-production, as the thorax, lungs, etc., and the various resonance-chambers of the nose, the ear and the cranial cavities. Much depends upon these parts being kept in a state of perfect health. To maintain the musical voice in a state of perfection it is necessary for the whole body to be in perfect health. Faulty methods of vocalization and overstrain of the voice are to be avoided.

Dr. WESLEY MILLS was interested in the voice physiologically and aesthetically, but the subject had many points of view. He had thought it possible that Dr. Hamilton had meant to suggest that voice might be an indicator of disease, just as the face is. He was still of the opinion that such was the case. Here was a sub-

ject for investigation not requiring a very special knowledge of the voice musically considered, but only of the pitch and qualities of sound. When in practice, Dr. Mills had had a large proportion of speakers and singers, a class in which he took a special interest. Regarding the voice in health and disease volumes might be written. Children are so little guarded against the dangers of over-straining the voice that it may be injured for life during school days. Those who sing should be warned against using the voice during the change of life. It is well known that a voice of a certain quality may be changed after puberty; a tenor after puberty may become a baritone. Then, too, singers in societies strain the parts, producing congestions and exhaustion of the nervous system from attempting a range beyond their power. Excessive use of the voice was seen in country clergymen, who were fond of talking, and often crowded the whole of their speaking into a few hours in one day. One case where a man had preached for three hours on Sunday, and also conducted the singing, came to his office with a growth on the vocal cords. An improper method of speaking and of breathing with an exhausted thorax, which leads to elevation of venous pressure and exhaustion of the parts, were the two principal reasons in explaining the troubles of clergymen. Another important cause was speaking under worry and the irregularity of their work. Troubles of the voice were comparatively rare among actors, who are regular in the use of their voice and understand a few plain principles of common sense, which they employ. In public speaking the speaker is more effective if he ascertains just the amount of effort necessary to reach his hearers. It is quite superfluous to speak of the evil effects of alcohol and tobacco on the voice, but one must remember that in explaining these we must make large allowances for different individuals, and remember that there are different ways of producing tones. Pitch is altered in two ways, by shortening the vocal cords and by altering their tension. There is the same perfection in the trained singer that there is in the trained athlete. Some time ago the speaker had made use of a great many students in the laryngoscopic investigation of the voice, and had never failed to get some sort of a record. One result of this investigation was to teach him that rigid views of the physiology of the voice did not hold any more than rigid views on other parts of the economy. It is well to remember that there are different ways of doing the same thing. This is well known to actors and singers, who, in spite of the abuse of alcohol, can perform their duties. These are the wonders of nature, who can treat themselves in the wrong way and yet not suffer as others do for it. Two professional singers in this city had spoken to the speaker about the condition of the nose in their pupils. So little attention was paid to this point that in one instance the teacher had been obliged to stop in the middle of the lesson and request his pupil to blow his nose. He had been reminded of this by noticing the fact that in the Leipzig clinic, Professor Bartholin invariably taught his young patients how to blow their nose by closing one passage and blowing one at a time. Another point to be taken into consideration in speaking was the condition of the room. A bad atmosphere, or exposure to draughts, was harmful from the action of the



vitiated or cold air on the larynx and the nervous system. When one takes into account the amount of work done in speaking, one does not wonder that the conditions must be the most favorable to get the least fatigue. Often all that is required in treating a case of breakdown is to send the patient away for a perfect rest.

*Stated Meeting, January 9, 1899.*

J. G. ADAMI, M.D., PRESIDENT, IN THE CHAIR.

Drs. Elizabeth Mitchell and Maude E. Abbott, of Montreal, and Dr. Arthur Birt, of Westmount, were elected Ordinary Members.

#### OSTEOSARCOMA OF THE SKULL.

Dr. J. M. ELDER exhibited for Dr. Armstrong, who was absent, a case of osteosarcoma of the skull.

#### EPITHELIOMA OF THE UPPER JAW.

Dr. ELDER also exhibited a patient on whom Dr. Armstrong had operated for epithelioma of the upper jaw.

#### HÆMORRHAGIC MENINGITIS.

Dr. WYATT JOHNSTON showed the specimens of a case of hæmorrhagic meningitis.

#### CANCER OF THE OESOPHAGUS WITH ABSCESS OF THE LUNG.

Dr. F. G. FINLEY gave a report of this case and Dr. D. P. Anderson demonstrated the pathological specimens.

#### A CONTRIBUTION TO THE STUDY OF BRIGHT'S DISEASE WITH SPECIAL REFERENCE TO THE ETIOLOGICAL RELATIONSHIP OF THE BACILLUS COLI.

Dr. A. G. NICHOLLS read a paper on this subject.

#### THE LATE DR. W. M. NELSON.

*Resolved*,—That this Society records with extreme regret the loss which it has sustained in the death of Dr. W. M. Nelson, who, although but lately returned to us after a long absence, had, by his zeal, seriousness of purpose and enthusiasm for his special work—dermatology—impressed all with his great value as a member of this Society. He had already made many friends, and gave promise of a brilliant future.

*Further Resolved*,—That a copy of this resolution be sent to the relatives of the late Dr. Nelson and to the press.

*Stated Meeting, January 23, 1899.*

H. A. LAFLEUR, M.D., VICE-PRESIDENT, IN THE CHAIR.

Dr. F. W. Gilday, of Montreal, was elected an Ordinary Member.

#### DISCUSSION ON TYPHOID.

Dr. James Stewart and Dr. Geo. E. Armstrong introduced the discussion from the medical and surgical aspect.

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## Editorial.

### TYPHOID FEVER.

In this issue we give a full account of the discussion on typhoid fever, held at one of the recent meetings of the Montreal Medico-Chirurgical Society. Special discussions of this kind have been arranged for during this and previous seasons, affording most favorable opportunities for presenting the chosen subject in its most recent phases. When a subject is introduced by several speakers who have made exhaustive search in preparing their papers, and then discussed by experienced members, one can expect only the latest, most practical and most correct presentation of what is being discussed.

The salient points of the discussion were the good results reported from the cold bath treatment, which the hospital physicians unreservedly advocated. Many general practitioners were opposed to its general use in private family practice, owing to the difficulty in carrying out the method, and the objection of patients to the discomforts associated with it. There was a general disposition to trust to sponging and cold packs in all but cases with extreme high temperatures. There was no advocacy of any specific antiseptic drug treatment or medication other than the rational use of remedies for associated derangements or complications. It

would seem that drug treatment of this affection, as well as many others, is gradually ceasing to be a source of reliance, and good nursing, and the *vis medicatrix naturæ* are being largely depended upon.

The specific treatment of this affection, as well as of all others depending upon pathogenic micro-organisms by the proper antitoxin, thus assisting the natural effort made by the system to combat their poison, seems to be the chief source from which satisfactory help is to be hoped for. But no such remedy had yet been prepared which was affective in this fever. The typhoid bacillus does not produce the same condition in the lower animals as in man, and the blood serum of animals rendered immune to the typhoid germ has little effect as an antitoxin in man. The serum of patients convalescing from typhoid fever has this effect according to Weisbecker and Walzer.

Dr. Horatio C. Wood in a communication to Merck's Archives reports some results by Jez, in which good results have been obtained by using the extract of glands from immunized animals.

He found the abstract of the glands of rabbits prevented serious symptoms in infected animals, and in 18 cases in man, in doses of one-half to one teaspoonful, the fever in each case, and all other symptoms gradually subsided, and convalescence was brought about in the second or third week. If further trial proves the correctness of this discovery, some striking therapeutic advances may be expected in the near future, based on this scientific method, and we may be rescued from the nihilism so apparent in this recent discussion, and so applicable to our resources in most of the infectious diseases.