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Original Articles.

THE SURGICAL TREATMENT OF RENAL TUBERCULOSIS.*

BY HOWARD A. KELLY, M.D., BALTIMORE.

One of the peculiar and interesting characteristics of the history of the evolution of surgery, is the fact that some one particular subject seems always to be uppermost. The attention of the surgical world is concentrated upon one thing which is discussed, experimented with and analysed, until it is settled upon the best possible basis under the existing guiding principles of surgery, when it is set aside and another subject occupies the field.

The subject of the treatment of tuberculosis of the kidney to-day has, I think, reached that satisfactory stage of its evolution at which we are prepared to write and close the chapter until some great new principle comes to shake and reorganize surgery, such as we have witnessed in the past.

On March 30th, 1893, I performed my first nephro-ureterectomy upon Miss C. R. (No. 1836), at the Johns Hopkins Hospital. She was at that time thirty-one years of age, reduced to a most pitiable condition, a nervous wreck, from the constant distressing calls to urinate every few minutes by day and by

*Read before the Rochester, N. Y., Medical Society.

night, associated with spasms of the bladder and such agonizing pain that she often spent hours in screaming with the pain, to the great distress of doctors and patients. She had a left renal tuberculosis which had run a course of fifteen years' duration with the stress entirely on the sensitive bladder.

In addition to the nepiro-ureterectomy the bladder was drained and she made a good recovery, and is to-day in excellent general health, although yet obliged to empty the bladder frequently. A valuable life has been saved and restored to comparative comfort, and there is not the slightest indication of any return of the disease.

Since that time, now nearly twelve years ago, I have had, in conjunction with my former assistants and present associates, Drs. Cullen and Hunner, forty-four cases of renal tuberculosis, and upon these I base the conclusions which are drawn in this communication.

It was Schmidlein, who in 1863, clearly distinguished between the ascending and descending forms of urinary tuberculosis.

The question thus raised has engaged the attention of clinicians ever since with the result that the number of those who hold to the theory of primary ascending tuberculosis of the urinary tract has steadily decreased, and in women, at least, I believe that it rarely occurs. The close association of the genito-urinary tract in men, and the entire disassociation in women, place this question upon an entirely different footing in the two sexes, so that even if we are justified in speaking of urogenital tuberculosis in the male, such an expression is erroneous in the female, if any direct casual relationship is implied (Amann, *Centralbl. f. Gyn.*, 1902, XXVI., 1194).

The view now held that the infection of the kidney is by the arterial system has been abundantly proven by experiment and clinical observation in early cases, as Cohnheim long since said, urogenital tuberculosis is a disease of excretion.

In a woman then, given a case of vesical tuberculosis, we have, with the rarest possible exception, but the one question to consider: the advance of the infection from renal cortex or papilla to pelvis, ureter and bladder. These rare exceptions include in my own experience a single doubtful case of vesical tuberculosis, in which there was no apparent renal involvement and another case in which the vesical involvement was in the right cornu vesicae, where there was a fistula communicating with a tuberculous uterine tube, and yet another (Katz) in which after removing tuberculous pelvic organs and a large

part of the rectum, the posterior bladder wall became involved and ulcerated.

Given a case of renal tuberculosis, the first question of importance is, what is the prognosis? Can a patient get well by medicinal, dietetic, and hygienic treatment alone?

There can be no doubt that in rare instances (See Guyon, Albarran, Bangs, Veszpreni, and others), there may be a recovery in the sense that the diseased organ has excited such an intense reaction in the surrounding tissues that it has become encapsulated in a sclerotic envelope, while the kidney has become utterly destroyed; such a process is invariably associated with an obliteration of the ureter.

I had a case of this kind many years ago in a young girl who had a fistula in the left groin, supposed to come from a tubercular affection of the vertebra. My renal catheter entered the full distance up into the pelvis of the right kidney, while on the left the catheter was suddenly checked several centimeters short of the distance reached by the right catheter, furthermore, there was no excretion gathered from the left ureter. This showed we had a dead kidney there, and the operation in the left loin revealed an old cheesy focus in the place of the left kidney, communicating with the opening in the groin. Complete recovery followed curettage and drainage.

In spite of such occasional instances of a quasi cure the rule holds good that the disease once settled in the kidney is both progressive and fatal in its termination, whether by extension down into the bladder or by forming sooner or later a focus for the distribution of the disease to other organs by neighboring lymphatics, or by the veins.

If this assertion is true, and my own experience fully corroborates the opinion of many eminent surgeons, then the best treatment for tuberculosis of the kidney is extirpation at the earliest possible date.

The best time to operate in an early case is as soon as the patient is in fair condition, not delaying over a week or two at the most, provided the diagnosis is certain. The best time to operate on an advanced case is within a few days. It is because the disease is progressive under all circumstances that I do not believe in sending away a patient who harbors such a pseudo-malignant affection, to try a climatic cure. I know of no recovery under such a Fabian plan.

The duration of the disease undisturbed may be protracted from sixteen or seventeen (in two of my cases) to twenty years (Frank), showing a remarkable tendency to remain in its

original site, advancing only by slow degrees to the complete destruction of the kidney, but it must be remembered that these are often years of utter hopeless invalidism.

Sooner or later many of these patients show signs of the disease elsewhere, often in the lungs, and with an alarming frequency in the other kidney. This liability of the other kidney caused one eminent authority (Tuffier) to conclude that in these cases, at least, we observed an infection of the ascending variety from the bladder upwards, and this is likely so.

Almost more important than the actual technique of the operation is the preliminary investigation of the case. In the first place, the diagnosis is only sure when tubercle bacilli have been found in urine drawn directly from the bladder. In several instances cases with smegma bacilli in the urine have been sent to me for the purpose of having nephrectomy performed. In one case, the wife of a distinguished colleague, the State Bacteriologist had examined the urine and found tuberculosis, which fully accounted for the pain in her right side, associated with pyuria and hematuria. A most eminent authority in the use of the X-ray had further examined the patient and excluded calculus. When she came to me I was utterly unable to confirm the diagnosis of tuberculosis, and at a later date removed a calculus of the kidney with complete relief of the symptoms. A case in the hands of Dr. Guy L. Hunner, Skene's glands excessively distended with purulent secretions, were found loaded with smegma bacilli. Unfortunately, even catheterization of the bladder does not entirely obviate this source of error. In a case of a little girl, fourteen years of age, in which the whole interior of the bladder was ulcerated, the catheterized specimen of urine showed a few smegma bacilli on two different occasions.

The next step is a careful palpation of the lower end of the ureters through the vagina or through the rectum. In almost every case, especially where the disease is advanced, there is a decided thickening of the ureter, which feels to the palpating finger either like a whip cord or a string of beads being made up of a row of hard nodules. The diseased ureter is often very tender to pressure.

The cystoscopic examination often shows an area of inflammation or ulceration surrounding the ureteral orifice, and extending from this for a variable distance out over the bladder walls. When an ulcer is found in this site it is almost pathognomonic of tuberculosis of the kidney of that side. I would call attention also to one other point characteristic of the ureteral involvement, and that is that the ureteral orifice is often found

retracted to the posterior part of the bladder in the neighborhood of the vesical cornua, and it is often circular or gaping, or appears set in a little pocket ("golf-hole" orifice—Fenwick), and often too, some pus can be seen escaping. The attempt to catheterize the orifice through the open cystoscope may be easy, or in the advanced cases may show a distinct stricture of the ureter due to the infiltration and crowding together of its walls. When once the catheter has passed the obstruction, if any of the secretions are backed up, they may then escape freely by its lumen, or on entering the pelvis of the kidney, a considerable quantity of pus may flow off. The catheter thus introduced may be left *in situ* several hours, if necessary, in order to secure sufficient secretion for examination.

With the demonstration of the infection of the kidney the examination has in reality only entered upon its first stages. It is absolutely essential to determine at the same time the exact condition of the other kidney. This may be done if the bladder is not ulcerated, while the ureteral catheter is collecting urine from the diseased side, by introducing an ordinary catheter into the bladder, which has been previously washed out, and collecting the urine from the bladder during this period, and letting this represent the uncatheterized kidney. If this urine is in all respects normal, it may be accepted as satisfactory. If it is abnormal, the examiner may then proceed to catheterize the opposite kidney. I do not feel the slightest hesitation in doing this through my open cystoscope after cleansing the lumen of the instrument and carefully wiping off the ureteral orifices. This procedure is advocated as free from danger by many eminent surgeons operating through a bladder distended with fluid. If it is safe under these conditions, is it safer through the open air distended bladder.

In doubtful cases, where after days of search in an acid pyuria, no tubercle bacilli have been found, it is of the utmost value to inject two guinea-pigs, one intraperitoneally and the other subcutaneously in the flank with the fresh sediment of urine. It is sometimes well to secure the sediment from a twenty-four hours' specimen to centrifugalize, and to wash it, and then to inject. Casper recommends giving the guinea-pig a dose of tuberculin in advance in order to test whether or not it is tubercular beforehand, thus obviating a serious and manifest source of error.

Cryoscopy, both of blood and urine, are of value as showing the functional value of two kidneys and of each separately.

I have made some use of cryoscopy, but have found our

usual methods of examining the total output of urea, and determining the amount of this which was due to the sound kidney, as perfectly satisfactory for ordinary purposes. It is manifest that if one kidney is almost completely destroyed, as is often the case, that the total output of urea may be credited to the other kidney. Also, if one kidney is only partially involved, and the opposite is a normal kidney, it is also able to sustain life. In cases in which one kidney is extensively involved, and the opposite kidney partially so, a cryoscopic examination of blood, and of the separated urine is of value in determining the feasibility of an operation.

Very often a diseased tubercular kidney can be palpated, and from its size, its tenderness, its rotundity, and a sense of fluctuation, it can readily be determined that this is the diseased organ. Again in a thin patient a kidney approximately normal in size may present areas of lobulations due to the disease. These kidneys are often much harder than normal.

In every case of urinary tuberculosis a careful search must be made for foci of the disease in other parts of the body; not infrequently an unsuspected lung affection will be found. I have had instances, two in which axillary glands were involved and one cervical, and one case with a diseased left knee.

One of three courses is open to the surgeon in the treatment of tuberculosis of the urinary tract. either nephrotomy and evacuation of the abscesses, or excision of the diseased portion of the kidney, or a complete extirpation of the kidney, oftentimes with its ureter and a portion of the bladder.

Nephrotomy is rarely curative, and ought rarely to be relied upon as final. Its greatest value is to drain off the pus from which the patient is absorbing toxins, due to the secondary invasion of the kidney by pyogenic organisms (Albarran). A patient who is too desperately ill for any radical operation, may, after nephrotomy, improve remarkably and then easily stand a nephrectomy. Nephrotomy is also of value where the patient is suffering from advanced disease of the lung or of the other kidney, in which case a further radical operation is out of the question.

Excision of the diseased area, the most attractive operation to the surgical mind, is not often successful. Christian Fenger made a brave effort at this sort of conservatism, and told me all his cases were failures. In a case of Israel's there was a "relapse" after four years with involvement of the ureter and bladder. Morris, however, had a brilliant case in which one kidney had already been removed, and he did a partial nephrec-

tomy, and the patient recovered, and was well, and in active service four years later.

In only three of my cases would it have been possible to have removed all of the disease by a partial operation.

Nephrectomy is then the operation of choice, and my own method of doing it is as follows: The patient is placed upon the Edebohl's cushion, to bring the loin into prominence and an oblique incision is made from the last rib, beginning at the angle formed by the attachment of the quadratus lumborum muscle, and extending obliquely downward and outward for about 10 cm. As soon as the skin is cut, the thin lamella of the latissimus dorsi is exposed, and cut through or turned back, or its fibres may be pulled apart in their course. This at once exposes the tendinous area at the upper outer angle of the quadratus, formed by the conjunction and attachment of the oblique muscles. This white inverted triangle, the superior lumbar triangle, I consider to be the important objective point in opening the loin. On reaching this an artery forceps is pushed through the tissues and opened, when upon withdrawing the forceps, the retroperitoneal fat protrudes. The opening is now enlarged and drawn widely apart by inserting the fingers and thumbs first of one, then of both hands. In this way by a blunt dissection the kidney may be exposed, and removed without using a single ligature to any bleeding vessel in the abdominal wall. If it is desirable to make a larger incision, this is done after securing the largest possible opening by a blunt separation of the parts by the fingers as just described, and then separating the external oblique muscle in a direction downwards and forwards in the same manner, and incising the internal oblique. This, which I call a frying-pan opening, gives a maximum space for reaching the retroperitoneal structures. The incision may be enlarged in an upward direction by removing the last rib.

When only the kidney is to be removed, I free the ureter as far down as possible, say about 10 to 12 cm., and crush it with a clamp cautery and divide, or I invert and suture the lower end. After freeing the ureter, the renal vessels are more easily accessible (Hunner) and I prefer to approach them from behind, ligating each separately well away from the kidney. If the kidney is full of pus it is best to evacuate this early, and to deal with the collapsed organ.

In doing a nephro-ureterectomy, I have for years past followed the plan now known as Israel's operation, namely, of detaching the kidney above and the ureter as far as the brim of the pelvis, through an incision such as I have just described,

and then making an extraperitoneal opening into the pelvis through the superior strait and completing the removal of the ureter down to the bladder through this. In this way a wide bridge of intact abdominal wall is left between the two incisions. The loosened kidney and the upper ureter are slipped under this intact bridge, and drawn with the rest of the ureter out of the lower incision and removed.

I will not dwell upon the class of associated vesical tuberculosis, except to say that I have frequently excised areas of the bladder, sometimes as much as one-third of the bladder, in removing the tubercular disease (nephro-ureter-cystectomy).

THE FINSSEN LIGHT, ROENTGEN - RAYS, AND HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SKIN DISEASES.

BY GRAHAM CHAMBERS, B.A., M.B., TORONTO.

The general application of physical methods in the treatment of skin diseases is no doubt the greatest advance in skin therapeutics in modern times. Formerly we found great difficulty in the treatment of diseases, such as lupus vulgaris, tinea tonsurans, rodent ulcer, erythematous lupus, the lesions of which are deeply situated in the skin, and usually covered with an intact epidermis, impermeable to drugs. Radio therapy has to a great extent overcome this, and we have every reason to hope that with the advancement in our knowledge of the physics the results of treatment of skin diseases by physical methods will be better than at present.

PHOTO THERAPY.

In my work I use the Finsen apparatus, made in Copenhagen. In selecting a lamp for therapeutic work the penetrating power and germicidal action of the radiations are the most important characters to be considered. These are the characters which Finsen kept in view in the construction of his lamp. The form and arrangement of the lenses are such as to concentrate the light to a small area. The lenses are made of rock-crystal, which allows ultra-violet rays to pass through, whereas

glass is an absorbent of these frequencies. The skin is rendered anemic by compressing it with a water-cooling compressor, as tissue rendered anemic is more penetrable to light.

At the Finsen Institute tests were made of several lamps as to their power of penetrating the skin. A sensitized paper was placed behind a varying number of rabbits' ears superimposed. With one rabbit's ear the Finsen light affected the paper in one second, whereas the Bang lamp which has iron electrodes, and emits radiations very rich in ultra-violet frequencies, required one minute. I may say that these laboratory experiments have been borne out by clinical experience, as the Bang lamp and other lamps, rich in ultra-violet rays, but with very little power of penetration, have been found of very little use in treating deeply-seated lesions, such as those of lupus vulgaris.

In my practice I use the Finsen light principally for the treatment of lupus vulgaris. During the last six months I have treated six cases, four of which are apparently cured — two being still under treatment. Three of the four cases which were cured were of the non-ulcerative type of the disease. An improvement was noticed in each case, even after the dermatitis, the result of the first exposure, had subsided. The improvement was gradual, but progressive. The treatments were painless, and the results, considered from a cosmetic point of view, were excellent. One of the patients at present under treatment had, when she came to me, a severe ulcerative lesion, which precludes the use of Finsen lamp. In this case the lesions were given short exposures to X-rays, which appeared to act excellently. As soon as the ulceration had nearly disappeared, the patient was given treatment with Finsen light. I made this change as I believe it is generally held that a permanent cure is more likely to be obtained with Finsen light than with X-ray treatment, although there is no doubt that some forms of lupus, particularly the ulcerative type, react well to Roentgen-rays.

ROENTGEN-RAYS.

My X-ray outfit consists of a fifteen-inch coil, the primary of which is connected to a wall-board, supporting a mercury interrupter, amperemeter, voltmeter, commutator, rheostats, etc. The electric energy is received from the street main (direct current).

In therapeutic work I use hard tubes, placed, except in cases of tinea tonsurans about eight inches from the patient. Exposures vary in length from five to fifteen minutes, and are given two to three times a week.

The field of usefulness of X-rays in dermatology is a large one. I have used it in the treatment of the following skin diseases: Rodent ulcer, epithelioma, sycosis, tinea tonsurans, erythematous lupus, psoriasis, acne vulgaris. In this paper I shall confine my remarks to the first four.

Ulcus Rodens.—The treatment of rodent ulcer by X-rays is as a rule very successful. When the lesion is small, and the hard border of the disease is curetted or removed, a few exposures are sufficient to produce a cure. Large lesions require many exposures. In every case I believe that the removal of the indurated edge naturally shortens the treatment. The healthy skin is protected by placing the tube in a lead glass shield (lupus shield of Dean), to which tubes of various sizes may be attached. In my work the results of treatment of rodent ulcer have been excellent. Small lesions have rapidly yielded to the exposures. In cases with large lesions the improvement has been slow in some and rapid in others. When the lesions have been on the eyelids I have found the glass shield of great aid in applying the rays. By slightly everting the lid the lesion may be treated without exposing the eyeball.

Epithelioma.—In a deeply situated epithelioma X-rays should not be used unless it be applied to the wound or scar after excision. When the lesion is superficial, and appears to be pursuing a sluggish course then I think treatment by X-rays is in some cases indicated. Many patients with epithelioma of the face will not submit to excision of the growth. These cases must be treated either by caustic or by X-rays. When the growth shows very little activity, treatment by X-rays is advisable; but when it appears to be extending rapidly then removal by arsenical pastes, followed in a short time by X-ray exposures, is the correct mode of procedure. In the treatment of epithelioma I have found that the exposures must be considerably longer than those required for rodent ulcer.

Coccogenic Sycosis.—Extensive sycosis is a difficult disease to cure. Epilation is, as a rule necessary, and when the disease involves considerable surface, this is very difficult to perform. In such cases I expose the diseased areas five or six times to X-ray radiations, and at the same time apply a strong antiseptic ointment. The exposures usually increase the inflammation for a time, but this soon subsides, and then, as a rule, the hairs can be removed without discomfort to the patient.

Tinea Tonsurans.—The treatment of this affection by anti-septics is very unsatisfactory. The reason for this is, no doubt, the fact that the fungus is situated deeply in the hair follicle,

and nearly inaccessible to the germicidal action of the medicaments. Vesicants, such as emplastrum cantharides, strong preparations of iodine and of formaldehyde undoubtedly do good, but the treatment is both painful and tedious. The antiseptic treatment would likely be much less tiresome if one could depilate the diseased patches. On account of the brittle condition of the roots of the hairs this can only be effected in one way, and that is by suspending the function of the hair papillæ, and the only known method of producing this result is by submitting the diseased patches to the X-rays. Freund in 1896 suggested this method of epilation in ringworm of the scalp, but the fear of causing burns deterred physicians from putting it in practice. However, recently, as a result of the efforts of Sabourard and his associates, the process of treatment has been perfected until there is very little likelihood of doing harm. Sabourard in his clinic at the Saint Louis Hospital, Paris, causes the hair to fall out after one or two exposures. The hair begins to fall about fifteen days after the treatment, and the desuvium is complete in a few days. During the treatment an ointment, containing an antiseptic, such as iodine, sulphur, salicylic acid, and ammoniated mercury. With this treatment the disease can always be removed in less than three months.

In my work I have only been using X-ray to epilate in ringworm for the last few weeks. For the present I am using short exposures three times a week. The scalp is washed daily, and antiseptic ointment containing salicylic acid, sulphur and ammoniated mercury applied to the patches.

HIGH-FREQUENCY CURRENTS.

In the application of this form of radio therapy to the treatment of skin diseases, I employ an Oudin-Dean resonator, the high potential being received from a fifteen inch coil.

High-frequency currents were introduced into medicine by D'Arsonval, and to him and other French workers we are indebted for the development of this form of radio therapy. D'Arsonval believes it has a marked effect upon metabolism increasing the CO₂ in the case of the human body, from seventeen to thirty-seven litres per hour, and the production of heat from seventy-nine to one hundred and twenty-seven calories per hour. When applied to the skin it produces analgesia or anesthesia. It is also believed by many to diminish the excitability of the nerves and muscles in the neighborhood of the applications. This is no doubt the *rationale* of its action in neuralgia and myalgia.

When the skin is strongly bombarded with sparks hyperemia with less or more edema results. This may last for several days. Prolonged applications cause vesication.

In skin therapeutics high-frequency currents find their most useful applications in the treatment of pruritus and erythematous lupus. In many cases of these diseases its application appears superior to any other form of treatment. I have also found it of considerable value in treatment of warts, telangectases, and alopecia areata.

Erythematous Lupus.—During the last six months I have treated with high-frequency currents, six cases of this disease. Of these four were cured, one has only been a short time under treatment and is improving, whilst one although treated for three months was very little improved, and is at present undergoing light treatment, under which the appearance of the patches is improving. Before the light was applied the diseased patches were exposed several times to the X-rays without any apparent improvement.

The lesions, which appeared to be the most amenable to the radiations of high-frequency currents had considerable induration in their borders and were pursuing a somewhat indolent course. In one case the disease was of twelve years' duration. The lesions were situated on the nose, cheeks and chin, and had indurated borders and central scar-like depressions. High-frequency currents, using Tesla's electrode, were applied to the border once or twice a week. After each application there was considerable reaction, which lasted from two to five days.

As to the manner in which high-frequency currents produce improvement in lesions of erythematous lupus I am unable to definitely state, but I am inclined to take the view that it is some form of stimulation of the diseased patches. However, the stimulation is, no doubt, different from that produced by drugs, as, for example, by the application of carbolic acid.

Pruritus.—Pruritus ani is one of the special indications for the application of high-frequency currents. After each application the skin feels somewhat hot for a short time. Local applications of drugs, etc., as well as constitutional treatment is usually required.

I use high-frequency currents in all cases of pruritus, and consider it a valuable adjunct in the management of these cases.

Warts.—A wart can be removed by sparking it until vesication takes place. The treatment is painful.

Telangectasis.—In the treatment of acquired dilated capillaries, especially the stellate form, I have found scarifications

followed by short application of high-frequency currents, give excellent results.

Alopecia Areata.—I have only treated one case by this method. The patches were sparked for about five minutes twice a week. An antiseptic lotion was also applied to the patches.

The result was excellent, but one cannot say definitely that the application of high-frequency currents was the beneficial agent.

Selected Article.

THE BRADSHAW LECTURE ON THE TREATMENT OF ENTERIC FEVER.*—(Concluded.)

BY F. FOORD CAIGER, M.D. (LOND.), F.R.C.P. (LOND.)

Medical Superintendent South-Western Fever Hospital, Stockwell.

Now, if the antiseptic method of treatment is competent to effect all this, it is deserving of no small measure of confidence. Of the various drugs which are known to possess antiseptic properties, calomel is undoubtedly the one which has received the earliest and widest recognition. It has for many years been extensively used by continental physicians, and in this country has received the powerful advocacy, amongst others, of Sir Thomas Watson, Dr. Murchison, and Sir William Broadbent. But its employment, except in minute doses, is practically restricted to the earlier stage of the disease. Liebermeister prescribed it in large doses, that is to say, from eight to ten grains given several times during the first twenty-four hours, provided the case came under treatment before the ninth day of the fever, and he obtained excellent results in a series of two hundred cases so treated, in comparison with another series in which similar conditions existed, except that the patients received no calomel. Liebermeister believed that it exerted a specific influence on the course of the fever. Murchison gave one or two doses of from three to five grains during the first week of the attack, before

*Delivered at the Royal College of Physicians of London on Nov. 15th, 1904.

there was much diarrhea, and believed that as a result the disease ran a milder course and was less protracted. The administration of calomel in this way has been widely practised both in this country and on the continent, and as the result of my own experience of it I am convinced that in suitable cases its effect is exceedingly beneficial.

It is not every case, however, that will derive benefit from the treatment. The fact, I think, is not sufficiently recognized that in exceptional instances a dose of three or four grains of calomel, even when given not later than the end of the first week, will directly induce an intestinal irritation, as evidenced by diarrhea and colic, which tends to persist and may seriously prejudice the ultimate course of the attack. The diarrhea, as, perhaps, is not unnatural, is then apt to be wrongly regarded as a symptom of the fever rather than an effect of the calomel. I have been so impressed with the reality of this risk in several instances that I have given up the routine use of calomel in the early stages of typhoid fever, and now restrict its administration to cases in which there exists some special indication for its employment. It is interesting to note that Sir Thomas Watson, though quite unconscious of their antiseptic properties, was very favorably impressed by the action of the mercurial salts in typhoid fever. He stated that he was constantly struck by the fact that when a soreness of the mouth was observed in his patients they showed marked signs of an improvement, and but rarely died from the disease. It is during the early stage of the attack up to about the middle of the second week that the salts of mercury have usually been employed, and in respect to calomel, its use, except in very small doses, should be practically restricted to this period, since to give it in purgative doses after the establishment of ulceration is rarely admissible.

Of the numerous drugs of the antiseptic class which have been recommended by different physicians for administration at frequent intervals throughout the whole course of the disease, their names are legion. In addition to the perchloride and biniodide of mercury may be mentioned sulphate of quinine, chlorine, sulphurous acid, carbolic acid, boric acid, salicylic acid, and the salicylates of bismuth, sodium and quinine, beta-naphthol, salol, thymol, eucalyptol, turpentine, terebene, camphor, chloroform water and many others. During the course of the last fifteen years I have tried most of these remedies, and in the majority of instances have been disappointed with their action. Several of them I have tried very thoroughly, reverting to their use again and again in consequence of the remarkably favorable

results which have been recorded at one time or another as having attended their employment. I refer more particularly to carbolic acid, salol, and turpentine. As the net result of my experience with these various agents in actual practice, I believe that some of them, when given in frequently repeated doses, are capable of exercising a distinctly favorable influence on the course of the attack, even when their administration is not commenced until after the end of the first week. I do not, however, believe they are competent either to cut short the attack or to lessen to any appreciable degree the risk of hemorrhage, perforation, or relapse, as has been contended by the most ardent advocates of the antiseptic method.

Drugs of the antiseptic class vary very much in their value, some of them apparently being next to useless, and the same drug is not necessarily the most suitable in every case. I am of opinion, after a considerable experience of its use, that the administration of sulphurous acid in from 20 to 30 minim doses every two or three hours is capable of checking fermentative changes in the bowel, with the result that in most cases the tendency to diarrhea and meteorism is lessened, the tongue remaining moist and the stools being rendered less offensive. A good plan is to give the sulphurous acid in an ounce of chloroform water with the addition of 15 minims of syrup of lemons. Administered in this way the taste is not unpleasant and patients take it readily.

I am inclined to regard the oil of turpentine as a remedy of somewhat greater value. It should be given in frequent doses from as early a date as possible. Its value as an intestinal antiseptic and as a diffusible stimulant is highly spoken of by Sir John W. Moore, who is also impressed with its power of relieving respiratory complications; and in that opinion I am disposed to concur. The presence of marked albuminuria or of vesical catarrh, however, should preclude its employment. In the latter case ten grains of urotropine may with advantage be given three times daily, even though the urine be free from typhoid bacilli, but its influence in cystitis associated with the bacillus coli is very slight. I have seen more than one instance in which the continued use of turpentine appeared to be responsible for the development of definite nephritis in a person whose urine previously contained but a slight amount of albumin.

To one of these agents, in my opinion, a somewhat higher value must be ascribed, and that is the combination of quinine and nascent chlorine. In its administration I have followed the

formula advocated by Dr. Burney Yeo, *i.e.*, 40 minims of strong hydrochloric acid are poured on to 30 grains of powdered chlorate of potassium in a 12-ounce bottle, which is filled up gradually with water, the mixture being frequently shaken as the water is being added so as to absorb the gas as it is evolved. To the solution when made 24 grains of sulphate of quinine are added, and of this an ounce is given every two or three hours until convalescence is reached. Care should be taken that an interval elapses between the administration of the medicine and the next feed of milk, which otherwise is liable to undergo some clotting in the stomach as a result of the admixture. Under this treatment the tendency to intestinal fermentation certainly appears to be lessened, and the strength of the circulation is usually well sustained, with corresponding benefit to the general aspect of the case. In some instances, it must be confessed, the result is disappointing, but in cases which come early under treatment, the course of the disease is usually favorable.

During the last two years I have treated a series of cases with the essential oil of cinnamon. This agent was suggested to me by Dr. J. Carne Ross, of Withington, near Manchester, who had been much impressed with the exceptionally favorable course pursued by several attacks of enteric fever which he had treated with it. It was in view of his anxiety that its value should be tested on a more extensive scale that I was induced to give the cinnamon a trial. The results, as far as they go, have certainly been favorable, but the number of cases in which I have tried the drug is not yet sufficiently large to warrant a conclusion of very general application. Up to Sept. 30th last the number of cases treated with the cinnamon has been 147, not counting a few patients in whom its use had to be discontinued after a few doses, in consequence of its having induced vomiting. Of these 147 cases 14 died, representing a mortality of 9.5 per cent.

It is far from my intention to urge the claims of any therapeutic agent merely because the death-rate in a particular series of 147 attacks happens to come out somewhat lower than the average under other methods of treatment. The drug would have to be tested in a far larger number of cases before any trustworthy inference as to its value could be drawn from a consideration of the death-rate alone. As an illustration of the fallacy of generalizing from insufficient data, I may mention that of the first 50 cases treated with oil of cinnamon only two died, whereas, amongst the next 50 no less than eight proved fatal. After careful observation of the progress of the individual cases comprising the series I can only express my firm conviction that the in-

fluence it exerted in the large majority of attacks was a good one, and that a certain proportion of the patients who recovered would not have done so had the cinnamon been withheld and the treatment been conducted on purely expectant lines.

The favorable effects which were noted as attending the administration of the drug were:—

1. The temperature in the majority of cases ran at a lower level than is customary in enteric fever, the mean of the daily records taken every four hours approximating 101 degrees instead of 102 degrees or more during the full development of the fever. This effect was a good deal more pronounced in cases brought under the treatment at a comparatively early stage of the disease.

2. The patients remained for the most part drowsy throughout their illness, many of them evincing a constant tendency to sleep, as a result of which mental rest was secured and delirium was less frequent. Here, again, the good effect of early treatment was apparent.

3. Intra-intestinal decomposition, as evidenced by abdominal pain, distension, and fetor of the stools, was controlled to an extent which was really very striking. A considerable amount of success in this direction can usually be obtained with various other antiseptic agents when administered in adequate and sufficiently frequent doses, but that the oil of cinnamon is especially efficient as an intestinal antiseptic is evidenced by the fact that, with the exception of several patients in whom the condition was present at the time of their admission to the hospital, no single instance of meteorism occurred among the 147 cases which were treated with it.

The soporific influence which cinnamon in full doses is seen to exert in so many patients is a factor of undoubted value in the progress of the attack. Despite the nausea, and even vomiting, which cinnamon occasionally induces when given in too large a dose at the outset, the remedy soon established itself in the favor of the nurses, who often remarked on the drowsy, restful condition of mind which resulted from its continued administration—a condition of mind so eminently desirable in a person suffering from enteric fever. To obtain the full effect of the cinnamon a dose of from two and a half to five minims of the essential oil should be given every two hours from the time the case first comes under treatment until the temperature has fallen to the normal. I am in the habit of continuing its administration every four hours during the first week of convalescence and then three times a day for a week longer. The patient, there-

fore, is kept to some extent under the influence of cinnamon, for a period of a fortnight after the febrile stage has passed. It is well, however, to give the drug in smaller doses to begin with so as to accustom the patient gradually to its very pungent taste. By commencing with a dose of two and a half minims and increasing it to four or five minims, in the course of a few days the likelihood of vomiting being induced by the cinnamon is materially diminished. Care should be taken that the quality of the drug is above reproach. The better quality of oil is distilled from the cinnamon bark. It tends to become darker on keeping and its odor is by no means unpleasant. Cinnamon oil of an inferior quality is distilled from the leaves of the tree. It is usually lighter in color than that prepared from the bark and it is very much less expensive. This inferior oil should never be used medicinally, as patients do not take it so well and its action is probably less efficient.

The nausea and consequent repugnance to the taste of cinnamon which some patients evince may usually be overcome by using some discrimination in respect to the dosage at the commencement, coupled with the exercise of a little tact and persuasion on the part of the nurse. Should, however, the pungent flavor of the drug still continue to be a source of complaint, the difficulty can be obviated by giving the oil in gelatin capsules. Some patients, however, do not swallow these cachets very readily, and prefer to take it made up in the ordinary way as an emulsion. With a dose of from three to five minims, administered every two hours, the system soon becomes fairly saturated with the cinnamon. Its characteristic odor is very noticeable in the breath, in the exhalation from the skin, and is readily detectible in the stools in most cases. In the urine, however, the odor of cinnamon can rarely, if ever, be detected.

Being desirous of estimating the antiseptic influence which cinnamon oil is capable of exerting on the growth of the typhoid bacillus, one of my colleagues, Dr. A. F. Cameron, kindly undertook an investigation into the question. Working with a 1 per cent. emulsion of cinnamon oil in distilled water containing the minimum necessary amount of mucilage and a twenty-four hours' broth culture of the bacillus, which agglutinated readily with a 1 in 200 dilution of typhoid serum, the procedure adopted by Dr. Cameron was as follows: A number of tubes containing five cubic centimetres of neutral peptone broth, after the addition of varying amounts of the cinnamon emulsion, were inoculated with a loopful of the culture and incubated at 37 degrees C. These were examined both as regards the appearance of the broth and

microscopically at the end of twenty-four, forty-eight and seventy-two hours, and the number and motility of the typhoid organisms were compared with the appearances noted in several control broths which, though inoculated at the same time, contained no cinnamon. The results may be summarized as follows: Whereas the broth to which the 0.1 cubic centimetre of the emulsion had been added showed no difference from the control at the end of three days in respect either to its appearance or the number or motility of its organisms, that containing 0.2 cubic centimetre of the emulsion by the end of twenty-four hours was distinctly affected, the organisms being certainly less numerous and their motility less active. Growth was still more inhibited in the case of the tube which received 0.3 cubic centimetre, while the tube which contained 0.5 cubic centimetre of the emulsion at the end of three days showed no growth at all. From these observations it would appear that an appreciable, though slight, inhibitory influence on the growth of the typhoid bacillus begins to be exerted by cinnamon oil in a dilution of about 1 in 2,600, and that when its strength approaches 1 in 1,000 its antiseptic effect is complete.

Except in respect to the remarkable freedom from meteorism, the incidence under cinnamon of the more serious complications of typhoid fever presented nothing very striking. Amongst the 147 cases, intestinal hemorrhage was noted in 17, which is somewhat above the average. Perforation occurred in 3, an incidence, on the other hand, which is rather below the mean. As regards the proportionate incidence of relapse it is difficult to speak with certainty. Some recrudescence of pyrexia occurred in 30 cases, but in the majority of these the symptoms were not sufficiently distinctive to justify the reaction being regarded as a true relapse. On the whole, however, I am inclined to think that relapses were of more than average frequency. Of the 14 cases which proved fatal, the majority may be said to have died from cardiac failure. In 8 of the fatal cases, the attack had been complicated by hemorrhage. In view of the fact that in certainly 3 instances progressive cardiac enfeeblement developed where there was no special reason to anticipate its occurrence, I have recently adopted the practice of giving a grain of sulphate of quinine with each dose of the cinnamon in all cases where a careful daily physical examination reveals a suspicion of circulatory failure, and the result has so far been reassuring.

In the foregoing remarks I have endeavored to present a brief summary of the general conception and application of certain recognized systems of treatment which are undertaken

with the idea of exercising a direct control over the morbid processes concerned in an attack of enteric fever. It now remains to consider what may be termed the alternative method, namely, the treatment of the disease from a passive standpoint, a method which is commonly spoken of as expectant or symptomatic.

The treatment of enteric fever on "expectant" lines implies the recognition of our inability to exercise a direct control over the course of the disease. Having seen that the patient is properly nursed and suitably fed, we are content to adopt a waiting attitude, and while carefully watching for the appearance of any unfavorable symptoms our efforts are confined to attempts at mitigating their severity should any of them threaten to assume a dangerous proportion. To what extent we are justified in adopting this attitude, having regard to the grave responsibility which devolves on us as medical adviser in charge of the case, is largely a matter of opinion. The very conflicting views which have been held upon this much-debated question have been arrived at partly as the result of practice, but to an even larger extent, I suspect, they are founded upon theory. For my own part I hold strongly to the belief that the adoption of an entirely expectant treatment is not only fallacious in its conception but very mischievous in practice. It connotes a tendency towards *laissez faire* which can neither be in the interest of the medical attendant nor of his patient. The brilliant success which has been achieved by the cold-bath treatment when properly carried out, as instanced by the results I have already quoted, is in itself an overwhelming refutation of the claims of simple "expectancy." While we are forced to admit that at present we know of no remedy for enteric fever capable of neutralizing the active infectious processes which are undermining the system and of thus curtailing the attack, as has been found possible in some other specific diseases, it by no means follows that we are powerless to influence the development of certain secondary results which experience has taught us are likely to arise during the course of the illness and materially to prejudice the prospects of a favorable issue. Experience, on the contrary, tends to show that by the intelligent employment of remedies which are theoretically sound, we are not only enabled to relieve symptoms which are an actual menace to life, but in some instances we are able to anticipate their full development, if not prevent them altogether. When, then, I am asked, on what general lines I would recommend the treatment of a case of enteric fever. My answer is, That in the absence of a specific I would treat the case on symptomatic lines, but that I would employ in addition from the

earliest date possible such remedies of either an antipyretic or an antiseptic character, or both, as appeared to be specially suited to the character of the attack and the idiosyncrasy of the individual.

In a great many cases of enteric fever, doubtless, no medicine at all is required, but that unfortunately is a fact which can only be proved by the result. I cannot help feeling, in view of the remarkable success which has been achieved with the cold-bath treatment abroad, that we who have charge of the treatment of enteric fever in hospitals are incurring some responsibility in withholding its use, save in the occasional instances I have already referred to, where the cold bath is clearly inadmissible. The method is attended with certain difficulties, it is true, but I really doubt whether one is justified in allowing such objections to weigh, and whether, on the contrary, it is not our duty to impress upon the patient and his relatives the extreme desirability of engaging upon that line of treatment from the onset. In private practice the objections must necessarily carry more weight and I fear that as a routine method of treatment the cold bath is never likely to be regarded with favor.

We not infrequently encounter attacks in which toxemia is very apparent, cases which, as Sir William Broadbent has pointed out, are characterized by the occurrence of dark, foul-smelling evacuations and fulness of the abdomen at quite an early stage of the attack, coupled with much nervous depression and a high temperature. In such cases antiseptics are especially indicated, and it is of first importance that their administration should be commenced as early as possible. It is always well, as a preliminary measure, to rid the lower bowel of its putrid and offensive contents, and thus assist in bringing the intestinal tract into as sanitary a condition as possible. To achieve this much-to-be-desired result there is nothing so effective as calomel, and in this class of attack I would recommend the administration at the outset of three or four grains of calomel in the case of an adult, followed in a couple of days by another dose of three grains more.

It is, of course, desirable to get this part of the treatment over by the time when it is assumed that ulceration has become established, that is to say, by the middle of the second week; but in view of the serious nature of the condition and the paramount importance of curtailing, where possible, the absorption of toxic products at the surface of the bowel, and having regard, moreover, to the remarkable degree of benefit which is usually secured, I would never hesitate in a case like this to give calomel at a somewhat later stage of the disease, if necessary. Should a

free evacuation not be obtained, especially if the abdomen still remains tumid, an enema of soap and water, with the addition of an ounce of turpentine, should be administered without delay. The improvement in the general aspect of the case brought about by these simple measures is often very striking, apart from the obvious relief to the abdominal condition which they usually afford. The antiseptic influence initiated by the calomel should be maintained by the regular administration every few hours of one of the antiseptic agents I have already referred to. It does not follow that the same drug is necessarily the best in all cases. In some, particularly where distension of the colon tends to persist, the continuous administration of turpentine in ten minim doses will prove especially useful, though it is well to substitute some other antiseptic for it in the presence of marked albuminuria. Taking all things into consideration, I am disposed to regard the oil of cinnamon as the most suitable antiseptic to employ in the large majority of such cases. It should be given in from three to five minim doses every two or three hours in the way I have already indicated.

Sir William Broadbent, whose views on the treatment of typhoid fever must always command respect, states that in this class of case he has been impressed with the value of perchloride of mercury, given every three or four hours, in conjunction with a grain or two of sulphate of quinine, the treatment being continued over a period of several days. I have tried the combination, in a limited number of cases, it is true, but in my own hands it has not proved so effective as either the oil of cinnamon or the quinine and chlorine mixture.

There is another class of case in which the cinnamon treatment is especially serviceable, viz., that in which the patient evinces a constant tendency to mental perturbation. The source of his anxiety, perhaps, may be either his own physical condition, or the assumed insufficiency of his diet, or he may be unduly apprehensive as to the welfare of his family, or the conduct of his business during his absence. In circumstances such as these the sedative, and with some persons almost soporific, effect which the cinnamon exerts is frequently of the utmost value. Such patients, when fully under its influence, will often cease from worrying altogether and pass the major portion of their time in quiet, restful sleep. So important is the securing of mental rest to the victim of enteric fever that in a good many cases it is no exaggeration to say that treatment of the mind is the most cogent indication throughout. It is in these circumstances, too, that opium is so valuable, and in the event of a patient continu-

ing to worry, despite the well-intentioned efforts of his attendants to distract him, I would never hesitate to give that person opium, and to keep him slightly under its influence until the cloud has passed. The objections which are usually urged against the use of opium in enteric fever, viz., its tendency to produce dryness of the mouth and constipation, and its liability to mask the early signs of perforation, are certainly not without force; but too much stress should not be laid upon them in view of the enormous gain to the patient which immunity from the fret of bodily pain or continued mental anxiety implies. More often than not the subjects to whom I refer are naturally neurotic, their temperament being apprehensive, fussy, or hysterical; but not necessarily so, however. I have seen the most inordinate anxiety exhibited by men who in their ordinary health are the reverse of nervous. But whether this apprehensive attitude of mind be merely the exaggeration of a normal characteristic or not, the good effect of opium will be equally patent. It is desirable, as a rule, to give the opium in small doses, frequently repeated. Five or six minims of the tincture administered every four hours will usually suffice for the purpose, or better still, the drug may be given in the crude form, a grain of the best Turkey opium being administered three or four times in the twenty-four hours. Needless to say, in the presence of pulmonary congestion or albuminuria, the use of opium calls for the greatest caution.

Another well-recognized variety of enteric fever is that in which the brunt of the attack appears to fall upon the nervous system. Such cases are often spoken of as "atonic," the most prominent features comprising general prostration, muscular tremor, and early mental involvement, without, perhaps, there being any obvious symptoms of abdominal disturbance. For the treatment of these cases I know of nothing better, if, indeed, as good, than the administration of quinine and chlorine every two or three hours in accordance with the formula already quoted. I have been frequently impressed with the steadying effect of this combination, even without the assistance of alcohol, of which, however, a small amount is usually called for in the circumstances. The marked nervous apprehension which such patients are prone to exhibit may usually be allayed by giving a little opium. This sometimes takes the form of an active distrust of their attendants, particularly in the case of highly neurotic children.

Whatever view one may hold as to the value of the cold bath or the wet pack as a routine method of treatment, there is a consensus of opinion as to the efficacy of direct refrigeration as a

weapon against hyperpyrexia and in those grave cases of acute rheumatism in which an unduly high temperature proves refractory to the influence of salicine or the salicylates, there is no remedy to compare with the cold bath for its repression. Now, in enteric fever in this country, at any rate, it is certainly exceptional to meet with a temperature much exceeding 105 degrees, though its occurrence is not by any means uncommon in the tropics. When, however, a patient's temperature approaches this level the symptom pyrexia demands attention, and the need is emphasized in the presence of restlessness, stupor, or delirium. It is especially in the later stage of the fever when there is likely to be some degree of cardiac dilatation that the continuance of a high degree of pyrexia is fraught with danger.

During the late period of the attack it is seldom wise to put a person into a cold bath unless he has been acclimatized to it by previous experience, but in the early stage there would not be the same objection. As a means of reducing hyperpyrexia in enteric fever I much prefer the cold pack to the cold bath. When given with this object the whole surface of the body from the neck downwards, with the exception of the arms and feet, should be enveloped in a couple of draw-sheets wrung out of cold, or even ice-cold, water. A mackintosh should previously be spread upon the bed, but there is no necessity to use a bed cradle or further covering of any description. A blanket, however, may be thrown across the legs below the knees and a hot-water bottle encased in flannel applied to the soles of the feet, a provision which will materially lessen the patient's discomfort. The pack should be maintained for from fifteen to thirty minutes, its duration and the temperature of the water being regulated by the strength of the pulse and the amount of shivering or cyanosis which it induces. Some degree of shivering, however, must always be expected. On removal of the pack the patient should immediately be wrapped in a warm, dry blanket, and as soon as the skin has obtained a comfortable degree of warmth, he should be placed between the sheets and covered, preferably with a single blanket. It is always desirable to give an ounce or so of brandy before the application of the pack, since, apart from its primary effect in lessening shock and steadying the pulse, the antipyretic property of alcohol may be expected to supplement in some degree the action of the pack.

In occasional instances the reduction of temperature brought about by the bath or pack proves to be of a very temporary character, the pyrexia in the course of an hour or two attaining its former level. In these circumstances the bath or pack should

be repeated, and a dose of from 15 to 20 grains of sulphate of quinine, combined with from 15 to 20 minims of laudanum, administered half an hour or so after the operation is completed. By the administration of quinine it is usually possible to prolong the effect of mechanical refrigeration, a fact well known to Brand and his followers. Liebermeister frequently employed the drug as an adjuvant to the regular cold bath treatment. The effect of the laudanum is materially to augment the capacity of quinine as a temperature depressant, the explanation of which appears to lie in the power possessed by opium as a vasodilator in stimulating the cutaneous circulation. In tropical regions where, partly owing to a difficulty in obtaining cold water, and in part owing to the frequent presence of a malarial taint, the treatment of hyperpyrexia largely consists in the administration of quinine the peculiar value of the combination is well appreciated.

The employment of large doses of antipyrin, phenacetin, or acetanilid, though each more powerful than quinine in reducing temperature, is not to be recommended for the treatment of hyperpyrexia owing to their depressant effect on the heart. Acetanilid I regard as especially dangerous, having on two occasions seen the administration of five grains followed by very severe collapse.

Cold sponging of the surface, though capable of reducing pyrexia when properly carried out, is chiefly valuable on account of its sedative influence on the nervous system. As an antipyretic it is inferior to the cold pack and, unless the sponging be carried out with iced water, should not be relied upon in cases where the pyrexia is excessive. For the abatement of restlessness, however, and the promotion of sleep, cold sponging is admirably adapted, especially when associated with pyrexia of moderate degree. On account of its cooling and hypnotic effect it is well to have the patient sponged down every morning with cold or tepid water, to which a few drops of eau de Cologne or spirits of lavender have been added, as a routine procedure and to continue the practice until the establishment of defervescence. Let me add a word of caution against the inefficient and perfunctory manner in which cold sponging is far too frequently carried out. To be of any use the sponge should be charged as full as it will hold and the water effectively sopped or "soused" on to the skin, the necessity of having previously placed a mackintosh under the blanket on which the patient lies being all the while apparent. Merely to wipe the surface over with a well-wrung sponge, as is so often done, partakes more of the nature of a rite

than a serious measure of treatment. As a refrigerant the proceeding is next to useless.

In cases where the restlessness fails to give way to cold sponging, properly applied, and sleep remains a stranger, a trial may be made of one of the numerous hypnotic drugs which are available for the purpose. In ordinary circumstances I prefer to give from 30 to 40 grains of chloralamid or half that amount of trional, the drug in each case to be repeated in lesser amount at the expiration of a couple of hours, if necessary. In cases where insomnia exists in association with diarrhea and abdominal pain, the preparations of opium are especially useful, and from 15 to 20 drops of laudanum or 10 grains of Dover's powder are either of them likely to prove a successful hypnotic. Retention of urine is an occasional source of restlessness in men, but this, of course, can be readily relieved by the passage of a catheter. The fact, too, that a condition of rectal discomfort, the result of an inefficient action of the bowels, is sometimes directly responsible for a sleepless night must not be overlooked. In these circumstances a simple enema will usually bring relief and nothing more be wanted.

Now, in respect to the treatment of diarrhea considerable difference of opinion exists as to the point at which the symptom calls for interference. If it be moderate in amount and unattended with abdominal pain, the diarrhea may well be left alone, provided always that the dietary be suitable and its quantity not excessive. It has been well and truly said that careful daily inspection of the stools supplies the key alike for regulating the diet and for the treatment of diarrhea in a case of typhoid fever. If in any case the number of the stools exceed four or five in the course of the twenty-four hours and the amount evacuated be considerable, I have no hesitation in saying that the diarrhea should be controlled without delay, since the continued drain of fluid and consequent deprivation of nutriment which it involves may speedily prove a greater tax on the patient's strength than is consistent with ultimate recovery. The older view that the diarrhea of typhoid fever is of eliminative value as representing a spontaneous effort on nature's part to get rid of the fever poison and on that account should be allowed to go unchecked is hardly deserving of serious consideration. It is a belief which has had its day, but by consensus of modern opinion is now regarded as unsound in theory as it certainly is most mischievous in practice.

Having satisfied oneself from the character of the stools that the feeding is not at fault, the milk, if needs be, being either

restricted in amount or peptonized or more diluted, the means of checking diarrhea which I would recommend be employed first is the administration of a starch and opium enema. A couple of ounces of thin starch gruel, slightly warmed, and with the addition of half a drachm of laudanum, should be given by the rectum immediately after each loose stool. In my experience this treatment is rarely unsuccessful and one or two injections will usually suffice. Should, however, the diarrhea persist, an opiate may next be tried by the mouth, and both chlorodyne and Dover's powder are useful preparations. By their power of inhibiting peristalsis apart from their anodyne properties, they are likely to control the flux, while relieving the colicky pain by which it is so often accompanied. Astringent mixtures containing bismuth, catechu, tannic acid, chalk, and opium have been widely used, as in the treatment of diarrhea unconnected with typhoid fever, and their effect is often beneficial. The mineral astringents, such as sulphuric acid, acetate of lead, and sulphate of copper, I confess, I do not like and have long since ceased to use them.

The application of an ice-bag to the abdomen is a method which has been employed a good deal of late. It is a remedy of undoubted value especially when the diarrhea is associated with distinct abdominal tenderness. Personally, I much prefer the use of a large wet compress made of from four to six layers of soft bath towelling frequently wrung out of cold or ice-cold water. This should be large enough to cover the whole of the abdomen, and the edges may with advantage be bound over with a strip of jaconet with the object of preventing the dampness from spreading to the bed. A light wicker cradle should be placed over the patient and over this should be laid a single sheet; but a blanket with the addition of a hot bottle, if desired, may be wrapped around the patient's feet in order to increase his comfort. By this arrangement the cooling effect of the compress is fairly well maintained, since the evaporation of the water is but little impeded. A lengthened experience of its use has led me to believe that of the various therapeutic measures which are employed in the treatment of enteric fever there are few more valuable than the continued application of a cold compress to the abdomen in cases where definite tenderness can be elicited on slight pressure over some part of the surface, whether diarrhea be actually present or not.

Such tenderness, in the absence of marked distension, would appear to denote the presence of local peritoneal irritation at the site of one or more of the affected Peyer's patches. The irrita-

tion is an indication of danger, pointing at an early stage of the fever to intensity of the inflammatory process at that particular spot, while at a later date it points to depth of ulceration. One is prepared to believe, therefore, that the continued application of cold to the surface of the abdomen might exert a sedative influence locally on the inflammatory foci in the bowel wall and at the same time tend to control peristalsis, quite apart from the general antipyretic effect which must result from the continued abstraction of heat from a comparatively large portion of the bodily surface. Patients on being closely questioned will often admit that they are conscious of a constant feeling of tenderness or "soreness," not amounting to actual pain, at some particular part of the abdomen, the situation to which it seems to be most often referred being either the hypogastrium or the neighborhood of the umbilicus. It is in these circumstances that I have found the continuous application of an ice-bag, or, better still, a cold compress, to exert such a favorable influence. For the relief of intermittent abdominal pain, which is usually of a more or less colicky nature, the preparations of opium are probably unsurpassed.

Now, although in the more severe attacks of enteric fever diarrhea is certainly the rule, the condition which we are far more frequently called upon to treat is its converse, constipation. My own practice is to give a simple enema of soap and water, in quantity not exceeding a pint, in the morning of every third day in cases where the bowels fail to act spontaneously. If the quantity of milk allowed in the dietary be not in excess of the patient's digestive powers, this interval is not too long; but the enema may with advantage be given every second day in the event of the stools produced being large or their character not entirely satisfactory. To obviate the constipation, which is an almost constant feature of early convalescence, one naturally turns to one of the many aperient waters which are so much in vogue at the present day. So long as it is necessary to keep the patient in bed, however, their action after the first day or two frequently proves disappointing, in which case a teaspoonful of castor oil, combined with an equal quantity of glycerine, may be given with advantage in the early morning, and the dose, if necessary, may be repeated once or twice at intervals of an hour with perfect safety.

Meteorism, if present in any marked degree, must always be regarded as a serious condition, and its relief in every case should be attempted. Apart from the discomfort, or even distress, to which it usually gives rise, abdominal tension, by impeding the

descent of the diaphragm, is conducive to pulmonary congestion, and at the same time is liable to prove a source of serious embarrassment to the cardiac mechanism. Whether or not meteorism, by stretching the bowel wall, is capable of influencing to any extent the risk of intestinal perforation, will necessarily depend upon whether the distended portion is the seat of ulceration. Considerable differences are to be found in this respect in different cases, in some practically the whole length of the bowel being more or less involved, whereas in others the distension is almost limited to the large intestine. The former condition is the one more often present in those grave attacks in which a paralytic condition of the bowel at an early date results from the intensity of the typhoid poison, as also where tympanites rapidly develops as a result of general peritonitis. In cases, on the other hand, where the distension is practically limited to the colon, which appears to be more common, it would generally appear to originate in fermentative changes in the intestinal contents rather than a primary paralysis of the bowel wall. Rapid tympanites, however, coming on late in the attack is probably paralytic. In dealing with meteorism, therefore, it is always well to ascertain if possible, which part of the bowel is distended, since, in view of such decision, not only may we be able to form some estimate of its immediate danger to life, but an indication may sometimes be obtained which may not be without some value in its treatment. That such differentiation is impossible in many cases I freely admit, but, on the other hand, as the result of critical observation of the abdominal contour, assisted by careful percussion, it is often possible to arrive at an opinion as to whether or not the colon is distended.

If the diet be carefully regulated in relation to the patient's digestive power, meteorism is not likely to be a frequent symptom. This is particularly true if an efficient antiseptic treatment has been instituted from an early stage of the illness, and the value of the oil of cinnamon in this respect I have already referred to. But should distension arise in spite of every care, and there be reason to believe that the small intestine is mainly concerned in its production, the administration of opium in moderate doses and the application of an ice-bag to the abdominal wall are the means most likely to prove successful. In severe cases where tympanites develops rapidly at an early stage of the attack, a full dose of opium should be at once administered. In my experience the value of drugs of the antiseptic class, such as creosote, sulphurous acid, salol, sulphocarbolate of sodium, etc., for

the relief of tympanites when once it has arisen is almost *nil*, except in certain instances where the stomach is the seat of distension. Where, however, there is reason to believe the meteorism to be mainly, if not entirely, due to flatulent distension of the colon enemata of soap and water containing an ounce of turpentine are usually of the greatest value. In these circumstances the ice-bag had better be withheld, and opium too, except the pain continues. It is in these cases that the passage of a long tube through the sigmoid flexure may be expected to afford some relief, though the procedure is by no means always successful.

In the treatment of enteric fever the pulse should always be regarded as supplying an indication of the highest value, as, indeed, might be expected in view of the fact that in a large proportion of fatal cases, at least a half, death may be said to be directly due to circulatory failure. It is because of its power in reducing the mortality from what might be called "the pyrexial sources of death" that Hare and others who are strong in its support insist on the value of the cold bath treatment. Foremost among the causes which must be held to fall within this category is cardiac failure, though cerebral exhaustion and pneumonia must also be included. That the pulse should show some loss of strength as the fever progresses is only natural, and in the event of such loss being moderate no special treatment is required; but should the weakness become more pronounced, as evidenced by undue rapidity in relation to the temperature, dicrotism, or especially if a tendency to irregularity be noted either in force or rhythm, the cautious administration of stimulant is usually advisable. The form of alcohol best suited for the purpose, as a rule, is either brandy or whisky, of which, however, the quality, as also the quantity, should be regulated with discretion. In some cases the feebleness of pulse is associated with marked ventricular dilatation, in which case pulmonary congestion is very prone to arise and seriously to prejudice the issue. The good effect of digitalis in these circumstances is usually apparent, and it may with advantage be combined with strychnine. A certain amount of benefit, no doubt, would be derived from the administration of alcohol alone, but its influence often appears to be but temporary, and for producing a lasting effect it cannot compare in value with either strychnine, quinine, or digitalis.

Without for a moment desiring either to underrate the value of alcohol in cases where there is need of temporary cardiac reinforcement or to question its power to exert a steadying influence upon an exhausted nervous system, I rank myself with those

who hold that in most cases of enteric fever not only is alcohol not required, but that its employment is occasionally distinctly harmful, even when given in quantities which would not be considered excessive. The administration of a few ounces of alcohol, for instance, will sometimes markedly increase the restlessness in the case of a delirious person whose pulse is good and whose circulation is well sustained, especially when the patient is young and unaccustomed to take stimulants. Its use in these circumstances would be clearly injudicious, and in the presence of intestinal hemorrhage, its employment, except the case be desperate, would of course be inadmissible. The special indications which, I think, legitimately demand the use of alcohol in typhoid fever may be enumerated as follows: Constant delirium and sleeplessness associated with muscular tremor, feeble circulation, and a dry, brown tongue; undue weakness of the pulse, without other sign, as already described; cardiac dilatation, cyanosis, pulmonary congestion, and pneumonia; hyperpyrexia, excessive diarrhea, and intestinal perforation. Alcohol, moreover, may be given with advantage in the case of elderly persons, and to patients who are taking their food badly, as also to those who are the victims of a persistent feeling of depression. In this latter instance the best form in which to administer the alcohol is a good champagne, though, as I have already said, either brandy or whisky is generally the most suitable stimulant in ordinary circumstances, at any rate during the pyrexial stage of the illness.

Though I fear it is impracticable within the confines of a single lecture to treat of all the exigencies which are liable to arise in the course of typhoid fever, no review of its treatment, however brief, could be regarded as satisfactory which did not contain some allusion to those two most grave accidents which always threaten, viz., intestinal hemorrhage and perforation. In respect to any power they may possess of arresting a hemorrhage in the bowel, it must be confessed that drugs have proved to be but broken reeds in practice, and the dictum generally credited to a late very distinguished physician that "hemorrhage from the bowels in typhoid fever must be allowed to cure itself," is as true to-day as when the words were spoken; but if, on the other hand, the saying be held to imply that by judicious management of the case we are powerless to assist in the attainment of this much-to-be-desired result, such inference cannot be too strongly contradicted.

The importance of absolute repose, alike of body, bowel, and mind is universally acknowledged. For the attainment of physi-

cal and mental rest we must largely rely on the care and common sense of a competent nurse and obedience on the part of the patient; whereas, rest for the ulcered and bleeding bowel can be secured by the prompt administration of a full dose of opium. I much prefer the use of opium in ordinary circumstances, but should the patient's state be really urgent the hypodermic injection of morphine may be substituted with advantage.

Since a state bordering on syncope must be held to provide the condition most favorable to the cessation of hemorrhage, everything calculated to stimulate the circulation should for the time, of course, be studiously avoided. Absolute abstention from alcohol, beef-tea, and stimulant meat extracts should be rigorously enjoined, and for the like reason and in order to avoid exciting peristalsis, the amount of nourishment should be reduced to the lowest possible point consistent with maintenance of the physical powers. The situation in severe cases is frequently a difficult one, and we are apt to find ourselves in dangerous waters. We are confronted on the one hand by the "Scylla" of possibly fatal syncope, and on the other by the "Charybdis" of additional hemorrhage, and to steer a safe course between them may call for the highest qualities of seamanship. The necessity for avoiding stimulation is universally recognized, but I think, perhaps, the influence which is exerted by the complete deprivation of fluids in keeping down the blood pressure and arresting hemorrhage is hardly so well appreciated as its great importance warrants.

The practice of giving astringents by the mouth in the belief that they will exert a direct styptic effect on the bleeding vessel in the lower part of the ileum is obviously futile, but the use of physiological hemostatics in order to attain this object indirectly has possibly more to recommend it. Ergot, ergotine, hamamelis, and hazeline have been widely employed, and still are, for the purpose. Extensive experience of their use, however, has led me to regard them as almost, if not entirely, worthless. Adrenalin chloride in frequent doses, however, I still employ in cases where the pulse tension is particularly low, since its administration I have sometimes thought effective. But whether any drug of the vaso-constrictor class, such as ergot or adrenalin, really plays any part in checking intestinal hemorrhage is exceedingly doubtful. Unfortunately, we have no opportunity of observing their direct effect, but having regard to the rise in the general blood pressure which follows their administration, it is difficult to avoid the suspicion that if they produce any result on the bleeding at all it should be to increase it.

In virtue of its undoubted power of augmenting the coagulability of the blood, the administration of calcium chloride in ten-grain doses every three hours is deserving of a trial, particularly in cases where the hemorrhage, though slight, appears to be continuous. The application of an ice-bag to the right iliac region is apparently of real benefit in persons whose abdominal wall is not unduly thick; and in proportion as the affected part of the bowel is near the surface its influence in controlling peristalsis and in constricting the intestinal vessels is likely to be of value.

Having seen that the patient receives a full dose of opium and that an ice-bag is carefully applied to the abdomen, our treatment of intestinal hemorrhage may be summed up in the single word "precaution"; and of the various measures we adopt with this in view, I believe *the complete deprivation of fluids*, excepting an occasional fragment of ice, to be the most important.

Now, with regard to the treatment of that dread complication, intestinal perforation, there are probably few physicians at the present day who would hesitate to advise operation as the only means of saving life. The only points on which some difference of opinion is likely to exist are as to the cases which are suitable for operation and the time at which it should be performed. Personally, I am in complete agreement with those who hold with Finney that a moribund condition of the patient should be the only contraindication. I have never yet come across the case in which recovery has ensued when once a diagnosis of perforation has been deliberately arrived at, although one knows that some instances of apparently undoubted perforation have been recorded in which success has been attained as the result of purely medical treatment. I do not think it is fair to accept a *post hoc, ergo propter* explanation of these cases and question the accuracy of the diagnosis on the strength of eventual recovery. I prefer to believe that in very exceptional circumstances a more or less localized peritonitis of perforative origin may be recovered from, but that the occurrence is so exceedingly rare as to justify one in entirely ignoring its likelihood when called on to decide upon the treatment.

Assuming the diagnosis of perforation to have been made and the necessity for operation admitted, the point of next importance to decide is the time most favorable to its performance. The answer to this question is supplied in the old adage, "There is no time like the present." The teaching of Keen in this respect, viz., that the second twelve hours after perforation represents the time most favorable to operation, has carried considerable weight, it being held that recovery from the primary

shock had better be awaited. The accumulated experience of the last few years, however, has clearly shown that if surgical treatment be postponed until reaction shall have set in, not only may the chance of a favorable issue have been allowed to slip, but the only opportunity for operation also.

The high importance, then, of immediate operation once admitted, the value of early diagnosis in the attainment of the best results will be apparent. Of the various symptoms which are recognized as indicative of the onset of perforation, the occurrence of sudden pain at some particular spot in the abdomen is properly regarded as the most suggestive, and if this be quickly followed by local tenderness and some degree of constitutional disturbance, the suggestion is greatly strengthened. Unfortunately, in something like 20 per cent. of cases the access of definite pain is wanting, in which case perforation in its initial stage is far more likely to escape detection. In the absence of local pain, however, the presence of even slight muscular rigidity, which, from previous examination is known to have newly arisen, must be regarded as an indication of the highest value, and its import is greatly strengthened in the event of any increase in the pulse-rate being detectable at the same time. The great value of this sign has been attested by Harte, of Philadelphia, who, when referring to the importance of individual symptoms in the recognition of perforation, speaks of muscular rigidity as the "keynote to diagnosis."

To those who have seen much of enteric fever the fact is well recognized that we may encounter cases of perforation in which every local symptom usually associated with the condition is conspicuous by its absence, while the general aspect of the case in other respects may be quite characteristic. Apart from the evidence which may usually be derived from a careful examination of the abdomen, I have come to regard the facies as perhaps the most valuable indication. To one who is familiar with the patient's usual appearance a slight but distinct change in the facies may be apparent, which is exceedingly difficult to describe, but which, especially when occurring with a feeble running pulse, may serve to show the cloven hoof in a way which nothing else will. When in addition there is present, or has recently been noted, some degree of shivering, the inference that perforation has occurred is very strong indeed. The frequency of shivering and its diagnostic importance as an early sign of perforation were strongly emphasized by Dr. E. W. Goodall in a very thoughtful and instructive paper on "Intestinal Perforation," which he read before the Hunterian Society last April.

I confess that I had not previously appreciated the value of this sign. It is easy, however, to be wise after the event, and I can now recall the occurrence of shivering more than once in cases which had perforated, but in which at the time no particular stress had been laid on its occurrence. As confirmatory evidence of perforation, obliteration of the liver dulness and the presence of fluid in the peritoneum are, of course, unrivalled, but in neither case are they likely to be apparent until a fairly confident diagnosis has been attained from other signs.

It is a golden rule in the treatment of typhoid fever to make a careful examination of the abdomen daily, for in proportion as our last examination has been recent so are we in a better position to appreciate the moment when any change in its condition may have occurred. Accuracy of diagnosis is always desirable, but in view of the greatly improved results which have been attained of late it is better to recommend an unnecessary laparotomy than to allow a patient who has perforated to die without receiving the chance which operation affords. According to the figures published by Harte in January last, referring to 332 recorded cases of laparotomy after perforation, the recovery-rate has increased during the last twenty years from 10 to 31 per cent., that for the whole series being 26 per cent.; but whether the recovery-rate of all cases in which the operation has been performed is really as high as this is certainly rather doubtful.

On bringing these remarks to a conclusion I must express my regret at having been able to adduce so little that is new and still less that is original. We have arrived at a stage, it seems to me, beyond which any material advance in the treatment of enteric fever must be sought in biological sources, and when we regard the number of earnest workers in that particular field and the success which has attended their efforts in other directions, the future for enteric fever appears to be not without promise. While fully alive to its many deficiencies, I venture to hope that a record of personal impressions as to the value of various therapeutic measures which I have had occasion to employ during the course of some sixteen years' close association with the disease may prove to be of some little assistance to others who are equally interested in its treatment.—*The Lancet*.

Clinical Department.

New Method of Making Ring Test for Albumin. E. AGATE
FOSTER, M.D., of Patchogue, N.Y., in *American Medicine*.

I have read with interest the communication by William H. Bennett, M.D., of Philadelphia, entitled "A New Method of Making the Ring Test for Albumin," in your issue of December 3rd, 1904, and am surprised that so complicated a method should be deemed necessary in making so simple a test. When a pipet is used, it is unnecessary, as well as unsanitary, to draw the urine or acid into the pipet by suction with the mouth, as he states he has found to be the custom. It is sufficient to introduce the pipet into the solution, when the fluid will rise in the pipet to its level in the bottle or graduated test-glass. Then, by simply placing the index-finger over the top of pipet, the fluid, urine (or acid) can be lifted in the pipet from the specimen to be examined, and by removing the pressure of finger, allowed to trickle down slowly inside of test-tube to overlie the acid which has been placed there by a similar method.

However, even this is too slow. I have used for years an ordinary medicine dropper, on the same principle as one would fill a fountain pen.

The acid being first placed in the test-tube, any amount of urine desired can be slowly superimposed upon the underlying nitric acid. The white ring will usually appear at once, when even the smallest percentage of albumin is present. In using the nitric acid test, I have found it necessary to be absolutely sure of the strength of the acid, otherwise the result will be negative.

Spontaneous Rupture of the Heart in an Insane Patient. H.

KERR, M.D., Glasgow, Assistant Medical Officer to the Bucks County Asylum, in *The Lancet*.

This is a rare occurrence considering the frequency of degeneration of the heart muscle in the insane. According to the returns of the causes of death in the reports of the Commissioners in Lunacy for the years 1902 and 1903 it occurred nine times in 18,601 deaths, and of these four cases were those of males and five were those of females, showing that sex has little to do with its incidence.

In the present case the patient was a man, aged seventy-six years, who died in the Bucks County Asylum after fourteen months' residence. Mentally he was somewhat depressed and suicidal on admission, his condition passing . . . to one of mild dementia. Physically he was rather feeble but stout and flabby. The pulse was regular but weak, the heart sounds were feeble and distant in character, and cardiac dulness was considerably increased. There was nothing of importance in the subsequent history of the case and the patient appeared as usual on the night of his death. He was found dead on the floor of his room, having apparently got out of bed and collapsed.

At the post-mortem examination the pericardium was found to be much distended with blood-clot and fluid. In the heart a small tear was found in the left ventricle, anteriorly, at the lower end near the apex in the long axis of the organ and plugged with blood clot. Internally the tear was found to be somewhat smaller than externally. The heart was much hypertrophied (weight 18 3-4 ounces), more especially the left ventricle, the muscle was soft, fatty, and very friable, while the valves and coronary arteries were atheromatous. The immediate cause of the rupture could not be determined, the factor of extra strain or stress being practically eliminated.

Therapeutics.

Acute and Chronic Nephritis.

In considering the treatment of nephritis it must be ascertained whether or not the condition is an acute or a chronic process; and if acute the cause of involvement of the kidney structure must be taken into consideration in outlining the treatment. If the process is a chronic one the clinical findings should show whether the tubal system is diseased to the greater extent or the toxic substances have chiefly involved the vessels along with an increase in the connective tissue formation; in other words, whether the diseased condition is chiefly parenchymatous or interstitial. The prognosis, of course, depends on whether it is acute or chronic. Even in the acute form it is a difficult task to forecast the outcome of the patient, as all patients are not alike, so for this reason, according to Sir Dyce Duckworth in the *Clinical Journal*, London, the prognosis of any form of nephritis should be guarded, as all patients have their peculiarities and temperaments, diatheses or qualities which are peculiar to them.

One man has a tendency in one direction and another in another. There is no medicine for disease, as this author tersely states, but for individuals. We do not treat disease, but patients. Some patients are much more vulnerable than others, especially those of a strumous diathesis. This sort of individual is vulnerable at all points, and if such a patient suffers from an acute nephritis the prognosis is not good, and may end in chronic nephritis. On the other hand, if a man suffering from acute nephritis is of good constitution and can obey the instructions of his physician and not expose himself to wet and cold, and observes care in regard to his diet the prognosis for complete recovery is good. In the treatment of acute nephritis the author recommends a warm bed, bread and milk diet, barley water and whey. Of the latter the patient may take two or three pints a day. He may also have arrowroot, bread and butter, crackers, and if he is very hungry he may be allowed a small amount of mashed potato. These patients should not have meat nor strong food.

If the urine contains much blood, as may be the case in acute nephritis, dry cupping should be employed. If he is strong, the author recommends that wet cupping be employed, and that from twelve to fifteen ounces of blood be taken from the loins in this way, as there is direct vascular connection between the skin of the loin and the interior of the kidney. Warm poultices over the loins are also of great service. Antimony in the form of the wine is very good given in one-half dram (2.00) doses, combined with spirits of nitrous ether, and a solution of ammonium acetate.

At the onset of the disease, a calomel purge should be given, two grains combined with half a dram (2.00) of compound jalap powder and afterward give two teaspoonfuls of a confection containing from a half to one dram of the compound jalap powder. This treatment, according to Duckworth, clears the renal tubes and diminishes the dropsy of the limbs and face. The patient should be confined to the hospital until all the albumin has disappeared from the urine. Iron is another preparation which is of value in these cases given in the form of ammonio-chlorid of iron or Basham's mixture, and may sometimes be combined with digitalis. Fuchsin is also recommended in doses of from one to ten grains (.06-.65) daily, as it sometimes decreases the amount of albumin, and at any rate does no harm if it does no good.

CHRONIC BRIGHT'S DISEASE.

Croftan, in the *Ill. Med. Jour.*, is of the opinion that Bright's disease is produced by circulating toxins and that the cardio-

vascular changes precede the kidney changes, as the result. The source of these toxins is two-fold, the gastro-intestinal tract and the products of metabolism. The liver does not functionate properly, and as a result there is incomplete elaboration of the food before it reaches the circulation. The management of a case of Bright's disease according to Dr. Croftan should be considered under: (1) prophylactic treatment; (2) symptomatic, directed primarily against the development of cardio-vascular changes, and secondly, against the nephritic changes; (3) the treatment of the patient as a whole.

TO PREVENT INTESTINAL PUTREFACTION.

The diet should be properly guarded and the stomach washed out if necessary. The author recommends especially in this connection the use of zinc sulpho-carbolate given in doses of one grain (.06) each at frequent intervals, together with about twenty grains (1.30) of bismuth daily. If the zinc preparation is used in sufficiently large doses it will prevent the black stools of the bismuth, as it checks putrefaction, and thus prevents the formation of bismuth sulphid. The color of the stools, therefore, should govern the amount of the zinc salt given daily and when this is obtained the urinary evidence of bowel putrefaction will disappear, as shown by the reduction of indican, etc. The bile salts are also of value in this same connection.

To strengthen the heart and to reduce the blood pressure, small doses of digitalis are recommended; one drop (.06) of the tincture, three times a day, is a sufficiently large dose to render the heart less susceptible to the disturbing stimulation of the circulating toxins. Large doses of digitalis are contraindicated. Nitro-glycerine is the best remedy to reduce the blood pressure. As adjuvants to these preparations the hot bath, rest in a warm bed, life in a warm, dry climate and massage are of value.

The author believes in a liberal diet and one which will least irritate the kidney and at the same time adequately nourish the patient. He condemns the use of an exclusive milk diet, as it must be given in enormous quantities to properly nourish the patient. If administered in such large quantities it causes flooding of the heart and arteries with water, and thus overtaxes them. It is deficient in iron, and in time leads to deficient hemoglobin, and its use, sooner or later, becomes monotonous. The diet, therefore, should be a mixed one, and should contain a moderate amount of albumin.

The amount of water should be restricted; for the kidney,

when it becomes diseased, stops eliminating water as the first thing, consequently the practice of "flushing out" the kidney should not be encouraged. The chief advantage of "sweating" is to get rid of the water.

WITHDRAWAL OF SODIUM CHLORIDE.

The nephritic kidney fails in properly eliminating sodium chloride, and, therefore, favors edema, as the salt draws water from the tissue by the process of osmosis. Consequently, the ingestion of salt should be restricted. The surgical treatment of decapsulating or splitting the capsule is condemned by this author.

USE OF WATER IN NEPHRITIS.

Broadbent, in an abstract in *American Medicine*, states that the use of water depends on the time when it is taken. A glassful taken night and morning makes it effective as an eliminant. Specific growth of the urine is a more important factor in this disease than the amount of albumin. The tension of the pulse is an indication in the prognosis and treatment. When a high tensioned pulse is present he employs a mild mercurial aperient. According to his statement, the effect on the arterial tension of a single grain of a mercurial preparation with slight aperient action is much greater than repeated liquid motions induced by saline; and the renal elimination is increased by the mercurials. This author believes, also, that the starting point of chronic nephritis is some impurity in the blood which acts as an irritant, that by its elimination the renal trouble may be prevented, and that calomel aids in this elimination. Acting on the basis that uremic convulsions are caused by interference with the cortical circulation of the brain, he frequently advises venesection in this condition, but when there is only threatened uremia he orders free purgation by calomel, which usually causes the symptoms to disappear, and the tension of the pulse to be reduced.

SURGICAL TREATMENT.

An account is given in the same periodical of six cases of Bright's disease operated on by P. Rosenstein, and decapsulation of the kidney performed with negative results in every case. The author's conclusions are as follows: Decapsulation of the kidney in grave Bright's disease is a dangerous operation; a permanent cure has not been recorded in any case; improvements were noted, but in one of the improved cases the albumin and casts continued to exist, only the edema disappearing; in the other, headache and scotoma persisted.

INDICATIONS FOR TREATMENT.

The indications for treatment of chronic Bright's disease may be summed up as follows:

1. Early in the disease, to reduce the effect of the toxic substances, in the circulation, on the heart, arteries and kidney substance.

2. When the arterial tension becomes pronounced, to use means to reduce it.

3. Support the heart in well-advanced cases and promote elimination by bowels, skin and kidney.

In carrying out the first point the diet should be light, non-irritating, but not confined to a strictly milk diet. It should include well-cooked vegetables and a small amount of farinaceous and animal food; at the same time produce free elimination by the bowels. The arterial tension may be lessened by the use of calomel aperients and nitro-glycerine. To check the progress of arterio-sclerosis, potassium iodid is recommended by some authorities.

In the treatment of the anemia Weir-Mitchell recommends large doses of the tincture of ferric chloride, from thirty to sixty minims (2-4.) three times a day.

To support the heart early in the disease, caffein, spartein sulphate or moderate doses of strychnia are of value. Later in the disease, when the heart has become greatly enlarged as the result of its efforts to overcome the great tension in the arteries and vessels of the kidney, strophanthus and later digitalis are necessary. Strophanthus has the advantage over digitalis in that it is a good heart stimulant and does not contract the arteries as does digitalis, but it has the disadvantage, as stated by some authorities, of irritating the kidneys. The ordinary pill of calomel, squills and digitalis is a valuable combination in the treatment of this disease.—*J. A. M. A.*

Society Reports--Notes of Interest.

Dysmenorrhea: At the fourth Pan-American Medical Congress, recently held in Panama, Dr. Lucy Waite, of Chicago, stated that stenosis or flexion had nothing to do with causing dysmenorrhea; neither was childbirth the only cure. In three hundred cases the question had been put, "Have you had more or less pain since the birth of your child?" There was more pain in 135; 89 had less pain; in 76 there was no difference. After these data, Dr. Waite thinks operations for relief should cease.

Typhoid Fever: Dr. A. Alexander Smith, New York, said before the Practitioners' Society of New York, that bronchitis had been a prominent feature in thirteen out of thirty-five cases of typhoid fever, recently observed by him. The fact that two of these cases had been sent into the hospital with a probable diagnosis of acute tuberculosis, emphasizes the care to be taken in making a diagnosis between typhoid fever and acute tuberculosis.

Alopecia: Dr. L. Duncan Bulkley, before the Medical Society of the State of New York, gave an analysis of 755 cases of dermatitis seborroica, and 608 cases of alopecia. The latter disease he considers due to a parasite, although that has not yet been agreed upon by all observers. In the treatment of dermatitis seborroica he prefers lotions to ointments, if the scalp is involved, and the lotion he uses is composed of resorcin, alcohol, glycerine and rose water. In some cases he has used resorcin and chloral hydratis, and has found it give better results in these cases.

Cerebro-Spinal Meningitis: A symposium on the subject of cerebro-spinal meningitis was held at the recent annual meeting of the Medical Society of the State of New York. Dr. W. T. Councilman, of Boston, told of epidemics in Massachusetts in 1809, 1864, 1874, and in 1897, the mortality ranging from 20 to 75 per cent. In the last epidemic the mortality had been 65 per cent. Dealing with the symptomatology and diagnosis, Dr. H. L. Elsner, of Syra-

cuse, said he believed that Kernig's sign was an early manifestation of the disease, and that in 90 per cent. of the cases he had seen in six years it was present. He does not, however, consider it pathognomonic.

Water in Fevers: Dr. Beverly Robinson, New York (New York State Medical Association—County Branch), stated he believed in giving water freely in continued fevers. Debove's statistics regarding the treatment of typhoid fever patients with large quantities of water internally show excellent results.

Prostatic Hypertrophy: The belief now obtains, says Dr. L. Bolton Bangs, of New York, before the Medical Society of the State of New York, that prostatic hypertrophy is a chronic inflammatory process which usually has been in progress many years. Among the causes which may produce this condition are: Masturbation, sexual excesses, coitus reservatus, and gonorrhoea. After carefully investigating over three hundred cases, Dr. Bangs states that in over 85 per cent. of these, some unphysiological sexual act was found as a causative factor.

Physician's Library.

During 1904, P. Blakiston's Son & Co., Philadelphia, sold 15,090 copies of Gould's Medical Dictionaries, making the total sales to date 181,173.

The Diseases of Society. By G. FRANK LYDSTON, M.D. J. B. Lippincott Company, Philadelphia and London.

To those members of the medical profession who are interested in the "vice and crime problem," Dr. Lydston's work will prove intensely interesting. After twenty-five years of more or less constant study of this subject—part of which time was spent as Resident Surgeon to the Blackwell Island Penitentiary, New York—Dr. Lydston may well be regarded as an authority on this subject, which is so forcibly coming before the medical profession and society in general.

International Clinics." Vol. IV. Fourteenth series. 1905. J. B. Lippincott Company, Philadelphia and London.

This well-known quarterly needs no further introduction than to say that Vol. IV. of this series is quite up to the standard. A glance at the list of contributors, and the table of contents is sufficient to assure one of its general excellence. Among a long list of interesting articles one might mention "Functional Heart Murmurs: their Causation and Diagnosis," by Prof. Rudolf, of Toronto University, and the report of a case of nerve anastomosis for the cure of Infantile Palsy, by Dr. J. K. Young, of the University of Pennsylvania.

Medical Electricity: A Practical Handbook for Students and Practitioners. By H. LEWIS JONES, M.A., M.D., Fellow of the Royal College of Physicians; Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital, London, etc. Fourth edition, with illustrations. Toronto: Chandler & Massey Limited. London: H. K. Lewis, 136 Gower Street, W.C. 1904.

This work covers the whole subject of electricity applied to medicine. The first six chapters are devoted to the consideration of the principles of electricity and electrical machines, such as induction coils, interruptors, accumulators, static machines and high-frequency apparatus. Then follows the consideration of the application of electricity to diagnosis and treatment of disease. The subject of electrolysis, Roentgen rays, high-frequency currents and photo-therapy, are given special attention. The subject of the electrical treatment in diseases of the nervous system, such as migraine, exophthalmia, goitre, writer's cramp, tremors, hemiplegia, infantile paralysis, neuralgia, neuritis, is fully considered and forms the valuable portion of the work. In teaching these sections one is given the impression that the author is recording his own experience in the treatment of these affections. The book is an excellent one. It is a clear and concise account of all the information which we now possess on the subject of medical electricity.

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EDITORS:

GRAHAM CHAMBERS, B.A., M.B. WALTER McKEOWN, B.A., M.D.

ASSOCIATE EDITOR:

T. B. RICHARDSON, M.D.

MANAGING EDITOR:

GEORGE ELLIOTT, M.D.

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No. 3.

COMMENT FROM MONTH TO MONTH.

A Royal Commission on Tuberculosis was suggested in these pages some months ago, and, perhaps, we may see same in the immediate future. At that time, although in some parts an organized effort was being put forth in an endeavor to prevent and treat cases of tuberculosis, still these efforts were only sporadic; in a great many other places the entire question was in a state of chaos. As all know, there has recently been adopted in the Federal House of Commons a resolution favoring governmental aid; and the very best form that such aid could take at the present time would be that which would provide for the payment of a commission to look into the entire matter as it affects the whole Dominion of Canada, and to report upon the best means of combating the advances of the disease, and of reducing its ravages. The appointment or selection of any such commission would no doubt lie in the hands of the Honorable the Minister of Agriculture; and this brings home to us the fact that Canada might well take a step in advance, and provide us with a Minister of Public Health. Every year there will be arising matters of public health, and if there is anything more worthy of attention than the health of a nation it is time we heard of it. Public medicine has advanced with huge strides in the last quarter of a century; and it seems anomalous to pro-

professional men that business men should conduct the health matters of the Dominion of Canada in such an unbusinesslike method as at present prevails, where matters pertaining to public health are scattered through several departments. The Canadian Medical Association took the matter up some three years ago, and an efficient committee appointed to work. Work has been done; and, although, we understand, the Hon. Minister of Agriculture is favorable to the creation of a separate department, under a new or under his present department, the Government moves not. With a Royal Commission on Tuberculosis in sight, perhaps its appointment may act as a stimulus towards a general round-up on health matters, and a consolidation therein.

Dr. T. D. Crothers wrote a few months ago on "Sundown Journalism," which in ordinary Anglo-Saxon nomenclature means that there are ear-marks of inebriety on many of the journalistic articles of the present day. As Dr. Crothers is looked upon as having some considerable knowledge of inebriates and inebriety, he probably knows something whereof he speaks. After the sun is down, when the darkness of night envelops the land, the journalist with pen in hand swirls away, occasionally taking a nip from a black bottle. He reels off—and reels off. (Of course "Sundown Journalism" does not apply to medical journalists or to those practitioners of medicine and surgery who write journalistic articles for the medical press. Dr. Crothers is a medical journalist himself, and he is not stinging bricks at his brethren of the "fourth estate" of medicine. We are not quite sure how Dr. Crothers makes his diagnosis. Probably it is the uneven alignment which suggests the staggering gait. Probably it is because these articles may smell of the midnight oil (fusel). However, we think Dr. Crothers will have to try again, and let us have something about "Sun-up Journalism." How would "Moonshine Journalism" do?

The newspapers have discovered Dr. Osler with a vengeance, and such being the case things are bound to become mixed a little. It would certainly be a "skinch" for the younger and smaller fry of the medical profession if medical ethics would make the law that all over sixty would cease practising and retire to their laurels and their "cake." Or was it after forty we could all hope to eat "cake"? Or was it that a young man graduating at twenty-one could only hope to eat "cake" after

he had been twenty years in practice? We are going to watch what an eminent American medical writer will have to say upon the question that a man is defunct at forty, and dead at sixty, or moribund at forty and dead at sixty, if that would suit better, for if we mistake not the gentleman we have in mind was graduated at forty and has made a world-wide reputation in the past sixteen years. Exceptions to the rule, as Dr. Osler says, only go to prove the rule, but where the exceptions are so manifest and abundant as to inundate the rule, it were better had that rule never been born. Dr. Osler will most probably soon pray to be delivered from the over-zealous public press, but then reporters generally belong to the age which makes the world. Why should they not be hilarious over the fact that they are it?

Just why medical colleges do not provide for the teaching of the history of medicine is because the curriculum is already filled to overflowing, and the harassed student does not need to be further overburdened. One may think what he will, but the reason why so many seek the walks of medicine in life is to make a livelihood, believing it can be done with very little work. After trying for awhile the tyro generally finds that he has made a huge mistake, and very often wishes for other employment. The study of medicine is a pleasurable and interesting study; the practice is a very different thing. One way to accomplish instructing the student-body in both the history of medicine and the code of ethics is to take these matters up in their own medical and literary societies, which now seem to be pining away for want of support. We cannot too often keep before us the example of the masters of the past.

The secretary of the Canadian Association for the Prevention of Tuberculosis met a handful of medical men in the Medical Library Building, on the afternoon of the 3rd of March, to interest them in the coming annual meeting of the Association at Ottawa on the 15th prox. So small was the attendance that it would appear that Toronto does not take a very active part in the workings of this organization: and, indeed, we doubt if any great progress will be made until governments recognize their responsibility in the matter of protecting the lives of the people. The public has got to be educated if consumption is to be lessened; and education of the public cannot take place without considerable expense. The Federal Government ought to bear the bulk of this expense. A paltry thousand dollar grant is not

sufficient. It will require ten to twenty thousand at the least per annum. There is another way the people can be educated. It is by means of the daily press. Every large daily should have attached to its editorial staff a medical man to supervise all medical news before publication, and to write upon matters pertaining to the public health. The newspaper first to take up this department will find it a profitable one.

The manner of collecting the annual subscription to the Canadian Medical Protective Association does not seem to be a popular one. An organization which has it in its power to fill an exceedingly large and important sphere in the medical profession of the Dominion should receive wide and generous support. All must come to recognize that this is purely a mutual benefit association designed only to protect its members. It is insurance from bother, worry, loss of sleep, and no end of trouble. It is soul-satisfying to know that if perchance a suit for alleged malpractice be brought in a court of law, an organization of your fellow practitioners is behind you upon whom the responsibility of your defence lies. The organization has now been in existence three years, and never once, so far as we know, has any one whom it defended been ordered to pay damages. At the most, at the present time, the Canadian Medical Protective Association could not have more than a membership of 6,000; it probably has one-twentieth of that number. In order to make it successful it must have a good membership, and 1,000 at the least should join and stay joined. It seems to be true that a great many do not care to be protected; and when asked to become members they consider that they are paying some sort of a compliment to the one who asked them to become members. Once a name is on the books, that name should be considered a member until, or as long as the organization lasts, and there should be a clause in the constitution to that effect. If a man joins an ordinary club he is responsible for his fees until he resigns from the privileges of membership. It would seem wise, therefore, for the secretary-treasurer to draw upon all members at the end of each year. Then as to getting in new members. The circular method is not considered a good one, and it is expensive. We all pay very little attention to the circular form of advertising; and as one practitioner expresses it these only act as food for the waste basket. Probably the President and Executive would consider it wise to appoint some one in each city and large town or county to collect and forward

fees to Ottawa. An executive of three or four for each province does not appear to fill the required end.

Speaking of organizations and associations, and the many of these we have in Canada, emphasizes strongly the fact that the Canadian Medical Association, the national and the parent organization, should be re-organized with provincial, city and county branches. We would have then, for instance, the existing provincial societies as provincial branches. The city societies could be made city branches, and the county societies, where these existed, could be made county branches, or branches established in every county. Thus could the medical profession all over the country become thoroughly organized, and be of untold service not only to itself, but would make the Canadian Medical Association an organization of a great deal of importance. It would also be sure to benefit in great measure the Canadian Medical Protective Association. It would help on those reforms which are required so much, the establishment of a Public Health Department and Dominion Registration. It could pronounce authoritatively for the medical profession of the Dominion of Canada upon all matters of medical policy pertaining to that profession. There must be in each county medical men progressive enough to organize these branches and keep them going. Say, for instance, the Oxford County Branch of the Canadian Medical Association be formed. No doubt most of the medical men in Oxford would join that branch. The constitution could be so framed that a member of a county branch would be as well a member of the provincial branch, in this case, the Ontario Medical Association Branch, or the Ontario Branch of the Canadian Medical Association, and so a member of the national organization. All fees, which ought to be at least \$5 per annum, could be collected each year by the county branches, which should hold monthly or bi-monthly meetings. One dollar of this could be retained by the county branch, \$2 forwarded to the provincial branch, and \$2 to the national association. This reorganization would keep alive the present existing societies, and would not antagonize any of them. Communications on this subject for publication are solicited.

Editorial Notes.

"Chloroform at Sixty."—No reflective man reaches his meridian without realizing the value and sacredness of human life in its general sense as well as in its individual manifestation. The profession of medicine stands as the guardian of human life, and it is something of a shock to even the most careless that a representative of the profession should speak in favor of shortening the term of life as a routine measure. The Anglo-Saxon race particularly is exacting in its standards of dignity, sympathy, and insight for the physician, in its demands that he individualize, not generalize, in his measures. An utterance from a leader in the profession reflecting on the usefulness of existence beyond a certain period comes with depressing force to the sensitive, reacts with doubt and distrust upon the general profession. As a serious utterance it would be pessimistic in its every tendency; as a jest it is foreign to the genius of the profession, worthy only of the professional joker or the notoriety seeker. Dr. Osler, of course, cannot be classed under either of these categories, and it is peculiarly unfortunate, just on the eve of his departure from America to take one of the leading medical professorships in Great Britain, that a public utterance of his should be distorted by newspaper "enterprise" apparently to signify depreciation of human age-value. We have not seen the text of the address, but Dr. Osler telegraphs us: "Contradict, please, in *American Medicine*, that I advised chloroform for men at sixty. Wm. Osler." The sympathy of all physicians who respect the dignity of their profession and appreciate the value of individual human experience should be extended to Dr. Osler for his annoyance under this most recent instance of newspaper misunderstanding of professional ideals.—*American Medicine*.

"Oslerize"—An Unfortunate Addition to the Dictionaries.—Lost is the journal, lay or medical, yellow, pink, or white, that does not nowadays have a column devoted to Dr. Osler's reported opinions concerning the value, or preferably the valuelessness, of older men. To oslerize, to be oslerized, or worthy to be oslerized, are new terms which the lexicographer must henceforth define. And with a groan! Because he will have to caution against confounding the term with *Bowdlerize*, which

also means to delete; the objects excised are somewhat different, although the methods and motives may be similar. It is true that a sense of humor is necessary to save us from a too burdensome insistence of the tragic realities of life, but then it must spring from a just estimate and accurate perception of "things as they are," and especially must it not, *per se*, become a serious pursuit. How the professional representative, and consequently the profession itself, stands in the eye of the newspaper is not wholly a matter of indifference to any of us. And that is as true, perhaps more true, even if the newspaper reader has false and distorted ideas of the opinions of medical men. The newspapers already credit two suicides to their absurd reports of the value of men sixty years old. Some six months ago an essay on the work of great men in the profession was published, from which a couple of sentences may be quoted: -

Only rising, young, and unknown men bring the work and its value to recognition. It is indeed usually the young ones that make the discoveries. In science, Davy, Young, Fresnel, Arago, Forbes, Joule, Mayer, Helmholtz, Sir Wm. Thomson, Clausius, Rankine, and others, were in their twenties when they made their greatest discoveries.—*American Medicine*.

The Function of Men Over Fifty Years of Age.—

It is true that the energizing discoveries and forces of the world are usually made and launched by the younger men. But there is another function and duty quite as valuable to humanity as discovery—more valuable, one must say—because discovery is bound to come soon or late, and by one mind, if not by another. The history of discoveries shows that they are practically made generations and perhaps centuries before the world accepts them. Their acceptance and utilization are, in a word, delayed by prejudice. By whose prejudices? Solely and simply by those of the elder men. They have passed the energizing and discovering time of life, and alas, they have not learned wisdom. Their true function is that of judgment, guidance, and advice; and almost without exception the older men, the so-called leaders of the profession, do not pronounce right judgment, do not guide expertly, do not advise correctly as to what and where is medical truth. It was twenty-two years after a clear-headed old farmer, who had been driven to practise vaccination by many years of observation of facts, had demonstrated the value of the measure—it was twenty-two years before Jenner dared inoculate the

Phipps boy. In announcing his discovery of thoracic percussion, Auenbrugger wrote:

I realize that envy and blame, and even hatred and calumny, have never failed to come to men who have illuminated art or science by their discoveries, or have added to their perfection.

The opposition of Liebig and other leaders to the theory of micro-organisms kept the world in ignorance of it for a generation. The work of Morton in the discovery of anesthesia, of O. W. Holmes in that of puerperal fever, of McDowell, and of Sims in gynecology, as well as of almost all discoverers, was killed as long as possible, and in exactly this way, and precisely by the elder men, the leaders, the judges, the official spokesmen of the profession. If inclined to be ironically humorous, one might suggest that a lecture to our brother elders might well be devoted to a criticism of their evident dereliction in this duty. Dr. Osler blames old men for being no longer young, a foolish criticism at best, and too indiscriminately made, because much of the energizing work and many of the great discoveries have been made by men over forty; but he fails utterly to say a word against their wretchedest fault—the rejection of new truth that the young have discovered.—*American Medicine*.

“**The Surgeon and the Public**” is the title of a paragraph in an article in a recent number of *McClure's Magazine*, designed to plebify modern surgical ideas and methods. The matter is thus introduced:

“With increased knowledge, the attitude of the surgeon toward the public is changing. Men like Murphy of Chicago, Keen of Philadelphia, Kelly of Baltimore, and Richardson of Boston, are in revolt, more or less open, against the old tenet that the truths of medical science must not be profaned by exposure to the ignorant lay mind. Within certain limits, they are making good use of the public press on a principle which I recently heard expressed thus:

“It is an axiom of surgical practice that the earlier the case is taken, the better the chance of success. It follows that, if we can educate the public in the matter of the common surgical ailments, our patients will come to us more promptly, and we can get better results. Beside, with the mystery dissipated, the terror of operations will be greatly diminished. Take a very common case—appendicitis. I venture to say that the majority of persons believes the operation for appendicitis a very danger-

ous one. In point of fact, the mortality is less than in diseases which are not feared at all; measles, for instance, or whooping-cough. Could we implant that fact in the public mind and get all our appendicitis cases early, instead of at the last development, as many of them now come to us, we could reduce the present low mortality by half. The policy of silence is a relic. It was made for the days when a physician who talked exposed his ignorance. Surgery is no longer empiric; we know what we are doing and we can afford to tell it."

The article, however, closes with this quotation from Senn:

"We have waded through the slough of fads. We have left behind us such errors as opening the skull for idiocy, and in hundreds of insane asylums the needless victims of our rage for ovariectomy mark the path by which we have come back to rational methods in gynecology. There are still many who, led into surgery by the hope of rich rewards, have had no time to learn its scientific principles. Brilliant operators, they diagnose with the knife. Remember this: That, with rare exceptions, the knife should never be taken up until the trouble is determined. The time for conservatism has come. We are here to assist nature, not to dictate. The great art of modern surgery is to limit operations to the cases where they can be of benefit."

We have made these excerpts for the purpose of bringing into closer juxtaposition and contrast illustrations of the newspaper man's idea of logic. "*The knife should never be taken up until the trouble is determined,*" is set side by side with the appeal, real or supposed, to the lay public to decide itself when to come to the operating surgeon! The diagnostician, the internist, and the family physician are therefore to be dispensed with? According to the magazine writer the "trouble is to be determined" solely by the patient and his lay friends, educated by those surgeons who make "more or less open," but "good use of the public press." It is evidently a fitting opportunity for the surgeons to disclaim the injudicious zeal of the reporters.—*American Medicine.*

News Items.

CANADIAN.

THE typhoid fever epidemic at Winnipeg is at an end.

IT took \$95,508 to run the Montreal General Hospital in 1904.

DR. D. S. HOIG, Oshawa, has been created an associate coroner.

DR. G. STIRLING RYERSON, Toronto, has returned from Atlantic City.

THE death is announced of Dr. Benjamin Hammond, of Portage la Prairie.

IT is rumored that the medical faculties of Bishop's and McGill will amalgamate.

DR. F. G. FINLEY has been re-elected secretary of the Montreal General Hospital.

THE Endowment Fund of the Montreal General Hospital now amounts to \$75,000.

THE Diet Dispensary of Montreal has purchased a new home at a cost of \$12,000.

DR. D. M. ANDERSON, Toronto, is recovering nicely from an operation for appendicitis.

THE number of patients treated in the Dauphin, Man., hospital during 1904 was 334.

THE medical men of Victoria B.C., will deliver lectures in the public schools of that city.

THERE are now fifteen lepers in the Lazaretto at Tracadie, N.B., five females and ten males.

THERE were 3,156 patients admitted to the Montreal General Hospital in 1904. There were 251 deaths.

IN the out-door departments of the Montreal General Hospital, during 1904, there were 38,932 consultations.

DR. JAMES MCGREGOR STEVENSON, of Denfield, Ont., is dead. He was a gold medalist of McGill University.

THE Montreal City Council has voted an additional \$700 to the Montreal League for the Prevention of Tuberculosis.

WINNIPEG will shortly provide its Medical Health Officer with an assistant, who will be a bacteriologist.

HEREAFTER the medical men of Winnipeg will be required to register all cases of typhoid fever occurring in that city.

THE Montreal General Hospital had an income last year of \$83,589, which was \$7,605 less than for the previous year.

THE death is announced of Dr. Niven Agnew, at Brandon, Man., on the 1st of March. Dr. Agnew was formerly of Toronto.

THE total number of patients treated in the Winnipeg General Hospital during January amounted to 593. The deaths numbered forty.

DR. NEIL J. McLEAN, of Winnipeg, has qualified for, and is now enrolled as a Licentiate of the Royal College of Physicians, and a member of the Royal College of Surgeons of London, England.

DR. ALEXANDER McPHERAN, professor of medicine in the University of Toronto, has recovered from an attack of la grippe and pneumonia, we are glad to state, and will go South for a convalescing period.

DR. WESBROOK, an old Winnipeg boy, has been elected President of the American Health Association. Dr. Wesbrook is State Bacteriologist of Minnesota, and a short time ago paid a visit to Winnipeg.

DR. BRACKEN, the Health Officer of Minnesota, was in Winnipeg a short time ago looking into the cause of the typhoid fever epidemic through which that city has passed during the last six or eight months.

DR. DRAESEKE, late surgeon on the C.P.R. liner "Athenian," has been visiting at his old home at Dundas, Ont. Dr. Draeseke will probably ship on the "Empress of China" as surgeon on his return West.

DR. SYDNEY E. TYNER, of Kingston, Ont., died in the New York Orthopedic Hospital, of spinal meningitis on the 14th of February. Dr. Tyner was graduated from Queen's last spring and had only recently gone to the New York Hospital to fill the position of House Surgeon.

THE death is announced of an old Winnipegger, Dr. J. A. Greig, at North Yakimo, Washington, U.S.A. Dr. Greig was a native of Kincardine, Ont.

THERE were 570 patients treated in the Toronto General Hospital during February. Twenty-one died and there were ten births in the lying-in department.

DR. J. D. LAFFERTY, Registrar of the College of Physicians and Surgeons of the North-West Territories, is spoken of as a likely Lieutenant-Governor of Alberta, once that province is created. Dr. Lafferty practises at Calgary.

THE Canadian Association for the Prevention of Tuberculosis, which meets at Ottawa on the 15th of March, has petitioned the Hygiene Committee of Montreal, asking to co-operate with Montreal City Council in the establishment of a sanatorium in the Province of Quebec.

A NEW wing was opened in connection with the Woodstock, Ont., Hospital, on the afternoon of the 14th of February. Amongst those present from Toronto were Dr. Charles O'Reilly, superintendent of the Toronto General Hospital; Dr. H. A. Bruce, Dr. L. L. Palmer, and Dr. B. E. McKenzie.

DR. WM. BURT, President of the Ontario Medical Association, recently paid a visit to the city to review the work done by the two main committees in advancing the Association's interests for the year. A considerable number of papers have been promised—these, with the assurance of Dr. Ochsner's presence already guaranteeing the success of the meeting. This will take place Tuesday, Wednesday and Thursday, the 6th, 7th and 8th of June, in the Medical Buildings, Queen's Park. The character of the work done by this parent Association of the province warrants the attendance of every practitioner who can get to hear the papers presented.

OFFICE OF THE PROVINCIAL BOARD OF HEALTH.—Deaths for January, 1905, from all causes as reported by 760 division registrars for the first month of the year are 2,216, and for the same month last year 2,200 were reported from a somewhat similar population. The population represented in these returns is 2,019,590, which makes the mortality rate 13.1 in 1,000, being the same as in 1904. As may be seen by the comparative table the total number of infectious diseases show a slight increase, which is largely due to the more complete return of measles, there being 236 more cases, but it is pleasing to know the deaths

are less by 5.4 per cent. Smallpox and scarlet fever show a marked decline, while diphtheria has been more prevalent, yet the case mortality remains much the same, being 15.2 per cent. in 1904, and 16.2 per cent. in 1905. Out of 412 cases nine cities reported 269 cases with 34 deaths. Typhoid fever with a greater number of cases reported, and fewer deaths would indicate that physicians are complying more readily with the Health Act in notifying health officers and Boards of Health of the cases coming under their care, or else the disease is of a milder type than that of a year ago. Tuberculosis caused 169 deaths, or ten less than in January, 1904.

COMPARATIVE TABLE.

DISEASE.	1905.		1904.	
	CASES.	DEATHS.	CASES.	DEATHS.
Smallpox.....	10	0	103	0
Scarlet Fever.....	223	12	380	24
Diphtheria.....	412	67	382	58
Measles.....	268	4	32	2
Whooping Cough.....	27	4	25	7
Typhoid Fever.....	69	21	39	23
Tuberculosis.....	174	169	179	179
	1183	277	1140	293

DIPHTHERIA BY CITIES.

CITIES.	CASES.	DEATHS.	POPULATION.
Chatham.....	12	0	9,068
Guelph.....	1	1	11,496
Hamilton.....	36	3	52,634
Kingston.....	2	0	17,961
London.....	18	0	37,983
Ottawa.....	4	0	59,928
St. Thomas.....	1	0	11,485
Stratford.....	1	0	9,959
Toronto.....	194	30	208,040
	269	34	

UNITED STATES.

A **FIRST Aid Journal** will be established in Chicago in March.

NEW YORK has a squad of twenty-five sanitary policemen, specially appointed to arrest evening "spitters."

It is stated that the army canteen will not be re-established at the present session of the United States Congress.

DR. A. JACOBY, of New York, has made a presentation of 5,000 monographs to the New York Academy of Medicine.

THE Appellate Court of Chicago, rules that a surgeon must get the consent of his patient before he performs a major operation.

THE members of the Chicago Medical Society will shortly formally present to that body a memorial bust of the late Dr. Christian Fenger.

THE University of Cornell's brainless frog which lived more than five years after its cerebral hemispheres were removed by Dr. Wilder, is dead.

MRS. ELIZABETH FLEISCHMANN ASCHEIM, a member of the Roentgen Ray Society of the Pacific Coast, has had to have her arm amputated on account of X-ray burns.

THE largest magnet for surgical purposes which has been constructed has an iron core of four and one-half feet in diameter, and was built under the supervision of a surgeon of the Bridgeport, Conn., hospital.

AT the Samaritan Hospital, Philadelphia, occurred an example of the danger of ether administration near a gas jet. Three of the assistants were burned, one quite severely, but the operator and patient escaped unhurt.

THE Medical Society of the County of New York considers that it is undesirable that in any directory other than a medical one, that large type be used for medical men, and that anything but the name, address and telephone number should appear.

DR. E. C. DUDLEY, the eminent gynecologist, of Chicago, threatens suit against an educational society for using his name in connection with a "Practical Home Treatment" book of which he had no knowledge whatever until a canvasser called upon him to sell him a copy of same.

BRITISH AND FOREIGN.

THE first woman physician was Madame Boirin, who was given the degree of doctor of medicine about a century ago.

PROFESSOR KOCII has gone to South Africa to complete researches begun on the cattle plague.

THE death is announced of E. Abbe, the improver of the microscope. To him bacteriology owes its marvellous strides in recent years.

A COMPANY of British physicians and surgeons will visit Paris in a body, under the leadership of Sir William Broadbent, on May 11th, 12th and 13th.

PROFESSOR MIKULICZ was operated on by Professor von Eiselsberg, of Vienna, in January for umbilical hernia, and an uneventful recovery is reported.

IN nine months there have been but forty deaths from disease in the immense Japanese army commanded by General Oku, although, since the 6th of May last, there have been 24,642 cases of disease. Of this number 5,070 were cases of beri beri.

A PARIS publisher recently issued a pamphlet on Atavism; and a young man, engaged to a widow, read it, and now refuses to marry the widow in case children by the marriage would look like the former husband. The widow is suing the publisher for \$20,000.

THE first crematorium was opened in England in 1885, but cremation is not very popular there yet. The number of cremations performed since that time number 4,407. The success of the movement is the outcome of the untiring advocacy of the late Sir Henry Thompson.

A MEMBER of that well-known house of E. Merck, Darmstadt, Germany, Willy Merck, Ph.D., has had the honorary degree of doctor of medicine confirmed upon him by the University of Halle, Germany, by reason of the numerous meritorious contributions emanating from him towards the advancement of the therapeutic side of medicine.

Special Selection.

IRON THERAPY IN THE TREATMENT OF SMALLPOX.

BY MARTIN C. WOODRUFF, M.D., ST. LOUIS, MO.

As far back as 1893 my attention was first called to Pepto-Mangan (Gude). But it was not until the spring of 1895, when I was appointed Superintendent of Quarantine and Smallpox Hospital at St. Louis, that I had opportunity to test thoroughly its merits.

Upon my entrance to the aforesaid institution I found 118 patients in various stages of variola. The sanitary conditions were not of the best, consequently septicemia, pyemia, boils and abscesses were of frequent occurrence; in fact, one ward of some twenty-five odd beds was used exclusively for this class of patients.

In my endeavor to combat this condition of affairs, my mind of necessity reverted to the iron preparations. After using iron in its numerous forms, I found it entirely too astringent and acid to exhibit for any length of time.

It was at this time that my previous experience with Pepto-Mangan (Gude) led me to make some experiments to ascertain for my own benefit the actual value of iron and manganese in these conditions.

After several months' continuous examination (microscopical) I found that in all cases of variola the hemoglobin was diminished to less than 42 per cent., and the red blood corpuscles were diminished to such extent that the actual average count in some eighty-five cases was less than 2,273,000. After four weeks' treatment (the general average time patients were confined to the institution) the hemoglobin had increased 50 per cent. and the red blood cells 46 per cent. Believing that these cases were exactly suitable and amenable to treatment by Pepto-Mangan (Gude), provided it would do what was claimed for it, I decided to exhibit it exclusively and prove the results by actual demonstration in the increase of the hemoglobin percentage and the increase of the number of red blood corpuscles.

The similarity of these cases of necessity make the history

of one the history of all. For this reason I will not burden my readers with a repetition of a number of cases, but will confine myself to a few exceptional cases.

CASE 1.—Age seventeen; diagnosis, variola confluens, followed by a general pyemia. Period of treatment, twenty-four weeks. First count 2,323,000, hemoglobin 42 per cent. Second examination, after eight weeks, red blood cells 3,722,000, hemoglobin 58 per cent. Third examination, sixteen weeks, red blood cells 4,122,000, hemoglobin 67 per cent. Fourth examination, red blood cells 4,899,000, hemoglobin 79 per cent. Result, cured.

CASE 2.—Age twenty-five; diagnosis, variola semi-confluens, followed by puerperal septicemia. Period of treatment, fifteen weeks. First count, 3,123,000 red cells, hemoglobin 62 per cent. Second examination, red cells 5,325,000, hemoglobin 89 per cent. Result, cured.

CASE 3.—Age sixteen; diagnosis, variola semi-hemorrhagic, uncomplicated. First examination, red cells 2,824,000, hemoglobin 42 per cent. Period of treatment, six weeks. Second examination, red cells 4,376,000, hemoglobin 83 per cent. Result, cured.

CASE 4.—Age ten; variola discreta with scarlatina, both infections occurring simultaneously, a most malignant and rare disease. In this double infection the anemia and depression were profound. First examination, red cells 2,036,000, hemoglobin 28 per cent. Period of treatment, eight weeks. Second examination, 5,102,000 red cells, hemoglobin 88 per cent. Result, cured.

At the beginning of my first term as Superintendent of Quarantine the mortality was 21 per cent. In twelve months it has been reduced to 9 per cent., and in the last year of my incumbency there were but sixteen deaths in 1,749 cases, showing the very low mortality of less than 1 per cent. It may not be generally known, but it is a fact, that death occurs in variola during the time that absorption begins to take place, which is about the twelfth day of the eruption.

Now, if by the administration of drugs the percentage of hemoglobin and the number of red blood cells can be brought anywhere near the normal before this period of absorption takes place, we, of necessity, increase the power of resistance tenfold.

I would not like to be understood as saying that the mere use of pepto-mangan caused the remarkable decrease in the mortality at our institution, though I am quite sure that it played a major part in producing the result.

During my incumbency as Superintendent at Quarantine Hospital, I had under my sole care a case of leprosy, which was finally pronounced cured after no recurrence had taken place for a year after a total abeyance of all symptoms. From first to last in the treatment of this case pepto-mangan was used as a tonic and reconstructive. The blood count was never made in this case at any time.

Eight years of my time was devoted exclusively to this institution, and I treated personally some 4,000 cases, and that my faith in pepto-mangan, as the very best treatment in variola, had not diminished one iota is exemplified by the purchase of quantities just prior to severing my connection with the small-pox hospital.

Before bringing this article to a close, I wish to make it plain that constipation throughout the entire course of variola is a contending factor. For this reason preparations of iron, which would further aggravate this condition, are contraindicated. At no time did I find this to be the case where pepto-mangan was administered.

Another and very great feature is the stability of the preparation. In my twelve years' experience with this preparation I have never found a single bottle with the least particle of precipitate. Last, but not least by any means, it being a perfectly neutral solution, it can be taken indefinitely without the least fear of injury to the patient's teeth.—*Reprinted from The American Therapist*, June, 1904.