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THE CANADA LANCET

A Monthly Journal of Medical and Surgical Science, Criticism and News.

THE OLDEST MEDICAL JOURNAL IN THE DOMINION.

Vol. XXXII }
No. 5 }

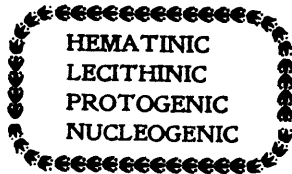
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NEW YORK POLYCLINIC.—April 1897.
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Adjunct-Professor, Genito-Urinary Diseases, at the New York Polyclinic
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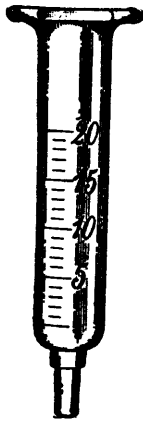
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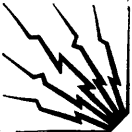
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Terpin Hydrate was first physiologically investigated by Lepine in 1885, who found it to act both upon the mucous membranes and nervous system in a manner similar to the Oil of Turpentine. It has since been used in Chronic Bronchitis, and in advanced stages of acute bronchitis, especially where the secretion is free, also in chronic cystitis and gonorrhoea.

Dose from 2 to 3 grains four to six times per day.

Each fluid drachm contains one grain of Terpin Hydrate. At a temperature of 55 degrees or lower there might be a slight crystalline deposit which will re-dissolve when warmed, but the therapeutic value is not impaired.

Since the issue of our circular some years ago, drawing the attention of the Profession to the value of Terpin Hydrate as a therapeutic agent in the treatment of Bronchitis, Bronchial Catarrh, Asthma and like affections of the throat and respiratory organs, the success of this preparation has reached far beyond the most sanguine hopes of its many supporters. We believe the unqualified statement of the distinguished authority Lepine, that "it is the best expectorant in existence" has been fully substantiated by those who prescribed it.

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- Terpin Hydrate..... 2 grains.
- Codeine Sulphate..... 1-8 grain.

This combination has proved to be most acceptable, embracing the expectorant and calmative properties of these two most valuable remedies. The experience of those who have already used this latter elixir has declared it to be eminently successful in allaying the distressing cough following Influenza and other bronchial affections, without disturbing the stomach by creating nausea or loss of appetite; nor does it arrest the secretions, cause constipation, headache or other derangements.

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DAVIS & LAWRENCE COMPANY, LIMITED - MONTREAL.
GENERAL AGENTS.

THE CANADA LANCET.

VOL. XXXII.

TORONTO, JANUARY, 1900.

No. 5.

A CASE OF INTERSTITIAL EMPHYSEMA.

HORACE C. WRINCH, M.D.C.M.,
House Surgeon St. Michael's Hospital, Toronto.

A few months ago I had the opportunity of making observations on a case of subcutaneous emphysema and finding that it is sufficiently rare to be of general interest, I have taken the liberty of submitting an outline of the case.

The patient was a well developed male child of six and a half months. From birth he grew rapidly until three months old, although a slight cough had developed by that time. The cough persisted and was treated with mild expectorants. His growth then was observed to be less rapid than before. When questioned, the parents gave a history absolutely free from tubercular taint, so that that disease was not given the consideration it should have had as an etiological factor. Subsequently the father was found to be phthisical, the specific germs being found in abundance in his sputum.

The emphysema was noticed first one evening when the child was being prepared for bed. It appeared as a soft swelling above the clavicle on the right side of the neck. The child had been more uneasy during the day but had not been noticed to have any severe attacks of coughing that day. Next morning the swelling had extended considerably. The skin of the neck was distended all round except over the surface of the trapezius muscles. The inflation had not extended on to the face but had followed up the space between the ramus of the jaw and the ear on the left side and was beneath the scalp nearly to the middle line. Downwards, it extended over the chest about as far as the lower attachment of the great pectorals. It extended out on to the shoulders and into the anterior fold of axillæ but not posterior to these points.

On the third day the inflation had extended farther beneath the scalp and down the chest.

On the fourth day it had reached the scrotum and distended it to the size of an orange, having followed downwards on the left side anteriorly and passing over Poupart's ligament at the internal ring. Some inflation had also reached the dorsal surface of the body from the left side.

On the fifth day there was very little change in the condition. Death occurred on the morning of the sixth day from the time the swelling was first noticed.

Other symptoms noticed during the progress of the attack were, a rapid pulse, distress on coughing, breathing labored and jerky at times, becoming rapid towards the end; temperature slightly above normal. During the last three days there was marked retraction of the subcostal region during each inspiration. There was also some dilation of the capillaries over the most distended areas, but on the whole the nutrition of the skin was not much impaired.

A post mortem examination was made five hours after death. The following extracts from the notes will give an idea of the condition found present:

"Parts of subcutaneous tissue distended as described above and as shown in photos taken at time of making autopsy. A good deal of emaciation where the skin was not distended.

"On making incision, subcutaneous tissues of chest were dry and almost bloodless. Air could be squeezed out at edges.

"On opening thorax, a condition of pneumothorax on left side, the air rushing out as soon as the left pleural cavity was perforated, the lung being found collapsed and lying at posterior part of the cavity. Weight of lung $2\frac{3}{4}$ ounces. There was no effusion or adhesion. The lung showed a number of large and small emphysematous bullæ beneath the pleura. This condition could be traced from the root of the lung up into the neck, suggesting the probable source of the air in the subcutaneous tissues. In the right pleural cavity there was no air or fluid, but the lung was firmly adherent to the parietes over the upper and middle lobes. Weight of lung $8\frac{1}{2}$ ounces.

"On section of lungs, microscopically, the left was in a condition of miliary tuberculosis throughout. No cavities. The right was riddled by cavity formation in its upper and middle lobes, the pleura being greatly thickened over the cavity area. The rest of the lung showed miliary tubercles and was almost consolidated.

"The liver was large, pale and smooth. Weight 14 ounces. Cut surface greasy in appearance and to touch.

"The spleen showed small gray tubercles over great part of surface. Weight $1\frac{1}{2}$ ounces.

"The heart and kidneys appeared normal. The intestines were pale in color, not distended."

"Specimens from the heart, liver, lung, spleen and kidneys were prepared and stained for showing bacteria in tissue. Microscopic examination failed to demonstrate either tubercles or bacilli in the heart or kidney, but in both liver and spleen the organisms were found present. In these latter organs they were found only enclosed in giant cells and not at all in the tubercles. In the lungs the bacilli were present in immense numbers, almost all through the specimens examined.

"Microscopically the liver was found to be in a condition of marked fatty degeneration."

Beside the condition of subcutaneous emphysema which in itself is of comparatively rare occurrence, the fact that the lungs could reach such an advanced stage of disease in so young a patient and with so little outward manifestation, together with the presence of a pneu-

mothorax, constitute the case described one of more than usual interest. In searching the literature for similar cases, some seven were found, described by Fowler & Godley, but of these, none occurred at a less age than three and a half years, and several of them followed the operation of tracheotomy, in which cases the air was allowed access to the subcutaneous tissues directly through the external wound instead of indirectly through some communication from the lungs, as must have been the case in the present instance.

In making a diagnosis the condition would have to be distinguished from oedema and from lesions due to the action of the *Bacillus Aerogenes Capsulatus*. From the former the characteristic crackling sensation to the touch in place of the boggy pitting of oedema would be sufficient distinction. From the latter, the facts that (1) the gas appeared so long before death, (2) it originated apparently at a single point and then spread in the direction of least resistance, and (3) that no gas was found in the liver, spleen, kidneys or other abdominal organs, while not absolutely excluding the gas bacillus as the disturbing element yet together furnish a strong argument against it. The fact though that the gas ceased to spread after death would practically exclude the possibility of the condition being due to the gas bacillus as in that case it almost invariably develops most rapidly during the hours immediately succeeding the death of the subject.

CLINICAL DIAGNOSIS OF TYPHOID FEVER.

The following report of Professor Osler's paper, read before the New York State Medical Association at its last meeting, is from the *Medical News* of November 11th, 1899:

"There is no one symptom, nor two symptoms, nor three symptoms that are always present in typhoid fever. Any or all of the usual symptoms may be absent. We do not judge by a few positive signs. The diagnosis is a rational one, and must be often made on circumstantial evidence. Yet few diseases are so certain in their diagnosis as typhoid fever. These are particularly the words with which Elisha Bartlett begins his chapter on the diagnosis of typhoid fever, written in the year 1842. They are as true today as they were then, despite all the work that has been done on the subject since.

"For instance, very often we meet with cases in which, for from five to eight days, there is slight fever, and in which we sometimes can feel the edge of the spleen. If rose spots do not develop we are apt to call them simple continued fever. In a number of cases, however, after the cessation of the fever, patients have given the Widal reaction, showing that it was really typhoid fever. A recent epidemic in Switzerland was very interesting in this particular. Some thirty cases of frank typhoid fever were treated in the hospital. Twelve other patients, who had slight headache, moderate temperature, and general malaise, were not put to bed because they were considered not to have the disease. The application of the Widal test after their convalescence showed that they had had typhoid fever. The Widal test will undoubtedly greatly restrict simple continuous fever as we know it now.

"Too much insistence has been given to the abdominal symptoms of typhoid fever. It is very possible for the disease to occur absolutely without abdominal symptoms. Out of thirty-five cases that have been under his care during the last month only four patients have had distinct abdominal symptoms.

"Beside the enteric type, there are forms of the disease in which the cerebrospinal, the pulmonary and the renal symptoms are of most importance. Many cases of sporadic cerebrospinal meningitis are undoubtedly typhoid fever of the meninges. Very often the typhoid fever is concealed by the occurrence, in the midst of a more or less continuous fever, of a consolidation of one or more lobes of one or both lungs. Undoubtedly certain cases of so-called acute nephritis are really renal typhoid. The disease may run on without other symptoms until the development of rose spots betrays the nature of the disease. There may be no fever at all, or it may begin very abruptly; there may be rose spots, intestinal symptoms may be entirely absent, and so there may be no diazoreaction. The Widal test may be positive only very late in the disease, or may not occur until after the fever has ceased. There may be no leucocytosis.

"Repeated chills usually means malaria. The differential diagnosis of malaria is not so difficult as has been thought. No continued fever diagnosed as malaria here in the North in former times was probably anything but typhoid. The country was shocked during the Spanish-American war by the discrepancy of reports and the disagreement of doctors with regard to the existence of typhoid or malaria in the camps. It was not the army surgeons who were to blame, nor the profession of the country, but the teachers at our medical schools who have not insisted enough in the distinction between these two diseases. Malaria is such an accommodating word. It covers such a multitude of diagnostic sins. It was at least as consoling in its way as the unctuous word Mesopotamia to the old woman in the story. Above Mason and Dixon's line an intermittent fever that does not yield to quinine is not malaria. Practically only tertian fever exists at the North, and this yields readily to quinine in thirty-six or forty-eight hours. At the South we have estivo-autumnal type, which gives rise to a remittent-fever. The curve reaches a fastigium and then does not vary by a degree perhaps for days. The temperature chart is like a map of the Pennsylvania Railroad; that of ordinary malaria is more like the multi-serrated line of the Baltimore & Ohio. The estivo-autumnal type may resist quinine for two or three, or even four or five days. The parasite of the disease, too, is harder to find, so that there is more reason for mistake in diagnosis. Out of a thousand cases observed at Baltimore at John Hopkins, in only one case did malaria and typhoid occur together. In general and obscure febrile cases it is better to suspect typhoid than malaria. Our position in the matter should not be the Anglo Saxon one of thinking the case innocent of typhoid until proved, but rather the Galic position of considering the case guilty of typhoid until it is demonstrated to be innocent. Two works should be on every physician's table—Keen's 'Surgical' and Hare's 'Medical Complications of Typhoid Fever.'"

THE EARLY DIAGNOSIS OF TUBERCULOUS JOINT DISEASE.

BY LEONARD W. ELY, M.D.,

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The diagnosis of advanced tuberculous disease of joints is a simple matter. The discharging sinus, the distorted and shrunken limb, the ankylosis, and perhaps the visceral complications present a picture easily understood by the least skilful. The early diagnosis, when the disease is still curable and the return to function still possible, is somewhat more difficult, but really of more importance. In the early stages the disease is seen by the general practitioner or by the general surgeon, and he should be able to make the diagnosis correctly,

Perhaps in no class of disease does the axiom of the old English surgeon so well apply, that the eye should be used first and most and the hands last and least. The hands ordinarily should be used only to help the eye to bring out, as it were, the symptoms for the eye to interpret. Here the general surgeon errs more often than the general practitioner. He has been taught to educate his hands, to cultivate the "tactus eruditus," as he is wont to call it, and his first motion is to put his hand on the offending part. Of course he covers up what he should leave uncovered, and blocks his own way.

In the first place, for the diagnosis a history is needed, and a good one will often point clearly at the result later obtained with certainty. In a large percentage of cases, especially in young children (and with these our subject in the great majority of cases deals), an infectious disease will have shortly preceded the symptoms, and of these the principal ones will be measles, whooping-cough, and scarlet fever, and somewhat in the order named. Often a family history of tuberculosis will be obtained,* but whether more often than in any other disease is a question. Next will come the history of the present disease. A few cases come to the physician with deformity and without subjective symptoms, as far as he can ascertain. When deformity sufficient for recognition by the parents attracts attention, the diagnosis by the physician should be a simple matter. These cases will not be discussed here; their proper place will be in the discussion of the various deformities of special regions.

The first characteristic of the symptoms which strikes one forcibly is their gradual development. Often the time of first occurrence cannot be fixed. Next, they are essentially chronic. Next, though sometimes with slight ameliorations, they gradually grow more severe. If some indifferent mode of treatment is adopted, and the patient is seen again at the end of a week or so, he will at least be no better, and at the end of two or three weeks he will be worse than when first seen.

*The statements in this paper are based upon four hundred and fifty-three cases of tuberculous joint disease observed at the Vanderbilt Clinic between January 1, 1895, and January 1, 1899. Of these cases a positive family history of tuberculosis was obtained in sixty-eight, a negative in three hundred and nine, and in seventy-six the disease is not mentioned. For convenience, when two or more joints are affected each joint has been counted as a case.

Usually a history of trauma will be given. It is of little use, except for the purpose of excluding fracture or dislocation, for closer questioning brings out that the injury was sustained at a time from a year previous up to the time when the symptoms actually began. When the child limps or is stiff in its movements, the parental mind does not rest until it has remembered a fall or a blow, perhaps not even known to affect the region under consideration. In other words, the symptoms are separated by a distinct interval of time from the trauma, herein differing from contusions, fractures, and dislocations.

Pain and stiffness are two important symptoms. The pain is not exactly located; the patient does not press a finger down on a certain spot, but usually passes it over a region. It is worse on motion and is apt to come in paroxysms at night, when the muscles holding the joint quiet are relaxed. The "night cries" are notorious. The child cries out, and may be asleep by the time the parent reaches him. The stiffness in the morning is also well known.

The general condition of the patient is now to be noted, and then he is to be stripped. This rule knows no exception in children or in men. In women it should be modified but slightly. Next the attitude should be observed, and then the presence or absence of deformity or of change in contour. Here the first difficulty may be encountered by the unpractised eye in recognizing the departure from the normal; but this difficulty exists only in the trunk. In the limbs a guide is present in the limb of the opposite side.

Next, muscular spasm is to be looked for, and this will manifest itself, besides the visible spasm, by limitation of motion in the joint. Here again the same difficulty mentioned above is met, but here again it disappears in the limbs and remains only in the trunk. The joint of the well side is first put through all of its motions—flexion, extension, abduction, adduction, rotation—and the motions of the affected side are compared with these. Any attempt to force the range of motion in a diseased joint will cause pain. In order to elicit this pain the practice of striking the child on the top of the head or soles of the feet, of making him jump from a chair, is quite unnecessary. Sensitiveness to pressure need not be expected; hence the inutility of prodding the part with the fingers. It is no symptom of early tuberculous disease; nor is increase of temperature, except sometimes in joints which are near the surface, *e.g.*, the ankle.

The joints most liable to tuberculous disease in their order of frequency of attack are: 1st, spine; 2d, hip; 3d, knee; 4th, ankle; 5th, elbow; 6th and 7th, wrist and shoulder.* Affections of other joints are rare—so rare that they may be omitted from this discussion.†

A convenient classification will be: joints of the (1) lower extremity, (2) spine, (3) upper extremity.

*The 453 cases quoted above showed the following distribution: spine 210, hip 155, knee 51, ankle 24, elbow 6, wrist 3, shoulder 4.

†Sacro-iliac disease, for instance, of which we hear so often, is really very rare. But one case appears on the records of the Vanderbilt Clinic for four years.

1. Joints of the Lower Extremity.

The first and usually the most prominent symptom is the limp—a limp, in accordance with what has been said above, persisting and gradually growing worse. Next comes pain. In hip-joint disease this pain is felt in the groin, thigh, hip, or knee; in disease of the knee it is felt about the knee; and in disease of the ankle, about the ankle. A feeling of stiffness is often present and is hard exactly to locate. It exhibits usually the morning aggravation.

The examination should be begun by observing the patient's gait, and he should then be placed upon his back on a table, the two limbs compared, and any difference in contour or in attitude noted.

In hip-joint disease the attitude of the affected limb will almost invariably be changed. Flexion will be present, and usually abduction or adduction. External or internal rotation is also frequent. The examiner must bear in mind that no one attitude is characteristic of this disease, as it is, for instance, of dislocation. The length of the limb will not be materially affected, measuring from anterior superior spine to internal malleolus, but the tape will show a diminution in girth of thigh and calf; in other words, slight muscular atrophy. This diminution will amount ordinarily to a half-inch or an inch. Spasm will be present in the muscles moving the joint, and also limitation of motion in all directions. Flexion may be measured in the usual method, flexing the knee at the same time (to relax hamstrings) and holding the other knee down on the table, or more nicely by gently flexing the thigh and watching the anterior superior spine. With a normal hip the anterior superior spine remains stationary until the thigh is in contact with the trunk, while, with a diseased joint, hardly does the thigh leave the table before the anterior superior spine begins to move, showing that the pelvis is moving, and that therefore there is a limitation of motion between it and the femur.

The range of abduction and adduction is observed best with the thigh and knee flexed at a right angle.

The amount of extension possible may be ascertained by bringing the child to the edge of the table, with the lower extremities hanging over, and noting which hangs lower. Or the child may be turned on his face and one hand placed on his buttocks to hold the pelvis on the table. Let the operator then grasp the ankle with his other hand and, having flexed the knee, attempt to super-extend the thigh. This will be found impossible if the hip joint is diseased.

There should be but two sources of doubt in a diagnosis, namely, contusion and bending of the neck of the femur. The symptoms of a contusion follow immediately an injury and disappear in a few days upon the application of an indifferent mode of treatment, such as a liniment or a spica bandage. Bending of the neck of the femur is essentially a disease of adolescence, is rare, is marked by shortening of an inch or so, and is accompanied by limitation of abduction only. The trochanter may be felt above Nélaton's line.

The knee. The attitude in tuberculosis of this joint is semi flexion. Usually slight swelling is present and should always be sought for with a tape measure. Both flexion and extension are limited. The well-known backward dislocation is distinctly a symptom of the later stages, and will not be found early in the course of the disease. Atrophy of the thigh and leg is an early symptom, and this with the limitation of motion and the chronic course renders a diagnosis from ordinary synovitis easy. Besides, in tuberculosis the swelling is apt to be doughy.

In disease of the ankle or tarsus the foot will be abducted. When the ankle is affected, the foot will usually be in equinus; when the tarsus is diseased, in calcaneus. The temperature will usually be raised, and atrophy of the calf and limitation of motion will be present.

2. The Spine.

An early diagnosis is here often difficult, sometimes impossible until deformity has taken place, but really more important than in any other region, because the deformity when once present, can never be removed. The guide possessed in joint disease in a limb, namely, the sound joint of the other side, is here of course absent.

It is necessary, in the first place, to bear in mind that, with the exception of a feeling of stiffness, the subjective symptoms will usually not be referred to the spine. They are caused by irritation of the anterior branches of the spinal nerves, and are referred to the regions of distribution of those nerves; hence pain in the chest, belly, or thighs, stiff neck, grunting respiration, etc., are apt to be the first causes of complaint.

The patient should first be viewed in the erect position and his attitude carefully noted; whether flexion of the trunk is present, or super-extension, whether he supports himself by his hands on the table or on his knees, or whether his shoulders look abnormally square, whether his head is thrown forward or backward, and whether deformity in the spine itself is present—all these should be observed closely. In some cases this last will be the first thing to draw the attention of the parents to the child's ailments. The synonym of the disease, "angular curvature," furnishes a good description of the deformity, and when present in marked degree it can hardly be mistaken. It is a "knuckle," a "bone sticking out," as the parents describe it. In its earlier stages it is not so well marked nor so characteristic; it is then not an angular projection, but an irregularity in outline, a change of contour.

Muscular spasm will cause stiff neck, rigid, square shoulders, difficulty in stooping, super-extension of the trunk, etc., according to the region affected. To demonstrate it in disease of the middle and lower spine, the patient should be laid flat on his face with his arms by his side. His feet should be then lifted in the air. With a diseased spine the back muscles will be seen to spring into prominence in tight contraction, and the spine in the region of the disease to be rigid. In cervical disease the spasm may be elicited by movement of the head.

No results can be obtained by poking the spinous processes to find tender or painful spots. Cutaneous sensitiveness does not exist in tuberculosis of the spine.

A change of contour is present in rotary lateral curvature, but here the curve is from side to side, while in tuberculosis any lateral curve is slight and comes on at a late stage. Spasm of the back muscles is absent in rotary lateral curvature, and any pain will be more in the nature of a tired feeling. Again, in the latter affection the apex of the curve appears to be along the ribs, not on the spine itself.

Round shoulders or round back possesses the anteroposterior curvature, but the deformity is a curve, not an angle, whereas in tuberculosis of this region (the upper dorsal) the deformity is always angular from the start. In round shoulders muscular spasm is absent also.

Rachitic curvature will be accompanied by the other signs of rachitis and not by muscular spasm, and will affect the entire spine with a long, gradual convexity.

Ordinary wry neck can be recognized by its acute onset, its rheumatic or tonsillar history, and by its tendency to affect a single muscle, especially the sterno-mastoid. Caries affects all the muscles in the vicinity of the disease. In a few cases the subsequent course alone will make a possible diagnosis possible.

3. The Upper Extremity.

The elbow. The diagnosis here is usually simple. Muscular spasm and limitation of motion are early symptoms, and atrophy of the arm and forearm is present. The joint is swollen and is held in semi-flexion and semi-pronation. Rheumatism is differentiated by its acute onset and its tendency to affect several joints.

What has been said of the elbow applies to the wrist, except that in disease of the wrist the hand has no characteristic posture, and the atrophy of the arm would be slight.

In disease of the shoulder joint the usual symptoms of tuberculous disease are present. One disease resembles it, the so-called rheumatoid arthritis, but this is essentially a disease of later life, and is apt to be accompanied by a grating in the joint.

In conclusion, let it be said that, after thorough examination of the case, if any doubt remains, rest and a liniment should be prescribed, a positive diagnosis should be withheld, and the case kept under observation for two or three weeks. A diagnosis of "growing pains" may be disastrous, and nothing is lost by a short delay if the child is kept quiet.—*Medical Record.*

BACTERIURIA.

Dr. August Predhol (*Munchener medicinische Wochenschrift*, November 7th) says that this condition is more common than is generally supposed. Cases may be divided into acute, subacute, and chronic, or again into very severe, severe, and mild. This classification does not, however, comprise and cover all instances, even though the most severe of the cases was an acute one, the next severe case a subacute, while the cases becoming chronic were for the most part mild. All the patients were women, and it may be reiterated that this condition is frequently observed in the female sex. The onset of the disease is in some instances always about the same, in others quite varied. Common to all is the beginning with burning pain upon urination, which occurs only or mostly upon evacuation of the last few drops; this may reach a point of tenesmus, with dropping of urine and increased desire of urination even to incontinence. Varied were the bladder pains, pains in the region of one or both kidneys, which were designated as backache by the patients, but which upon close questioning and examination could be localized in the renal region. This condition suddenly attacks individuals whose previous health has been good and occurs without any previous etiological basis. Exposure to cold, long retention of urine, and habitual constipation play some part. The urine is always cloudy, does not clear up when heated, contains no albumin, is acid in reaction, and shows nothing definite with the ordinary chemical examinations. The urine looks like a weak soap water; indeed it may be compared to a hazy bouillon culture. In some instances it has a very pronounced and disagreeable smell; most generally, however, there is no bad odor. In some cases the patients seek medical aid only on account of the bad-smelling urine. If this urine is centrifuged or left to sediment, the deposit is found to be made up of micro-organisms, which prove to be bacterium coli in all instances. Pure cultures were also grown from the sediment. Microscopical examination of the urine shows only epithelia in addition to the above; in other words, the absence of any bladder or kidney disease. In some cases this condition is followed by disease of these organs or the abdominal viscera. Many instances are looked upon as mild cystitis and intestinal colic. The patients are generally slender, pale, moderately nourished individuals, who do not feel sick; in some cases, at the time of the attack, the patients feel very sick. The term bacteriuria is used only for such cases in which, in healthy individuals without any clinical evidence of inflammatory processes in the genito-urinary tract, and without definite cause, micro-organisms are found in the freshly-evacuated urine and give rise to symptoms of disease. This, therefore, does not include those instances in which bacteriuria is secondary, that is, those in which an inflammatory or diseased area previously existed, thus enabling the bacilli coli to gain entrance into the urine. On the other hand, bacteriuria includes such cases in which, as the result of the condition, cystitis, pyelitis, nephritis, or disease of the genitals occur. Bacteriuria pure and simple often disappears without any treatment; treatment is purely symptomatic. Salol has given the best results. Analgesics have no effect; iron is very useful. Warm baths are indicated; opiates are some-

times absolutely necessary. In some cases an ice-bag over the bladder region gives excellent results. The bowels must be freely evacuated. There is no specific drug for this condition. Letzerich recommends benzoate of sodium. The prognosis is always doubtful. While in some instances bacteriuria appears to be harmless, still it is always very difficult to get rid of and render the urine absolutely free from bacteria. The disease therefore, is always to be looked upon as serious.

PRACTICAL POINTS IN THE TREATMENT OF CYSTITIS IN WOMEN.

BY DR. CHARLES WILLIAMS, PHILADELPHIA, PA.

When it comes to actual experience in the treatment of this common and often baffling condition in women, the practical physician is frequently put to great stress to devise the proper plan for the cure of each case; for the lines laid down in the text-books are often inadequate and even misleading, while the results of his experience in one case often are of no value apparently in another patient suffering from the same disease. In considering the treatment it is well to divide the plan of attack into local and constitutional treatment. It is well to remember also that both of these must vary according to the cause and characteristics of the inflammation. In the first place, it is always essential to think first of the possibility of the existence of a continuously acting cause, such as stone in the bladder or retained urine going on to decomposition. Such conditions as these must be removed if we hope for definite improvement.

The following plans of treatment are those that have met with success in my hands: In acute cases the palliative plan is to be pursued, but in all cases constitutional treatment is of the greatest importance; we must at the outset so regulate the character of the urine that it will cease to be an irritation to the bladder. Pains and tenesmus are the two great symptoms complained of by the patient, and they both demand early attention, for they are great factors in the management of the case. The whole surface of the body should receive attention, and the emunctories should be kept in an active condition; the bowels also should be kept in a fairly free condition to prevent the effect of straining. For this purpose saline laxatives are the best. A glass of the natural purgative mineral waters one-half hour before breakfast may be taken, or one or two teaspoonfuls of the phosphate of sodium in one-half a glass of water, this treatment may be kept up continuously for some time. The patient will have to find out for herself the exact quantity she requires, for some need as much as a tablespoonful. It is more efficacious in hot water. Finkel recommends the use of saline laxatives even up to the point where there is real intestinal hyperemia for a time, in order thus to divert the blood from the bladder. Any deranged condition of the nervous system which tends to produce an irritating urine should be investigated.

Indigestion has been mentioned as one of the predisposing causes. This should be treated, if it exists, with suitable diet and medication. Cystitis may be aggravated by such a condition, and this is certainly true of a

rheumatic or gouty tendency. The patient should have a milk diet, always guarded, I think, with lime water, no matter how it is taken, hot or cold; it makes the milk more digestible to all patients. Then hot milk with a little salt makes a good variety, still with the lime water added. Sometimes we can vary this by pouring the milk over bread that is toasted and thoroughly dried, then pouring away from the bread before taking. The diet should always consist largely of fluids—eggs and soups. The Franco-American soups and bouillon are excellent; lamb broth should be strained to make it clear; and raw eggs beaten up in milk can be given. If the patient is very prostrated a little stimulant can be given, being very guarded in its use. Whiskey I prefer to anything else, because it is more stable. If we want to vary the diet still more, we may give lean meat in small amounts. For vegetables, I specially like those that grow above the ground, as lettuce, celery and spinach. Cold-slaw does now always disagree with these patients. The diet is of importance. If the cystitis depends on a gouty or rheumatic condition, avoid red meat; the white meat of fowls and fish makes a good diet.

In acute cystitis we may give diaphoretics. The patient should have rest. Diuretics also are indicated if the urine is loaded with solids. Vichy water with flaxseed tea and other demulcent drinks can be given. Care should be taken not to push the diuretics too far.

What shall we give to relieve pain? Opium is indicated in the form of Dover's powder with camphor every three or four hours, or if necessary morphine hypodermically, injected until two or three doses have been given, or until we find that the patient gets six or eight hours rest at night. These should be given by the physician only. Then during the day we can make the patient comfortable with codeine. I prescribed this for a patient recently—one-fourth grain codeine with camphor, one dose to be administered every hour until three had been taken—that is, if the third was needed. It is plain that codeine does not cause constipation and itching of the skin and nausea as do the other preparations. Then I think in giving codeine one thing is certain; the taste and desire for it do not increase as for opiates. We must do something that will relieve pain for months, and even, as I have known in one case, for two years. While we may use opium at the onset of acute cases, and at the end in cases of very old people, we hesitate to use it in general chronic cases. But when the women is over eighty years old, as in an interesting case of mine, where cystitis was produced by stone in the bladder, and where the urine had to be passed every fifteen or twenty minutes night or day, we feel justified in producing narcotism. This old lady wore out nurses one after another. Finally I left her in the care of another physician during an absence of two months. She lived until I returned, and died two days after. She died from the irritation produced by the stone in her bladder. Now it will probably be said, "Would a physician allow a patient to suffer for two years without resorting to operation?" But here is a patient over eighty years old, who had opisthotonos, and who had degeneration of the arterial walls. Yet while it seemed unsafe to resort to etherization for an operation, I should have been willing to risk it if the patient and friends had been willing. It was remarkable that a person should suffer

so long as she had before resorting to any kind of treatment. The last few times I visited her it seemed impossible to give her enough opiates to keep her sleeping for two hours at a time.

Opium is very apt to derange the digestive organs and the secretions, especially of the kidney. If there is frequent urination and the tenesmus is severe, give, say, fifteen grains of equal parts of potassium bromide and ammonium bromide in camphor water or plain water, repeated once or twice a day. It will sometimes respond to this treatment when it does not to opium. Or give eucalyptus oil in doses of two to five drops, or the tincture in fifteen drops or more; we know this has a well marked effect in albuminuria. Benzoic acid is perhaps the most useful in a large number of cases. It is what I always resort to in the beginning of acute cases, or when I first take charge of an older case. It seems to act like a specific, giving speedy relief:

R Acidi benzoas..... gr. v-x.
 Inf. buchu.

M. Sig.: Three or four times a day.

Or I like to use the benzoate of ammonium:

R Ammonii benzoat..... ʒ iij.
 Inf. buchu..... f ʒ iv.

M. Sig.: A teaspoonful every two hours, or a tablespoonful three times a day.

Remedies which have a direct effect on the mucous membrane are to be used in the advanced stages, and in this list are copaiba, balsam of Peru, and tar; they can be given in capsules. All these may be tried in cases that are evidently due to some exciting cause that we fail to recognize. Oil of turpentine may be given in capsules. I think they usually prefer it in water or on a lump of sugar.

If the physician is possessed of a good battery, for local faradization this may be used, one electrode being placed over the spine and one over the bladder. It is claimed that this has been followed by cure—when, of course, there is no demonstrable lesion.

But when all these remedies fail, we must resort to the radical and surgical means. The bladder is distended and washed out. The proper and frequent washing out is very important. We should never trust it to a nurse until she has been given careful directions. In washing with warm water add a little salt, to about a pint. The fluid is apt to give pain if the specific gravity is below that of urine, hence plain water should never be used. A fountain syringe may be used with a recurrent catheter attached. Often a vesical pain is relieved by the injection of a solution of morphine. One little point is to be observed is to avoid too rapid distention, forcing the bladder unduly. Use a catheter that enables the physician to control the flow. Or use a glass catheter and attach a rubber tubing and funnel, then pour the water into the funnel; this can be done slowly. Another little point is that air must not be driven into the bladder. We must pour some water first through the catheter before putting it into the bladder. A comfortable temperature for the water is 110° F. Now pour the water in and gradually distend. Perhaps we can introduce only a couple of ounces the first time. But we can coax the patient and coax the organ to a degree of tolerance. It is an important point to get the bladder back to its normal condition of holding urine

In some cases we wish the water to pass in and directly out again; then we should use this double catheter. It allows the water to run out without removing at all, or causing any discomfort to the patient by taking off the rubber tubing. We may take a hard-rubber or a glass catheter if caustics are to be used at all. The washing out should be done two or three times a day. Some one of the family or a nurse must be taught to do it.

Having prepared the bladder by washing, we may apply our medication. Anodynes are most happily used, remedies which produce local anaesthesia. We will see perhaps in most of the text-books the solution of cocaine recommended. I would say that it may be used once or twice. It cannot be used with safety more than that, except at very long intervals. It is an irritant, it is not very effective on some mucous membranes, and when it is used in the throat or nose or mouth it soon loses its comforting power. Astringents and alteratives are most commonly used, especially silver nitrate, zinc sulphate, and tannic acid. Potassium chlorate is very useful. When a strong solution of nitrate of silver has been used, always follow with a salt solution.

When the urine is alkaline and has been retained for a long time, carbolic acid may be used, two minims to an ounce of water. Now in using carbolic acid never use it without first mixing it with glycerin. It can be thoroughly mixed with water if the manipulation is carried far enough. A case once came to me for treatment where a vaginal douche with carbolic acid had been ordered. But evidently the carbolic acid had not been mixed with the water, and floated as an upper layer. It ran over the vulva and nates and produced a mass of sores. It makes a sore place which is pretty hard to cure. So I made it a rule always to order it mixed with glycerin, and often we can have it mixed at the drug store.

We are told that cystitis is always the result of infection; at any rate benent comes from the use of bichloride of mercury. All of the books tell of the value of silver nitrate in inflammations of the bladder. I have always used a twenty-grain solution, and I am surprised how little pain is produced by it. If we use a sixty-grain solution it should always be followed by a bath of the normal salt solution, and only a very little should be introduced at one time. Even if only a twenty-grain solution is used only a few drops should be injected at a time.

Instillation is a favorite method of treatment with many. This differs in that the medication is injected in very small quantities and allowed to remain longer. An instillation tube is something like a medicine dropper. There are some that are very nice and some that are not safe to introduce into the bladder. Those that are like an eye-dropper, with a round bulb on the distal extremity and perfectly smooth, are not in danger of hurting the mucous membrane. Silver nitrate and sublimate solution and emulsions of iodoform may be introduced in this way. A good remedy to use is the iodoform pencil; it is introduced into the urethra and followed up by pressure of the catheter or applicator. An application that is often very comfortable is:

Carbolic acid.....	℥ x.
Glycerin.....	f ʒ j.
Lime water.....	f ʒ iij.

I think I never used anything in cystitis with better results. It can be used every other day; sometimes I dilute it. Make it hot or warm; never introduce anything into the bladder while cold.

A more directly topical treatment is done by inspecting the mucous membrane of the bladder through the urethra, illuminating with the headlight, and carrying the application directly to the spot. We have a very small opening through which we must work. This is better sometimes than putting medicine over areas that are not inflamed. The bladder is said to be affected more often over small areas than over the whole surface, yet I must say that those I have examined had the appearance of a general inflammation.

If all our efforts have failed so far, it is because the bladder has not had sufficient rest. We have not given the chief indication for rest. We may have to resort to something to establish an opening that will carry off the urine as soon as it is emptied into the bladder; we may have to make a vesicovaginal fistula.—*The Medical Age.*

CONJUNCTIVITIS.

TREATMENT.—Infectious conjunctivitis is understood by Dudley S. Reynolds* to include all forms of conjunctivitis that are contagious or communicable from one person to another through various media. All the infectious or catarrhal types of conjunctivitis are retarded by the use of alkaline lotions, and all are intensified and greatly aggravated by the use of stimulating astringents and caustic applications. The treatment by irrigation is the only rational mode of cleansing.

In the white staphylococcic forms of infection the irrigation may be practiced with normal salt solution, or with the following:—

R. Borate of sodium, 3 ounces.
Chloride of sodium, $\frac{1}{2}$ ounce.
Cryst. carbolic acid, 15 grains.
Water, 1 gallon.

The upper lid being everted and the irrigating-bag being hung twelve inches above the plane of the patient's eye, the nozzle of the irrigator may be held over the bridge of the patient's nose and the fluid allowed to run over the everted lid and the inferior retrotarsal surface into a mass of absorbent cotton held on the temple. This should be repeated every half-hour, and when the matter accumulates sufficiently to exude between the lids this interval should be shortened by one-half. If no accumulation of matter appears, the interval may be increased until there is no necessity for the repetition of the irrigation.

In the yellow staphylococcic infection the treatment may be precisely the same; however, in some cases the irrigation must be repeated at intervals of ten minutes during a period of two or three days and nights.

*Med. News, Oct. 28, '99.

In the gonorrhoeal type the same plan may be pursued, but a more efficient irrigation may be made by dissolving 3 ounces of chloride of sodium, 8 grains of bichloride of mercury and $\frac{1}{2}$ drachm of carbolic acid in 1 gallon of water, which should be filtered before using. With this the eye may be irrigated every ten minutes from the very beginning of the attack. Care should be taken never to allow the nozzle of the irrigator to approach nearer the infant's eye than one inch. To perform the irrigation properly two persons are required. Having prepared the irrigation and placed the patient on his back, one person may evert the lid and hold a mass of absorbent cotton-wool on the temple to catch the outcoming discharge, while the other manipulates the irrigator.

In the different varieties of conjunctivitis, and especially in those accompanied by marked discharge, as the acute contagious and the purulent, Clarence A. Veasey* has found solutions of toluidin-blue of special value. The drug, according to Merck, is prepared by oxidizing a mixture of thiosulphonic acid and orthotoluidin with a chromate to an insoluble sulphonic-acid green, then boiling the latter with a zinc-chloride solution, and subsequently oxidizing the leuco-compound. While considered a zinc-chloride double salt of dimethyltoluthionin, its composition shows it to be an hydrochlorate. The strength of the solution that has given the best results is 1 part in 1000. The affected part should be cleansed first with some cleansing lotion,—boric-acid or salt solution,—sufficient force being used to get rid of the accumulated secretions, and then the part should be flushed thoroughly with the solution of toluidin-blue, and, after it has remained in contact with the parts for a while, the excess is to be washed off with the boric solution. As every particle of mucus or muco-pus is stained a deep blue, none can remain on the conjunctiva without being detected. The stain on the fingers and surrounding skin is readily removed with a moist pledget of absorbent cotton. The more copious the discharge, the more frequently the instillations have to be made.

Edward Jackson† says that acute conjunctivitis includes, in addition to the effects of eye-strain and local irritants, at least five specific infections; and that successful treatment depends on the careful discrimination between the different classes of cases. Eye-strain is always to be thought of and eliminated. In all forms of conjunctival infection complete cleansing at sufficiently-short intervals is of the greatest importance. Protargol is to be employed for purulent conjunctivitis, with a few applications of a strong solution of silver nitrate in bad cases. Mydriatics and cocaine should not be prescribed for acute conjunctivitis. To secure the greatest cleanliness of the conjunctiva and to limit the dangers of infection all forms of poultice, bandage and compress should be carefully avoided.—*The Monthly Cyclopædia of Practical Medicine.*

*Ther. Gaz., Sept. 15, '99.

†Med. News, Sept. 9, '99.

APPENDICITIS.

ETIOLOGY.—No one factor can be held answerable for the production of all cases of appendicitis. Although the disease is, almost without exception, the consequence of micro-organismal infection, it is rather of complex pathogenesis, and no one morbid agent is provocative of all attacks. It is because of the anatomical and physiological peculiarities of the appendix that factors innocuous in the intestine, or morbid agents capable of being successfully counteracted by the physiological activities of the intestine, become, in the appendix, of heightened virulence, and engender the most disastrous consequences.—A. O. J. Kelly (*Phila. Med. Jour.*, Nov. 25, '99.)

TREATMENT.—The following is a summary regarding the operations for appendicitis:—

I. Should every case be operated on as soon as the diagnosis is made?

As a rule, the appendix should be removed if the diagnosis is made in the first hours of the attack.

After the early hours operation is advisable: 1. If the symptoms are severe, and especially if they are increasing in severity. 2. If the symptoms, after a marked improvement, recur. 3. If the symptoms, though moderate, do not improve.

The wisdom of the operation is questionable: 1. In severe cases in which an extensive peritonitis is successfully localized and the patient is improving. 2. In cases which are at a critical stage and which cannot successfully undergo the slightest shock.

II. Should the appendix be removed in every case?

It should not be removed: 1. In localized abscesses with firm walls. 2. When the patient's strength does not permit of prolonged search.

It should be removed whenever the peritoneal cavity is opened, unless the patient's condition forbids.

The appendix should be removed in all cases as soon as the inflammatory process has had time to subside completely: in from two to three months after the attack. In cases simply drained the scar-tissue should be excised, the appendix removed, and the wound securely sutured.

—Maurice H. Richardson (*Amer. Jour. Med. Sciences*, Dec., '99.)

THE MEDICAL ASPECTS OF THE BOER WAR.

BY A SOUTH AFRICAN CAMPAIGNER.

Proportion of Killed to Wounded.

In the battle at Graspan, or, as it is to be called, Enslin, the losses, which fell principally upon the Naval Brigade, were 24 killed, 166 wounded, and 7 missing. Here we have again to note the happily small proportion of those actually killed among the number hit. The Boer force encountered at Graspan probably consisted of the remnants of the Belmont force together with other fresh commandoes, and the rifle employed in all probability was principally the Mauser. At the first engagement at the Modder River, where Lord Methuen's force found 8,000 Boers posted in exceptionally strong positions, the casualties, although severe (73 killed and 365 wounded), were lighter than had at first been anticipated. This brings the total casualties for the three actions up to 966 killed, wounded, and missing.

	Killed.	Wounded.	Missing.
Belmont	54	238	2
Graspan.....	24	166	7
Modder River.....	72	396	7
	<hr/>	<hr/>	<hr/>
	150	860	16

This gives a proportion of killed to wounded approximately as 1 to 5.3. The proportion of killed to wounded varies in different campaigns, and of course depends to a considerable extent on the conditions under which actions are fought, the tactics employed by commanders, and the distance usually maintained between the opposing forces, and finally whether or not the engagements in a campaign consist for the most part in attacking entrenched positions where one side is exposed at short ranges.

Colonel Stevenson, R.A.M.C., Principal Medical Officer on the Line of Communication, in his work entitled "Wounds in War," gives some interesting statistics on this point. Thus in the Russo-Turkish war, 1877-78, where entrenched positions were continually attacked at short ranges, the proportion of killed to wounded among the Russians was as high as 1 to 2.1; at Blenheim in 1704 it was 1 to 1.3. The late Sir Thomas Longmore, summing up the available statistics on this point, showed that the proportion of killed to wounded has been, on an average, 1 to 4. These figures refer to the number of dead found on the field; while of those who reach the hospital alive, a large proportion died during the first two or three days, but these were not included in the figures given above. During the Russo-Turkish war, 1877-78,* 11.8 per cent. of the wounded died in the army of the Danube, and 30 per cent. in the army of the Caucasus. We may, therefore, conclude that we shall not be giving a

**Compte-rendu du Service de Santé Militaire pendant la Guerre de Turquie de 1877-78.* Par N. Kosloff, 1887.

too sanguine estimate when we predict that at least 87 per cent. of our wounded in South Africa will eventually recover. Fischer, whose statistics are probably the most accurate on this subject, gives the proportion of killed to wounded as follows :

At the battle of Kunnersdorf, 1759.....	1 to 1.9
At the battle of Leipzig, 1813.....	1 " 2.0
English in Crimea.....	1 " 4.4
French in Crimea.....	1 " 4.8
Prussians in Schleswig-Holstein, 1864.....	1 " 1.8
Prussians at Koniggratz.....	1 " 3.6
Austrians at Koniggratz.....	1 " 3.0
Germans in 1870-71.....	1 " 5.4
Russians in 1870-78.....	1 " 2.1

This gives an average of 1 to 3.2. It will thus be recognized at once that the proportion of 1 to 5.3 which is that for the battles of Lord Methuen's march, is considerably below the average of past campaigns, and is curiously enough almost identical with the loss sustained by the Germans in the campaign of 1870-71. It must further be borne in mind that these battles have all been fought under exceptional arduous conditions for our men, inasmuch as they have in every instance been storming strongly held and partially entrenched positions.

Nature of Wounds.

Your special correspondent in Capetown is able in a recent letter to give some account of the wounds sustained by our men. Speaking of the cases which he had seen in the Wynberg Hospital, he says that all are Mauser bullet wounds except two; he also says that all the men agree as to the very small amount of shock produced by the Mauser bullets, and the slight amount of actual pain at the time of being hit; he also says that one noticeable circumstance is that the majority of the wounds are in the extremities, and from another source we hear that they are principally in the legs and abdomen. This the men themselves attribute to the wild firing of the Boers. As a matter of fact, it is an old tradition with the rifle to fire at a man's feet, as the bullet fired a little low will ricochet and do great damage, while if it be fired too high it passes harmlessly into space. There was a tendency with the Martini-Henry, and still more with the old Snider for bullets to rise above the point aimed at; hence the additional incentive to fire at the enemy's feet. The Lee-Metford and Mauser rifles are more accurate than the Martini-Henry, and this probably accounts for the fact of so many wounds being inflicted in the lower extremities. The bullets actually struck the object at the point aimed at. It is gratifying to think that not only are Mauser bullet wounds frequently almost painless at the time of infliction, but that a large number of them heal rapidly by first intention, a course which was rarely followed by the wounds from bullets of larger calibre.

Lee-Metford v. Mauser.

The bullets which our troops are using in the Lee-Metford rifles is known as the Mark II. It is a far less formidable bullet than either the Mark IV or the Dum-dum, but, nevertheless, has a slightly greater smashing power than the Mauser bullet. What the proportion of killed to wounded among the Boers may be we are, from the figures supplied, unable to estimate. I commented in my last letter on the extreme importance in the campaign of keeping the railway open, and it is extremely gratifying to note that Lord Methuen in his rapid march has done this most effectually with the Kimberley line. When the Modder River bridge is once negotiated there will be little difficulty in completing the restoration of the line up to Kimberley. The value of the railway for transport purposes as well as for dealing with the sick and wounded is incalculable. It is pretty evident that the repairs to the permanent way on the ordinary veld are very readily effected. I have had some experience of what may be done in a few hours in this way in South Africa. On one occasion the train on which I was travelling, having run into a cow, was derailed, the engine was thrown on its side and the metals torn up. In the course of five hours a new track had been made passing round the scene of the catastrophe, a fresh engine had arrived on the scene, and the whole train, with the exception of the capsized engine, proceeded on its way. Navvies with spare rails and sleepers, may be readily conveyed to the scene of damage, and repairs in this way be very rapidly effected.

Medical Arrangements for the Army in South Africa.

In view of the large number of men now with the army in South Africa, the Army Medical Department have considerably published for the information of the public details of their medical arrangements. The whole or part of this document has already been published in many daily papers. It informs us that every regiment, battalion, artillery division, and engineer company, has a medical officer attached to it, and he accompanies it into action with his orderly in order to administer first aid to any man who is wounded, while the regimental stretcher bearers are ready to carry the same to the dressing station or field hospital. There will be 45 surgeons in immediate charge of the men composing the Army Corps. They are also responsible for the sanitation of their respective camps. There is a bearer company for each brigade of cavalry and infantry; this is composed of 3 officers, the officer in charge being a major, a sergeant-major, 12 sergeants and corporals, 44 privates, and a bugler, all of the R.A.M.C., in addition to which there are for transport 38 men of the Army Service Corps, under a warrant officer. The mode of working is described as follows:

“Two stretcher sections under an officer, each section consisting of four stretcher squads under a sergeant, collect the wounded and carry them to the collecting station, a spot chosen as near the fighting line as possible, but sheltered from the enemy's fire. The collecting station is in charge of a sergeant, who has a supply of dressings, etc., to replenish the haversacks of the stretcher bearers. Here also are placed the ambulance

of the first line ready to receive them, under the sergeant's direction, and bear them back to the dressing station. The dressing station is on a site selected as being, if possible, out of fire, near a water supply, and also near a road. When available buildings are chosen, and if not the operating tent is here pitched, and instruments, medicines, and medical comforts are arranged ready for use, and a fire lighted for heating water. It may be considered the most important position in the journey of a wounded man from the field towards the camp, as it is here the first opportunity occurs for a careful examination of his condition. The major of the company and another medical officer are here placed, with a separate sergeant-major, three non-commissioned officers, and four privates, including a cook. The wounded, being carefully attended to and dressed, are now placed in the second line of ambulance and taken to one of the field hospitals, which are encampments attached to each brigade or each body of troops large enough to render it desirable. The equipment of a field hospital is for 100 beds, but it is so arranged and packed that sections of 25 beds can be utilized separately if required. As it must accompany its brigade on the march, it is movable, being supplied with means of transport; but it is equipped with a view to make it as comfortable and complete as its mobility will permit of. From the railway line the sick and wounded are conveyed to the base, which is at or near one of the ports of embarkation."

Horse Sickness.

Since my last letter an interesting description of the South African horse sickness has been published by Professor Wallace in the *Times*. He has been at some pains to collect the latest bacteriological evidence with reference to this disease and says that:

"Numerous experiments by the Director of the Bacteriological Institute at Grahamstown have showed that no material can be obtained from the bodies of animals which have died of the malady which could be used in producing immunity in healthy animals. The use of serum from animals which have recovered from the disease has already proved abortive. A measure of success has, however, attended the inoculation of horses with infected donkey's blood and with an attenuated virus got by transmission of a virulent virus from partially immune animals. By this means a mild form of the disease is produced; a period of at least fifty days is allowed to elapse, during which secondary attacks of fever and moderately high temperatures occur at frequent intervals. By repeated mild attacks the system is fortified against subsequent inoculation more effectively than by an attack accompanied by high temperature. The secondary fever which occurs to a horse after recovery from a natural attack is termed by the Dutch 'Anmanning,' and until the first of these returns have passed off the animal is not fully protected or 'salted.' Inoculation in any form is consequently out of the question in connection with the preservation of the animals engaged in the present campaign."

Under these circumstances we may still conclude that the best practical remedy available for our troops is that recommended by me in

my letter, namely, the provision of nosebags to act as air filters through which the animals breathe, and they should be worn from sunset until the dew is well off the grass on the following morning. Horse sickness (œdema mycosis), according to Professor Wallace, is a fever produced by a micro-organism one of the filamentous fungi which under suitable conditions of heat and moisture grows in the veld, but whether in the water, on the soil, or as a parasite, is not yet known.—B. M. J.

“THE THERAPEUTICS OF WHOOPING-COUGH.”

F. J. TAYLOR, M. D.

There is a South German proverb which says “that whooping-cough lasts till it stops,” meaning by this, that treatment has but little effect on its course. It is to be hoped, however, that they are right, who at the present day deny the truth of this saying.

There is no specific treatment for whooping-cough, since the cause of the disease is unknown. Nevertheless, many useful things may be done to increase the prospects of recovery.

The prime object of treatment is to lessen the frequency and severity of the fits of coughing, and to assuage the irritability of the upper air-passages.

As the disease is limited in duration, it is manifest that if the strength of the patient can be maintained and accidents can be avoided he will recover.

The various modes of treatment of whooping-cough may be classified as follows :

1. Prophylactic.
2. Hygienic.
3. Medical.

I. Prophylactic: Because of the danger and great infectiousness of whooping-cough, every effort should be made to guard children from the disease. Isolation and disinfection are as important and powerful in suppressing the contagion of whooping-cough as that of any other disease of the class. It is a disease which is not usually recognized, and for which the physician is not called, till a week or more has elapsed, during which time the other members of the household, and probably of the school, are exposed to infection. Hence, isolation is rarely practiced, and mothers among certain classes even adopt the pernicious practice of allowing their children to be exposed, on the ground that they must have whooping-cough sometime, and the sooner they have it and are over it, the better. The idea should be combated wherever found; for, the older a child is, the better able is he to resist the debilitating effects of the disease; while in infants the danger of a fatal result is considerable.

Because of the fact that most cases are improved by being taken into the open air, the disease is continually met with, not only in public places but in public vehicles. The infection is usually transmitted by the breath and secretions; yet it is possible for the disease to be carried by a third person from the sick to the well by means of handkerchiefs or clothing. It is impossible to determine exactly how long infectiousness continues, but ordinarily it ceases entirely at the end of two months after the onset of the disease. Several observers have made the statement that vaccination greatly modifies the course of whooping-cough. In some of the cases coincidence may have had much to do with the apparent action of the vaccine infection. In others it is readily possible that one disease may have modified the course of the other. Deeper investigation upon this subject is required. It is possible that at some future day inoculation with the attenuated virus of whooping-cough will be practiced.

After death or recovery, rooms and their contents should always be disinfected, although it is not probable that the poison survives long outside the body.

II. Hygienic treatment is of the greatest importance.

If we accept the germ theory of the disease we shall understand the usefulness of ventilation, not only as supplying fresh oxygen to the patient, but in destroying the germs in the expired air of the room, and possibly to a slight extent in the air passages of the patient. The living-room of the little patient should have the air of an even temperature, preferably about 68° F. It should be free from draughts and yet well ventilated. The chief peril to life lies in the probability of pulmonary inflammations; but experience has abundantly demonstrated that the confinement of children in even well-ventilated apartments has a distinct tendency to aggravate the symptoms, so that very great judgment is often required in obtaining out-door air without exposure. In summer the children should be out in the open air the whole day, when the weather is fine; in winter out-door exercise should be confined to dry still days in which the temperature is not too low. Winds are even more dangerous than dampness. In some cases the best results are to be obtained by the use of large apartments with very free ventilation. Great stress should be placed on the fact that the child with whooping-cough *should be fed often*. A paroxysm of coughing is very likely to end in vomiting; and if the child has recently taken his nourishment, the stomach is emptied and the patient must suffer in consequence. In such cases he should take a little easily digested food after each act of emesis. If the patient will take them, four to six eggs a day are not too much for a child of four years, in addition to four to six ounces of meat juice, with perhaps other foods. If only a small part of this is absorbed, it will quite effectually prevent any loss of weight or any great loss of strength; but it will *never* do in a severe case to rely on the usual three meals a day; there would better be a dozen meal-times a day than three. The fact that one of the dangers in this disease is that tuberculosis may follow, makes it important that the child's nourishment should be kept high. Warm flannel undergarments should be worn, and especial care

should be taken that the patient does not become chilled at night by tossing off the bed-clothing. In advanced whooping-cough the greatest benefit is sometimes obtained by change of air. Excitement and over-exercise should always be avoided as they are liable to bring on a paroxysm of coughing. Keeping the patient up to his most perfect standard of vigor, lessens the number and force of the paroxysms. It is far better to restrict ourselves to these simple hygienic methods, than to resort to any form of treatment which reduces the strength of the patient; for reduction of strength renders the patient less able to resist the debilitating effects of the disease, and makes him more liable to dangerous complications.

III. The medical treatment is naturally divided (*a*) into that which is directed against the nervous elements of the disease, (*b*) that which has to do with the catarrhal condition, (*c*) and lastly that which is directed towards the general support of the system. The mildest cases require only careful supervision or are easily relieved to a very satisfactory extent by medication. In the severe cases, on the other hand, the condition is far different. Here we must be ready to employ one plan of treatment after another until something of benefit is found; for there is no disease of which it is truer, that the treatment which has acted like a charm in one case or series of cases, may fail utterly in another. Then, too, we must not fail to employ our remedies in sufficiently large doses before decrying them as useless.

(*a*) To lessen the nervous irritability seems a prime desideratum, and almost every drug having any reputation for this purpose has been used at one time or another. One thing is clear—namely, that no anodyne drug should be used, except under the stress of some emergency, if it disturbs the digestion or interferes with the nutritive functions or the powers of life. If an anodyne must be used, *codeine* is considered one of the safest. The testimony of many investigators shows that *antipyrine* is one of the drugs upon which most reliance can be placed. Children take it in proportionately larger doses than adults. Beginning with a small dose, it should be increased until a child of two years is taking two or three grains every three hours. In a febrile state it is never depressant unless some idiosyncrasy exists. In many cases its action is little short of marvelous, but in the majority all we can expect is a decided lessening of the number and severity of the paroxysms. *Belladonna* has been used for years, and is of undoubted service in many instances. It has the advantage of being safe in doses sufficient to produce its constitutional effects, and should be continued throughout the sickness. *Bromoform* has proved of value in the hands of many observers. It may be given in doses of from two to four drops three or four times a day to a child three to six years of age. My own results have not been as favorable with this drug as with *Antipyrine*.

Bromide of Potassium, Sodium or Ammonium are considered very serviceable, and may advantageously be combined with antipyrine or belladonna. *Choral* is another drug which is frequently of value, especially for procuring sleep; but we must always bear in mind that it is a cardiac depressant and govern ourselves accordingly. Osler says: "*Quinine* is one of the best remedies. One-sixth of a grain may be given three times a day for each month of age."

(b) *Woods & Fitz*, in their new book, say, "that the frequency of the paroxysms and the catarrhal irritation of the mucous membrane may be sensibly modified by the administration of the *emulsion of asafoetida* in very large doses at short intervals."

I never have been able to accomplish much with the preparation, because of its offensive taste and smell. Little treatment is usually required during the catarrhal period. *Alum* has long been a favorite; it is especially useful to check excessive secretion in the later stages, or where the presence of mucus seems to excite the paroxysms. Two grains may be given every three or four hours at two years of age.

If the cough and catarrh are excessive a weak mixture of codeine and tartar emetic may be used very cautiously; one-half grain codeine, one grain of tartar emetic to a goblet of water, a teaspoonful being given every hour or two hours according to the severity of the cough and distress. A child may rarely object to this and the dose is perfectly safe. Sometimes syrup of ipecac and squills may be advantageously added to the above prescription. Local treatments of the throat, larynx, trachea, and nasal passages have been used extensively, but in my own practice I have found this form of medication difficult to carry out with small children, as they are generally frightened by it. The use of atomizers and inhalations of vapors are available and valuable. At the West End Nursery Infant's Hospital, Boston, they use a "Vapo-Cresoline" lamp, which is kept lighted in the room of the patient. The lamp burns a coal tar derivative and is said to work most excellently.

Dr. Harrington, who has lectured on Therapeutics for several years in the Medical Department of Harvard, says: "I taught for years that there was no specific which would check or stop the paroxysms of whooping-cough, but am now convinced there are remedies which act almost as a specific." He has made certain observations to this end, and is confident that Formaldehyde fumes will almost completely stop the vomiting and paroxysms. He uses the Paraform tablets, which are largely Formaldehyde. One tablet is powerful enough when evaporated to disinfect 35 cubic feet of air. He uses three or four tablets for an ordinary room. He simply permeates the air of the room, not completely disinfecting it; for in the latter case it becomes an irritant and will do more harm than good. He places two or three tablets of Paraform in one-half drachm of Alcohol and lets it evaporate over a gentle heat. In this disease, as in others, the bowels should not be allowed to become constipated, and laxatives may be needed; the best for children being calomel or castor oil.

(c) During convalescence the system should be built up as much as possible by the use of Iron, Arsenic, Strychnia and Cod Liver Oil, with nutritious food, good, pure air and change of scene.

To summarize:

1. Isolation and disinfection.
2. Pure air and warm clothing.

3. Keep the patient up to his most perfect standard of vigor by frequent feeding.

4. Palliate by use of Antipyrine, Belladonna and Bromides internally with inhalation of Formaldehyde vapor to relieve paroxysms and nervous irritability. Codeine, Tartar, Emetic, Ipecac and Squills for catarrhal condition, and Iron, Arsenic and Strychnine to tone up and strengthen in convalescence.

Pittsfield, Me.

IMPORTANT TIPS.

1. The value of small doses of tincture of aconite frequently repeated in the treatment of amygdalitis and in the initial stage of febrile diseases.
2. The value of painting the chest and back with liquor iodi fortis—diluted if necessary with an equal quantity of the tincture—in all cases attended with cough.
3. The value of a pill of exsiccated ferrous sulphate in conjunction with the administration of purgatives in the treatment of anæmia.
4. The value of grain doses of gray powder with an equal quantity of Dover's powder from three to six times a day in the treatment of syphilis.
5. The value of large doses of the iodides in the treatment of tertiary syphilis.
6. The value of large doses of bromide of potassium in the treatment of the "heats and flushes" and other symptoms from which women suffer about the time of the menopause.
7. The value of large doses of quinine in the treatment of supra-orbital neuralgia, and in the periodical febrile disturbances from which old malarial patients suffer.
8. The value of five grains of butyl-chloral-hydrate with one two-hundredth of a grain of gelsemin in neuralgia of the fifth nerve.
9. The value of small doses of a saturated solution of camphor in alcohol in the treatment of autumnal or choleraic diarrhoea.
10. The value of small doses of perchloride of mercury in the treatment of infantile diarrhoea when the stools are green, slimy and offensive.
11. The value of sulphide of calcium in doses of a tenth of a grain in the treatment of boils, carbuncles and abscesses.
12. The value of nitroglycerin and nitrite of amyl in the treatment of angina pectoris and allied conditions.
13. The value of alcohol in the treatment of fevers.
14. The value of flying blisters in typhoid conditions.—William Murrell, *Medical Record*.

INTESTINAL ANTISEPSIS.

The causes of the intestinal disorders of infancy are practically always bacteria or their products. It matters not whether the germs be introduced from without or be normal inhabitants of the intestine which have been rendered virulent by an altered environment.

The efforts for the more scientific modification of cow's milk for infant feeding have as one of their objects the proper adaptation of the food to the requirements of the child, without leaving in the digestive tract a useless residue to undergo putrefaction. Although the food be sterilized before administration, if too large a residue be left it is quite conceivable that it may gradually produce such changes in the bacteria which normally inhabit the intestinal canal as to cause them to change their character. That the bacterium coli commune may so change is well known.

In both the prophylactic and causative treatment of the diarrheal disorders of infancy, the principle of antiseptics should always be borne in mind. In a recent paper on Intestinal Antiseptics (*British Medical Journal*, November 4th, 1899) I. Burney Yeo points out the important fact that the medical conception of antiseptics is not absolute as in the surgical; that the scope of intestinal antiseptics is to prevent or neutralize anto-intoxication proceeding from the alimentary canal.

The virulence of organisms may be diminished also by modifying their environment. In order to benefit our patient it is not absolutely necessary to kill the germs.

Yeo considers as ideal antiseptics for the small intestine such substances as are insoluble in the stomach and to some extent volatile, so that their influence may be diffused into the gases in the intestine

Bouchut has shown that the toxicity of the urine varies directly as the amount of putrefaction going on in the intestinal canal, and that such putrefaction can be diminished by the employment of certain intestinal antiseptics. The amount of aromatic sulphates present in the urine, provided aromatic drugs have not been administered, is also a gauge of the putrefactive changes in the intestine. These aromatic sulphates are diminished by irrigation of the colon. Dr. V. Hurley and Dr. F. Goodbody, using aromatic sulphates as a gauge, have found that when putrefaction is increased, calomel in small doses tends to diminish it.

All are now agreed upon the efficacy of irrigation of the colon in infantile diarrhoea. Many employ lavage of the stomach in addition. It is satisfactory to know that the correctness of the present methods of treating digestive disorders of infancy is emphasized by the above investigations.

PEDIATRICS.

GENERAL PERITONITIS AND ITS TREATMENT.

The subject of the treatment of general septic peritonitis is always one of interest, although we know that we are almost invariably fighting a losing battle. One of the commonest causes of this as well as other forms of peritonitis is disease of the vermiform appendix, so that we are thus able to speak properly of a form of appendicular inflammation with general peritonitis, characterized by a set of symptoms whose presence almost at once destroys hope in the mind of the surgeon. Cases are reported from time to time, of recoveries from this condition after operation with extensive peritoneal irrigation, usually with surgical salt solution and subsequent free drainage. The method is not entirely satisfactory even when successful, and the results are not always to be accepted without reserve as cured cases of general septic peritonitis, because it is often the case that a very considerable fraction of the peritoneum is not involved at all in the disease, in spite of clinical appearances, and may even have escaped contact with the irrigating fluid used at the operation. One of the most unsatisfactory parts of the question is that concerning safe and efficacious drainage. The rapidity with which peritoneal adhesions form around such a focus of irritation as that caused by a strand of gauze packing is well known, but the effect of this process upon the perviousness of the drain has perhaps not received the attention it deserves. The aim of the operation has always been to remove as much as possible of the inflammatory products by irrigation, and to provide then efficient drainage for a period of at least forty-eight hours. It has been recognized that it is not possible to disinfect the peritoneal cavity, but there has always been hope that the peritoneum would be left in a condition to cope with the remaining infectious matter, and would take care of any new septic products which might be formed. The peritoneum has been trusted to great lengths in this regard by some operations, and in some cases after free irrigation with salt solution and local cleansing of the site of infection, the abdomen filled with hot salt solution has been entirely closed. Successes have been reported after this method, though we hesitate to say in consequence of it, for the question of the actual extent of peritoneum involved is not always easy to settle, though this has an important bearing on the future of the case. If the peritonitis is actually general, the alexic function of the whole peritoneum is practically lost, and we should be justified in thinking that mere dilution of the poison would not prevent its entrance into the circulation. Furthermore, we must remember that by the time a true general peritonitis has developed, the human organism must already have absorbed a considerable quantity of toxins which have begun their harmful work on the nervous centres with great promptness. In cases in which, at the time of operation, although clinically having every evidence of general peritoneal involvement, we find, in consequence of the lack of the customary adhesions, coils of more or less uninvolved intestine, the possibilities of a favorable manifestation of the protecting power of the peritoneum are very considerable, and it is under such circumstances, we think, that most of the so-called cases of general peritonitis are cured.

We must remember that there are several elements in cases of general peritonitis which add to and in fact constitute the basis of the gravity of the disease, besides the condition of the peritoneal membrane itself. There is more to do in fighting this disease than simply to remove the inflammatory products in the peritoneal cavity, and to prevent their reaccumulation. Tympanites from intestinal paresis, with the consequent absorption of toxins from the putrefying intestinal contents, is a very serious element in the disease, dangerous and unsatisfactory to treat. If this condition is well developed, it would be impossible to put any quantity of salt solution into the abdominal cavity and then close the wound. The consensus of opinion at present in regard to the disease under consideration seems to be that it is almost impossible to save a case of general peritonitis, and that our chances of success by what are now commonly accepted methods of treatment are inversely proportional to the extent of peritoneum involved. Surgeons are apparently pretty well agreed that it is best not to resort to general abdominal irrigation, if possible, and that in any case the cleansing of the peritoneum shall first be undertaken carefully and methodically from the point of infection outward. If we can ever have an apparatus to supply hot salt solution continuously, and thus establish the same system that has been used in joints, we might save some otherwise hopeless cases of general peritoneal inflammation; but, until we can, the weight of the evidence seems to be that there must be some provision for drainage.—*N. Y. Medical Record.*

COUNTY HEALTH OFFICERS.

There is much to commend in the following remarks from a lay contemporary.—*The Essex Echo*.

“If the recent smallpox outbreak in North Essex has taught one lesson more than another, it is this, that the time has come for some county legislation on the appointment of a county health officer, district health officers for several districts throughout the county may have been all right in their day, but the time has come for a change. If there had been a county health officer when the first case of smallpox was spotted, no time would have been lost in unsatisfactory consultations among local health officers while the most loathsome disease was, in the meantime, getting in its deadly work. A county health officer would have had the case at once isolated, and in that way have prevented the spread of the disease. Apart from this there are numberless cases where medical health officers could be superseded by an active health officer. We all know that there are a great many menaces to public health in every town and township which require remedy, but which local health boards are afraid to tackle because of their position as business men. Here a non-partizan appointee could be called in by requisition of the parties annoyed by such menace and adjust matters according to the Public Health Act, no one daring to molest him. There is another reason why one medical health officer would be preferable to the present system. At the time of a smallpox outbreak there are no physicians anxious to relinquish their practice to look after those afflicted with the disease—for it would mean attending to that to the exclusion of everything else—as no one would have a physician attend him, who has been in attendance on smallpox. It would be the duty of the county health officer to take charge in an outbreak of this nature while the other doctors would continue on the even tenor of their way, and would see that the county officer did his duty to the letter. It would also give every county an expert in health matters. The expense would be no more than is now paid by the local municipalities. We have never yet heard one medical man object to having one health officer appointed for the county, by the county. Until some such arrangement is made there will always be confusion and dissatisfaction in health matters while the afflicted pay the shot.”

THERAPEUTICS.

Anusol.

Anusol (*Medical Review of Reviews*, October, 1899) is a combination of bismuth with iodo-resorcin-sulphonic acid, having a specific action upon the rectal mucosa. It is a powerful disinfectant and deodorant, an efficient desiccant for suppurating or hypersecreting surfaces, and an astringent and granulation-promoting agent. It relieves constipation, hastens the removal of hardened and impacted feces, softens and moistens the excrementitious matters, and causes easy and painless defecation. It has no unpleasant by-effects, contains no narcotic substances, and can be freely used in both sexes, at all ages, and at any time.

Anusol is recommended in catarrhal affections of the rectal mucosa, in proctitis, intestinal tuberculosis, fissure of the anus, local ulcerations, and for the relief of constipation, tenesmus, pruritus ani et vaginæ, prostatic hypertrophy, and all pruriginous and painful conditions of the rectum and adjacent organs.

Anusol is supplied only in the form of suppositories, each containing about ten grains of the drug with zinc oxide, balsam of Peru, and the excipient—one to be introduced every night. This dosage suffices for ordinary cases; severer ones require a suppository night and morning in the beginning.

A New Local Anesthetic Solution.

F. G. Lydston, in a communication to the *New York Medical Record*, vol. liii, says: "I desire to call attention to what promises to be a new departure in genito-urinary surgery. I have used as a substitute for cocaine in a number of cases of urethrotomy a ten per cent solution of antipyrin in a one per cent. solution of carbolic acid. As far as my observations have gone, the solution appears to be quite as efficacious as cocaine. In meatotomies, when, as is well known, the skin incision is usually painful, I have found even less complaint than when cocaine is used.

"The advantages of the agent as compared with cocaine are; (1) Absolute safety; (2) freedom from constitutional effects; (3) distinct lessening of hemorrhage after operation; (4) less disturbance of nutrition of the wounded tissues.

"The solution should be fresh, and should be allowed to remain in the urethra for ten minutes, as a rule. I have, however, begun cutting within five minutes after injecting it. I would suggest the antipyrin solution for nose and throat work. It will at least make a safe foundation for further anesthesia with cocaine. Absorption of the cocaine and hemorrhage will both be inhibited, thus adding greatly to the safety of operations. Unlike that of cocaine, the styptic effect of antipyrin is not followed by vascular relaxation, and often almost uncontrollable hemorrhage."

Electricity in Respiratory and Cardiac Failure.

A. D. Rockwell (*Medical Record*, Nov. 11, 1899) says that direct electrization of the pneumogastric and phrenic nerves calls into activity the physiological function of these nerves. In the case of the former the action of the heart is depressed; in the case of the latter respiration is accelerated and strengthened.

Percutaneous applications in therapeutic doses, especially with the faradic current, altogether fail to affect the pneumogastric appreciably, while the same method readily affects the respiration through the phrenic nerve.

In respiratory failure, therefore, whether due to the poison of opium, aconite, or in apparent death from drowning, electrization is a powerful antidote.

In heart failure from chloroform narcosis also the faradic current is a legitimate method of resuscitation, by keeping up the respiration without depressing the heart.

Stypticin in Uterine Hemorrhage.

Boldt (*N. Y. Med. Woch.*; *Centralbl. f. Gynecol.*, No. 37, p. 1159) reports as follows concerning his experience with stypticin: (1) Favorable results in the menorrhagia of young chlorotic patients were unaccompanied with pathological changes. (2) Same results in menorrhagia multiparum without chlorosis, but showing moderate ovarian hypertrophy. (3) Prompt and reliable effect in postpartum hemorrhage incident upon placental retention and continuing after curettage. (4) Favorable action in the hemorrhage of para- and perimetritis after miscarriage, and (5) after childbirth. (6) No results from its exhibition in cases of postpartum hemorrhage from placental retention and before the womb has been cleaned out, (7) and (8) nor in hemorrhages from myxomatous or carcinomatous tumors. (9) No results in hemorrhagic endometritis unless preceded by curetting. (10) Same in fungoid endometritis. (11) Results were unreliable in hemorrhages of chronic metritis or endometritis, and (12) insufficient in retroflexion with chronic endometritis. (13) Most favorable influence over the hemorrhages incident upon change of life. (14) Those due to puerperal subinvolution. (15) Such hemorrhages which could be ascribed to no definite cause. (16) Hemorrhages due to traumatic peri- and parametritis proved amendable to the exhibition of stypticin.

Quinine Hypodermically.

It has long been a desideratum, says N. S. Lincoln (*Medical Record*, Nov. 18, 1899), in the practice of medicine to procure a solution of quinine which can be administered hypodermically without causing irritation to and blistering of the cuticle. He has for the past two years been using a fifty per cent. solution, dissolved in muriatic acid, which produces no ill effect whatever, and he also finds excellent results from giving the same liquid in capsules. Muriatic acid, being native to the stomach, assimilates more readily than either tartaric or sulphuric acid, and the quinine is dissolved more rapidly and thoroughly than it can be with the

other two acids. He has used this solution (fifty per cent of quinine in muriatic acid) in unusually large doses without any of the uncomfortable results generally attending the use of sulphate of quinine, giving as much as thirty grains in capsules without any resultant headache or ringing in the ears. The quinine acts directly and happily, administered in capsules holding ten grains each. He therefore recommends the formula to the profession used as above stated.

Aspirin.

A new salicylic preparation (acetyl salicylate) has been recently introduced (*Medical Press*, Nov. 8, 1899) under the name of aspirin. It is in the form of crystalline needles, soluble in water at 37° C. at the rate of one per cent. In alcohol, ether, etc., it is about as soluble as other salicylic preparations. The most important distinction between aspirin and other salicylic preparations lies in the fact that it does not irritate the mucous surface of the stomach; further, it splits up so slowly in the gastric juice that it passes out of the stomach undecomposed and undergoes this progress only in the alkaline intestinal juices, the blood, and in the tissue lymph. It is useful in all diseases in which salicylic acid and sodium salicylate have been employed, especially in gout articular and muscular rheumatism, sciatica, dry pleurisy, etc. An agreeable form of administration is aspirin one grain, sugar three to four grains, stirred round in a little water and taken three or four times a day.

From the advantages it possesses over the crude salicylin preparation, its agreeable slightly acid taste, the absence of noises in the ears, irritation of the stomach when taken, aspirin is likely to come rapidly into favor.

Atropine in Asthma.

Riegel, of Giessen, at the seventy-first meeting Deutscher Naturforscher und Aerzte (*Berl. Klin. Woch.*, Oct. 2, 1899, p. 885), after discussing the various theories advanced to date and bearing upon the pathogenesis of asthma, proceeds to investigate experimental studies upon the role of the peribronchial muscular fibers, which role has but lately been demonstrated. By irritation of the pneumogastric Einthoven succeeded in raising intrathoracic pressure to 120 millimeters water and more. Experimental researches bear out the theory of peribronchial muscular contraction. Asthma is most assuredly a neurosis, and experimental research seems to show that whatever is nature, be it reflex or idiopathic, the stimulus is transmitted along the pneumogastric line. Should this prove true, however, it behooves us to substitute for the treatment of the attack, and in lieu of the usual narcotic preparations, such means as will reduce pneumogastric excitability. Atropine fills this indication, and Riegel suggests its use in hypodermic injections, which he has often found effectually to cut short a threatening attack of Asthma.

Peronin, a New Anesthetic for the Eye.

Quaita (*Settimana, Med.*, Oct. 7, 1899) has upon the eyes of thirty healthy adults used a five-per-cent solution of peronin (chlorhydrate of benzolic ether of morphine). A burning sensation is at first caused,

which lasts but a short time and is soon followed by well marked an-esthesia, which lasts for about ten minutes. The diameter or mobility of the pupil, or the accommodation, visual acuity, or eye tension, is in no way affected by this drug. The corneal epithelium was never affected nor infiltrated, as may happen after cocaine. The intense vascular injection with lacrimatous and serous chemosis is the great disadvantage of peronin as an ophthalmic anesthetic. Quaita thinks that it might be more useful than cocaine in enucleation or evisceration of the globe, as it produces deeper anesthesia and the increased vascularity does not matter in this case.

Bromide of Strontium in the Treatment of Epilepsy.

N. Cullinan (*Lancet*, Oct. 7, 1899) says that from his experience in the use of various bromides the preparation of strontium is far more effectual in the treatment of epilepsy than is that with potassium, sodium or ammonium. Its sedative action is well marked, causing but slight, if any, disturbances of the gastric functions, and appearing to act as a tonic to the nervous system generally. It does not impair the mind of the patient or produce anemia; while, on the other hand, the external evidences of improved blood-supply are well marked. On the whole it tends to produce a healthier tone of body and mind. The addition to each dose of the salt of ten grains of borax appears to act beneficially, but has the disadvantage if continued for a time of causing a low form of gastritis with flatulence, which is very distressing to the patient. Otherwise it is a good adjunct to the treatment.

Hydrogen Peroxide in Prussic Acid Poisoning.

Kobert (*Rostocker Aerzte Verein; Munch. Med. Woch.*, No. 28, p. 945) recommends the timely use of hydrogen peroxide in cases of prussic acid poisoning. This treatment, which he discovered several years ago, when employed at the earliest opportunity, has been successfully tried both in England and America. He further recommends its introduction into general use in emergency cases.

Antitoxin in Whooping-Cough.

Gilbert (*Rev. Med. de la Suisse Rom.*, 1899, No. 6; *Berl. Klin. Woch.*, 1899, No. 35) secured in all cases, even in those which had withstood all previous medication, remarkably rapid improvement. Identical results have been obtained by Lotti and also by Cerioli, so the efficiency of antitoxin in whooping-cough is now vouched for by three different authorities.

ELECTROCUTION INSTEAD OF HANGING.

Although this method of capital punishment has not yet been adopted in Great Britain, it is quite possible that it may take the place of the "clumsy hanging" at a future date. The method adopted by the United States authorities in America is well described by Mr. Homer Bennett in the American X ray Journal.

The current used generally is the alternating dynamic, with a tension of 1,700 volts to 2,000, amperage of $7\frac{1}{2}$ amperes, and alternations of 16,000 per minute. In three recorded cases the only external signs after death were slight blisters on the legs of all the executed men, and the hair of the head upon which the wet sponge rested was hot, due in both cases to the heating of the water by the intensity of the current passing through the sponge electrodes.

The condemned person is placed in a chair made of Oak, about 3 feet wide, $2\frac{1}{2}$ feet deep, and from the bottom of the seat to the top of the head is $3\frac{1}{2}$ feet. The seat is made of perforated wood, and there is an adjustable head-rest, as in dental chairs, but in addition the front of the head can be securely fixed by iron bands, so as to make the head absolutely immovable.

The "condemned" is placed in the chair and securely fastened by means of straps and buckles. In addition, a head-piece of soft black calf-skin, diamond-shaped, is placed over the face, having small opening for nose to project. The bandage is then fastened to head-piece, securing the head and acting also as a mask.

The contacts are made by means of two electrodes, one of which is applied to the outer side of the right leg at about the junction of the upper and middle third, and is held in place by means of a light strap around the calf. The other electrode is applied to the vertex by means of a long black strap, which is passed round the temples and cheeks and under the chin.

The electrodes are well wetted with a solution of sal ammoniac.

When the current is turned on and the tension is adjusted according to the "physique" of the condemned person, there is a sudden tetanic contraction of every muscle in the body, every strap being strained to breaking point. With the contraction of the diaphragm there is a short spasmodic gasp, purely involuntary, and with this exception not a sound was heard from the executed person.

The current is then turned off, when the muscles, of course, are relaxed, so be again put in spasmodic rigidity, when the current is again passed through the body. This is repeated three times, so as to make sure that death has resulted.

The first shock really ensures death, and the subsequent contractions and relaxations of the muscles were post-mortem, such as are known to follow the application of electricity to dead muscle.

It is to be most sincerely hoped that if capital punishment is not to be abolished, electrocution will supersede the barbarous and unscientific hanging in all European countries.

New Signs of Death from Drowning.

In the *Review of Medical and Surgical Progress* it is stated that Moreau gives two points which are indicative of death by submersion:— (1) The presence of a clear and limpid liquid in the peritoneal cavity; (2) the presence in the bladder of a large quantity of clear urine, but slightly coloured. There are so many self-evident fallacies in connection with these "tests" that we are not disposed to believe that they will aid medical jurists to accurate verdict in suspicious cases.

Morphia Testing.

In the *Therapist* is given a test for morphia in morphine habitués.

About 20 ounces of urine must be collected from the person suspected of self-drugging by morphia. If it have not an acid reaction, acidulate it with dilute Hydrochloric acid until blue litmus is redened by it. Concentrate to about 3 ounces, and let result stand in a cool place for twelve hours and filter. To filtrate add sufficient sodium carbonate, to render it alkaline, stand for twelve hours, filter and collect precipitate and wash this with distilled water made slightly alkaline with sodium carbonate, and dry. Digest the dried precipitate with pure alcohol at a gentle heat and filter. Evaporate the filter to dryness, dissolve the residue with dilute sulphuric acid and test for morphine by the Iodic-acid test or other usual method. It is asserted that by this means morphine can be obtained from the urine of those who are taking but very small quantities of the drug.

Phosphorus Poisoning.

Dr. Freyberger, Barrister-at-Law, reports in *Treatment* a case of phosphorus poisoning in an infant. It occurred in the practice of Dr. Henry Koplik, of New York, U. S. A. The amount of phosphorus ordered was 1/200 gr. three times a day, and the treatment was carried on for two weeks. Then the child became feverish, and diarrhœa came on, with a petechial eruption on the extremities. The phosphorus was at once discontinued. Hæmorrhage was noted with the stools, also epistaxis. Finally the child died from exhaustion. The phosphorus, Dr. Freyberger states, was given in the form of Oleum Phosphoratum, which, in the United States Pharmacopeia, contains 1 per cent. of phosphorus in oil. The total amount taken was 42 doses, equivalent to 1/20 gr. of phosphorus. Dr. Freyberger concludes his report by declaring against the use of phosphorus in cases treated, as outpatients to whom sufficient doses to last a week are given. He considers it should only be prescribed where the patient can be seen more frequently.

Sterilization of the Skin.

Senger has made a long series of experiments to discover the best method of sterilizing the skin, and has published his results in the *Archiv für Klin. Chir.* The technique he has adopted as the best is as follows, the whole process taking some ten minutes to perform.

(1) Mechanical cleansing with ordinary soap and water just as hot as can be borne (about 104 degrees to 113 degrees Fahr.) This scrubbing should last at least five minutes.

(2) Bathing, or rubbing the hands with alcohol of a strength of from forty to sixty per cent.

(3) Washing for two minutes with a warm two to five per cent. solution of hydrochloric acid.

(4) Washing for one minute with a warm one-half per cent. solution of permanganate of potash.

(5) Washing with sulphurous acid until the skin is decolourised.

Senger insists upon having the solutions warm, claiming that their antiseptic action is much increased by the heat. By this method he was able to obtain sterility in almost every instance in which the skin was tested by scraping. He considers, however, the most accurate test is to embed small snips of the skin in a culture material. By the latter test, he found the skin, prepared by his method was sterile in about seventy-five per cent. of his experiments.

Splenectomy.

Jonnesco has performed the operation of splenectomy twenty-three times since 1896 (*Gazette des Hopitaux*), once for hydatid cyst and twenty-two times for malarial hypertrophy. The patients were between the ages of 12 and 63 respectively. In four cases the general condition was good, in five anæmia was marked, five had marked cachexia, with œdema of the lower extremities, and a large decrease in the number of red corpuscles. One case died as a result of the operation, seven succumbed from complications independent of the spleen condition. The operation always had a curative effect: the cachexia disappeared, red blood corpuscles increased, and the malarial intoxication disappeared. The urinary toxic symptoms also always decreased. These excellent operative results confirm Jonnesco in the opinion which he holds in common with Saveran, that the spleen harbours the malarial plasmodium rather than protects the body against malaria. Hence its removal is indicated in malarial subjects when it is enlarged, the operation suppressing the greatest source of infection and curing the patient. The writer advises the operation before adhesions have formed or the cachexia has rendered the subsequent operation more grave. Leukæmia is the sole contra-indication.

Warning Concerning Exploratory Puncture of the Chest in Children.

A most uncomfortable experience is that of finding that one has provoked dangerous effects by the employment of means supposed to be harmless, and, unfortunately it is not an uncommon one. The indiscriminate resort to tapping the chest to clear up a doubtful diagnosis may lead to such an experience, as is graphically set forth by Dr. Henry Koplik in the August number of *Pædiatrics*. The warning should prove all the more effective because Dr. Koplik, in common with others, has before dwelt in his writings upon the harmlessness of the procedure. He now relates in brief the histories of four cases in which pulmonary hæmorrhage followed the puncture. Fortunately, the result was not fatal in any of them, but the author points out that the conditions may not always be favourable to a prompt cessation of the bleeding, and adds that if they were not the child would probably die. It is rarely, he thinks, that more than one puncture at a sitting is justifiable. The needle, he says, should not be thrust in more than a third of an inch, it should be withdrawn rapidly (the whole procedure occupying not more than half a minute), its point should not be moved about in quest of fluid, and the puncture should be made cautiously on the left side of the chest, either in front or in the back, in the vicinity of the heart and great vessels or near the vertebral column. He states that he himself has never punctured in front over the apex of the lung and over the great vessels.

Fractures of the Patella.

Martin, in the *Archives Medicales Belges*, thus sums up the best methods of treating fractures of the patella:—

(1) For the old and debilitated: simple rest, without the employment of splints for fixation.

(2) For those who can afford to lose time and for those who object to operations: fixation by means of splints.

SOCIETY REPORTS.

St. George's Hall, Elm Street, Jan. 3rd, 1900.

Toronto Clinical Society.

At the fifty-eighth meeting of this Society, Dr. Geo. A. Bingham, the President, occupied the chair.

The following Fellows were present:—Aikins, Peters, Orr, Greig, Oldright, Boyd, Spencer, Ryerson, Fenton, Lehmann, Bruce, Mellwraith, Anderson, McCollum, Thistle, Hamilton, Pepler, McDonald, Fotheringham, Parsons, Small, King, Britton, Thorburn, Rudolf, and Elliott.

Red Cross Donation.

It was moved by Dr. J. O. Orr and seconded by Dr. Spencer, that the Society donate \$25.00 to the Red Cross Society's funds for use in South Africa. Carried.

Foreign Body in Pelvic Cavity.

Dr. Geo. A. Peters showed a half of a knitting needle which he had removed from a woman's pelvis. The woman had sat on her knitting and the needle had passed through her right buttock, grazing the tuber ischii and entering the pelvis an unknown distance to the patient. At the first examination the needle could not be felt, as the woman was fat. She was sent out of the hospital with instructions to present herself again if it troubled her, and this she did in a week. She was anesthetized and the needle removed through the vagina. It was located on the lateral plane of the pelvis lying against the tuber ischii, the line of the needle grazing the sacro sciatic notch. An incision was made in the vaginal wall, a pair of forceps inserted and the body grasped about the middle and removed.

Syphilis of Cranium.

Dr. Wm. Oldright presented a patient, a man aged 54 years, who in early life had used alcohol pretty freely, and who had contracted syphilis about twenty-five years of age. There were no symptoms of a secondary character, but before the onset of the present trouble had suffered considerably from headache, but beyond that no other symptoms. In November, 1897, he had a fall and cut the scalp, which did not heal well at the time, there being a little eruption upon it. In August, 1898, it

commenced to discharge and the patient came under Dr. Oldright's care, and then there was a considerable narcotic area showing through the scalp, the breach of continuity in the scalp being about three inches in diameter, the bone underneath being corroded and black; and you could see pulsation in the pus from the brain beneath. At the time of the Canadian Medical meeting he was shown to several of the members, and Dr. Bell of Montreal advised operation then, which was done shortly afterwards, the surgeon cutting through both tables of the skull. About two by two and one half inches was removed, and underneath found the dura covered with granulation tissue. Since then portions of the bone have been removed without anesthesia, which gives him no pain, although there is an unpleasant sensation in the ears. A probe passed posteriorly will pass in about two inches. On putting the finger down through right to the bone, the bone is smooth, but the upper end is diseased corroded bone. In places the necrosis only seems to have extended as far as the upper table. Underneath there is living bleeding bone. But at other places, both tables are eaten through and there is a place where the little finger can be inserted between the dura and the skull. New bone has formed in the granulation tissue. When the bone was first removed it was suggested that a dressing of pepsin and hydrochloric acid be applied, as that might conduce to the digestion of the bone. The patient has had 35 grs. of pot. iod. three times a day. For ten or twelve days this would be continued and then stopped, and during the intervals the bichloride was being administered. At first he only took ten grs. per day.

Dr. Spencer spoke of a similar case in the service of Dr. Grasett at the General some years ago, in which the patient suffered from necrosis of the frontal bone. In this case the necrosed bone was taken away by simply lifting it up with a probe without any other operative measures. Dr. Spencer did not favor the application of bichloride locally, because there are many others that are far better, because they destroyed the smell better. He favored Vichy water as a vehicle for administering the iodide; and thought we should be careful in stating that a case of syphilis was cured.

Dr. Oldright stated that one reason for operating was that pus might burrow between the dura and the skull and set up general infection. He thought it would shorten the course of the disease by removing all the necrosed bone possible. The patient put on flesh under iodide of potash.

Cardiac Aneurism (with notes).

Dr. W. B. Thistle stated that these occur in two varieties, acute and chronic, the acute being more uncommon. The usual situation is near the apex of the heart, and is found with infective endocarditis, and acute softening resulting from chronic thrombosis. The chronic are found with localized myocarditis there being very often a history of syphilis. The great majority of these aneurisms are situated near the apex of the heart, and nearly always in the left ventricle. They are, however, sometimes

found in the upper part of the septum and sometimes found in the auricles. Calcerous degeneration is quite common, and in this specimen it is marked. In one reported case, the aneurism had to be cut through with a saw. The aneurism is partly in the ventricular septum and partly in the auricular. It is perhaps two inches in length and one in breadth. It occurred in a woman aged 32 years, married, but had never been pregnant. There was no history of previous illness nor of syphilis, although the husband was drunken and worthless. Brothers and sisters and parents, all healthy and well. When admitted to the hospital after one month's illness, she had weakness, shortness of breath and marked pallor. There were no symptoms directed towards the heart. She was extremely pale with edema beneath the eyes, with rapid but regular pulse. Examination of the heart revealed a double aortic murmur, traceable up into the neck and down along the sternum. Water hammer pulse very distinct and throbbing of the great vessels of the neck. There was also capillary pulsation, very distinctly seen in the patient's finger-nails. The apex was tipped somewhat to the left. There was at the apex later on a systolic murmur traceable to the left, and still later a pre-systolic murmur accompanied by a pronounced thrill. There was enlargement and tenderness of the spleen and later a somewhat distinct pericardial friction sound heard. At the autopsy, pericarditis was found corresponding to the friction sound heard during life. First examination of the urine revealed nothing abnormal in it. Later albumen was present, and still later much albumen to the extent of half a test tube, and blood and casts in great number. Examination of blood showed diminution of red corpuscles from the marked anemia. Temperature went up each day and then fell with profuse perspiration. Diagnosis was malignant endocarditis. There was nothing showing the case to be embolical. Death occurred from uremic convulsions after seven weeks in the hospital. Autopsy showed this aneurism in connection with the aortic valve. When the clot was turned out it left a smooth wall with a great deal of calcerous deposit about the opening. The mitral valve shows nothing abnormal contrary to expectations. With contraction of the ventricles, the blood would be forced out of the lower portion of the sac, and that would give rise to a murmur which would be synchronous with the ventricular contraction; that would be systolic and would explain the double murmur at the apex.

Endocarditis of the Right Heart.

Dr. Thistle showed a specimen in connection with this case. The case was one of chronic endocarditis occurring in a rheumatic little girl aged 12 years. It is an interesting case because all four valves showed marked changes. There was a very pronounced mitral and just as pronounced tricuspid changes. Then there are distinct vegetations on the aortic valves and on the pulmonary. And particularly interesting when the specimen was recent, there seemed to be a very distinct little tuft on each segment of the pulmonary valve; but they are not so distinct at the present time perhaps through the action of the formalin. Still there are little ragged vegetations to be seen on the pulmonary valve, and that is an extremely rare condition. Some authors say you never get endocarditis affecting the pulmonary valve.

Tubercular Testicle.

Dr. H. A. Bruce exhibited this specimen which he had removed that morning from a young married man of 26 years. The patient had had some enlargement of both testicles for a year. A sinus had existed in the left testicle for four weeks. There was also one on the right side. The left one led to the globus major, and the right one led to the globus minor of the corresponding testicle. Tubercular diseases was present in both testicles. On examination per rectum, the left seminal vesicle was found enlarged. As the young man was recently married and extremely anxious that a portion of one testicle be left, the surgeon removed the left testicle entire, and the cord of the other as far up as the external abdominal ring. The disease had not extended to the body of the testicle; and it was the left seminal vesicle which was diseased, the left testicle was so removed. Later on the remaining portion of the right testicle will have to be removed.

Extraordinary Case of Cancer (with notes.)

Dr. Wm. Britton reported this case. A woman aged 54 years came under his charge for the first time in July last with oedema of the left ankle and a portion of the leg as far as the calf. In the absence of a local cause in the leg, he came to the conclusion there must be pressure higher up, so the patient was examined vaginally per vaginam. A hard tumor was found, nodular, the pelvis almost completely filled, and apparently the uterus and tumor all one. The outline of the uterus could not be made out at all, nor either ovary nor tube. Externally, in the left iliac region the tumor was greater than in the centre or on the right side. There was some irritability of the bladder, but no special difficulty with the rectum. Posterior to the uterus the tumor was very great, and completely blocked up the rectum, although with the finger in the rectum, the tumor could be pressed forward, rendering the intestine patent to a certain amount. There was no enlargement of the liver. Early in September in the hospital, assisted by Dr. Temple, Dr. Britton made an exploratory incision, with the vain hope that it might possibly be a case of multiple fibroid, although he was suspicious of malignancy. The cavity of the uterus was not enlarged to any degree, perhaps one-third larger than normal. The os uteri was up near the anterior vaginal wall. The ordinary abdominal incision was made and a great deal of ascitic fluid spouted out. As the omentum was very much thickened and congested, we determined not to proceed any further; it was also slightly rough. There was nothing special to be observed so far as the tumor was concerned except that it filled the pelvis completely and was firmly adherent to the sigmoid flexure. On separating some of the posterior adhesions there was very free oozing, so nothing further was done except to close up the wound. Five days after union was progressing rapidly, when he was notified something was going wrong. Through each stitch hole there was serous fluid oozing, and from the upper part of the wound fluid was escaping. In five days this fluid had increased with marvellous rapidity. It forced the wound apart, and continued flowing for two weeks when it ceased abruptly and the wound went on

and healed by granulation. Four or five times at intervals of one week paracentesis was performed and fluid taken away. The vomiting after anesthesia was extreme and there was a good deal of vomiting at intervals. During the last week vomiting became incessant, of glairy mucus and brownish coffee grounds. Dr. Anderson made an autopsy the day after death. The body was deeply jaundiced; very much emaciated. The omentum was found adherent to the upper portion of the wound. It was very much thickened. It was found that the tumor had nothing whatever to do with the uterus; it arose from the left ovary. The tumor in places was cystic, with here and there large nodules. The whole peritoneum, both parietal and visceral was studded with little elevations about the size of a millet seed, grayish in appearance and friable in structure. Every portion of the peritoneum, including that covering the broad ligaments and the tumor superiorly, was found covered with these elevations. They were most numerous over the stomach and over the mesentery, as well as the colon. The stomach was of the usual size, although there was atrophy of the mucous membrane. The cardiac orifice of the stomach was perfectly normal. In front of the pylorus there was a great deal of thickening to the peritoneal covering, and posterior to the pylorus there was a nodule very nearly the size of a walnut, coarse and grayish in structure and hard, and it had all the appearance of scirrhus cancer.

Dr. Anderson, in describing the pathologic conditions present, stated that the tumor was a papillomatous cyst growing from the ovary, and that usually these tumors were bilateral. About 40 per cent. of them took on malignant action—usually a local malignancy due to implantation of papillomatous growths in the peritoneal cavity.

Eclampsia.

Dr. K. McIlwraith related the history of two cases of eclampsia and the treatment with morphine, calomel and salines.

Dr. Pepler deprecated the use of pilocarpine in this condition, and upheld the employment of veratrum viride.

GEORGE ELLIOTT, *Recording Secretary.*

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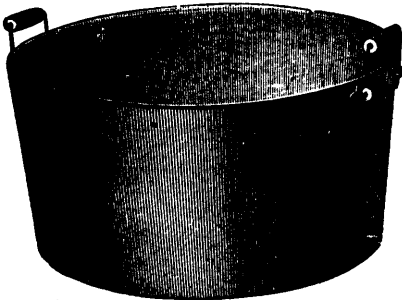
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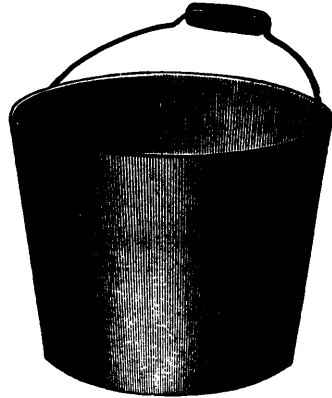
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EDITORIAL.

THE ANTITOXIN TREATMENT OF DIPHTHERIA.

The efficacy of the antitoxin treatment of diphtheria, according to the statements of those having the widest experience with it, has been so thoroughly established that further discussion of the subject might seem unnecessary. Special scientific commissions appointed by various medical societies to inquire into the matter, dealing with statistics of the results obtained in both hospital and private practice in all parts of the world have reported so overwhelmingly in its favor that there can no longer be doubt as to its therapeutic value. So much is this the case that most journals have for some time refrained from attempting to prove the utility of a method of treatment that is established on as firm a basis as that of vaccination in the prophylaxis of smallpox. There is some danger, however, of this silence being misunderstood as being due to a decline of the enthusiasm with which the antitoxin treatment was first greeted, such a revulsion of feeling as followed the failure of the brilliant promises of Koch's lymph in the treatment of tuberculosis. There has, moreover, of late been some adverse criticism of the remedy which the careless or indifferent might take as sufficient justification for neglecting to use it. It is therefore well for us to confirm our faith by looking to some of the recent statistics in reference to the matter, and we cannot do better than quote from the Archives of Pediatrics a resumé of the report of the committee of the Clinical Society of London on the antitoxin treatment.

The report is made upon 633 consecutive cases (not specially selected), with the necessary requirements that there must be satisfactory evidence of the existence of true diphtheria, and statement of the number of units of antitoxin used.

Of the 633 cases, 124 were fatal, *i.e.*, 19.5 per cent., and if fifteen cases dying within twenty-four hours are excluded the mortality is reduced to 15.6 per cent.

With this result was compared 448 unselected cases not treated with antitoxin, amongst which 150 proved fatal, giving a mortality of 33.4 per cent.

Another non-antitoxin series is also contrasted by picking out in each the cases in which the larynx was affected, when the mortality in the antitoxin series was found to be 23.6 per cent., whereas for the non-antitoxin series it was as high as 66.6 per cent, the most marked diminution in the percentage mortality being during the first four years of life, and similarly where tracheotomy became necessary, a mortality of 71.6 per cent. in the non-antitoxin cases was reduced to 36 per cent. in the antitoxin cases. The report states that this diminution of the mortality after tracheotomy probably constitutes the most direct proof of the efficacy of the remedy.

The report strongly emphasizes the necessity of injecting the serum early, as a steady rise in the mortality is observable with each postponement of the day of injection during the first five days

In drawing attention to the extreme rarity of an extension of the membrane to the larynx after the administration of antitoxin, it also points out that when the administration is performed during the first three days in cases needing tracheotomy, the mortality is as low as 16.1 per cent.

In considering the question of post-diphtheritic paralysis, the report states that it was present in 145 cases, *i.e.*, 22.9 per cent. In 110 of these it was only slight (*e.g.*, paresis of the palate and an ocular muscle), and in the thirty-five cases in which it was severe, in thirty-three the injection had taken place between the third and eighth day of the disease, whereas only one severe case was noted out of 112 cases treated on the first and second days.

In the non-antitoxin series the paralysis rate was found to be 10.8 per cent. But as the report states, sixteen cases were included in the 633 on the ground of paralysis occurring, and if these be deducted, the rate falls to 19 per cent. Moreover, it is to be remembered that the duration of life is shown to be markedly prolonged in the antitoxin cases, and the longer the cases survived the heavier was found to be the incidence of the paralysis.

Finally, the mortality from paralysis in the non-antitoxin series was 12.2 per cent., whereas in the 633 treated by antitoxin it was 8.9 per cent.

Of the untoward consequences following the injection of the antitoxin, the report states that there was no evidence of any prejudicial effects on the kidneys, whilst in 34.7 per cent. a rash was noticed, generally either a simple erythema or urticaria, and in the majority of these cases accompanied by pyrexia. Occasionally pyrexia was observed without other signs. The rash, in by far the larger number of instances, appeared on the eighth day, being seldom seen before the sixth and rarely after the eighteenth.

The appearance of the rash was not found to have any relation to the amount of antitoxin injected.

In forty of the cases there was pain in or about the joints, and a very marked increase in the frequency of the supervention of these pains was seen in those which received the largest doses.

No definite conclusion could be drawn as to the advantage of administering the whole of the antitoxin within forty-eight hours of the first injection, or continuing it for a longer period, and it is to be regretted that no mention is made of the number of units which it is advisable to use in different cases. Seeing, however, that even when used in very large doses no serious ill-effects have followed the injection of antitoxin, and that the number of fatal cases is less when antitoxin is used early, it would seem to be well to err on the side of an overdose at the first injection."

DIAGNOSIS OF TUBERCULOSIS OF THE KIDNEY.

Noble and Babcock (The American Gynecological and Obstetrical Journal) call attention to a useful method in the diagnosis of the above disease—catheterization of the ureters, thus obtaining the urine and injecting the sediment into guinea pigs. The urine from a tubercular kidney will infect these animals whereas that free from tubercle bacilli will not. The search for tubercle bacilli in urine by the ordinary microscopic examination of the sediment is always tedious and often uncertain, owing to the liability to overlook the organisms if few in number. Animal inoculation therefore, while necessitating the waiting for a few weeks for the disease to develop, is more certain. Another advantage of catheterization is that, by obtaining the urine from each kidney separately, we are able to learn in which kidney the disease is situated, or if both are affected—a point of importance in regard to both prognosis and surgical treatment.

As the early diagnosis of renal tuberculosis is extremely difficult this method can be highly commended. While not as widely adopted as its importance would warrant, we scarcely think the authors are right in calling it a new method, as it has been used by many doctors for some years. We quite agree with their statement that "while the method requires time and skill sufficient to use the ureteral catheter, if we may judge from the few cases that have been reported, it is the most reliable single procedure yet devised, and pending the development of a better method it seems to deserve a much more extended trial than it has yet received."

The Editorial Staff of the LANCET has been re-organized and the next number will appear under the management of the new staff.

PERSONAL.

Dr. Thomas S. Cullen, formerly a house surgeon in the General Hospital, and afterwards assistant in Gynaecology, Johns Hopkins Hospital, spent his Christmas holidays with friends in Toronto. Dr. Cullen, who is now practising in Baltimore, has in press a treatise on Gynaecological Pathology, which is looked forward to with much interest. From the excellent work he has done on this subject, we are assured of something satisfactory in a department where good literature is exceedingly scarce.

Dr. Wm. Osler, Professor of Medicine, Johns Hopkins University, paid a short visit to Toronto during the Christmas holidays.

Dr. Norman M. Harris and Dr. White, formerly of the house staff of the General Hospital, and now of the numerous colony of Canadians at Johns Hopkins, spent their holidays in Toronto.

Dr. D. M. Anderson (Trinity, '98), surgeon R.M.S. Empress of India, got three weeks' leave of absence, while his ship was in port, to visit friends in Toronto. After completing his contract in June next, Dr. Anderson will go to Europe to spend some time in post-graduate work.

Dr. Ralph Williams (Trinity, '98), and lately house surgeon at Christ Hospital, Jersey City, recently paid a visit to his family in Toronto. Dr. Williams has set up practice in Brooklyn, N.Y.

Dr. W. H. Stephens and Dr. H. R. Smith (Trinity, '99) have been sent as medical missionaries, by the Board of the Canadian Methodist Church, to the interior of China.

Dr. Murray McFarlane, of Carlton street, was married on December 4th to Miss Fredrica P. Walton, niece of Major Pellatt. THE LANCET tenders its congratulations.

Dr. T. G. Devitt (Trinity, '96), a former house surgeon of the General Hospital, who is now practising in Grand Forks, North Dakota, spent his holidays with friends in Ontario. The doctor is now married and prosperous.

Dr. Turnbull and Dr. Agnew, of Clinton, have returned home, after a year's absence doing post-graduate work in Europe.

Dr. P. G. Goldsmith, of Belleville, who has spent the summer at Moorefields and Gray's Inn Road Hospitals, in London, doing special work on the eye, ear, nose and throat, has returned and resumed practice.

Dr. R. M. Mitchell [Trinity, '92], who practiced for a number of years in Dundalk, has gone to the great North-west, opening an office and drug store at Weyburn, Assinaboia.

Dr. Geo. McDowell (Trinity, '92), Dr. J. Crawford (Tor., '94) and Dr. Gilmour (Trinity, '96), all of whom have been successfully seeking their fortunes in the Western States, spent their holidays with friends in Toronto.

Dr. Leonard Vaux, of Ottawa (Trinity, '96) and Dr. J. McRae, of Guelph (Tor., '98), two former house surgeons of the General Hospital, go to South Africa with the second Canadian Contingent, the former as surgeon, the latter as a lieutenant in the artillery.

Dr. T. C. Irwin (Trinity, '91), Professor of Physiology in Grand Rapids Medical College, spent his holidays with his friends in Creemore. Dr. Irwin volunteered his services as surgeon with the second Canadian South African Contingent.

Three more Trinity undergraduates in medicine go with the second Canadian Contingent to South Africa—L. E. W. Irving, '00, as lieutenant in the artillery; S. J. Farrel, '00, as trooper; W. J. Macdonald, '01, as gunner.

Mr. E. G. Rawlinson, '00, who was also accepted in the artillery and had gone to Kingston to join his battery there, met with a painful accident, having his upper jaw fractured by a kick of a horse, thus preventing his going to the front.

Mr. A. H. Anderson, '02, formerly lieutenant in the 25th Battalion, resigned his commission and went as private with the First Contingent.

Mr. Jordan, '00 (Tor.), is a corporal in C Company of the First Contingent.

Mr. Frank Macdonald, '00 (Tor.), goes as gunner in the artillery.

It will thus be seen that the undergraduates in medicine in Toronto have not been slow to hear their country's call and don the kharki in its service.

Dr. G. Sterling Ryerson, Deputy Surgeon-General of the Canadian Militia, and General Secretary of the St. John's Ambulance Association in Canada, goes to South Africa as representative of the Red Cross Society. Dr. Ryerson will look after the medical interests and comforts of the Canadians.

TRINITY MEDICAL COLLEGE ANNUAL DINNER.

The 22nd annual banquet of the faculty and students of Trinity Medical College was held at the Temple Cafe on the evening of Dec. 8th. Among those present were Major-General Hutton, Col. Neilson, Director-General of the Militia Medical Service, Dr. Landerkin; Dr. Roome, President of the College of Physicians and Surgeons of Ontario; Rev. Armstrong Black, Dr. Adam Wright, Surgeon-Major Natrass, Chancellor Allan, Dr. Britton, Dr. O'Reilly, Dr. Dwyer, Professor McKenzie, besides the members of the faculty, and representatives from sister institutions. The strong military spirit among the students was shown by the splendid reception accorded General Hutton, the guest of the evening. General Hutton spoke at some length of the present war in South Africa, justifying the course of Her Majesty's government in dealing with the Boers. Of even greater interest to the students were his remarks in reference to the proposed establishment of a field hospital and bearer company in Toronto, the members of which are to be recruited from among the undergraduates in the Medical Colleges of the city. He alluded to the responsibilities assumed, and the exacting service required of those joining these units, a step not to be lightly undertaken, but only from a desire to render service in defence of one's country.

In replying to the toast of the Medical Council, Dr. Roome spoke of Dominion Registration. The other toasts were suitably proposed and responded to.

The dinner, which had a distinctly military flavor, was largely attended, and was in every way a successful affair, for which the President, Mr. E. A. Boyd, and the committee, are to be highly congratulated

UNIVERSITY OF TORONTO MEDICAL DINNER.

The Faculty of Medicine of the University of Toronto held its 13th annual dinner in the University gymnasium on the evening of Dec. 7th. The affair was the most elaborate and successful of the many similar functions in the history of the College.

The guests of the evening, in addition to the members of the faculty were :—

Dr. Roddick, M. P., (Montreal).	Dr. O'Reilly.
Dr. Landerkin.	Dr. Geikie.
Rev. Armstrong Black.	Dr. Dwyer.
Dr. Wm. Britton.	Mr. Walter S. Lee.
Dr. Roome, Pres. O. C. P. S.	W. F. MacLean, (World.
Dr. Powell, Pres. Dom. Med. Ass'n.	J. J. Foy, M. P. P.
Prin. Caven.	Dr. Willmott.
Rev. J. R. Teefy.	Jas. Brebner.
Dr. Burwash.	Dr. Daniel Clark.

The duties of chairman were ably discharged by Mr. A. J. Mackenzie, B. A., '00, who in a few brief remarks welcomed the guests and introduced the speakers. Mr. E. D. Carder, B. A., '00, made a very efficient secretary.

Attention was given especially to Dr. Landerkin, replying to the toast "Canada," and to Dr. Roddick, who dwelt particularly on the subject of Dominion Registration, the scheme of which he briefly and concisely outlined. He thought, he said in speaking of the condition of the medical profession of Canada, that a mistake had been made in placing the profession under the control of the provinces. This difficulty, however, might be got over, and he thought that perhaps a way might be found for the Dominion Parliament to deal with the subject under the clause of the Constitution which gives the Dominion power over matters concerning the peace, order and good government of Canada. A bill regulating the study of medicine and establishing a Dominion Council would be brought in at the next session of Parliament, and he was happy to say that not a single Medical Board objected to it. The standard of study would be higher than that now prevailing in any Province. The Council would consist of 24 members (three from each province), and would occupy the same position as the Medical Council of Great Britain. The idea was that any medical man with a certificate from this Board, should be entitled to go to the registrar of any province and ask to be registered in that province as a right. The autonomy of the provincial boards would not be interfered with, and they would continue to have full charge of all matters relating to taxation and discipline.

THE USE OF SALINE TRANSFUSION FOR BURNS AND SHOCK.

It is not many years since the employment of ordinary saline solutions, hypodermically or intravenously, was first urged upon the general practitioner by those who had had experience in this line of treatment. Each year that has passed since these early recommendations has served to emphasize the great value of this therapeutic measure, and our columns have again and again contained reports of cases of infectious diseases, of cases of toxemia like puerperal eclampsia, uremia, and diabetic coma, in which excellent results have followed this method of treatment.

In the spring of 1898 the writer of this editorial also called attention to the results which had been obtained by Tommaseli in the treatment of severe burns by hypodermoclysis and intravenous injections. Tommaseli believed from clinical observation and experiment, that a large part of the lethal influence of burns depended upon toxemia, and on putting his belief to the practical test he found that artificial saline injections saved life. So, too, in this country Bardeen, as a result of a histological study of the tissues of several children who had died from burns, came to the conclusion that toxemia was an important factor in causing death, and his results indorsed the proposition of Tommaseli in regard to this method of treatment. Even if the toxemic condition is not directly improved by saline injections into the subcutaneous tissues or veins, there is still another one in which this method of treatment may be of great good, in that surgical shock is nearly always present as a result of severe burns and scalds, and we have reasons, both theoretical and practical, for the belief that in shock a condition of profound relaxation of the blood-vessels exists, so that arterial pressure is very low and the vital centers are not properly supplied with blood.

While we know that intravenous injection does not necessarily raise blood pressure, we also know that this method of treatment is capable of readjusting the circulation to such an extent that the evil manifestations of vasomotor paralysis are set aside. It seems to us, therefore, that in treating cases of severe burns or scalds, this method of procedure should not be ignored, but should be actively employed, since it can do no harm, and may do much good.—*Therapeutic Gazette.*

SUBCUTANEOUS ABSCESSSES IN CONNECTION WITH A BACILLUS IN THE CIRCULATING BLOOD.

BY THOMAS BRADLEY, M. D.

T. P. aged 25 years, Machinist, has been troubled for the past ten years with boils. For the first two or three years these appeared only in the winter and in successive crops. The favorite situation were the arms, thighs, face and neck. Between general eruptions at one or more of these situations, he was never without one or two furnucles at least. After about three years in this condition the time of year seemed to have no influence, eruptions appearing as last discribed at all seasons. This state of affairs continued until two years ago when an eruption covering the whole body made its appearance. At the same time the right fore-arm and arm were swollen to a size nearly half as large again as normal with marked involvement of epitrochlear and axillary glands. The cervical and sub-maxillary glands were also enlarged. After two months stay in the hospital, he was discharged as cured. Shortly after leaving three boils appeared on the left fore-arm. With little treatment, further than protection, these disappeared but only to be followed by another lot on some other part of the fore-arm or on hands face or neck.

I saw the patient for the first time in December 1898. His left hand was then in a condition of severe celtutitis with a discharge of pus at the base of the proximal phalynx of the little finger. The fore-arm was also much swollen and had two or three points of discharging pus. In most cases these points of breaking down and sloughing were more depressed than the ordinary boil. Others, however, were not unlike the ordinary furunculus beginning in a raised angry looking spot and terminating in gangreue of the central part which was eventually cast off in the form of a slough. For some days before a visitation, the patient complained of an intense heat over the whole body. He was also dull and indisposed to any exertion. This condition alternated with severe headaches. His bowels always but especially at this period were confined. Other than the above, the patient appeared to enjoy fair health, important organs being carefully examined. As regards the urnialysis of which a number were made there was nothing abnormal excepting on one occasion when pus was found. The blood as regards the different counts, viz;—red, white and differential was also examined and found to be with very slight variations in a normal condition.

Up to within one month before he came to me, he had been steadily under treatment for two years without any but an occasional temporary result. The patient showed me a prescription which his doctor had given him some eighteen months before. The chief ingredients were Iodide of Potash and Bichloride of Mercury. Suspecting a syphilitic ta'nt I again went into his history, especially on this point most carefully, but could find no trace whatsoever. Upon making sure that he had for some time given up treatment as useless, I agreed at his suggestion to do what I could. I put him on Arsenic Strychnine and Calcuim Sulphide. He was also ordered a bath each night followed by a sponging over the whole body with a solution of Carbolic Acid (1 in 60). Un-

derclothes were changed three times a week. Calomel in four grain doses followed by Saline every five days was also ordered. In one week the patient reported that he was feeling much better and that his boils were nearly all gone. He was ordered to continue the same treatment and to report again in another week. Patient returned again in about ten days, but to my disappointment was much the same condition as he was when I saw him first. In fact the hand was much more swollen and more painful, so much so that he was obliged to leave off work for one week. Not being satisfied as to the nature of the trouble I made a culture on blood serum from the pus of one of the abscesses that had not yet been exposed. At the same time I thoroughly cleansed and sterilized a portion of the fore-arm, also my own hands and a needle and inoculated another tube of blood serum with a specimen of the blood. After twenty-four hours in the thermostal a very free growth was present in both tubes. Cover-glass preparations of the specimen taken from the culture inoculated with the pus showed a mixed growth viz; micrococci and staphylococcus pyogenes aureus and an organism resembling the protens vulgaris. The blood specimen with the exception of a few cocci were identical with the last mentioned variety. The bacilli vary in both length and thickness more especially however in length being sometimes thread-like and apparently interlaced. The last process was repeated and another specimen of blood examined. In one case there was no growth and in the other very slight visible growth and but few organisms in cover-slip preparation. I referred the matter to Dr. Anderson pathologist to Trinity Medical College and he advised more strict Bacterio logical technique, stating that it was possible that the organism found was a contamination. Acting upon his suggestion a good hypodermic syringe was selected and allowed to remain in a solution of carbolic acid (1 in 10) for ten minutes after which it was boiled in a strong solution of bicarbonate of Soda for forty-five minutes. The patient's fore-arm was prepared by washing with soap and water, carbolic solution, then (1 in 20) and finally with alcohol and ether. Then I thoroughly washed my own hands and sterilized them in carbolic acid (1 in 20). Blood was at once withdrawn by means of the prepared hypodermic syringe from the Median Basilid vein and injected into liquified agar and plated at once. After twenty-four hours in the incubator there were innumerable colonies of different shapes and sizes, namely, round branched and braded and on the level or above the surface of the media. Ten different colonies taking as many different forms and as far removed from each other as possible were examined, revealing in each case the same microorganism. Again and under every precaution inoculated slant blood serum with blood in the following order. 2 from 1, 3 from 2 and so on to 4. Each time more liquifac ion occurred. No. 1 showed brownish purulent scum, No. 2 slightly liquified and No. 4 thoroughly liquified holding in suspension a whitish flocculent material. Each culture media contained the same organism but it became smaller and apparently less abundant at each inoculation. This last condition was exaggerated in a thirty-six hours' compared with a twenty-four hours' growth. Another original agar plate culture was made and examined for colonies

eighteen hours later but there were none present. After twenty-four hours however many of different size and shape were visible. A number were examined under the microscope and as before the same bacillus revealed itself. I also examined a number of colonies after thirty-six and forty-eight hours respectively but only to get the same parasite under slightly different conditions. A number of the specimens of thirty-six hours' growth revealed some of the bacilli as a cellular affair with an apparent nucleus. In thirty-six and forty-eight hours' growth individual bacillus seemed much smaller compared with twenty-four hours' growth. From original agar plate inoculated beef broth and agar slaut. After twenty-four hours' growth in thermostat, beef broth contained comparatively few bacilli but those present, were remarkably well defined. After four days organisms were yet quite distinct and more numerous. The media contained a white flocculent material clinging to the glass at junction with the bouillion. From the same specimen made a hanging drop examination. The bacillus showed four distinct movements and a fifth the existence of which I am not thoroughly satisfied with. The movements are quite rapid much more so, than those of the typhoid bacillus. The organism under certain circumstances vary much in length from rod shape to filaments. The rod-shaped are large and more or less uniform in thickness and length, The filamentous structures have not as yet under examination shown any movements although all other characteristics correpond with the short rod-shaped. In many cases they appear to have transverse markings and in all probability the short in which such active movements are present are subdivisions of the larger variety at these markings. The movements are certainly four and probably five in number. In one case the bacillus moves across the field in a zig-zag manner throwing its body at different angles from right to left thus—
— motionless, \wedge \wedge moving, — motionless. At each single movement it propells itself from half to twice the length of itself. Another movement is one in which it partially turns upon itself first to one side and then to the other forming each time the arc of a circle. Although it does not travel across the field as rapidly as in the last movement described its movements over the same ground are rapid. It travels after this fashion, — motionless, \smile \frown moving, — motionless. The last distinct movement is one in which the bacillus turns completely upon itself forming what looks like a large coccus. It is after this fashion, — motionless, o o o o moving, — motionless. The fourth movement is snake-like. The fifth and doubtful movement appears to be up and down without bacillus quitting its ground. It appears to turn end for end in a regular manner.

A NEW METHOD OF DIAGNOSIS OF TUBERCULOSIS OF THE KIDNEY.

BY CHAS. P. NOBLE, M.D.,

Surgeon-in-Chief Kensington Hospital for Women, Philadelphia.

and

W. WAYNE BADCOCK, M.D.,

Pathologist Kensington Hospital for Women: Demonstrator of Pathology and Bacteriology, Medico-Chirurgical College, Philadelphia.

The diagnosis of tuberculosis of the kidney has been considered sufficiently obscure to cause the average physician to be very doubtful of his abilities in this direction. It has been my experience as a practical surgeon that the cases which have come under my notice have all been so far advanced that the ordinary methods of diagnosis were sufficient for arriving at a conclusion. In all of the cases pain, tumor, hectic fever, pyuria and bladder symptoms have been present to so marked a degree that but little skill has been required to make a diagnosis.

The case reported to-night is of the same character. It is reported in detail, however, because of the employment of a method of diagnosis which has been recommended for cases obscure in character or when seen at an early stage. This consists in securing urine by catheterization of the ureters with sterile catheters, and then injecting the sediment from the urine into guinea pigs. The urine obtained from a tubercular kidney and containing tubercle bacilli will affect guinea pigs, whereas, that free from tubercle bacilli will not. The result of this examination in the particular case reported will be detailed by Dr. Babcock.

While not needed for diagnosis in this case, the result corroborates the claims of Dr. Reynolds of Boston concerning the value of the method, and I shall certainly employ it in future cases in which there is doubt. Tuberculosis of the kidney is not a rare disease, and any method which will add to the certainty of diagnosis of the malady is deserving of our attention. The present tendency is to permit these cases to go on until the patients are in bad general condition, or in *extremis*, before they are brought to the surgeon. It is to stimulate an interest in the subject and to permit an early diagnosis of the malady that this contribution has been made.

Miss E. B., white, aged thirty. There is no history of tuberculosis in her family. Her father died at 53, with heart, liver and kidney disease. The mother is living and well, as are all of the patient's brothers and sisters.

The personal history reveals no ailments except those common to childhood. The patient was admitted to the Kensington Hospital for Women May 23, 1899, having at that time suffered for four months with frequent and painful micturition that had progressively increased in severity. At times there had been right lumbar pain extending to the thigh. The urine at this time was acid, with a specific gravity of 1012, and contained albumin and a very considerable amount of pus.

With the cystoscope the bladder was found to be inflamed, with several small ulcers near the right urethral orifice. This was very patulous, being at least four times the normal diameter. Despite repeated exam-

inations, the left urethral orifice was not found. Under bladder irrigations the vesical symptoms subsided, but the pyuria persisted, until, after nine weeks, the pus formed from one-eighth to one-fifth, by bulk, of the urine. The average quantity passed at this time during twenty-four hours measured forty-eight ounces.

The course of the fever during the first month under hospital observation was irregular, but the evening rise rarely exceeded 100° F. Then the fever became more marked, with an evening exacerbation that averaged during the fourth, fifth and sixth weeks 101° F., and that increased during the next three weeks to 102° F., and frequently reached 103° and 104° F.

During this time the patient lost weight and strength and had repeated attacks of abdominal pain, particularly in the right renal region.

Urethral catheterization continued unsatisfactory as only the right ureter could be catheterized. The urine collected from this ureter was always alkaline, and contained much pus and had a specific gravity as low as 1006.

About the eighth week a large mass became palpable on the right side of the abdomen. A number of microscopical examinations failed to show tubercle bacilli in the urine. It was, therefore, determined to inject the urinary sediment from each kidney into separate guinea pigs. A urethral catheter was accordingly introduced into the right ureter, June 6, 1899, and in sixty minutes about one ounce of purulent urine had collected from this kidney. As it was not possible to catheterize the left ureter, the bladder was irrigated with salt solution. The urine collecting in it from the left ureter was saved. After twenty minutes one and one-ounces were drawn—which doubtless contained a considerable percentage of salt solution. The separate urines were placed in sterile tubes, sealed with cotton stoppers, centrifuged, and placed upon ice. Three guinea pigs, having an average weight of about 500 gms., were taken. About 1.5 cc. of the separate sediments were injected into the abdominal walls of two of the pigs, June 6, 1899. The third animal was not injected, and served as a control. Considerable local reaction, with redness, tenderness and decided swelling occurred at the seats of inoculation and slowly subsided.

The patient's right kidney having in the meantime been removed and found to be extremely disorganized by a tubercular process, the guinea pigs were permitted to live much longer than is usually necessary. Upon September 18 the guinea pig that was injected with urine from the left kidney, having been distinctly ill for some time, was killed. There was an open wound at the seat of inoculation, surrounded by a moderate fibroid induration. The inguinal lymphatics were much enlarged and distended with a thick cheesy material. The cervical, axillary and mediastinal glands were also involved, and there were marked and typical tubercular deposits in the spleen, lungs and liver. Stained preparations from the necrotic foci showed the tubercle bacilli. Upon September 22, the second pig (the one injected with the urine from the right kidney) was killed. This animal, although apparently not in health, did not appear so ill as did the first. A small, granulating wound was present

at the seat of the inoculation. The inguinal glands were not enlarged (the injection having been made rather high over the lower thorax), but the axillary and cervical glands were enlarged. Necrotic collections were found in the anterior mediastinal glands, which showed, upon staining, the characteristic bacilli. Tubercles were present in the spleen, and there were also small tubercles in the lungs and liver. The entire process, however, was milder than that occurring in the first pig. The control guinea pig has gained in weight and remains healthy. The guinea pig forms such a delicate reacting medium to the tubercle bacillus that it is not improbable that the tuberculosis of the second pig was produced by bacilli entering the bladder through the right uter. In using a test of such delicacy it is obvious that the urine from each kidney should be secured whenever possible directly from the ureter or renal pelvis.

The patient's condition becoming such that it was deemed unwise to await the result of the inoculations, upon July 24 a right nephrectomy was performed.

A large suppurating tubercular kidney was removed through a lumbar incision. There were two ureters, one of which was much infiltrated and its lumen filled with pus. The incision was not extended forward in order to perform a complete ureterectomy, because of the general condition of the patient. Gauze drainage was employed because of the diseased condition of the ureteral stump.

The quantity of urine passed during the first twenty-four hours after operation was fourteen ounces. It contained considerable albumen and much pus. During the second twenty-four hours twenty-three ounces was passed. Gradually the quantity increased until the average daily excretion became from forty to sixty ounces.

The wound suppurated and pus was discharged. On the tenth day after the operation the patient's appetite returned, and her strength increased. All her pain disappeared and she was discharged in good general condition (but with a sinus) at the end of seven weeks. At the present time the sinus is open, discharges some pus and considerable urine. This evidently is discharged from the bladder, regurgitating through the very patulous ureter. The kidney increased 15 cm. in length 6.5 cm. in breadth. The capsule was thickened and adherent, and the renal surface was lobulated. On section the bulk of its substance was found to be replaced by a reddish or yellowish cheesy material. But a single pole retained the appearance of normal kidney structure, and even this was infiltrated with small tubercles.

Action on Rabbits and Guinea Pigs.

Inoculated a guinea pig subcutaneously. In twenty-four hours its temperature per vagina was 101 1.5°. In forty-eight hours it was a 102° and then was a profuse diarrhorea. The animal was very dull and apparently quite ill. The temperature remained between 100° and 102° for six days. After ten days the animal died. The autopsy revealed nothing abnormal further than move than an ordinary amount of fluid in the peritoneal cavity. Bouillion was inoculated with specimens taken from the peritoneal and pleural cavities, also from the liver and heart.

Twenty-four hours growth in the thermostat revealed nothing, either in the appearance of the media or microscopically. On January 13, selected a large and plumb rabbit. Its temperature per rectum was 99° (considered normal). With due precaution it was inoculated with a growth on bouillion of twenty-four hours by means of a hypodermic syringe. The instrument was filled and its contents injected into the posterior auricular vein. Third day after inoculation temperature was in—

	Morning.	Evening.
	$99\frac{2}{5}$	101
Sixth day..	$102\frac{3}{5}$	$102\frac{3}{5}$
Seventh day	$103\frac{2}{5}$	104

And much diarrhora.

Eight day..	102	$102\frac{3}{5}$
Ninth day..	102	$102\frac{2}{5}$

On February 7th unoculated subcutaneously into flank the same rabbit with an ordinary hypodermic syringe full of bouillion culture seventy-two hours old. Twenty-four hours later the animal had profuse diarrhora and a temperature of $103\frac{2}{5}$. At the point of infection a semi-solid raised mass about the size of a chestnut was also present. Twenty-four hours after this the rabbit had still diarrhora and a temperature of $103\frac{1}{5}$. The swelling was much the same, but rather of an elastic feel. Its temperature was not taken again until February 14th, when it registered $102\frac{1}{2}$. For one month after this fever fluctuated between $102\frac{1}{2}$ and 100° . Six weeks later it was $99\frac{1}{2}$. The diarrhora had now ceased and there was merely a scab remaining at the point of inoculation. The animal had become markedly reduced before its temperature returned nearly to normal.

Action Toward Different Staining Reagents

It stains by Gram's method and with all the ordinary reagents especially will with gentian violet,

Five months after the first specimen of blood was examined another was examined revealing in every respect precisely the same organism in one case as in the other.

Although publishing the above at the discession of the editor as a mere clinical report, I may say that from the data here given I have not been able, according to "Stermburg," to find a corresponding bacillus under the same conditions and with associated similar symptoms to the organism in question.

The patient came to me to-day (September 2, 1899). He had similar and dissimilar symptoms with those described. The left hand, fore-arm and axillary glands were chiefly involved. The hand was swollen fully double its normal size. In the palm was a hard non-movable mass about half the size of a hen's egg. Over the posterior surface of the fore-arm a large number of abscesses had become confluent leaving a large purulent surface surrounding, which was a deep red discoloration, with much induration of the underlying tissues. An indurated mass was

present at the bend of the elbow, making flexion almost impossible. The axillary glands were more swollen than on any previous occasion. Patent said that at outset of this attack his left arm suddenly became powerless and remained so for two days. (September 25, 1899) Right axilla, arm and fore arm tremendously swollen. Axillary space almost completely filled up, so much so that arm could not hang by side of body. The sensation on palpation was something like grasping a baseball, nodular masses could be felt throughout. Posterior surface of about half of arm and fore-arm were especially swollen of a deep red or purple hue and quite ordematoas.

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“Antikamnia Laxative Tablets” or “Antikamnia & Quinine Laxative Tablets,”—as the condition presented may require,—will compel the excretory organs to perform their natural functions naturally, without griping or stomach sickness, and they are, therefore, the proper remedies for constipation, headaches, chills and fever, malaria, la grippe and allied conditions, coryza, colds, congestions and the general disturbances arising from suppressed action of the various functions of secretion and excretion.

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We believe the profession will at once appreciate the uniqueness and usefulness of these combinations.—*The Atlantic Journal—Record of Medicine.*

BOOK REVIEW.

THE MODERN TREATMENT OF FRACTURES.

By John B. Roberts, Professor of Surgery, Philadelphia, and published by D. Appleton & Company, New York.

This little work advances many new ideas in the treatment of fractures that are worthy the careful consideration of every surgeon and practitioner. It is full of good practical ideas. And now when aseptic surgery is beyond doubt any surgeon would be open to censure were he to bind up a broken limb in splints were he not certain of correct coaptation or in cases where the nature of the fracture is such that the fragments cannot be kept in position. We cannot speak too highly of the work.

MUSSEY'S MEDICAL DIAGNOSIS.

A Practical Treatise on Medical Diagnosis. For the use of Students and Practitioners. By John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, Philadelphia. New (3d) edition thoroughly revised. Octavo, 1082 pages, with 253 engravings and 48 full-page colored plates. Just ready. Cloth, \$6.00, net; leather, \$7.00, net.

This volume may be termed a complete practical guide to the modern science and art of diagnosis. Obviously, successful treatment can only be founded, in the long run on a thorough knowledge of the patient's condition from the presentation of the case through all its stages. To this end Professor Musser trains his readers to observe and appreciate the objective signs of disease and the subjective symptoms complained of, and to apply the various instruments and methods of precision which now quicken the work of the diagnostician and eliminate all doubt.

Under the simplification effected by these modern procedures the necessity for elaborate descriptions or extended lists of minutiae as guides to differentiation is rapidly disappearing. Formerly, for instance, extensive tables were displayed as a guide to the discrimination between anæmia and chlorosis; now a few moments' examination of the blood decides the nature of the affection and whether iron or arsenic is to be given for its cure. Similarly, bacteriological methods of diagnosis, than which none can be more important, will be found adequately given in this volume.

Hot Flashes.

Our sisters are subject to many inconveniences, and all because they are "sisters," and this one known as above is one of the worst of the lot, though not dangerous. It may be amusing to lookers-on to see some stout lady, while everybody around is comfortable, suddenly seize her fan and vigorously cool herself off, and repeat this operation frequently, but really it is a case of the boys and the frogs. Women have for the most part learned to consider these annoying feelings as something

beyond the reach of art, and so do not frequently seek relief at the hands of the profession, or if they do are not in the way of receiving much comfort. To be told that it is only nature's "way" does add to one's comfort, and that is generally all that is vouchsafed by way of cure or help. Having recently treated two cases with results satisfactory both to my patients and, of course, to myself, will give the method. Tri-bromide tablets (7 grs.) one three times daily, fl. ex. salix nig., fl. ex. cimicifuga, aa $\frac{1}{2}$ oz.; fl. ex. nux. vomica, 2 drams. M. S. 20 drops once in 3 hours. The prescription was based upon the theory that these occurrences were due to irregular nervous action manifesting itself through the vascular system, and the object sought was to allay or control this irregularity. The combination seemed equal to the occasion.

As a rule, I do not believe in repeating specific recipes, for the same conditions may not exist twice in different people, but in this case I have departed from my habit because these phenomena are so similar in most cases that a similar pathologic condition might be inferred.—*Dr. Carrington.*



PRACTICAL DIAGNOSIS: THE USE OF SYMPTOMS IN THE DIAGNOSIS OF DISEASE. Fourth Edition, revised and enlarged by Hobart Amory Hare, M.D., B. Sc. Lea Bros. & Co.

The fact that a fourth edition of this work has been called for within four years is, in itself, a high tribute to its excellence, and shows that it supplies a want acceptably. Practical diagnosis has advanced so rapidly in the past few years, owing to the introduction of improved scientific methods, and the literature on it is scattered through so many voluminous works dealing with different subjects, that a treatise dealing with the subject in a concise form, will be found not only a convenient, but a necessary addition to a medical library.

The author has divided his book into two sections—part I, consisting of 13 chapters, dealing with the manifestations of disease in the various organs, and part II, of nine chapters, dealing with the manifestations of disease by symptoms.

The text is accurate and up-to-date, the plates are many and well chosen, and the presswork excellent.

TRANSCRIPT OF TITLE AND GENERAL DISCRIPTION.

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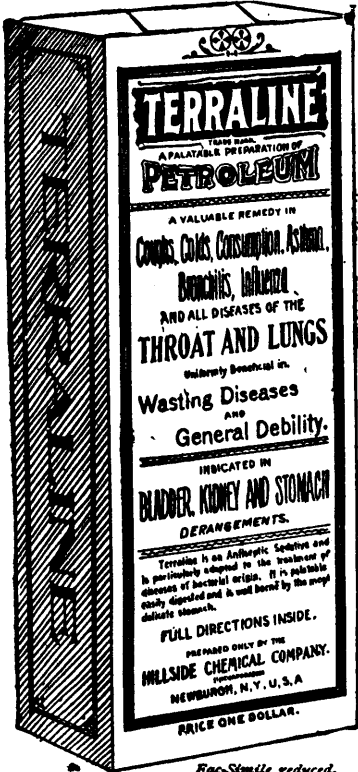
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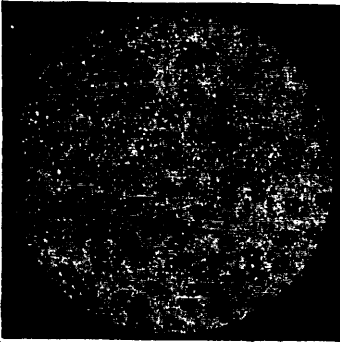
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animated organism to another, for the purpose of supplying a defect in the latter, is the substance of the Blood Treatment; and How to Do this, in different cases, is the form or description of the same. Blood may be taken from a healthy bullock (arterial blood—elaborated with due scientific skill); or it may be obtained in the well-attested living conserve known as bovine, from any druggist; and may be introduced into the veins of the patient in either of four ways, that may be most suitable to the case: viz.: by the mouth and stomach; by injection, with one-third salt water, high up in the rectum; by hypodermical injection; or by topical application to any accessible lesion.

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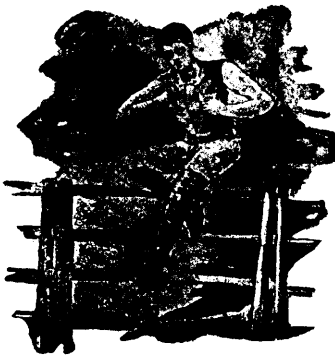
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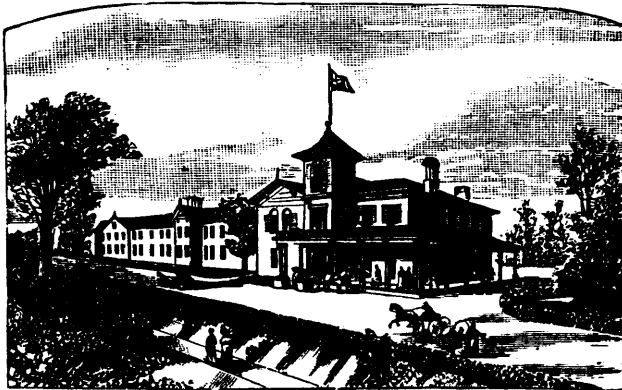
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Most Reliable Preparation of the kind
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Pil. Antiseptic Comp.

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R Sulphite Soda, 1 gr.
Salicylic Acid, 1 gr.
Nux Vomica, $\frac{1}{8}$ gr.
Powd. Capsicum, 1-10 gr.
Concentrated Pepsin, 1 gr.

DOSE—1 to 3.

PIL. Antiseptic Comp. is serviceable in atonic dyspepsia, nervous dyspepsia—in fact, all forms of this disease, because it strengthens the lowered digestive vitality.

The Nux Vomica and Capsicum, besides promoting involuntary contraction of muscular fibre, relieve flatulence and constipation.

The digestive properties of the Pepsin, assisted by the action of the Salicylic Acid and Sulphite of Sodium, in addition to the above, make this an effective remedy.

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A SOLUBLE ACTIVE PILL.

R EXT. BELLADONNA, $\frac{1}{8}$ gr. Peristaltic stimulant to the bowels.

GINGERINE, $\frac{1}{8}$ gr. To prevent griping and for its carminative properties.

STRYCHNINE, 1-60 gr. As a tonic to the intestines.

CASCARIN, $\frac{1}{4}$ gr. Removes and prevents constipation.

ALOIN, $\frac{1}{8}$ gr. Increases peristalsis of lower bowel.

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Renews Peristalsis.

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A Most Satisfactory Method for Prescribing Iron as Indicated in

ANEMIA, CHLOROSIS, PHTHISIS.

R Ferri Sulph.
Potass. Carb., aa $1\frac{1}{2}$ grs.
DOSE—1 to 2.

PIL. Chalybeate produces Ferrous Carbonate in the stomach, and mingling with the gastric juices is more quickly assimilated than any other preparation of iron.

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The same formula as Pil. Chalybeate with $\frac{1}{8}$ gr. Nux Vomica added for its tonic effect.

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Pil. Arthrosia

(W. R. WARNER & Co.)

R Acid Salicylic. Ext. Phytolacca.
Quinina. Ext. Colchicum.
Res. Podophyl. Pv. Capsici.

DOSE—1 to 2.

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..RHEUMATISM AND GOUT..

PIL. Arthrosia combines pure drugs, accurately subdivided, scientifically compounded, a quickly soluble coating (hermetically sealing and protecting contents indefinitely). Upon administration, Pil. Arthrosia will disintegrate rapidly and release a combination of remedies whose known therapeutic properties at once recommend this pill to the profession.

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(W. R. WARNER & Co.)

NORMAL alkalinity of the blood is secured by prescribing WARNER'S LITHIA TABLETS (W. R. W. & Co.). Rheumatism, Kidney Diseases, Gout, etc., are directly due to abnormal acidity of the blood—lactic acid in the former, and uric acid in the two latter. Treatment therefore should be directed to produce alkalinity of the blood.

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Tono Sumbul Cordial

(W. R. WARNER & Co.)

R Nerve-tonic properties of Sumbul.
Blood-making " Iron.
Antiperiodic " Cinchona.
Acid Phosphates.
Aromatics, Sherry Wine, q. s.

Sig. Tablespoonful to be taken before meals.

Sumbul is particularly valuable in cases of a low, depressing character, and is the remedy par excellence for nervous, hysterical females who need building up. As will be seen, Tono Sumbul Cordial does not contain coca or any ingredient which might induce a drug habit, but is a superior tonic, used to advantage and discontinued with no after effects.

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AN active and reliable remedy in Rheumatism, Gout, Lumbago and kindred complaints, combining in a pleasant and permanent form in each fluid drachm the following:

R Acid Salicylic (Schering's), grs. v.
Cimicifuga, grs. i¼. Potass. Iodid., grs. iss
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The advantages of Elixir Salicylic Comp. are afforded by the combination of Salicylic Acid with Soda in excess, thus forming a salt less corrosive and irritating, and more readily borne by the stomach. Avoid imitations and substitutes.

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Eff. Sodium Phosphate

(W. R. WARNER & Co.)

An active, palatable form of Sodium Phosphate, which, on account of its bland, gentle action and efficacy as a cholagogue, has become a widely prescribed preparation.

It is useful in

CONSTIPATION AND TORPID LIVER.

Its refrigerant saline action recommends Eff. Sodium Phosphate (W. R. W. & Co.) in all exanthematous fevers.

Used to advantage in all Nervous Diseases where the system is sub-normal.

DOSE.—One or two dessertspoonfuls. As a purgative, two dessertspoonfuls. As an alterative, one dessertspoonful. It is more efficient taken before breakfast or at bedtime.

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Eff. Bromo Soda

(W. R. WARNER & Co.)

For Sick Headache caused by indigestion and over-indulgence.

Headache resulting from protracted mental effort and close confinement.

Headache due to loss of sleep and rest.

Dull Throbbing Headache from over-work and disordered stomach.

Headache from excessive use of tobacco or over-eating.

Bromo Soda will quickly relieve Neuralgic and Rheumatic Headache.

Where nervous depression follows deprivation of alcoholic stimulants, opium, etc., when habituated to their use, BROMO SODA is recommended with the utmost confidence as a prompt and certain remedy.

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(W. R. WARNER & Co.)

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Eff. Vichy

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Afford an innocent remedy for the successful removal of superfluous flesh.

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DOSE.—Heaping teaspoonful Eff. Kissingen, after meals, alternating every other day with same doses of Eff. Vichy.

We also put these remedies up in the form of an Effervescent Tablet, two tablets being one dose. To be taken after meals.

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(W. R. WARNER & Co.)

R Lithia Citrate, 5 grs.
Potass. Bicarb., 15 grs.
Soda Bicarb., 10 grs.
Acetanilid, 3 grs.

In each dose or two teaspoonfuls.

Lithia Salt Alkaline affords a most excellent means of ridding the blood of an excess of those acids upon which the above diseases depend.

The physician is cautioned not to confuse this remedy with those of similar sounding names, and in prescribing it would be well to specify “Warner & Co.”

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SMALL
EFFECTIVE
EFFICACIOUS
NO GRIPING
NON-IRRITATING TO
HEMORRHOIDS

R Aloin, $\frac{1}{4}$ gr.
Ext. Bellad., $\frac{1}{8}$ gr.
Strychnine, 1-60 gr.
Ipecac., 1-16 gr.

DOSE—1 to 2.

Pil. Peristaltic Mercurial

(W. R. WARNER & Co.)

Same formula as Pil. Peristaltic,
with 1-10 grain Calomel added.

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THIS preparation (sometimes termed "Digestive Fluid") contains in an agreeable form the natural assimilable principles of the digestive fluids of the stomach, comprising Pancreatine, Pepsin, Lactic and Muriatic Acids.

The best means of re-establishing digestion in enfeebled stomachs, where the power to assimilate and digest food is impaired, is to administer remedies capable of communicating the elements necessary to convert the food into nutriment.

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Nervitone Tablets

(W. R. WARNER & Co.)

R Phosphorus, 1-100 gr.
Ferri Carb., 1 $\frac{1}{2}$ grs.
Asafetida, $\frac{1}{2}$ gr.
Ext. Sumbul, $\frac{1}{2}$ gr.
Ext. Nux Vomica, 1-10 gr.

DOSE—2 tablets before meals for adults.

BY glancing at the above it will be seen that in Nervitone Tablets we offer a combination of well-known nerve tonics and stimulants. It is a tablet that will cover a wide field of usefulness in physicians' prescribing. When the indications are for a prescription to correct conditions due to asthenia, neurasthenia or nerve exhaustion, whether the result of debilitating diseases or excesses, we have in Nervitone Tablets a remedy which will give satisfactory results.

The drugs used in the manufacture of this pill are pure and active.

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COMPRISES a combination of remedies for the treatment of all forms of indigestion, whether due to an enfeebled digestive tract, faulty secretion of gastric juices, or indiscretion in matter of diet or stimulants.

R Pepsin Concentrated, 1 gr.
Pv. Nux Vom., $\frac{1}{4}$ gr.
Gingerine, 1-16 gr.
Sulphur, $\frac{1}{4}$ gr.

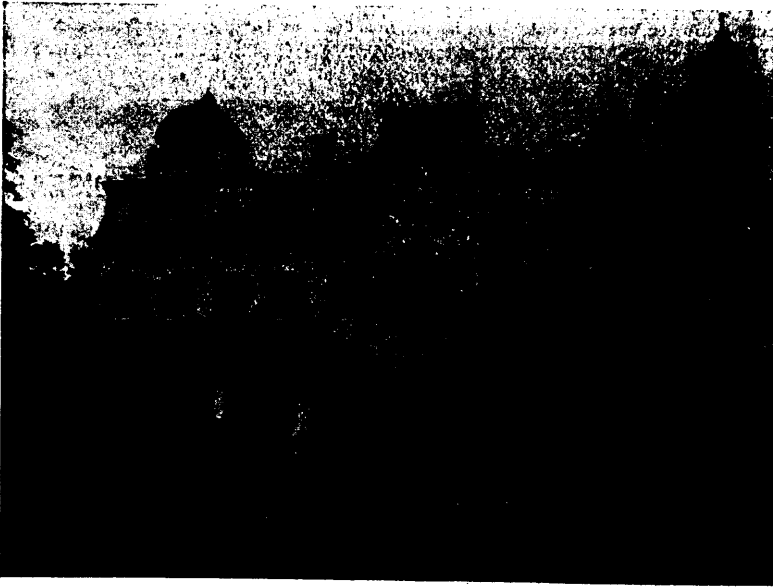
DOSE—1 to 2.

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The special indication of this Combination of Phosphates in Spinal Affections, Caries, Necrosis, Ununited Fractures, Marasmus, Poorly Developed Children, Retarded Dentition, Alcohol, Opium, Tobacco Habits, Gestation and Lactation to promote Development, etc., and as a **PHYSIOLOGICAL RESTORATIVE** in Sexual Debility and all used-up conditions of the Nervous System should receive the careful attention of good therapeutists.

NOTABLE PROPERTIES. As reliable in Dyspepsia as Quinine in Ague. Secures the largest percentage of benefit in Consumption and all wasting Diseases, by *determining the perfect digestion and assimilation of food*. When using it, Cod Liver Oil may be taken without repugnance. It renders success possible in treating Chronic Diseases of Women and Children who take it with pleasure for prolonged periods, a factor essential to maintain the good will of the patient. Being a Tissue Constructive, it is the best *general utility compound* for Tonic Restorative purposes we have, no mischievous effects resulting from exhibiting it in any possible morbid condition of the system. When Strychnia is desirable use the following:

R. Wheeler's Tissue Phosphates, one bottle; Liquor Strychnia, half fluid, drachm

M. In Dyspepsia with Constipation, all forms or Nerve Prostration and constitutions of *low vitality*.

DOSE.—For an adult one tablespoonful three times a day, after eating; from seven to twelve years of age, one dessert-spoonful; from two to seven, one teaspoonful. For infants, from five to twenty drops, according to age.

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In Using Absorbaline for a base, it is necessary to rub it up well—the more it is rubbed the softer it gets, it is easily washed off with water from parts to which it is applied.

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All orders promptly attended to. 2-lb. pail ABSORBALINE will be sent on approval to any physician or druggist desiring to try it, F.O.B., Toronto.

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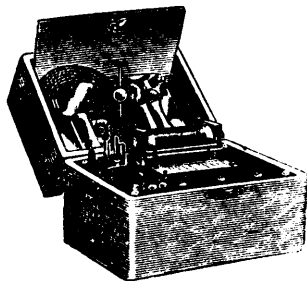
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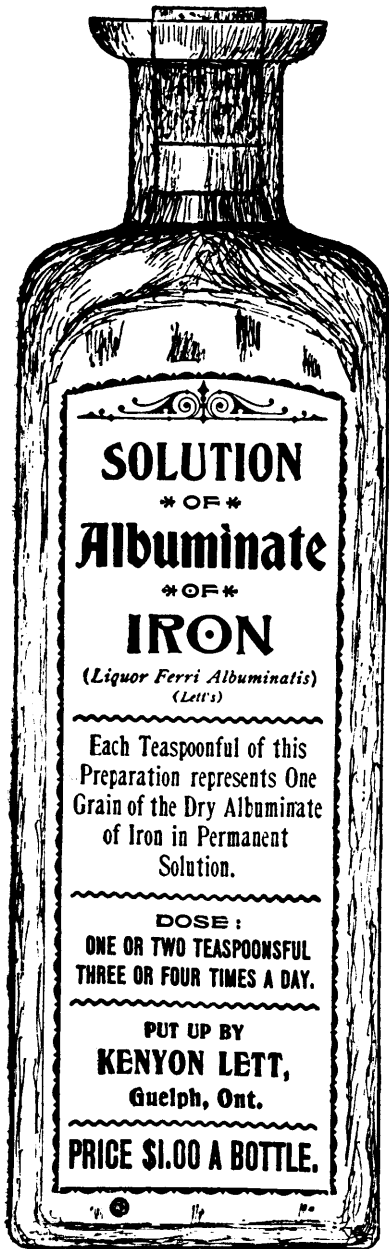
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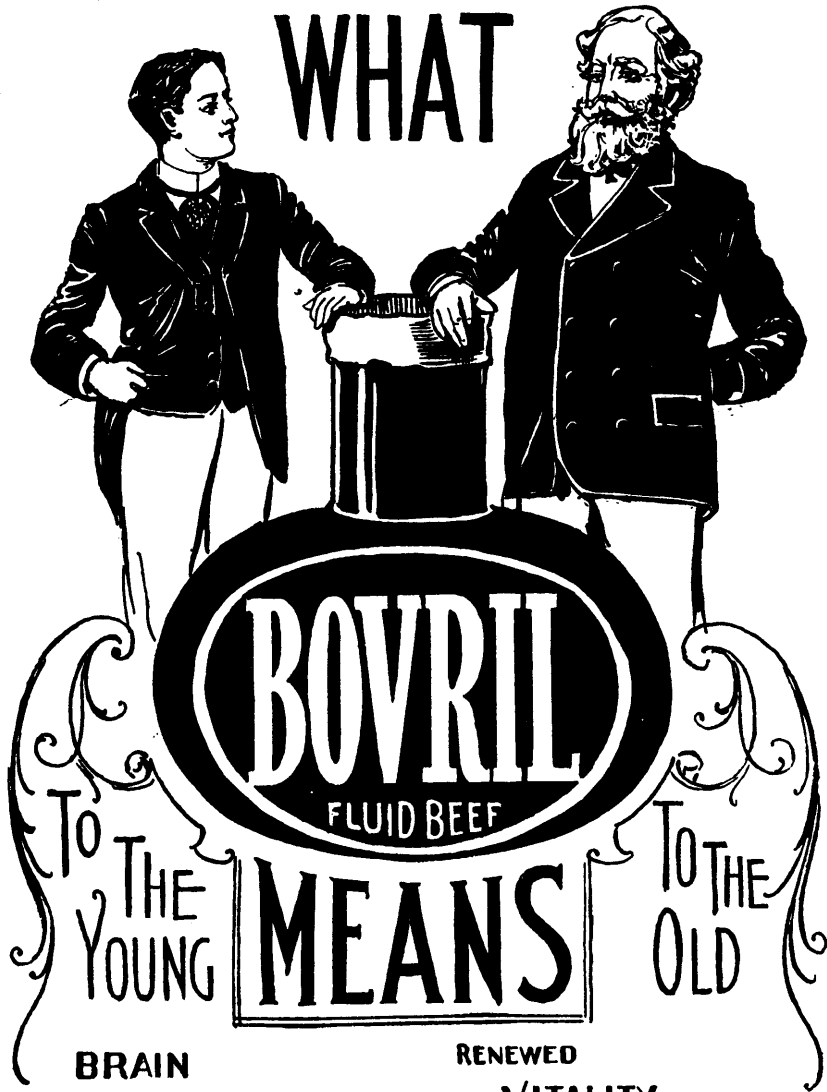
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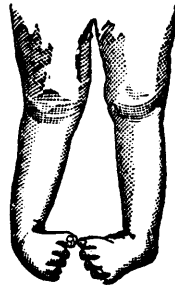
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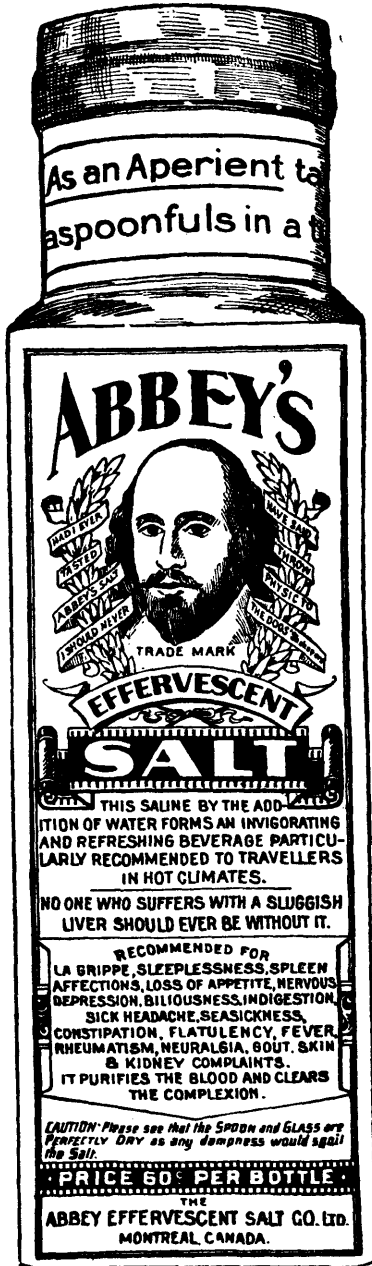


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