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SOME ATYPICAL PHENOMENA IN  
TYPHOID FEVER.\*

BY ALEXANDER M'PHEDRAN, M.B.,

Lecturer on Clinical Medicine in the University of Toronto.

We occupy our minds so much with the regular and striking features of typhoid fever that we are in danger of overlooking the unusual phenomena that often arise in this disease. Our books continually emphasize the important symptoms, to the exclusion of the rarer ones, that it seems but natural that we should often overlook the latter, especially if we have opportunity of seeing but few cases each season. In so common and important a disease it cannot be amiss, therefore, to direct attention to the more uncommon symptoms, and also to the deviations of some of the important symptoms from the course they are usually supposed to pursue.

I. *The Temperature.*—The description of the temperature of typhoid fever has become almost stereotyped, one text after the other repeats the description with almost exact similarity, whereas considerable variation occurs in different cases.

(1) So few cases come under observation in the initial stage that there cannot be a certainty as to the exact manner in which the temperature rises in the majority. All the authorities say it is by a gradual step-ladder-like process, without giving due prominence to the, at least, not infrequent exceptions to this rule.

Occasionally cases are met with in which the outbreak is marked by decided chill, followed by a rapid rise of temperature; in others—more numerous in my experience—the symptoms begin with vomiting and purging, like those of a choleraic diarrhoea, and the temperature is found high, or rises rapidly to its maximum. In both these cases these acute symptoms usually disappear in a day or two, and the ordinary course of typhoid fever follows. There is a possibility that such cases may have been developing for some days before, without producing sufficient discomfort to cause suspicion of the true character of the case.

In some, again, the rise of temperature is by an irregular zig-zag, reaching the maximum in five or six days; in others the rise is rapid, without unusual symptoms, the maximum being reached in two or three days; in these latter the duration of the fever is short and usually terminates by a pseudo-crisis. These atypical features are met with more frequently, and in a more marked degree, in children, whose temperature equilibrium is so easily disturbed.

(2) In regard to the daily range of temperature, it is generally considered that two observations, one taken during the forenoon and the other any time during the afternoon, are sufficient to give a reliable guide as to the range of the temperature for the day; that the morning observation gives the lowest record and the evening the highest. That this is a mistake we can readily convince ourselves by making frequent observations, as, e.g., hourly, or every two hours. We know that

\*A lecture delivered at the Post-Graduate course of the University of Toronto, December 19th, 1890.

in health the temperature varies somewhat from hour to hour, and in the febrile condition, as we should naturally expect, the temperature equilibrium is more easily disturbed, so that the variations from hour to hour should be greater than in health, and they are even so, being more marked in children, but even in adults the change may be as much as 2°.

This section of a chart (Fig. 1) illustrates this well. It is from a case of enteric fever in a child, and the observations were made as nearly as possible every two hours, when the child was awake. The first four records were made at 2.30, 7, 9, and 11 a.m.; the next four at 1, 3.40, 6, and 9.30 p.m.; the next at 2.15, 7, 9.30, and 11.30 a.m.; and the last three at 1.30, 4, and 6.30 p.m.

The observations of one day may be made when there is a decided exacerbation of temperature, and next day during a remission, indicating a lower temperature than on the first day; whereas, had the temperature been taken during an exacerbation the second day, it might have been found considerably higher than on the first day, and indicate no improvement in the patient. We have all frequently met with illustrations of the truth of this; to-day the patient seems better, but the chart reports him worse, or it may indicate an improvement that we cannot find grounds for accepting. To ensure a correct temperature record it is necessary, therefore, that several observations be made daily; it is desirable in all serious cases that such should be done in order to protect ourselves against a misleading record.

(3) As to the duration of the febrile movement, there are many departures from the ordinary, which is considered to be from twenty-one to twenty-eight days. In the first place, in some—in my own opinion, in many—the fever aborts after a duration of from seven to ten days, or even less. On a former occasion\* I described some such undoubted cases. The temperature elevation in such cases is usually moderate, but may be high; it is rapidly attained, usually in two or three days, and terminates, as a rule, by a pseudo-crisis. We meet with cases that are clearly abortive in households with one or more well-developed ones. There seems to be no more ground for denying the occurrence of such cases than of

abortive attacks of any of the acute eruptive fevers. The changes in the bowel in such cases would probably not extend beyond congestion of the Peyerian patches in the lower part of the ileum, with, in some, slight ulcerations of the patches on, and in close proximity to, the ileo-cæcal valve. The opportunity for examination in such cases is so rare that there can be no certainty as to the bowel changes.

There is another class in which the elevation of temperature is of short duration. In these the temperature, never high, falls to normal, or even below, after a few days, but the disease—the fever—does not abort; on the contrary, the other phenomena pursue the usual course and convalescence does not begin until the customary time. The following case, under my care last September, is one in point: Dr. McG., a house physician in Toronto General Hospital, had the usual prodromal headache, malaise, and anorexia; then followed elevation of temperature for not more than a week, after which it was normal, or a little below it. The facies, the peculiar odor, and the coated tongue of typhoid fever, were present; the bowels were constipated; the prostration was quite as marked as it is after a typical course of average severity, and the convalescence was quite as protracted.

In a third class, instead of febrile movement, the temperature is normal or subnormal throughout. Strubé noted fourteen such cases in a typhoid epidemic among the German troops at the siege of Paris.\* The usual symptoms were present, including delirium, which was furious in some. One died of complication, and the autopsy showed the typical enteric lesions. A few such cases occurred in the Toronto General Hospital some years ago.

I might here venture the suggestion that the febrile distendance of the third and fourth weeks of enteric fever is partly if not wholly due to septic poisoning. By this time the temperature becomes increasingly remittent, with more or less free perspirations, as occurs in mild pyæmia. This change in the temperature occurs when the sloughs are being cast off, and large ulcers, with decomposing tags of mucous membrane still adhering, have formed in the bowel—conditions favorable for the absorption of septic poisons.

\*Quoted by Shattuck, *Boston Medical and Surgical Journal*, 1889, ii p. 221.

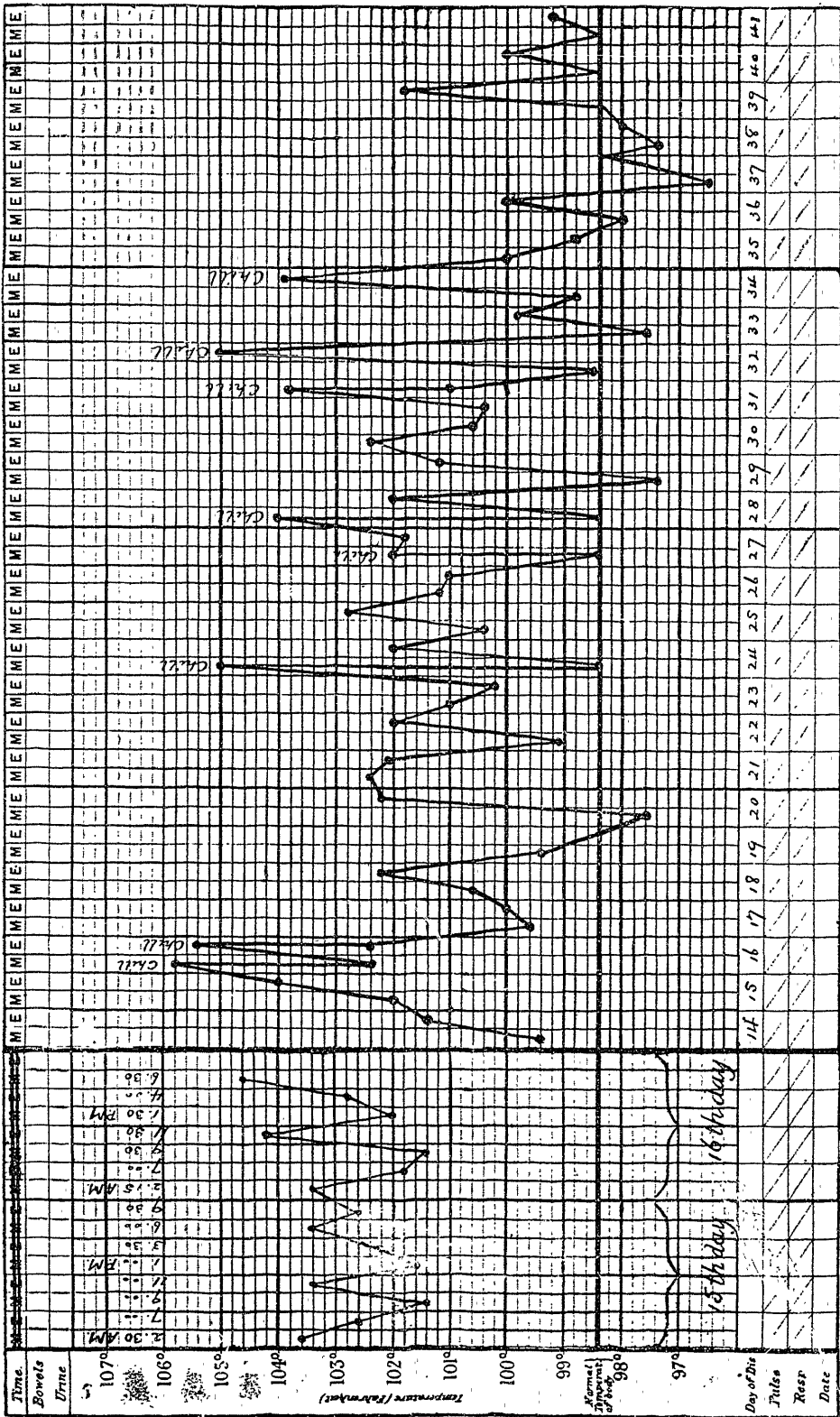


FIG. 1.  
SHOWING VARIATIONS OF TEMPERATURE  
DURING THE DAY.

FIG. 2.  
A CASE OF PHLEBITIS.

Cases terminating about the fifteenth day do not exhibit this remittent temperature, and the intestinal changes are seldom characterized by much, if any, sloughing.

II. *Relapses*.—Of more anxious concern to us, however, are the cases with protracted fever, either from complications or the occurrence of relapse. Our views as to the frequency of occurrence of relapses will vary according to our opinion as to what constitutes a relapse. Murchison defined it as "a second evolution of the specific febrile process after convalescence from the first attack is fairly established."\* Some follow Irvine in describing two varieties of relapses, the intercurrent and the consecutive. By an intercurrent relapse is meant a re- or auto-infection at any time during the course of the primary attack; the consecutive corresponds to Murchison's. An intercurrent relapse may occur at any time during the primary attack; if it occurs early it may be impossible to differentiate it from the primary, but if it does not occur until towards the end of the third week, during the defervescence of the primary fever, and extend into the fourth or fifth week, or even the sixth, there would be no difficulty in distinguishing it, unless masked by some complication. According to this view, all cases in which the febrile disturbance is protracted beyond the fourth week at latest, possibly beyond the third, in absence of complication, are probably instances of intercurrent relapse. This is based on the theory that typhoid fever is a self-limited disease, lasting a definite time, beyond which it is never protracted, in absence of relapse. A consecutive relapse may occur at any time after defervescence of the primary fever, *i.e.*, after the evening temperature reaches normal, but it is usually not until five to ten days after that time that it commences; this has been so in five of my cases during the present year. As to the cause of relapse we are wholly in the dark, and we are therefore quite powerless in preventing them. Error in diet and too much movement, usually assigned as causes, may produce a sudden temporary rise of temperature, but true relapses nearly always occur quite apart from them. All the cases I have seen, except one, have arisen while the strictest diet and quiet were still observed. There evidently must be a re- or auto-

infection, from what source we know not, possibly from the intestinal canal or from the spleen. The duration of a relapse is usually shorter than that of a primary attack. In twenty cases reported by Shattuck, the average was nineteen days.\* Probably in many instances the attack aborts. The temperature attains its maximum usually in three or four days, more quickly than in the primary disease. A second and even a third or fourth relapse may occur. The prognosis is usually favorable.

III. *Phlebitis*.—Another phenomenon that occurs, sometimes as a complication, more frequently as a sequel to typhoid fever, is venous thrombosis, or phlebitis. The frequency with which it occurs varies in different seasons, and, apparently, in different localities, as many, having extensive experience, have never met with it. Chew, of Baltimore, has never had a case; he has seen four in consultation, which he describes in a recent article.† The works of Bristowe, Reynolds' System, Sir Thomas Watson, Trousseau, Loomis, and others, make no reference to it, and only a passing reference is made in that storehouse of clinical observation, *Fagge's Principles and Practice of Medicine*. I have met with phlebitis only during the past few years, and my colleagues say they saw no cases in the earlier years of their practice. It was described by Christism as occurring in Edinburgh from 1817 to 1820, and was noted in the London Fever Hospital a few years later. Both Murchison and Liebermeister describe several cases. It is therefore not a phenomenon of recent times only. Shattuck‡ met with it in nine out of 129 cases, and in my own experience it has been fully as frequent, while Macdonnell, of Montreal,§ met with only two in 100 cases seen during the past few years.

The condition, so far as noted, is reported as occurring nearly always in the left femoral vein; no reason is suggested for this peculiarity. Of six cases of which I have notes, four were in the left femoral vein, or its branches in the calf; one in both, being much more severe in the right—this case I saw with Dr. I. H. Cameron in the General Hospital; and one in which both arms were affected simultaneously during a relapse.

In the femoral the phenomenon usually begins

\*Murchison: *The Course of Typhoid Fever*.

†*Ibid.* †*Medical News*, 1890, ii p. 354. ‡*Ibid.* §*Medical News*, 1890, ii p. 225.

with sharp pain in the calf, or behind, sometimes above, the knee, with tenderness; this is followed by swelling, resembling phlegmasia alba dolens, with which the disease is probably identical. The vein, if superficial, can be felt as a hard, tender cord. Remittent febrile disturbance, sometimes with marked chills and rigors, is usually present, and may continue for several days, or even weeks.

This chart (Fig. 2) represents the temperature in a case under my care last winter. The chills were very severe; the fever disappeared a few days after the last chill, complete recovery following.

The chief danger is probably that a fragment of clot may become detached and cause fatal embolism. Troublesome swelling of the leg may persist for an indefinite time after convalescence, even for years.

In the case in which the arms were affected there was very little swelling, but they were extremely painful and tender along the inner side. The absence of swelling was due probably to the greater vascularity of the arms, the blood being returned by other and unobstructed channels. That the symptoms were not due to neuritis was evident from the absence of wasting, paræsthesia, and paralysis, other than that due to the pain.

A rare and instructive case of phlebitis occurred a short time ago in the practice of Dr. Uzziel Ogden, of this city. The patient, a young lady, had a fairly severe attack of enteric fever, followed by a relapse, which lasted till the end of the sixth week; then, instead of the expected convalescence, the temperature began to show evening rises again, without any cause being apparent. Notwithstanding this recurrence of febrile disturbance, the facies and other phenomena of typhoid fever disappeared, appetite began to return, and it became evident to so acute an observer as Dr. Ogden that, whatever the cause of the recurrence of fever, it was not a relapse. To improve her strength as much as possible, therefore, solid food was ordered, tentatively at first, but soon as freely as she could partake of it. She improved, although the temperature continued to rise, irregularly, in the afternoon, at times to  $102^{\circ}$  or  $103^{\circ}$ . After three weeks the cause of trouble showed itself in thrombosis, extending down the left femoral

vein. Before this there was slight tenderness to deep pressure in the pelvis, for which there was no satisfactory explanation. The cause of this was now quite evident, being due, doubtless, to inflammation in the pelvic veins. Complete recovery took place in due time. It is quite probable that not a few protracted cases, for which no cause is apparent, may be due to phlebitis in veins beyond the reach of exploration.

The period at which phlebitis occurs varies in some it occurs early during the fever, but usually not until convalescence has set in. Dr. H. T. Machell, of this city, related to me the cases of two sisters; in the first there was phlebitis of the left femoral as a sequel to the fever, while in the second it occurred early as a complication; in neither was the prostration marked.

The cause of phlebitis usually assigned is weakness of the heart, resulting in a languid circulation, with probably some change in the condition of the blood. That this is not the correct explanation is quite evident from the fact that it is not the very prostrate that are usually affected, and that it often develops before the fever has lasted long enough to cause prostration. Most authorities look upon the condition as a thrombosis with secondary phlebitis, but the early occurrence of pain, tenderness, and fever, seems to negative that theory. That it is a phlebitis, or an endo-phlebitis, with thrombosis resulting, there can be little doubt; and that the immediate cause is septic is rendered almost certain by the pyæmic character of the consequent febrile disturbance (*vide* Chart II.). What the nature of the sepsis is, and whether it is the same in all cases, requires further investigation to decide. The probabilities seem to be that the phlebitis occurring during the fever is directly due to bacteria of typhoid, which may, almost certainly, under varying circumstances, produce a variety of pathological conditions. Phlebitis occurring as a sequel is probably caused by the absorption of septic poisons from the intestines, where they are generated by the processes of ulceration and decomposition.

The frequent occurrence of pneumonia as a complication of typhoid fever seems explicable on no other theory than that the inflammation in the lung is directly due to the typhoid germs. The occasional occurrence of abscesses, single or multiple, in this disease, may be due to the

same cause, or more often to the septic matter absorbed from intestinal tract.

In a case under my care two years ago, towards the end of the illness several small superficial abscesses formed. Single abscesses are more common. Occasionally a joint suppurates, or multiple pyæmic abscesses may form in the lungs and elsewhere. Suppuration of the middle ear, in some cases double, occurred in four or five cases in the Toronto General Hospital, this autumn, and may possibly be explained in the same way, though this and parotitis are usually attributed to extension of inflammation from the pharynx along the eustachian tube in the former, and from the mouth along Steno's duct in the latter.

The occurrence of such various complications points to a great variety of poisons causing them; and probably, phlebitis may be dependent on poisons equally various.

Fortunately, cases complicated with phlebitis rarely prove fatal; the clot usually undergoes red softening apparently, and is absorbed; the wall of the vein becomes normal and its potency is restored. Possibly in those cases of persistent œdema the vein becomes permanently occluded by adhesive inflammation. Occasionally the clot becomes puriform and a fatal termination results from sepsis.

IV. *Post-Febrile Insanity*.—In common with other acute diseases, typhoid fever is occasionally followed by some form of mental disturbance which may show itself as active mania, melancholia, hallucinations, or loss of mental power. No sequel could be more distressing than this. Similar disturbances are met with occasionally by surgeons after operations,\* and in obstetric practice it occurs as puerperal insanity. Dr. H. C. Wood† has attributed the cause, in all, to exhaustion of the nerve centres, resulting from defective nutrition. A striking case came under my care last January, in the person of a young woman who had entered the General Hospital in November with typhoid fever. There was considerable delirium; the febrile disturbance was continued by abscess of the left parotid gland; the delirium gradually increased and became noisy, with the development of delusions. She came under my care on the first of January,

and by the middle of that month the parotid abscess had recovered, but the alienation persisted and became more delusional. She became so unmanageable that removal to the Asylum in February became necessary. Of her history there, Dr. H. E. Buchan, assistant medical superintendent, kindly furnished me the following account: "She entered February 10th, 1890; she was noisy, restless, excitable, and violent at times, claiming in turn to be Mary Queen of Scots, the Saviour, and others; in fact, hers was a very typical case of acute or active mania. There was marked physical debility." Under good nourishment and tonic remedies she gradually improved, was sent home in May on a month's probation, and discharged as "recovered" on June 6th last.

The one cheering feature of these cases is their hopeful prognosis. So far as I am at present aware, they all recover within a few months. Osler\* reports one of five cases still subject to hallucinations, but improving, after four months. In view of this fact it is very desirable that, when possible, all cases should be treated at home, to avoid the unpleasant after-feeling that attaches to incarceration in an asylum. The treatment would consist in careful, constant watching, the fullest possible nourishment, tonics, good hygienic surroundings, massage, and rest in bed. The asylum would be far preferable, however, to home treatment, if the fullest care could not be bestowed. With restored physical health, the mental condition will usually regain its equilibrium also.

Dr. R. S. Tyrrell, of this city, has kindly communicated to me the particulars of two cases of melancholia, with mental weakness bordering on imbecility, in young men. One had typhoid in August and the other in September; both had relapses of short duration, the mental weakness following. One is still debilitated, but the other has regained his physical strength but without improvement in his mental condition. Neither of them have had any delusions.

V. *Pylephlebitis*.—This is a rare and untoward result of typhoid fever. One case occurred in my hospital service last year, in a man who had passed through a moderately severe attack of fever. As he began to convalesce the temperature became irregular, the changes becoming

\*Shepherd, in *American Journal Med. Science*, 1888. Thomas, in *Med. News*, 1888. †*University Medical Magazine*, 1889.

\**Johns Hopkins Hospital Reports*, Vol. 11., No. 1.

more marked as time passed. Chills occurred from time to time, with sweating, and jaundice gradually developed, with some enlargement of the area of liver dullness. Later, the abdomen gradually enlarged and the signs of chronic purulent peritonitis developed, masking to a certain extent the signs of the hepatic fever. He died about four weeks after the recurrence of the febrile disturbance. The autopsy revealed chronic purulent peritonitis, with considerable plastic exudate and a diffuse pylephlebitis, the portal vein throughout all its ramifications being filled with puro-lymph. In the mesentery, near the ileo-caecal junction, was found an abscess,  $1\frac{1}{2}$  inches in diameter, originating, doubtless, in a mesenteric gland, and causing both, first, the pylephlebitis, and, later, the peritonitis. The diagnosis in such cases can seldom be more than probable; and when made, it is seldom that anything can be done to give relief.

VI. *Constipation*.—Among the first symptoms of typhoid fever named by almost any medical student is diarrhoea; it is one of the first symptoms given in all our text-books; yet reference to late reports of this disease shows that it is present prominently in only a minority of cases. Thus, in Shattuck's 129 cases referred to it was absent in 51 per cent. (66 cases), and it was prominent in only 25 per cent. (32 cases). In Macdonnell's 100 cases it was present in only 27. In the Toronto General Hospital, during the last three months, the results, so far as I can ascertain, accord very closely with these. Of course, the frequency of diarrhoea varies somewhat in different seasons. Comparing these statements with Murchison's, the difference is very remarkable. He found diarrhoea present in 93 per cent. of his cases, and his contemporaries give even higher percentages. What is this change due to? It can scarcely be owing to a difference in treatment. It is extremely desirable that fuller statistics should be obtained on this point and its bearing on the prognosis and treatment. No doubt the fatality in the diarrhoea cases is much higher than in those with constipation.

Addison first, I think, and, later, Sir William Jenner, suggested that in all diarrhoea cases the colon is more or less extensively ulcerated. In all the autopsies, not many of course, that I have seen during the last three years, the colon has been found ulcerated in the diarrhoea cases, and

unaffected in the constipated ones. More extended observations are desirable on this point.

While constipation is generally of favorable prognostic significance, yet in some of these cases the signs of grave ptomaine poisoning are severe in the extreme. It would seem as if the excreta, being retained in the intestinal canal, the poisons are absorbed freely into the system. I had two such cases two years ago, a man and woman. In the woman, especially, prostration with hebetude was marked from a very early period; there was complete loss of consciousness for two or three days before death. At the autopsies, extensive ulcerations were found in the ileum in both, but no disease of the colon. Broadbent\* has recently referred to such a case, seen at the end of the second week, in which with the constipation there was, besides, extreme prostration, weak pulse, and cold, clammy extremities. The outlook was almost hopeless; the nervous system was obviously overwhelmed by some poison, doubtless the ptomaines absorbed from the intestinal tract, and the only hope was to have the bacteria and their products swept from the alimentary canal. With this object in view, three grains of calomel were given, the duration of the disease not having yet been sufficient to render such a course dangerous, except, perhaps, from hemorrhage. Next day, after the action of the calomel, there was much improvement; another dose was given and the case resolved itself into a mild case of enteric fever, and ended in recovery.

Such a report as this, from a man so capable and so worthy of confidence is not only interesting but extremely valuable to us, from a practical point of view, in giving us the necessary courage to act with judicious boldness when similar occasions arise.

VII. *Peripheral Neuritis*.—This complication is of much more frequent occurrence than I supposed before examining the literature. The symptoms of it were fully described by Trausseau, but attributed to disease of the spinal cord; he says, however, that no lesion of the cord could be found in any of the autopsies.† Shattuck reports three in his 129 cases of typhoid,‡ and Folsom, eight in 183 cases.§ I have not met with any cases myself. My colleague, Dr.

\**British Medical Journal*, 1890, ii., 781. †Clinical Medicine.  
‡Ibid. §Ibid.



J. E. Graham, has furnished me with the notes of a case under his care in the General Hospital in January, 1887. She had fever in September preceding; both legs became powerless during convalescence; she also complained of loss of memory; there were fairly well-marked evidences of peripheral neuritis, involving both lower extremities. The ultimate result is not known, as she has been lost sight of.

VIII. *Meningitis*, like pneumonia, may probably be caused directly by the typhoid germ. The symptoms so mask those of the fever that a diagnosis is often impossible. I am indebted to Dr. Graham for the notes of a case of which the following synopsis gives the salient points. A young bank clerk complained of indisposition, with great drowsiness, often falling asleep over his books; no headache; the drowsiness increased till soon he was constantly sleeping, with intervals of delirium. Temperature only slightly elevated and irregular. The coma deepened, with a few conscious intervals, until death. *Autopsy* showed some inflammatory effusion into the pia mater, with deep congestion of all the intra-cranial vessels. In the intestine were found the characteristic lesions of typhoid fever.

There remains the possibility that the intestinal lesions were the result of an indifferent irritant, if Harley is correct in his views that such can occur.\*

#### THE SHURLY-GIBBES TREATMENT OF PULMONARY TUBERCULOSIS, WITH A REPORT OF CASES.†

BY DR. PRICE BROWN, TORONTO.

For more than two years, Dr. Heneage Gibbes, Professor of Pathology, Ann Arbor University, and Dr. E. L. Shurly, Professor of Laryngology, Detroit Medical College, have been experimenting upon guinea-pigs and monkeys, inspired by the hope of discovering a cure for consumption; and at last they believe that their efforts have been crowned with a reasonable measure of success.

In the first place, they demonstrated for their own satisfaction that tuberculosis could be transmitted by inoculation.

Healthy guinea-pigs and monkeys were inoculated from the sputum, or cultures of the sputum, of tuberculous patients under treatment at Harper's Hospital. The animals would sicken almost at once, and in the course of a few weeks or months would die. Microscopical examination invariably found pulmonary or general tuberculosis; and when the animals were allowed to die simply of the induced disease, tubercle bacilli would usually be present.

Prof. Gibbes had performed many similar experiments while in the service of the Local Government Board, of London, Eng., several years previously.

In reference to the length of time required to produce tuberculosis by inoculation, he records many cases of interest. On one occasion he inoculated three healthy monkeys at the same time with the sputum from a patient suffering from acute tuberculosis. Ten days later, one of the monkeys, being very ill, was put to death by chloroform. *Post mortem* examination proved it to be a case of severe general tuberculosis. The other two monkeys developed large abscesses at the seat of inoculation, of which complication the first monkey was entirely free.

Among other points of interest brought out by Prof. Gibbes is the protection against the disease which pregnancy affords; or rather, the temporary prolongation of life which it guarantees to inoculated animals. Two guinea-pigs, one a male, the other a pregnant female, were inoculated with the same human sputum. The male died in twenty days of general tuberculosis. The female had four young ones, one month after inoculation, and died five months and twenty-eight days after inoculation of general tuberculosis.

A similar experiment was made on two females. The non-pregnant animal died of the disease in thirty-five days; while the pregnant one, having had four young ones, died of the disease, but not until four months after inoculation.

A point bearing on heredity of tuberculosis was also of great interest. He took these two litters of guinea-pigs, each born of a tuberculous mother; and keeping them by themselves, bred them in and in (brother and sister) for several generations, one for five, the other for

\**Reynolds's System of Medicine*. Article: "Enteric or Typhoid Fever."

†Read before the Toronto Medical Society, February 5th, 1891 (Abridged).

seven. Out of every litter he killed a half-grown animal, and examined all the organs. He found them in every case free from tuberculosis and normal. Gibbes and Shurly also found that placing healthy guinea-pigs with inoculated ones would not affect the former with the disease. In fact, that nothing short of inoculation would produce tuberculosis in the guinea-pigs they were experimenting upon.

They next directed their attention toward the arrest of the disease in the inoculated animals. With this end in view, a great number of experiments were made with a variety of agents. Of the many drugs used by inhalation, chlorine gas produced the best effects. They found that tubercular sputum, thoroughly saturated with chlorine gas, or mixed with fresh chlorine water, soon became innocuous; and animals inoculated with the prepared sputum would not become tuberculous. For instance, Dr. Shurly reported recently to the Detroit Medical and Library Association the history of three cases, all inoculated eight months previously with the sputum from the same tuberculous patient. Two of them, a monkey and a guinea-pig, both died of tuberculosis; but the remaining guinea-pig, the inoculation material of which had been chlorinated, was still alive and well. Many other experiments were attended with the like results.

Owing, however, to the irrespirable character of chlorine gas, it was some time before they discovered by what means they could avail themselves of it as an inhalant. Then they found that air saturated by a spray of chlorine of sodium could enable the animals to inhale large quantities of chlorine with impunity.

Not confining themselves to inhalants, these gentlemen made, and had made under their directions, a long series of experiments by hypodermic injections. The solutions were chiefly of an inorganic character, many of them with metallic bases. The only ones, however, which have proved sufficiently satisfactory to continue the hypodermic use of are solutions of iodine and chloride of gold and sodium, both of course chemically pure.

The results of injections of these upon animals were very remarkable. Among them were the following:

1. Guinea-pigs or monkeys which have ac-

quired phthisis without inoculation, or animals inoculated with the sputum of tuberculosis, can have the disease arrested and a cure accomplished by hypodermic injections of either solution of iodine, or solution of chloride of gold and sodium.

2. Guinea-pigs or monkeys well iodized will not take tuberculosis by inoculation.

3. The same animals, saturated in like manner with solutions of chloride of gold and sodium will not take tuberculosis by inoculation.

4. Guinea-pigs and monkeys cannot be inoculated with tuberculosis from the sputa of patients suffering from tuberculosis when said patients are well under the systemic influence either of the iodine or gold solutions.

After a prolonged series of experiments upon animals, Dr. Shurly put the new treatment into practice upon the indoor patients at Harper's Hospital suffering from pulmonary consumption; and in an article in the *Medical News* of Dec. 27th he gives a short account of his method of treatment, and the measure of success which has so far attended his efforts. He reports, in all, having thoroughly treated twenty-seven cases of phthisis pulmonalis and general tuberculosis, since the beginning of September. Of course, a number of these were advanced cases, in which a good result could not be expected. Six of the number had died. Four had improved sufficiently to be called cured. The rest were still under treatment; though two had so far improved that it was expected they would be discharged from the hospital in another week.

About the time of the issue of this number of the *Medical News*, I received a supply of the two solutions from Dr. Clark, Professor of Chemistry at the Detroit Medical College; and an opportunity occurring, I commenced to treat my first case by the Shurly plan. The result promised so favorably that I visited Detroit to familiarize myself with detail.

In the pens in one of the basement rooms, there were about twenty-five guinea-pigs. Many of these were suffering from induced tuberculosis, and were receiving daily hypodermic injections of either the iodine or auric solutions. They were reported as doing well. Others having been subjected to treatment for a length of time, with abatement of all the symptoms, were pronounced cured.

On asking how a cure could be recognized, I was told there would be cessation of tubercular fever, absence of rales, restoration of appetite, and increase in flesh.

One animal, after inoculation with sputum, had received no injections, but was placed several times a day in the chlorine inhalation cage. It was believed in his case a cure would be accomplished by inhalations of chlorine alone.

In another room were six monkeys. All of them had had tuberculosis. One of them was quite well, having been cured by hypodermic injections. Four were under hypodermic treatment and were progressing towards recovery. The sixth was a case of phthisis purposely induced by exposure to cold, and was being treated exclusively by inhalations of chlorine. It was reported as improving and probably out of danger.

From a private letter received from Harper's Hospital I might add the following facts:

Sept. 29th, 1890. Guinea-pig, six weeks old, inoculated with sputum containing bacilli. Seventy-two hours later commenced treatment by daily injections of sol. iodine. This was continued for ten days; then every other day for ten more days; and then discontinued altogether. Result: recovery. The animal is living and well to-day.

Oct. 31st, 1890. A female monkey was inoculated with sputum containing bacilli from a consumptive patient. Seventy-two hours were allowed for the disease to become developed. Then hypodermic injections of iodine were commenced, as in the guinea-pig; continued daily for ten days; then on alternate days for ten more; and then discontinued. The cough with which the monkey was affected during the early days of treatment, entirely disappeared, and she has been perfectly well ever since.

Oct. 31st, 1890, the date on which the monkey was inoculated, and with sputum from the same patient a guinea-pig was also inoculated. It was not treated at all, however, but allowed to die. The viscera were sent to Prof Gibbes at Ann Arbor for examination. He found the lungs very extensively diseased.

In the male and female wards of the hospital I saw about twenty cases, besides a number of

better class people in private wards. The sexes were about equally divided. Most of them were receiving daily injections of about m. x of solution of iodine, the amount of iodine in the solution varying from the  $\frac{1}{12}$  to  $\frac{1}{8}$  of a gr. Some were receiving, instead of iodine, hypodermic injections of solution of chloride of gold and sodium, dose, gr.  $\frac{1}{30}$  to gr.  $\frac{1}{15}$ . In the hospital I did not see injections given, being informed that the usual time of administration was about 8 p.m.

In private practice, however, I saw two injections of the gold solution administered. It was in each case done with the patient standing upright, the point chosen being the upper gluteal region. The instrument used was an ordinary hypodermic syringe, cleansed by hot water, and rendered aseptic by the use of alcohol. The reasons for selecting this region were, the large surface for operation, the lack of acute sensitiveness in the part itself, and the comparative immunity of tendency to formation of local abscess.

To return to the hospital cases. In addition to hypodermic injections, many of the patients were given daily inhalations of chlorine gas. These were administered in a small room especially prepared for the purpose.

The arrangements for this are simple yet ingenious. The temperature of the room is kept about 75° Fah. A spray bottle is filled with a 10 per cent. solution of chloride of sodium. This is driven into the finest spray by compressed air under steam pressure, completely saturating the air of the room. Then an ounce or two of chloride of lime is placed in an open vessel and several drams of hydrochloric acid added. The evolved fumes of chlorine are breathed almost with impunity by the patient.

In cases attended by caseation, with profuse expectoration, the chlorine was administered several times daily.

In reference to the hypodermic injections, Dr. Shurly recommends as a rule to give the iodine for about a week, unless iodism or too rapid a diminution of expectoration supervenes. In either case, the auric solution should take its place.

When there is much cough and little expectoration, the chloride of gold and sodium is

the best, though it should not be given for too long a period without interruption. The two solutions should be given, in many cases, in alternate doses. After ten days or two weeks treatment, the injections may be given on alternate days or even at longer intervals, and latterly once or twice a week, the whole treatment lasting one, two, or three months, according to the requirements of the case.

In cases attended by profuse expectoration, and in all laryngeal cases, chlorine inhalations should supplement the hypodermic treatment.

The treatment is unattended by chills. Sometimes there is considerable nocturnal sweating. At first the hypodermic injections produce little reaction; during the second week reaction may increase; though reaction, arising from the injection itself, is of short duration.

The iodine produces more local soreness than the gold. When first used upon animals the iodine frequently gave rise to abscesses at the site of injection. This arose from chemical impurity of the solution, for since this defect was corrected abscesses have ceased to occur.

On making a physical examination of the patients, and on looking over their charts, which were drawn out very fully, I was particularly struck with two things:

1st. With the difference in the chest signs from what I had observed in patients suffering from phthisis in the same wards two years previously. At that time there was a large predominance of crepitant, mucus, and gurgling rales, in the upper chest, so distinctive of the disease. This time there was much greater limitation; and in some instances complete absence of moist sounds, with a correspondingly less expectoration. In the place of the former we had broncho-vesicular breathing, dry crepitation, and more distant voice sounds.

2nd. The high temperatures still attained in cases marked by cavities, or extensive caseation, running up during the second and third weeks of treatment to  $102^{\circ}$ ,  $103^{\circ}$  or  $104^{\circ}$ . This was not so favorable an indication. True, the cough and expectoration had diminished, and the patients themselves seemed bright and hopeful, but the disease itself was still present, and the prognosis in these cases could not be very favorable.

The charts of some, however, had a much

better showing, indicating after two or three weeks treatment a gradual and almost steady decline in temperature, with slowing of pulse and respiration.

The largest dose of the gold preparation was gr.  $\frac{1}{2}$ . When toxic symptoms were produced they consisted of malaise, vertigo, nausea, and pains in the thorax, pelvis, and limbs.

Sometimes the urine became scanty and high-colored. Usually, however, there was no change.

As the cure advances there are indications of connective tissue and fibroid changes within the caseous masses, producing contraction and cicatrization. Of course, this is only in a measure conjectural, as it is impossible to make *post mortem* on cured cases; but there are some symptoms in certain cases under process of cure which can only be accounted for in this way. Judging from these, Dr. Shurly was of the opinion that the treatment, if pushed too rapidly, might in some cases produce pain and tightness of the chest, from too rapid cicatrization. He instanced one patient in particular. The mucus and gurgling rales had almost disappeared. His respiration had become dry, tubular, and rasping, and when he coughed there was racking pain with little sputa. Breathing was short; temperature continued high; but his appetite and general condition had improved.

In some cases of laryngeal tuberculosis the results were very good. I saw a girl in the hospital in whom, although the voice had not fully returned, the difficulty and pain of swallowing had entirely ceased. Another case, that of a young gentleman, a private patient, whom I saw at Dr. Shurly's office, was very remarkable. When he commenced treatment a month previously he had complete aphonia, with very marked dysphagia and odynphagia. The former still remained, but the latter two had entirely disappeared. On examining his throat with the laryngoscope, I could distinctly see that the laryngeal ulcerations were cicatrizing.

To give the chlorine inhalations at his office, Dr. Shurly substituted for the chlorine evolved from chloride of lime, as used at Harper's Hospital, a spray, composed of equal parts aq. chlor., U.S.P., and 10 per cent. sol. of chlor. sod. These were atomized by compressed air,

and inhaled by the patient through a mouth-piece prepared for the purpose.

In regard to the effect which the treatment has upon the bacilli: In some cases the bacilli disappear entirely from the sputa while the patients are under treatment; in others they change their shape, the right lines of the rods becoming rounded near their ends; while in others they become innocuous, accompanied by little if any change in form.

In conclusion, I will briefly quote from my note book the history of two cases at present under treatment.

Dec. 29, 1890. Case 1. Mr. N., æt. 22, a school teacher; parents are farmers; no tuberculosis among near relatives; had locomotor ataxia at age of 14 years; recovered within a year; has been poorly for 2½ years. At first had severe stitches in left side; these extended to right, followed by pains generally through the chest; for more than a year he had no cough; then he took more cold with aggravated pains, and has had cough and expectoration ever since; has had several slight attacks of hemorrhage.

Examination: pulse 100; respiration 25; temperature 99½; percussion negative; prolonged expiratory murmur marked during deep breathing; posteriorly on right side; anteriorly on left side; roughened respiratory sounds in both axillæ. Mucous rales over left supra-mammary region, and also over right intra-scapular region. Coughs a good deal, particularly in the morning, expectorating dark heavy matter.

Dr. Acheson kindly examined the sputum and found it loaded with tubercle bacilli. I gave Mr. N. the usual inhalations which I had formerly administered, adding the chlorine spray according to Dr. Shurly's formula; and on two successive mornings, hypodermic injections of m. x of solution of iodine. These were given, as directed, in the gluteal region.

Temporary soreness was produced, but in neither case was there increased pyrexia as a result of the injection.

On the third morning, owing to the soreness produced by the iodine, I substituted m. vi. of the chloride of gold and sodium sal.; the tenderness from it was much less; consequently on the fourth, and for nine successive mornings, I gave him m. x of the auric solution. After

this, as you will see by the chart, the intervals were usually longer.

For the first six days, it will be noticed, there was a steady but very gradual decline in temperature, dropping from a steady 99½ to 97½. Then for another ten days the morning temperature before treatment was always away down below normal, followed immediately after treatment by a rise of one, two, three, or even four, degrees; and I always noticed in his case, the lower the temperature before treatment, the greater the rise after. The second temperature was always taken in my office upwards of half an hour subsequent to the first. The maximum would be soon reached, and in an hour or two the pyrexia would be over. Several times I noticed that it would commence to fall again, even before he would leave the office. The last week, from the nineteenth to the twenty-seventh day, the temperature was more even, only rising above the normal on one half the occasions on which the injections were given.

On the twenty-seventh day of treatment he went home; his chest pains were very much less, likewise the cough and expectoration; his pulse was about 90; respiration 20; temperature, at 8 p.m. 97½; he felt stronger and more hopeful than he had done since commencing treatment, while the respiratory murmur was more natural in the axillæ and over the chest generally; mucous rales were still present in left supra-mammary and right post intra-scapular regions.

Jan. 12th, 1891. Case 2. Miss M., æt. 23. Mother died of phthisis; has had naso-pharyngeal catarrh for three years; is very subject to chest colds; thinks she must have had slight fever since August, as she has been subject to chilliness, together with dry, burning throat; her home is in the country, in a high elevated region, without malarial surroundings; she has had cough now for more than a month: in daytime it is loud and harsh, in the morning accompanied by expectoration of heavy yellow matter; has pain in upper part of chest, chiefly over right apex; latterly has been troubled with odynphagia.

Her case was referred to me by her physician on account of continued high temperature, pointing to lung trouble.

Examination: slight dullness over right apex,

with increased vocal resonance and prolonged expiratory murmur; no mucous rales; temperature 100; pulse 94; respiration 24.

Diagnosis: incipient tuberculosis. I at once gave her inhalations of chlorine, followed by hot air, and air medicated by menthol and eucalyptol, as in the former case. This was repeated daily, and on the second and third days with the addition of hypodermic injections of m. x of iodine solution.

After the first two injections I substituted the chloride of gold and sodium for the three following days, then on alternate days until the temperature became altogether sub-normal.

The effect of treatment upon the temperature in this case is worthy of notice. On referring to the chart it will be seen that the first day in which no injection was administered the inhalation treatment had no immediate effect upon temperature, which remained throughout at 100°. The second day, at 10 a.m., it was still 100°, but dropped immediately after the treatment to 99°, the effect no doubt of the hypodermic injection. By the next morning the temperature had risen a little, but again dropped with the injection. The like result attended the use of the chloride of gold and sodium; and throughout, whenever the temperature was above normal before treatment, the administration of the hypodermic injection invariably had the effect of reducing it.

As marked upon the chart, during the last seven days of treatment, the temperature was never above normal, and usually below 98°; the pulse was reduced to 80; respiration 19. She had a good appetite and felt well. The odynphagia had also passed away.

## KOCH'S TREATMENT OF TUBERCULOSIS.

BY PROF. R. RAMSAY WRIGHT.

Communicated from Berlin to the University of Toronto.

My last letter was intended to give you a picture of the revulsion in Berlin against the Koch cure, both among the members of the medical profession and the public. I indicated, in a recent letter to the Vice-Chancellor, that in spite of the numerous communications with favorable results from distinguished clinicians all over the country, the attitude in Berlin still

remains decidedly "anti-Koch." There are even whispers of a proposal in parliament to forbid the use of the lymph, but it is obvious that such a proposal can only be intended for strategic purposes, for there are too many enthusiastic encomiums from capable men to allow it to be entertained for a moment. In my next letter I may endeavor to summarise these, but I shall devote the present one to a topic of greater scientific than practical interest—the nature of the poisonous substance produced by the tubercle-bacilli. This forms the subject of a communication to the last number of the *Deutsche Medicinische Wochenschrift*, by Dr. Theodore Weyl, a physiological chemist who has distinguished himself in the new field of work which has recently been opened out on the border-land of organic chemistry and bacteriology.

The paper is of special interest to me, as it discloses some further points with regard to the nature and mode of preparation of the mysterious lymph.

Prof. Koch gave Dr. Weyl, a year ago, for further examination, a product which he had obtained in the following way from about 500 tubercle cultures on glycerine-agar. The cultures were scraped off the agar and treated with warm dilute sodic hydrate. A turbid yellowish mixture resulted, in which small white flakes were suspended, but this stiffened when slowly cooled into a turbid jelly, consisting of two layers, the lower opaque one containing the flakes. These layers were carefully separated, when it was found that the white layer evidently was formed of envelopes of the tubercle-bacilli, for it reacted to stains in exactly the same manner as the outer case of the bacillus, taking up carbohc fuchsin slowly, but not parting with it again to 3 per cent sulphuric acid.

The clearer jelly, on the other hand, evidently contained the protoplasm of the tubercle-bacilli, and it was possible to precipitate from it, by dilute acetic acid, a substance not soluble in excess of the acid, which could be purified by alcohol and ether, and obtained in the form of a white powder. The reactions appear to indicate a mucin, but it contains less nitrogen, and a carbo-hydrate is not split off when it is heated with 3 per cent sulphuric acid. As it contains envelope, it is obviously not related to the mico-

protein or anthrax-protein of Nencki and Schaffer. Two solutions of this substance were prepared in very dilute sodic hydrate, one containing about 1.5 mg. per cc., the other about 2. Half a cubic centimeter of the first was subcutaneously injected into two rabbits and two guinea-pigs; the rabbits were unaffected, but the guinea-pigs showed a small dry scab over the points of injection, which fell off in two or three days. The same result was obtained with mice, with injections of 0.1-0.5 cc., the size of the scab varying with the dose. These results were confirmed by using the second solution, whence it appeared that doses of .15-2 mg. of this substance are able to produce local necrosis. Dr. Weyl proposes, therefore, to describe it as a toxomucin.

No experiments with tuberculous animals are described, but a comparison of this paper with Koch's last communication suggests a new departure in certain experiments with which I am engaged at present.

I have now to hurry off to the Cattle Market to see a new disinfectant at work, which has been put in with the object of rendering harmless tuberculous meat. It is constructed on a new principle; a vacuum being first produced in the internal chamber, before the currents of steam are allowed access to it. It is said that in this way the largest pieces of meat can be safely disinfected. I shall give you an account of this piece of apparatus, which is equally available for disinfection of beds, garments, etc., in my next letter.

### Selections.

**FACIAL ERYSIPELAS.**—Although it is well known that erysipelas of the face often arises from a point of infection inside of the nose, it very often happens, as Lehrnbecher has pointed out, that in the treatment of the disease little or no attention is given to the nasal cavity. It is sometimes wonderful what a mass of thick, bloody, bad-smelling pus can be washed out of the nostril. A nasal douche of three per cent. boracic acid solution should be given every three hours, until the cavity appears to be perfectly sterilized, after which, to prevent drying of the mucous membrane, tampons with boracic acid ointment should be inserted. With these

precautions the author has found that the duration and severity of the disease are much diminished. He applies nothing to the skin except cotton-battling or an oil compress.—*The College and Clinical Record.*

**THE ALLEGED IMMUNITY OF DAGUERREOTYPISTS TO TUBERCULOSIS.**—A correspondent of *Anthony's Photographic Bulletin*, who believes that the mortality by phthisis was exceptionally light among daguerreotypists in years gone by, proposes to institute an inquiry among the survivors of the now little-used method, daguerreotypy, in order to test the truth of his belief. His personal experience has led him to the opinion that the vapors developed by the use of iodine, bromine, and mercury in the dark room, forming the iodide and bromide of mercury in a nascent condition, together with the uncombined vapors of those chemicals, sufficed to prevent and cure tuberculosis among his fellow-craftsmen, and that those same agents may be turned to good account now for the destruction of the bacilli of Koch. Old daguerreotypers are invited to communicate their facts to the above-named journal.—*N. Y. Med. Jour.*

**LONGEVITY.**—In connection with the pseudo-centenarianism of the Elgin "Methuselah," whose death was recently recorded (*Pall Mall Gazette*, Aug. 26th), the following story will be read with interest: "It is well known that people seldom die in Ochiltree. When any one there gets tired of life, he generally finds it necessary to remove to another parish. Many of the inhabitants, however, do not seem ever to tire of life, and so remain on their native soil till their ages are past all reckoning. Colonel Andrew M'Dowall, when he returned from India, came one day upon an old man sitting weeping on a big stone by the roadside. When he came up, the old man rose and took off his bonnet and wiped his eyes, and said, 'Ye're welcome hame again, laird.' 'Thank you,' said the Colonel, adding, after a pause, 'I should scarcely know your face; aren't you Nathan M'Culloch?' 'Ye're richt, 'deed!' said Nathan. 'It's just me, laird.' 'You must be a good age now, Nathan,' said the Colonel. 'I'm no verra aul' yet, laird,' was the reply; 'I'm just turn't a hunner,' 'A hundred!' said the Colonel,

musings. 'Well, you must be all that. But the idea of a man of a hundred sitting blubbing in that way! What could you get to cry about?' 'It was my faither licket me, sir,' said Nathan, weeping again, 'an' he put me oot, so he did!' 'Your father!' said the Colonel, astonished. 'Is your father alive yet?' 'Leevin'? Ay,' replied Nathan, 'I ken that the day tae my sorrow.' 'Where is he?' said the Colonel. 'What an age he must be! I should like to see him.' 'Oh, he's up in the barn there,' said Nathan, 'an' no in a horrid gude humor the noo aither!' They went up to the farm together, and found the father busy threshing the barley with the big flail, and going on at a fearful rate. Seeing Nathan and the laird coming in, he stopped and saluted the Colonel, who, after inquiring how he was, asked him what he had struck Nathan for. 'The young rascal,' said the father, 'there's nae dooin' wi' him; he's never oot o' mischief! I had tae lick him this mornin' for cloddin' stanes at his grandfather!'—*Edin. Med. Jour.*

PHENACETIN IN PERTUSSIS is unquestionably of great value. In doses of from one to five grains every two to five hours, according to age or severity, I have been well satisfied with the result in a number of cases. Upon this point Dr. Geo. C. Irwin of Sabetha, Kas., says (in the *Archiv. of Pediatrics*, for Oct., 1890): "About one year since I reported a case in the *Archives*, giving my experience with phenacetin in pertussis. Since that time I have passed through a severe epidemic of the disease, and have administered it to all ages, with relief in every case, and in some beyond my expectations, giving relief where the paroxysms threatened suffocation before its administration. In no case has its use been followed by any unpleasant results. As before, it was administered in glycerine, which is its best solvent, and I claim that its use will relieve in all cases, and cut short the duration of the disease. As far as I know, I was the first to claim its merits in this disease."—*Medical Mirror.*

THE Harvard Medical Society of New York City, composed of graduates of the Harvard Medical School residing in New York, has recently been organized.

## THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS  
OF THE MEDICAL SCIENCES.

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TORONTO, MARCH 16, 1891

### ELECTRICITY IN UTERINE TUMORS.

Dr. Apostoli's most enthusiastic supporter in his views respecting the treatment of uterine tumors by electricity is probably Dr. Thomas Keith, formerly of Edinburgh, now of London. It is somewhat remarkable that a form of treatment which has proved so satisfactory to very able and careful observers like Apostoli and Keith should have found so little favor with the profession in all parts of the world. About two years ago, or a little more, Dr. Keith gave a report in detail of all the cases of uterine fibrous tumors which he and his son had treated up to that time by Apostoli's method. In *The British Medical Journal* of Feb. 14th, Dr. Keith presents a paper which shows that he has not lost confidence in the electrical methods. He expresses the opinion that the indiscriminate removal of the ovaries for fibroids, pelvic pain, or dysmenorrhœa, that is recommended to patients, and the brutal haste with which operation follows, is now a professional scandal. He expresses considerable disappointment that treatment by electricity has been useless in the hands of so many, but he inclines to the opinion that the fault always lies in the operator. He considers that delicacy of manipulation, perseverance, and a knowledge of electricity, are essentials to success.

He reports a number of cases which, he claims, were cured in this way. He is in some doubt as to the cause of the absorption or diminution of the bulk of a uterine fibroid. He thinks it is not by electrolysis, but rather by some form of electrical osmosis.

He has found the treatment especially successful in small bleeding fibroids, but great care



should be taken in diagnosis. He relates a case where diseased tubes were mistaken for fibroids and treated by electricity, which did more harm than good. He strongly opposes the use of the knife for the removal of a tumor which can be treated by a simple, safe, and practically painless process. At the same time he admits that hysterectomy is the only suitable treatment for certain cases. He thinks that electricity is useless in fibro-cystic tumors and in cases of excessive uterine hydrorrhœa.

He sums up by stating that Dr. Apostoli's "treatment almost always relieves pain. It almost always brings about diminution of the tumor—sometimes rapidly. It almost always stops hemorrhage—sometimes rapidly." By "almost always" he means in nineteen cases out of twenty.

#### FUNERAL REFORM.

The subject of funeral reform has been much discussed in England during the last few years. It has been noticed that the exposure produces very serious and sometimes fatal results to the mourners in attendance. This is especially the case with those advanced in years. The extremes of our climate make such danger more pronounced in Canada than in England.

Efforts should be made, especially by physicians and clergymen, to guard against these evils. The aged and infirm should be prevented as far as possible from exposing themselves to such unnecessary perils. In all cases those attending funerals, whether young or old, whether vigorous or weak, should be warmly clad. This is especially true with reference to the head, neck, and chest, on account of the custom of wholly or partially uncovering the head during the funeral service.

In England a special woollen scarf is recommended sufficiently broad and long to cover the head (including forehead), neck, and chest. A garment known as the "guardian cloak" is also recommended, and sometimes furnished by undertakers for the use of the mourners at each funeral. This, however, is objectionable on account of the dangers from infection. People at funerals had better wear their own clothing, and any device employed to guard against chills is not likely to be wasted during our cold winters. In conclusion, we would like

to urge that those who are not in good health should always be prevented from attending funerals. Our respect for the dead should not include any perils for the living.

#### MEDICAL EDUCATION.

The writer of an article on medical education which recently appeared in *The Week* is evidently not well informed on the subject whereof he speaks when he refers to the University of Toronto. We will simply refer to one error, because it is unjust to one of our best schools. The article conveys the impression that *one medical college* was chosen to be the ally and beneficiary of the Provincial University. In reply, we beg to state that the University did not choose one college in Toronto; but endeavored, through the Senate, to obtain the active co-operation of both colleges in her efforts to organize a strong medical faculty. Trinity positively refused to come in, although her Dean intimated that a guarantee of \$2000 a year to each of her principal lecturers might alter her decision. The Government unfortunately refused the guarantee, and the promoters of the restored faculty were forced to endure a disappointment from which they have scarcely yet recovered.

#### NOTES.

PARALYSIS FROM HYPODERMIC INJECTION OF ETHER.—We learn from *The New York Medical Record* that a hypodermic injection of ether may produce a local destruction of the nerve fibre, just as if a section of it, with a knife, had been made. A Vermont physician had a patient in whom an injection of thirty minims of Squibb's ether into the forearm for collapse was followed by loss of motion in the hand and forearm. It is stated that a good many such accidents have been reported, and physicians are advised never to inject ether into the arms or legs, but always the trunk.

MEDICAL EDUCATION FOR WOMEN.—The fitness of women for the profession of medicine has recently been discussed by writers in various parts of the United States. There seems to be a general consensus of opinion that all facilities for the study of medicine should be available for those of the gentler sex. It is

thought by some that the ordinary female colleges are not in all respects sufficient. Why we can scarcely tell. Johns Hopkins, of Baltimore, is going to try the experiment of co-education. Dr. Osler says, "the means of study are there; if the women want them, let them come and take them." We have tried co-education in Canada, and from a teacher's point of view have not found it very satisfactory. We think that our medical colleges for women are doing admirable work, and are inclined to hope that they will ever continue to be successful.

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

January 29th, 1891.

The President, Dr. Spencer, in the chair.

Dr. Pepler showed a patient who had suffered from

#### SPINA BIFIDA.

The child is now fifteen months old, and was shown to the society last June by Dr. Bain, when the tumor was large. The feeling expressed by members of the society present on that occasion was against interference. Shortly after the exhibition of the patient to the society Dr. Morton's fluid was injected on two separate occasions, a week's interval between the operations. The result has been to effect a cure. The tumor has shrivelled up and has disappeared.

Dr. Machell presented a specimen of

#### IMPERFORATE ŒSOPHAGUS.

When born, nothing of an unusual nature was noticed about the child, but it was soon found that it was unable to nurse. When it attempted to swallow fluids it would first try to vomit, and then it almost suffocated, turning very blue, and finally forcing out some mucus from the mouth. The attack would then pass off; it was thought that some obstruction was present. The child was unable to take any nourishment, and died on the seventh day. *Post mortem* it was found that the œsophagus ended in a *cul de sac*; there was a portion of the œsophagus patent extending up from the stomach, but this did not connect with the tube above. There was, however, a communication between the lower œsophagus and the trachea, so that on passing the lobe

downwards through the glottis it could be made to enter the œsophagus below and to pass on into the stomach.

Dr. Machell also showed a specimen of

#### OVARIAN CYST.

This he had removed from a woman who had noticed abdominal enlargement for twenty-one months prior to operation. The operation presented no difficulties; the cyst was very large, and was monolocular. Convalescence was slow, but the woman quite recovered after a year, and returned to her work.

Dr. Machell showed a third specimen of

#### VESICAL CALCULUS,

removed from the bladder of a boy eleven years of age, by lateral lithotomy. For eight years the boy had suffered from pain and recurrent attacks of hæmaturia.

Dr. Primrose referred to the fact that lateral lithotomy was more frequently chosen for boys than the suprapubic method. He had seen a considerable number of the latter, and he referred to the ease of reaching the bladder over the pubes, facilitated as it is by the fact that in children the bladder is more an abdominal organ than a pelvic, and the prevesical fold of peritoneum is high enough to afford ample space for a considerable incision below it. The difficulty of reaching the bladder by the lateral method in boys, and the danger of causing a transverse tear of the urethra, was referred to.

Dr. Machell recorded his preference for the lateral operation, and quoted Sir Henry Thompson, who states that boys always do well after lateral lithotomy. He referred to the danger of rupturing the rectum by distending it before incision above the pubes, and narrated a fatal case of rupture of the rectum.

Dr. Shaw showed a specimen of

#### CONGENITAL HEART DEFORMITY.

The child was born at full time; it was very blue, and only weighed four and a half pounds. On the fourth day it was seized with an attack of dyspnoea, and died. *Post mortem* all the organs were found normal, save the heart; the thymus was larger than usual. The heart is seen to be small; the aorta arises from the right ventricle along with the pulmonary artery. The ductus arteriosus is patent, as also is the foramen ovale. The interventricular septum is incom-

plete. The condition belongs to a class of heart deformity, described as defective metamorphosis of the arterial arches.

Dr. A. A. MacDonald showed a specimen of

#### CYSTIC SARCOMA OF THE OVARIES.

The two ovaries had been removed by Dr. Temple from a woman twenty-five years of age. The abdomen, at the time of the operation, was found distended with ascitic fluid; a number of cysts were tapped. The left ovary presented two or three of these cysts. In connection with the right ovary, close to the horn of the uterus was a thin-walled cyst containing pus. The disease is apt to recur in this patient, but the operation was justifiable if only for the removal of the pus-cyst, which might have ruptured and caused death at any time.

February 5th.

The Vice-President, Dr. A. A. MacDonald, in the chair.

Dr. Doolittle narrated the details of a case of

#### ELEPHANTIASIS ARABUM.

A photograph of the patient was shown. The woman had never lived in any tropical climate. Eight or nine years ago the thighs and the lower extremities began to swell. Dr. Doolittle first saw the patient four years ago; he was called to see her because of the development of large ulcers on the calfs of the legs, these healed under treatment. The ulcers broke out again a short time ago, and became very foul; erysipelas set in and gangrene followed in the legs, when she died. At the time of her death she weighed 325 pounds. The patient's father and mother were stout, but not remarkably so.

Dr. Wilson, of Richmond Hill, narrated the history of a similar case occurring in his practice; the patient died a year ago, the cause of death being an attack of erysipelas. The swelling extended throughout the lower extremities, but stopped abruptly at the ankles. She had never lived in a tropical climate.

Dr. Wilson then communicated notes of a case of

#### PELVIC CELLULITIS, FOLLOWED BY OBSCURE SYMPTOMS.

The patient, a young girl, came to him complaining of some pelvic trouble, apparently an old cellulitis. There was tenderness about the uterus. She was menstruating when he first saw

her—when she ceased menstruating she suddenly became unconscious, and she developed a notable weakness in her left side. Dr. Wilson thought her somewhat hysterical. The left eye was turned inwards, and the right eye remained stationary; the pupils were dilated and reacted slightly to light; she could not swallow water. Pulse was 140, temperature 101.2. She was in this condition three days, when the eyes began to straighten; the eyes remained dilated, and temperature elevated. The patient is still under supervision.

Dr. Cuthbertson, Dr. MacDonald, Dr. Ather-ton, and Dr. Palmer, discussed the case. The general consensus of opinion was that the symptoms were those of hysteria. Dr. Wilson concurred in these views.

Dr. A. A. MacDonald narrated the history of a case of

#### PELVIC CELLULITIS.

The attack developed shortly after confinement. There was a swelling at first detected in the region of the right broad ligament and right side of the uterus; there was elevation of temperature, and induration occurred. The inflammatory process was not checked by the ordinary methods of treatment, but spread to the other side of the uterus. At last resolution set in, and the hardness and swelling diminished on the right side, but continued on the left. After two months, hardness and swelling occurred in the front of the bladder, behind and above the pubes. After a time fluctuation was detected in this region; an incision was made and pus drawn off, from an opening above the pubes. The patient has since done well. The case is remarkable because of the slow progress of the disease.

Dr. Price Brown then read his paper on the Shurly-Gibbes' method of treating tuberculosis. This paper appears at page 132 of THE CANADIAN PRACTITIONER.

In the discussion which followed, Dr. McPhe-dran stated that the duality of phthisis is, in his opinion, not proven. He noticed that Messrs. Shurly and Gibbes always took care to use sputum containing bacilli for their inoculation experiments. As to their views concerning the pathology, their work in that direction has been one of destruction without substituting any theory to take the place of that of the bacillary origin of phthisis. It is too early to speak of cures by

either this form of treatment or that of Koch. We cannot accept the statement that normal physical signs can be restored in the lungs; the best that can happen is to replace the lung tissue with fibrous tissue, and the normal physical signs will therefore not be restored. The rise of temperature in an hour or less may be attributable to mental effect.

Dr. Gordon asked if any other treatment was employed by Dr. Brown besides that stated in treating the patients referred to in his paper.

Dr. Brown, in reply, stated that he gave hot air inhalations along with the treatment described, this being followed by medicated compressed air. In inoculations with sputum containing bacilli, the bacilli and ptomaines are difficult to separate, hence the presence of the former in injected sputum.

#### PATHOLOGICAL SOCIETY OF TORONTO.

Nov. 29, 1890.

The President, Dr. J. E. Graham, in the chair.

##### NEPHRITIS, PROBABLY DEPENDENT UPON PERNICIOUS ANÆMIA.

Dr. J. E. Graham presented the kidney, spleen and liver, and read the following history, taken on admission to the hospital: W.F., æt. 25; occupation, overseer of a saw-mill; admitted October 13th, 1890. No trace of any hereditary disease, habits temperate, never was overworked; had usual diseases of childhood, except scarlatina; five years ago had pneumonia of the right lower lobe. About six months ago he began to feel out of sorts, having pains throughout his body, with considerable weakness and profuse epistaxis every day. These symptoms have continued to the present. His father said he had been anæmic for more than six months before he complained of his present trouble. A short time before his first feeling unwell he had been rafting logs and received a thorough wetting, followed by a chill and severe cold. He is 5 ft. 9¼ in. in height, and weighs 168 pounds; well-developed, and muscular. Face has a slightly yellow tinge, and shows marked anæmia. There is some œdema of the ankles and lower part of the legs.

*Alimentary System.*—Lips pale, teeth dark in color, but sound, gums pale, tongue coated with a whitish fur and soft, appetite very good. No

marked thirst. During the last six months he has been subject about once in three weeks to attacks of sick stomach, which terminate in vomiting. Bowels are fairly regular, has never suffered from continuous diarrhoea, but has had short attacks of it. Liver situated lower than normal, abdominal walls fleshy, abdomen full, no pain or tenderness, no fluctuation.

*Circulatory System.*—Inspection: A forcible heart impulse can be seen. On palpation a heaving sensation can be made out at the apex, which is displaced to the left in a line with the nipple. Percussion: the area of dullness is increased. Auscultation: the heart sounds are loud and clear, and can be heard over a considerable area. The second sound is accentuated. Pulse, 74, strong, full, and tense.

*Respiratory System.*—Breathing, twenty-one per minute, natural in type, no cough or expectoration. Inspection reveals nothing abnormal. Palpation shows diminished vocal fremitus over the lower lobe of the right lung before and behind. Percussion: a light dullness over lower lobe of right lung. Auscultation: over the chest generally the breath sounds can be distinctly heard, and the expiration is more plainly heard than usual. The sounds are weaker over the lower part of the right lung.

*Urinary System.*—No pain in loins, bladder, or urethra, until this last week; from the beginning of his illness, he has had to rise twice in the night to urinate; for the past week he has not had to do so. He generally passes his urine four or five times a day. In quantity it is less than formerly, being now about five or six cupfuls in a day. It is pale, acid, contains no sugar, but considerable albumen. On microscopic examination, abundant granular casts are seen.

*Nervous System.*—Sometimes experiences considerable itching of the skin. Patellar tendon reflex well marked. His sight is not as good as it was once. However, on having his eyes examined by Dr. Burnham, his sight was found to be normal. Dr. Burnham said that his retinae were typical of albuminuric neuro-retinitis, with brilliant shining radiating lines of exudation.

*Progress of Case.*—Oct. 29th. For a week past he has been drowsy at times. He has vomited considerably and had frequent epistaxis. Examination of his blood showed that the red

corpuscles were 800,000 to the cubic millimeter; there are a number of microcytes, darker in color than red corpuscles usually are. There are a few megalocytes which are paler in color. There is no poikilocytosis to speak of. White corpuscles relatively, but not absolutely, increased. Size of corpuscles as follows:

Red	6½	mikrons	in	diameter.
Microcytes	2-4	"	"	"
Megalocytes	8-10	"	"	"

Urine: as far as could be ascertained, the amount is small. No sample for examination has been obtained for a week.

*Remarks:* At first Bright's Disease was suspected. From the examination of the blood, however, pernicious anæmia was diagnosed for the following reasons: (1) the history; (2) the appearance of the blood; of course in nephritis we have changes in the blood, but not so marked as in pernicious anæmia; (3) the condition of the liver *post mortem*; it was chocolate colored. The kidney showed tubal nephritis with some interstitial infiltration also, and marked fatty degeneration. Retinal hemorrhages might be found in either Bright's Disease or pernicious anæmia. The view of the case entertained is that the nephritis followed on pernicious anæmia.

Dr. Acheson asked if there were any pathological changes in the peptic or intestinal glands, such as are frequently found in cases of pernicious anæmia. He thought the condition of the kidney might be accounted for as a result of pernicious anæmia. A hæmatogenous tubal nephritis was to be expected.

Dr. A. B. Macallum said some observers diagnosed pernicious anæmia by the presence of megalocytes; and as none were reported over ten mikrons, it would be concluded that this was not a case of that disease. Possibly, however, in this instance the few megalocytes, which are of diagnostic value, were overlooked. He finds that there is a peculiar change in the endothelial lining of the capillaries of the liver, in acute yellow atrophy of that organ; the result of albumose poisoning; and he thinks the same change may be brought about in the liver of pernicious anæmia, and the sections shown support this view.

Dr. McPhedran thinks the examination of the blood will not bear out the diagnosis of pernicious anæmia in this case; nor was the condi-

tion of the urine suggestive of that. The urine in Dr. Graham's patient was pale, he (Dr. McPhedran) finds the urine dark in color, while of a low specific gravity, especially after the febrile exacerbations. He asked whether gross specimens of the liver had been tested for free iron.

Dr. Oldright referred to a case of kidney disease where the condition of the organs was very similar to this case.

Dr. McPhedran in answer to a question by Dr. Acheson, said he believed the condition in pernicious anæmia to be one of hæmolysis.

Dr. Acheson agreed that the condition was in all probability a true hæmolysis due to the absorption of albumoses from the intestinal canal.

Dr. Graham, in reply, said the *post mortem* in this case was unfortunately very imperfect. In regard to the color of the urine he was of opinion that in most cases of pernicious anæmia it was high colored and of fairly low specific gravity. There was no examination of the liver for iron. The diagnosis of the case was difficult, and he could not be certain about it. The general appearance of the patient and his mode of death were those of pernicious anæmia; while the epistaxis, retinal hemorrhages, and œdema, are found in both diseases.

#### MAMMARY TUMOR.

Dr. Oldright presented the specimen, and gave the following history: Miss D., aged 40, unmarried, has suffered for some years with pain in the left mammary gland, and latterly it has extended to the shoulder and arm. The breast has been enlarged, the lobes being somewhat hard and tender. Dr. Oldright ordered anodyne applications and alteratives. About seven or eight months ago it was observed that one of the axillary glands was somewhat enlarged, and in concert with Dr. W. T. Aikins, removal (of breast and gland) without further delay was advised. From various causes this advice was not acted upon until ten days ago. A few weeks ago one of the glands in the upper part of the posterior triangular space of the neck was found to be enlarged and tender, but this condition ceased after the removal of an aching tooth. The case was a somewhat peculiar one. The specimen was referred to the Microscopical Committee for examination and report at the next meeting.

## DIAPHRAGMATIC HERNIA.

Dr. Olmsted, of Hamilton, presented a specimen, and read the following history :

*Previous history:* In June, 1881, the patient, George J—, was marking at Victoria Rifle Ranges. By some mistake he went out to examine the target without putting up the danger flag, the result being that one of the marks-men shot from a point nine hundred yards distant, piercing the body of J., and scored a bullseye. J. said he felt a stinging sensation in left side followed by a feeling of warmth, but did not know that he was shot until he saw blood on the target. He then turned and ran towards the shooters, shouting like a madman. After he had gone about three hundred yards he fell. When assistance arrived, patient was very much frightened and vomited a small quantity of blood. There was an opening in left side of thorax posteriorly about two inches to left side of spine, and between the seventh and eighth ribs, where the bullet (44 cal. Remington) entered, and another anteriorly between the fifth and sixth ribs, in mammary line, caused by its exit. Surgeon Griffin, of 13th Battalion, informs me that the patient had an attack of pneumonia after the accident, but was quite well in about two weeks. Nothing more was heard of J. until March 14, 1890, when he walked into the hospital and said he was suffering from constipation. He was very reticent, and hence little or no history of his case was taken. After he had been in the hospital a few days, I am told he developed peritonitis, which caused death in two days, viz., 21st March, 1890.

The following is a condensed report of the *post mortem* notes taken nine hours after death, viz.: George J., æt. 45; powerfully built, rather corpulent man.

*Abdomen:* On opening abdomen, intestines were found very much distended and glued to the upper and left side of the abdominal wall with recent lymph. About 500 cc. of reddish fluid in abdominal cavity. That portion of the small intestine which is bound to the wall was of a dark-greenish color and semi-gangrenous. The ascending and transverse colon were very much distended. On tracing this bowel up it was found to pass through an opening in the left leaflet of the central tendon of the diaphragm. The descending colon emerged from

this opening and was very much contracted; stomach was displaced to right.

*Thorax:* On raising sternum, the anterior border of the right lung was emphysematous and pleura adherent. Left pleural cavity contained 150 cc. of a reddish fluid; lung pushed up and contracted, not descending lower than third rib. The lower part of cavity was filled with a mass of colon, covered by the great omentum, the whole mass measured 9.5 cm. wide, 12 cm. in antero-posterior, and projected 10 cm. into pleural cavity. The opening in the diaphragm corresponded to the interval between the fifth and sixth ribs, and 7 cm. to left of median line. At the anterior and posterior part of the hernia were two condensed masses of fat and omental tissue, while a thin layer of omentum covered the surface of gut. Around the opening in the diaphragm was a strong constricting band formed from old inflammatory deposits, also some recent lymph. The omentum was bound to the upper surface of diaphragm, and the walls of the intestine to the under surface. The pleura was thickened. The hernia contained hardened masses of feces. Water could be injected from the ascending colon into the hernia, but not from descending, thus showing complete obstruction. On attempting to remove the specimen, the posterior surface of gut was found to be greenish-black in appearance, and so soft that a small rent was made into it, notwithstanding the great care taken.

From the appearance of the hernia it was judged that it had existed for years, although there was no history of his having suffered, except occasionally, from shortness of breath. The heart was displaced somewhat to the right. All other parts normal.

## HIP DISEASE

Dr. B. E. McKenzie presented a specimen and made the following remarks on the case, and on the pathology of hip disease :

The notes of the history of the disease in the case from which this specimen was taken are incomplete. M. H., female, æt. 8 years, was one of a family of three children, one of whom died of convulsions in infancy, and one is now in the Hospital for Sick Children under treatment for caries of the spine. The child was admitted to the hospital suffering from hip disease, in Oct., 1886, under the care of Dr.

McPhedran. There is no note to show the condition at time of admission, but her temperature varied at that time between the normal and 101°F., and an abscess was opened shortly after admission. Occasionally, for a few weeks at a time during her continuance in hospital, the evening temperature did not go much above 99°F. Generally, however, the evening temperature ran up to 100° or 101°F., and occasionally reached 104°F. During all this period there were suppurating cavities, and for the latter part of the time numerous sinuses, which could be found to connect with intrapelvic sources of suppuration. No operation was at any time performed other than that necessary to drain abscess cavities.

At examination *post mortem* firm ankylosis of the right hip was noted, also adduction of the limb to about 30°. There was no shortening, measurement being made from the ant. sup. spines of the ilium. There was slight lordosis, showing a slight amount of flexion. Upon the surface there were noted six sinuses, two ant. to and lower than the ant. sup. sp. process, two behind and below the gr. trochanter, and two about the crest of ilium. The viscera were characterized by marked amyloid degeneration. No tubercles were noted in the lungs; but several bronchial glands were found in a condition of calcareous degeneration, and the mesenteric glands were slightly enlarged. The kidneys were firmly bound down and imbedded in inflammatory tissue. In the right ureter were found two angular calculi which readily permitted the passage of urine.

The right os innominatum and upper half of the femur were removed. The inside of the pelvic bone was thickly covered by inflammatory exudate, which was traversed in all directions by sinuses; and some small pockets of pus were found. One sinus passed through the ischium and is indicated in the specimen. The section through the femur and the pelvic bone permit the osseous union between the two to be well seen. The fact that the head of the femur and the acetabulum have not "travelled upward," as they so frequently do in old hip disease, is probably due to the treatment adopted—by traction upon the limb by the weight and pulley, thus preventing the head of the femur from being pulled up against the upper portion of the acetabulum.

It is now very generally held that "hip disease" is an ostitis of tubercular origin, in nearly all cases, and that it generally begins about the femoral epiphysical junction.\* Occasionally, however, the disease begins in the acetabulum, and extends afterward to the joint and involves the femur. Gibney records a case of double hip disease, which, upon *post mortem* examination, showed the tuberculous focus to have originated in the acetabulum on one side and in the head of the femur on the other.†

The various centres of ossification, because of their physiological activity, form fertile soil for the development of tubercle. The tuberculous process having begun in the bone, a long time may elapse before the intra-articular structures become involved. Macnamara, Wright, of Manchester, Emmet Holt, Cheyne, and others, show specimens that reveal the articular surfaces normal in appearance, longitudinal section of which shows tubercular foci centrally situated in the bone. Though the contiguous joint surfaces may not reveal anything abnormal, yet symptoms probably due to reflex nervous action may be present, giving clinical evidence of the disease.

In adults it is claimed that the disease originates more commonly as a synovitis.

In the specimen here presented it is probable that the disease began in the acetabulum, and at an early date perforated its floor. While there is evidence of extensive destruction here, the loss of tissue in the femoral portion of the articulation is not great.

The specimen is interesting in several particulars: (1) It shows the effort on the part of nature to bring about a cure by ankylosis. (2) The natural tendency to produce adduction, thus leaving a shortened limb on the diseased side, and curvature of the spine. (3) Marked atrophy of the shaft of the femur, probably greater than can be accounted for by disuse. (4) The inutility of operative measures when the disease has attacked the acetabulum and made much progress.

The exudate about the sinuses has been examined for bacilli—with negative results up to the present.

\*Wright: *Hip Disease in Childhood*, p. 17. Bradford & Lovett: *Orth. Surg.*, pp. 214 and 258. Gibney: *Diseases of the Hip*, pp. 170 et seq. Macnamara: *Diseases of the Joints*, 1887, pp. 419 and 437. †Gibney: *Diseases of Hip*, p. 181.

Dr. McPhedran said when the patient was admitted to the hospital there was flexion. This was gradually overcome and the prospects were good for a time, but abscesses and sinuses formed, and the patient went down hill.

Dr. Acheson asked if bacilli have ever been found in the discharges from hip disease.

Dr. McKenzie replied that bacilli have been found in the diseased tissues, but not in the discharges.

Dr. Graham presented a specimen of malignant disease of the pylorus.

Dr. Cameron presented a specimen showing stricture of the rectum, multiple ulcers in the colon, and perforation of the transverse colon.

Drs. McPhedran and Graham took part in the discussion, and Dr. Cameron replied.

#### REPORT OF MICROSCOPICAL COMMITTEE.

The Microscopical Committee reported on the specimens submitted to them as follows :

1. The tumor from the peritoneum in Dr. Scadding's case (see CANADIAN PRACTITIONER, page 115) was a myeloid sarcoma, showing in some places a structure strongly resembling carcinoma. Being derived from the peritoneal endothelium, there was a possibility that there might be a transition from a connective tissue tumor to a true epithelioma.

2. The ulcer of the pylorus presented by Dr. H. W. Aikins (see CANADIAN PRACTITIONER, page 116) was a simple ulcer.

3. The rectum from the case of chronic dysentery, presented by Dr. W. P. Caven (CANADIAN PRACTITIONER, page 116), showed thickening of all the coats of the bowel, especially of the submucosa, and the endothelial cells of blood-vessels were in many places greatly enlarged and proliferating, probably the result of albumose poisoning. There were also foci of inflammatory infiltration here and there.

The Society then adjourned.

### Pamphlets Received.

*The Surgical Conception of Peritonitis.* By Joseph Price, M.D., Philadelphia.

*A large group of mixed specimens, illustrating the principle of Pelvic and Operative Surgery.* By Joseph Price, M.D., Philadelphia.

*A death caused by Uterine Dilator, with some remarks as to the proper method of using the Dilator.* By Howard A. Kelly, M.D., Professor of Gynæcology in the Johns Hopkins University; Gynæcologist and Obstetrician to the Johns Hopkins University, Baltimore, Md.

*Paranephric Cyst.* By Robert Abbé, M.D. Reprint from the *New York Medical Journal*, August 9th, 1890.

*Koch's Method of Treating Tuberculosis.* A Lecture delivered in the Jefferson Medical College, January 8th, 1891.

*Pernicious Anæmia, with a report of five cases.* By A. McPhedran, M.D., Lecturer in Clinical Medicine in the University of Toronto.

### Personal.

DR. GEORGE M. SHAW, of Hamilton, President of the Medical Alumni Association of the University of Toronto, was in Toronto a few days ago consulting with the Committee of Arrangements about the annual dinner for this year.

MR. W. N. BARNHART has won the Ferguson medal, presented by Dr. John Ferguson to the University of Toronto Medical Society for annual competition.

MR. THOMAS MIDDLEBRO has been awarded the prize of twenty-five dollars, presented by Dr. R. A. Reeve to the member of Dr. Primrose's class who passed the best examination in topographical anatomy. The examination was conducted by Drs. Primrose and Peters.

DR. R. A. HARDIE (Tor. '90.), who was sent by the University of Toronto Y.M.C.A. as a missionary to Corea, was compelled to appeal to his comrades of the Association for assistance, and necessary funds were at once forwarded.

AT a meeting of the London Obstetrical Society, held Feb. 4th, the president, Dr. Galabin, gave rather an extended obituary notice of the late Dr. Mathews Duncan in the course of his annual address. The members present rose and remained standing until the completion of the remarks referring to the life, work, and character, of the great obstetrician.



## Miscellaneous.

THE Toronto University Medical Society has elected these officers: President, Dr. G. A. Peters; First Vice-President, J. J. Harper; Second Vice-President, J. N. Harvie; Corresponding Secretary, George Clingham; Recording Secretary, J. B. Peters; Treasurer, Dr. John Ferguson; Assistant Treasurer, J. H. Alway; Curator, S. Agnew; Councillors, J. F. Pinkham, J. McCullough, W. J. Smuck, H. J. Way, J. H. Hopkins.

MEDICAL EXAMINATIONS.—The spring medical examinations will be as follows: Victoria University, March 13, 14, 16, and 17; Trinity Medical College, March 18, 19, 28, 30, and 31; University of Toronto, April 1 to 13; College of Physicians and Surgeons of Ontario, April 14 to 30. We understand that these examinations will all be held in the Medical Council building, corner of Bay and Richmond streets.

MEDICAL EXAMINERS, UNIVERSITY OF TORONTO.—The following is a complete list of medical examiners: Surgery, Drs. F. W. Strauge and B. E. McKenzie; Clinical Surgery, Drs. C. O'Reilly and G. A. Peters; Medicine, Drs. H. H. Wright and J. E. Graham; Clinical Medicine, Drs. A. McPhedran and W. P. Caven; Anatomy, Drs. M. H. Aikins and John Ferguson; Practical Anatomy, Drs. H. Wilberforce Aikins, and A. Primrose; Surgical Anatomy, Dr. G. A. Fere; Physiology, Dr. A. B. MacCallum; Histology, Dr. Acheson; Materia Medica, Dr. Avison; Therapeutics, Dr. J. M. MacCallum; Midwifery, Dr. Griffin; Gynæcology, Dr. Allen Baines; Pathology, Drs. H. A. MacCallum and John Caven; Hygiene, Dr. Rae; Forensic Medicine, Dr. W. W. Ogden; Medical Psychology, Dr. D. Clark; Chemistry, Dr. Chambers; Biology, Dr. J. J. McKenzie.

THE ATMOSPHERIC TRACTOR FOR OBSTETRICAL PURPOSES.—It is more than thirty years since Professor J. Y. Simpson endeavored to make an air tractor which could be used, through atmospheric pressure, in assisting the delivery of the child in labor. A few years ago Dr. Walker, of Peterboro, Eng., tried to make a cup-shaped rubber instrument which could be

applied on the same principle to the child's head in such a way that traction could be employed to complete delivery. In 1885 Dr. Peter McCahey, of Philadelphia, commenced to work in the same direction without any knowledge of previous efforts. He has a cup-shaped instrument much like Dr. Walker's, and claims that it can easily be applied, and is, in many cases, quite effective. The efforts of Sir James Simpson and Dr. Walker were not successful. Whether Dr. McCahey will have better results remains to be seen. We have just received one of these instruments, which is made of rubber and is very simple in construction, but have not yet tried it in obstetric practice.

THE following is an extract from a letter written by the late Dr. Moses Gunn, of Chicago: "We may brave the pestilence when all others flee; we may remain firm at our posts when death is more imminent than it ever was on the battlefield; but who sings our praise? Does the world know who the physicians were who fell at Norfolk when yellow fever depopulated that town? Does it know who rushed in to fill their places? And of those who survived, can it designate one? Did they survive to receive fame? Yet those men were braver than the bravest military leader, for theirs was a bravery unsupported by excitement or by the hope of fame. No! there are none so poor as to do us reverence. And, thank God, there are few of us so unsophisticated as to expect it."—*N. Y. Med. Jour.*

THE College of Physicians and Surgeons of New York has become the medical department of Columbia College, in reality, and not simply in name. We learn from the *Medical Record* that under the new arrangement "the medical professors will receive regular salaries from the board of trustees of the college, but will reserve the privilege of nominating the members of their particular faculty."

ANNOUNCEMENT.—E. B. Treat, Publisher, N.Y., has in press, for early publication, the ninth yearly issue of the "International Medical Annual." Its index of new remedies and dictionary of new treatment, epitomized in one ready reference volume at the low price of \$2.75, make it a desirable investment for the busy practitioner, student, and chemist.