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THE
CANADIAN JOURNAL
OF
MEDICINE AND SURGERY

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

J. J. CASSIDY, M.D., EDITOR.

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A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
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VOL. V.

TORONTO, JANUARY, 1899.

NO. 1.

Original Contributions.

CLUB-HAND.

BY B. E. MCKENZIE, B.A., M.D., TORONTO,

Member of the American Orthopaedic Association, Surgeon to the Toronto Orthopaedic Hospital,
Assistant Prof. of Clinical Surgery in the Ontario Medical College for Women, Toronto,
Surgeon in the Out-Patient Department of General Hospital.

THOUGH deformities of the foot and leg are comparatively common, as seen in congenital club-foot, bow-legs, knock-knee, genu retrorsum, flat-foot and various contracted states depending upon paralysis, yet deformities of the hand, except those of a minor kind, such as web-fingers, are comparatively rare.

Reasons may easily be assigned why disease is more common in the joints of the lower extremity than in those of the upper, but it is not so apparent why club-foot should be so much more common than club-hand. The lower extremity is much more liable to traumatism, owing to its being the weight-bearing member. It is thus exposed to jarring and twisting when any misstep is made, and it is subjected to severe toil for many hours continuously, thus having present some of the conditions which favor the development of tuberculosis, which is the cause of so large a proportion of disease in the extremities.

That deformities of the upper extremity are much less common than those of the lower will be seen by a brief reference to literature touching this subject. Kirmisson, in his monumental work on "Surgical Affections of Congenital Origin" (1898), devotes seventy-one pages to the former and two hundred pages to the latter. In ten volumes of the Transactions of the American Orthopaedic Association five articles appear on the one subject of club-hand and twenty-eight on that of club-foot.

Club-hand is sometimes of the acquired variety, and dependent upon cicatrices from burns, upon disease of the bones of the arm, interfering with growth of the lower epiphysis of the radius or ulna, upon disease of the bones of the hand, upon fracture of the bones of the hand or arm, or upon paralysis.

It may be doubtful whether some of these conditions should be classed as club-hand. The most marked cases of the deformity, however, are congenital, and frequently caused by defects in the bones.

CASE 1.—A. L., eighteen years of age, has the right hand flexed to a right angle with the arm. When a child of about five years he fell while holding a sharp stick in his hand, which, entering his mouth, passed through the palate and base of the skull and into the brain, resulting in convulsions, and paralysis of the right side



FIG. 1.



FIG. 2.

of the body, involving the face, arm and leg. Lack of symmetry in the face is not very noticeable, and the lower extremity has so far recovered as to enable him to walk with only a slight limp. The arm is much atrophied, and contracture of the flexors has occurred at both elbow and wrist. The hand is held at about a right angle with the arm, and the fingers are so flexed as to form a hook-like condition, which is found useful in handling objects. As there was a desire to improve the condition, and as it was thought that the greatly shortened flexor tendons would probably fail to unite if cut and the hand fully extended, the wrist was excised and the hand placed in line with the arm, leaving the fingers their hook-like contraction. Unfortunately, the pressure applied in keeping the hand fully extended caused some sloughing at the

back of the wrist, and from this source of infection osteomyelitis of the radius resulted. Recently a sequestrum about four inches long was removed, and now the parts are healing rapidly, leaving the hand in good condition.

CASE 2.—R. A., eight years. This boy is large and very stout. He has strongly marked talipes equino varus, and double club-hand. The hands at the wrist are flexed to an angle of about 120 degrees, the fingers are hyperextended at the metacarpophalangeal joints about 35 degrees, and flexed at the interphalangeal joints. As there is but very little power to move the fingers and hands, I have not thought it wise to make any effort to correct the deformities except by manipulations and massage frequently done by the boy's mother. This boy is intellectually bright and docile, but owing to the great degree of motor paresis he has not learned to walk, and he uses the hands but imperfectly. There is little doubt that the deformities are due to a congenital cerebral lesion, which has not caused any intellectual defect, nor the spastic conditions which are so common in the cerebral palsies of infancy.

CASE 3.—B. H., boy one year old. The deformity here is due to absence of the radius. Birth was natural. The right hand and part of arm were found tucked in under the inferior maxilla of the right side, making a depression in the side of the neck which did not disappear for several months. The right radius is absent and the hand is deflected toward the radial side of the arm and the carpus articulates with the radial aspect of the lower end of the ulna (Fig. 1). The thumb, at birth, was found attached only by a slender strand of tissue devoid of bone or tendon.

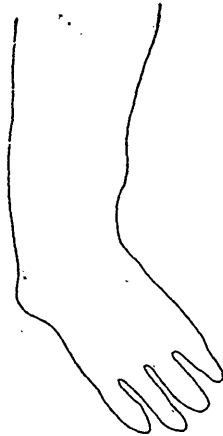


FIG. 3.

This member was cut away with scissors, and but little hæmorrhage resulted. The fingers toward the radial aspect, though complete in their skeletal elements, were much more defective in formation than those (fourth and fifth) of the ulnar side. The same condition in regard to the function of the digits was found in other cases where the radius was absent and is of medico-legal importance. Under chloroform all tendinous and ligamentous restricting bands, made tense by pulling the hand ulna-ward, were cut subcutaneously and the hand secured for a month in a gypsum fixation splint, so that the skin and other tissues in the angle between the hand and arm were put on the stretch. Subsequently still further extensor was attempted by the aid of a light brace, but without much further improvement. When a year old the child was brought to the hospital, and through an incision over the lower end of the ulna this bone was set free, and one of the median bones of the carpus removed so as to make a cup for the reception of the end of the ulna.

It was retained in place by a strong thread of silk passed over the end of the ulna and deep into the carpus, and the whole secured in a gypsum dressing so as to keep the hand deflected toward the ulna. Subsequently the presence of the strong silk, buried in the carpus to secure fixation, gave some trouble and was removed. The hand, as shown in figure 2, is nearly in line with the arm; there is motion at the new joint and the function of the part is



FIG. 4.

gradually improving. When at play the left arm is strapped to a belt behind the back so as to secure more exercise of the defective limb.

CASE 4.—McD., a boy one year old, no radius in right arm. no thumb on right hand, which was deflected toward the side of the radius much as in the last case. Function of the ring and little fingers is better than that of those toward the radial side of the

hand. About three-fourths of an inch was removed from the end of the ulna and the hand deflected strongly toward the ulnar side and secured by a fixed dressing for several weeks. A year and a half afterward the position of hand was found much improved, and the child was using it freely in play (Fig. 3).

CASE 5.—B., girl, six months, healthy. Absence of tibia from each leg, and of ulna from left arm (Fig. 4). The different effect produced by the absence of the ulna is very marked when this case is compared with those in which there is no radius. The thumb and index finger are well developed and evince good function while the other digits are entirely absent. There are only two metacarpal bones and the radial portion of the carpus. It is not possible by examination to determine exactly what carpal



FIG. 5.

bones are absent. No operative or mechanical treatment is called for. When two years old the child was using the hand to only a moderate extent, due, no doubt, to the defective elbow joint, and consequent defective leverage.

CASE 6.—H. G., twelve years old (Fig. 5), a boy who presents deformity of both arms and hands. At birth he had an occipital meningocele, which was injected and afterwards removed. The radius is absent from each arm, the hand joining the ulna at an angle of 80°, and articulating with the lower end of the ulna on its radial aspect. The ulna projects downward so as to form an acute angle at its junction with the ulnar border of the hand. There are only four digits on each hand, the thumb being absent. The digits toward the ulnar aspect are better developed and have

better function than those of the radial border. The index finger of the right hand is so much distorted and so useless as to call for amputation. A pencil can be used between the ring and little fingers, and he can write fairly well. Both hands were operated on by cutting subcutaneously all restricting tendinous and ligamentous structures in the angle between the hand and the arm, and forcibly extending the hand, which was retained for several weeks in this position. Subsequently massage was employed,



FIG. 6.

and function improved. Opportunity has not been afforded to obtain photographs since the boy returned home, but figure 6 shows the position of the left hand after the first operation, and figure 7 shows an outline tracing of both hands.

Of the various cases here presented three of them illustrate a well-marked variety, viz., where the radius is absent, and the hand presents defects both functional and anatomical. The etiology of these cases is obscure, and the trend of opinion at the present time is to assign amniotic adhesions as the most important factor. I

want to refer to two cases, however, which have much significance as indicating that abnormal position and consequent intra-uterine pressure is, at least in some cases, a cause of bone defect. The first is described in Case 3. Here at birth the defective hand and arm were found folded under the inferior maxilla, where a depression remained in the side of the neck for several months. The other is a case reported by me in the *New York Medical Journal* of February 20th, 1897, and shown at the Toronto Medical Society, March, 1898. In this boy there are defects of the third, fourth and fifth ribs of the left side, extending from the sternum 4 inches outward, and also skeletal defects of the left hand. It is found that the left hand is easily placed over the thoracic defect, and that

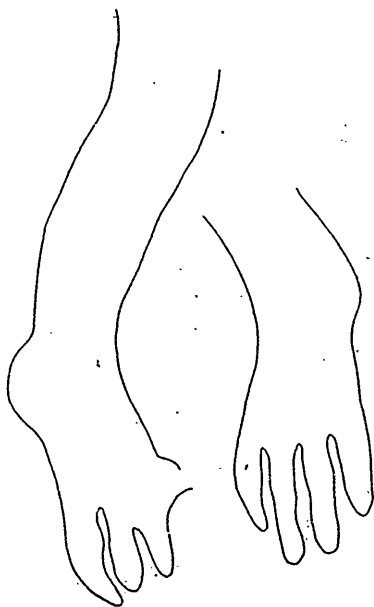


FIG. 7.

it fits nicely into the same. It seems a reasonable assumption that the failure in normal development in both of these cases was due to abnormal position, and consequent undue pressure.

It is difficult to understand why the amniotic theory, as advanced, has received so much credence as the only rational explanation of congenital absence of the long bones. It is not only the fibula which is defective in the lower extremity, but the tibia also. When the latter bone is absent and the former well developed, it is not easy to understand how the theory is to be applied. Similarly the ulna is sometimes found to be absent and the radius well developed, where the skin shows no scar-like markings (*v. New York Medical Journal*, February 20th, 1897, McKenzie, and Hoffa's *Orthopädische Chirurgie*, 2nd ed., p. 470).

It seems probable that not all cases are to be explained in the same way. Some defects, doubtless, are due to such adhesions, but other causes afford a better explanation in other cases. It is very important also to observe that the development and function is much less complete on that aspect of the hand which corresponds to the bony defect in the arm. If this were not observed and noted previous to operation, its existence subsequently might be assigned as a cause for seeking damages.

In the treatment of these cases one must be guided by the individual conditions found present. When the radius is absent I think the best procedure yet described is to perform free tenotomy and fasciotomy in the angle formed by the hand and arm, and having forcibly extended, to retain for several weeks in a fixed dressing. Subsequently the end of the ulna should be freed and implanted in a cavity prepared for its reception in the centre of the cubital aspect of the carpus. Afterwards much gain in usefulness may be obtained by attention to the education of the defective hand by forcing its employment in play and in the ordinary duties of life. At night a well-fitting light brace will easily retain the hand in full extension.

ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

BY A. B. EADIE, M.D., TORONTO.

ANTITOXIN is a valuable remedy in the treatment of diphtheria. Statistics giving results obtained from its use have been collected in abundance from private practice and from isolation hospitals in many lands. On the whole, the figures given show that antitoxin has effected a remarkable decrease in the death rate from diphtheria.

Antitoxin not only lowers the death rate, but it also alters the whole clinical aspect of the disease. This fact has been overlooked by many writers in their efforts to produce a convincing array of statistics bearing solely on the rate of mortality. In many cases the improvement in all the symptoms occurs so quickly after administering antitoxin and is so pronounced that the correctness of the diagnosis is doubted.

The results obtained thus far show clearly that antitoxin is not a specific for diphtheria under all circumstances and conditions. We have, no doubt, much yet to learn about it. Still, some points in regard to its use appear to be fairly well established, and it seems wise that some of these should be emphasized.

Reports from all quarters agree that the best results are obtained when the antitoxin is administered early. The importance of this cannot be overstated. It is not yet possible to deter-

mine the exact time after the appearance of the first symptoms that antitoxin ceases to be of any value. It is certain, however, that cases treated on the first, second or even third day do much better than those treated later.

The necessity of using the remedy early makes the diagnosis a very important matter. On the one hand, it is desirable that antitoxin should be given only to patients who have diphtheria, and on the other hand, we must remember that every hour of delay diminishes the chances of success, and to a certain extent at least jeopardizes the life of the patient. Much valuable time is lost by waiting for a bacteriological report before using the serum. The main difficulty arises in mild cases where, from the nature of the symptoms and the appearance of the parts affected, a diagnosis cannot, with any degree of absolute certainty, be made from the clinical symptoms alone. However, in view of the fact that antitoxin does no harm, even when diphtheria is not present, an error in diagnosis is not a serious matter. In every case where there is at least a strong probability that diphtheria is present, the serum should be used without delay.

In ordinary cases where the larynx is not involved, 1,000 antitoxic units is considered to be a sufficient dose. In the laryngeal form 2,000 to 2,500 antitoxic units are recommended.

The dangers from the use of antitoxin appear to have been magnified. It is true a number of sudden deaths following its administration have been reported. The serum, like blood, is somewhat viscid and sticky. For this reason bubbles of air are more apt to be contained in it than in an ordinary aqueous solution. The details in the reports of some of these cases where death followed suddenly the injection of antitoxin, have led many to believe that the fatal results were caused by the injection of air along with the serum. With care all air may be quite easily excluded, and when this is done the injection of blood serum should be absolutely devoid of danger.

The question as to who makes the best quality of serum is not easily settled. In nearly all my cases, that made by Parke, Davis & Co. was used. Gibier's, of the Pasteur Institute, New York, was used twice, and Mulford's once. Each gave satisfactory results. The plan of sealing the bottle, adopted by Parke, Davis & Co., appears to be a decided improvement over the old style of cork.

Blood serum is complex and unstable in its nature, and is likely to deteriorate with age, and for this reason should be as fresh as possible when used.

Antitoxin has been used in fifty of my own cases. In forty-eight of these the diagnosis was verified by Prof. Shuttleworth, of the Toronto Board of Health. There were two deaths. Both of the fatal cases began with mild attacks. One was first seen on the fifth day, and the other on the sixth day of the disease.

In nearly all these cases antitoxin was the only remedy employed, no gargle, spray, or internal medicine being used. Most

writers recommend some form of non-irritating antiseptic wash or spray for the throat or nasal passages, as the case may be. With children who struggle and resist the application, their employment might do more harm than good. The tincture of iron, solutions of the bichloride of mercury, or other medicines given internally do not appear to interfere with the action of the antitoxin. Whether they are often of any service is, in my opinion, fairly open to doubt.

Antitoxin has robbed diphtheria of most of its terrors. If all the patients could be seen early the mortality from this dire disease would certainly sink to a very low point. Our experience with it has been highly satisfactory, and has convinced us of its undoubted superiority over any and all other remedies

DIPHTHERIA, WITH SPECIAL REFERENCE TO THE LARYNGEAL CASES REQUIRING A CHOICE BETWEEN TRACHEOTOMY AND INTUBATION.*

BY A. GANDIER, SHERBROOKE, P.Q.

MR. PRESIDENT, LADIES AND GENTLEMEN,—Let me first disclaim any idea of giving you anything original, or anything that may be of value to many of you. I write and hope to provoke discussion only for the benefit of the general practitioner in private practice, more especially in smaller towns and the country.

I have had, perhaps, unusual opportunity to see the disease and its treatment from both the standpoint of the hospital surgeon and specialist, on one hand, and the practitioners mentioned, on the other, and I know, owing to the surrounding circumstances, the problem is infinitely more difficult to the general practitioner. At first thought it may almost seem necessary that I should apologize for taking up your time in discussing a subject which, no doubt, many of you think worn thread-bare long ago.

I well remember my first days at medical association meetings. Then papers on diphtheria were always in order, and those to whom we younger men listened with awe, almost with fear and trembling, because of the exalted position they had attained in the world of medical and scientific thought, were ever ready to discuss the vexed problem as to what should be done with our diphtheria cases.

One of the greatest bones of contention was whether the disease was at first only local or constitutional. So common, so long continued and so fierce were these discussions that in spite of our respect for the weighty opinions of these, our foremost teachers, we sometimes almost dared to wish they would let even such important matters as their theories of the location of the disease first, last or forever alone, and tell us something definite from their clinical experience, even though such knowledge must be empiric, to which

* Read at the Canadian Medical Association, Quebec, August, 1898.

we might nail our faith when suddenly confronted with cases of the dread disease.

Few troubles are more certain to be met with, sooner or later, by every practitioner from the least experienced and veriest tyro to the happy one whose experience has been so wide and favorable as to lead him to dread the questions of diagnosis, treatment and prognosis of ordinary diseases as little as their discussion in the abstract. Even to the latter diphtheria was, as a rule, in those days a serious matter.

Some of us have seen physicians who were, as a rule, perfectly confident in their own powers, go in fear and trembling to diphtheritic cases and stand several feet away from the patient, even nearly across the room, where any proper inspection was entirely out of the question, let alone proper physical examination, tell the devoted mother or nurse, who, casting aside all fear, is doing all in her power, to hold down the tongue while they professed to make the necessary examination. It was then in order to prescribe varied remedies and hurry away, happy to have over a visit to a very unwelcome case. This is one side of the story, and I would not mention it to our disgrace, only to show in what fear diphtheria was held in those days even by some of those called on to treat it who are supposed to fear nothing, and that it is more than blotted out by faithful and heroic spirit of practitioners in general, who would do anything in human power to cure or relieve their patients, even to the almost reckless and really unnecessary risk of sucking out a tracheotomy tube.

This should not be done, as the object can be as well attained in other ways, and we are not called on to become martyrs where nothing is to be gained. It is one thing to discuss a disease in convention, another to run the risk of dangerous infection ourselves or more dreaded risk of carrying contagion to our families. Yet all this has been done at the call of duty, and done many times by many members of this profession, of which we are so justly proud. Such was the state of things in past years, and I only mention it now to give a warning by comparing it with the present.

At that time treatments were almost as many and varied as were practitioners. Treatment was of all kinds from the simplest to the most complicated. Amazed at the number of remedies advised, each as being one of the best, I chanced to count those noted in a few hours' reading. The number of distinct and different remedies was upwards of 120. Doubtless that number could be more than doubled by extended reading. In the list are names of drugs, official and unofficial, common and rare, the mildest in action as well as the most severe, the cheapest and the most expensive in all the pharmacopœia and out of it. If any proof were needed that we had no specific or efficient remedy, that array is the most convincing.

The old treatment of diphtheria is a thing of the past and not worth considering now except as a lesson for the present. We were

then at one extreme; we used everything and had confidence in nothing. True, every little while a new and almost specific treatment was heralded by some observer, and he brought statistics of a greater or less number of cures, with few or no deaths to prove it, but alas, when we tried it on our cases, like the rest it utterly failed. What are we to think? Are we less skilful in the use of remedies than other observers? No, but when the promoter of the remedy tried it in other epidemics it failed, like all other remedies, and he was forced to admit his vaunted specific a failure. These disappointments arose from the fact that epidemics occasionally occur in which almost any rational or even irrational treatment is sufficient. I know this from sad experience. As house-surgeon of a general hospital, I had charge of a great many diphtheria cases. A very large number passed through my hands without a single death, and I began to think diphtheria patients should not die. I thought I could cure every case. "It was the pride that goes before a fall." One day five cases were admitted from the same family—two others had died at home, these were the remainder of the family; they were among the most malignant cases I have ever seen. The patients were simply fearful to look on, swollen beyond semblance to human countenance, cyanotic to blueness, noses full and bloody, tongues swollen till protruding and a dirty black, throats a dirty leathery black, and the stench from throat and nose sickening, yet I thought I could cure even these. I had the most faithful nurses, but I attended the cases nearly every half-hour myself, and know that everything was done just as I wanted it done. Those cases, too, passed through my hands, but only two of them to the world again, the other three to the grave. It nearly broke my heart, and altogether my faith in any treatment for all cases of diphtheria.

Then at that time, only a few years ago, we were almost in despair; frequently our hopes would be awakened only to be doomed to renewed disappointment. We were at one extreme, we tried everything but could trust absolutely to nothing; now we swing the other way. Time would fail me to describe the discovery, and evolution of the present or antitoxin treatment of diphtheria. All honor to those who are thus spending their lives in useful and laborious, yet often unthanked study and experiment. At first it was received with doubt, and even yet, I am sorry to say, some who should know better, deny its success.

Little over a year ago the physician to the diphtheria wards of the North-western Fever Hospital in London said in answer to my question, "I have no faith in antitoxin. If I know a case is going to end fatally I inject antitoxin in deference to general opinion, and it generally ends fatally. If I think the case is going to get on well, I do not use antitoxin, and the case goes on well without." Fortunately, this is rare. The profession as a whole have received the treatment with open arms, so much so I now wish to sound a note of warning.

Let me digress a moment to say I do not intend this for a discussion on diphtheria in general. I will not even notice the pathology, nor to any extent the symptoms, nor follow out the minute physiological action of antitoxin. I can give you no information in these respects, but you had better get it elsewhere, or perhaps you already know. Enough to say that while a short time ago we were almost struck with terror when called to the bedside of a little patient to find malaise, high temperature, fast pulse, with sore throat, which, on inspection, shows all over an angry, fiery blush, with here and there whitish or greenish grey patches of membrane scattered beyond tonsils, and rapidly coalescing, or it may be more extensive, and completely cover tonsils, fauces and uvula, even extending into posterior nares and larynx, or in other cases to find the larynx alone affected, except by the contiguous inflammation, no membrane visible except by closely looking well down on epiglottis and upper part of larynx, where it may be seen to form a more or less complete ring. The latter are nearly always more severe, and often have a rapidly fatal tendency unless relief is prompt and effective. We had comparatively little idea where the trouble would end, whether we could save that patient or whether all the family had been exposed, especially if any other children; if so, whether we could hope for their escape from an attack, or with their lives should an attack of any severity develop. How often has death claimed more than one victim even out of a single family? Now, what a change! As soon as we see such a case we prepare an antitoxin syringe and give an injection with about as little thought as we would give an ordinary hypodermic injection, expecting nothing else but that the patient will be well in a few days.

It is about this free and easy treatment that I hope to provoke the first discussion, and urge you to make it careful in every way, not satisfied with the use of antitoxin alone.

I scarcely hope to give you any information, but hope to get some myself from the after discussion, as I hope also many others may, who are called on to treat these cases away from hospitals, away from consultants, and away from everything but their own good training, common-sense and judgment.

Let me say that while, as a rule, the antitoxin treatment gives the most brilliant results, for all who have had a chance to observe its action know how many a nasty case is changed in from 24 to 48 or 72 hours from a severe and malignant illness to a condition of comfort and almost beginning convalescence. In fact, we are apt to think cure so easy that we need no longer fear any case. Should this be so, the antitoxin treatment may not prove an un-mixed good. I have already seen the beginning of carelessness. Treatment is so convenient, that there is a corresponding temptation to let things go as we once would not have thought of doing. Isolation is a nuisance, and may be neglected as may be precautions about carrying contagion. Cases are over so quickly,

and with so little fear of any unhappy result that at the anxious solicitation of the parent, whose business may be temporarily injured if diphtheria be known to be in his family, there may be a temptation to neglect reporting cases.

Also, we are inclined to neglect other treatment, thinking the antitoxin sufficient. This should not be. Every case should be as carefully isolated, as carefully treated locally and generally, and as promptly reported as if we had no antitoxin. If not, though all may go well for a time, "be sure your sin will find you out." Antitoxin should be most carefully and promptly used, but in spite of this, if you have not yet you certainly may at any time get cases in which it will have little, if any, effect, and the other forms of treatment must alone do good, if good is to be done.

Why is this? Is not antitoxin a specific for diphtheria if used early and properly? Does it not cure those who have the disease, and render those who have not, proof against it, for a time at least? Again, yes. What a paradox; for of a certainty many of the cases which are not benefited are more than cases of simple tonsillitis—they present all the classical symptoms of diphtheria, which I need not enumerate. There are cases of diphtheria not cases of diphtheria. None of these can explain; in fact, there is only one explanation: On bacteriological examination we find these refractory cases due to a partial or whole infection with other, though probably allied, organisms, with cocci and streptococci, and over these antitoxin has no specific power. We do not know when these cases may occur. In ordinary practice, except in hospitals and large cities, bacteriological test is out of the question, and even where it is possible, it is often running an undesirable and unnecessary risk to wait for it. Use antitoxin at once, but use other treatment as faithfully as if you were sure the antitoxin treatment would do no good. General treatment is so varied that I will not specify. Heart tonics, when needed, as strychnia and digitalis; local sprays, as an 8 to 16 per cent. solution of peroxide of hydrogen alone, or with H_2Cl_2 , or solution of H_2Cl_2 alone—1 to 4, or even 1 to 2,000.

As to use and dosage of antitoxin, you can find it in many places; I will not worry you again with vain repetition. Give enough and give it early; give more if case is well advanced, and even early in laryngeal cases; 8 to 16,000 units have been given with safety, so 2 to 4,000 is safe enough; repeat as needed. If young children have been unavoidably exposed, it is wise to give injections to render immune; smaller dosage suffices here, and proves effectual from two to three weeks.

I have already kept you longer than I at first expected with my whole paper, so will hurry over the latter part of my subject.

What shall we do in those laryngeal cases which, in spite of antitoxin, go on to stenosis, and urgently require immediate relief if the patients are not to die of suffocation? We have a choice between tracheotomy, old and well tried, and intubation, compara-

tively new, but an operation which has stood the test of several years and is still increasing in popularity, though perhaps hardly yet at the stage where its actual usefulness is absolutely settled. Certainly, for a large number of cases and under favorable circumstances, I would put it before tracheotomy, and would think it unnecessary to mention the latter, but I am seeking altogether the good of the practitioner who has to depend upon himself. His patients are not in hospitals; he has no specialist to operate for or counsel him; perhaps even no nurse who has ever seen a case of diphtheria before, let alone an intubation or tracheotomy. Every practitioner must look forward to these cases. They may occur in the most awkward places, and when they come there is no time to dally—action must be prompt. What can be done? Statistics should be at finger ends, and they undoubtedly favor intubation. But statistics may lie; we must question them closely. I do not mean that they themselves are false, but they give a false impression. Where do these statistics come from? Undoubtedly, from special and hospital practice, the very kind we cannot consider. The cases of general practitioners are so few and far between that we have little record of them, else they might tell a different story. Still another difference, and of equal or greater importance: tracheotomy is bloody; the knife is used; the stomach of the laity cannot stand it. Almost anything before the knife, cutting and blood. To their mind intubation must be infinitely easier, safer and more effective than tracheotomy. The parents will eagerly assent to and even urge intubation, when they would not for a moment consider the other. This means that in the majority of cases intubation is done comparatively early, while tracheotomy is often done *in extremis*, and more in hope of relief than cure. Were it done as early as intubation, the statistics might be reversed.

Again, while intubation has the advantage already noted, it has others: there is no wound to heal, no scar, and when the tube is once settled in place, it is, as a rule, very satisfactory; but as a matter of fact, to the general practitioner who may only need to choose between the two once or twice in a lifetime, or at best in several years, the question of skill—or perhaps I should in this case say dexterity from continued practice—is an important one. Intubation is undeniably difficult at times, even to the expert. How, then, to another? Other objections are that it can seldom be done *in extremis*, and even after trial and failure, and in rarer cases after success, a secondary tracheotomy must be performed to save the patient. The tube once in place, it may be coughed up. This perhaps is rare, but must be considered. In special and hospital practice, with the surgeon within easy call, this can be remedied; not so easily in a small town or the country, where the surgeon may be attending a case twenty miles away at the time, and for that reason cannot be got when he is most wanted.

Again, all are sometimes called on to operate. Tracheotomy is in principle and technique like other operations, so all should be

able to do it with comparative confidence. True, it is often utterly impossible to find the landmarks described so minutely in text-books. In children, even "Adam's apple" may be hard to find and the fine white line between muscles invisible; but go ahead, work carefully deeper in the middle line, being careful to make large enough incision; work deeper so carefully that even if you miss the middle for a time you will do no harm. Most of the deep dissection can be done by handle of knife, director or forceps, or by nipping up between forceps. When deep enough, the isthmus of thyroid will infallibly appear. It is sufficient guide, we are told, to pull it down. It is often easier and better to divide between forceps, or even tear. There need be no fear of uncontrollable hæmorrhage. I have done both without trouble. Before opening trachea transfix with tenaculum or sutures, to facilitate entry of tube and cleaning out of membrane, as well as help in making opening, which should be large enough and from below upward.

Time fails me to go further, but to my mind this is the operation for the ordinary general practitioner.

INFECTION AND SEROTHERAPY.*

BY EDWARD LABERGE, M.D.,

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FIFTEEN years ago, notwithstanding the labors of Davaine and his successors with regard to the carbuncle, notwithstanding the beautiful studies of Mr. Pasteur on the silk-worms, the question could be asked: Were there really any diseases due to the intervention of microbes? To-day, this is the question that may be asked: Is there truly any disease in which the microbe does not intervene? And thus it is that the role of the microbe extends itself beyond all that we could foresee.—*Duchassaing*.

We must not be too exclusive, and cast aside the solid fund of clinical knowledge, accumulated with care during the course of centuries, through the earnest labor and observations of men of merit.

We must also take into account the labors of Schwann and Virchow, who show or point out to us the morbid processes of diseases in their primary seat or location: the organized and living cell.

Clinique gives us the symptomatology, or in other words the doctrine of symptoms. Pathological anatomy shows or points the lesion; and with the aid of bacteriology, we are able to determine or discover the cause of diseases.

All these three must go hand in hand in the study of contagious diseases. They are, so to speak, the complement or the completion

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the one of the other; or in other words, they are the search-lights of medicine.

Cellular pathology has everything to gain in knowing the *prima movens* of the morbid acts, whose seat is the living cell.

To show or point out to humanity that the real cause of the most redoubtable diseases exists, not within humanity itself, but outside of it, is, indeed, to point out the prophylactic, and fortify it against the attack of disease.

To establish deductions which serve as the base of public hygiene, is not the only merit of bacteriology; we are indebted to it for the therapeutic serum, which has already done so much good in the past, and which is so pregnant with promise for the future.

Taking into consideration the progress realized since the discoveries of the immortal Pasteur, it is unjust to advance the accusation that this science is slow, ineffective and sterile.

Mr. Pasteur launched the medical science on the healing paths, on which it walks victoriously to-day. At the present time we are preoccupied in determining the anatomical modifications suffered or sustained by the diseased organism. We have discovered that the development of the microbe is accompanied with detritus, secretions and toxic products, endowed or possessed of a high physiological action. We have furthermore discovered that it is by reason of their toxin that they kill; this toxin may be detached or separated, it may be attenuated or rendered less severe, and we are able to make from it, or of it, the vaccine virus which gives the immunity; that is to say, it serves as a protection against disease.

Gentlemen, in a few words we have told you what bacteriology has done for humanity since its discovery.

The ancients had carefully noted the non-recidivation or relapse of fevers; and this notion or idea served as the basis of the old theories of preservation, which never went outside or beyond the limits of empiricism. It is only in these latter years, thanks to bacteriological knowledge, that the light has been thrown on this subject. A pathogenic microbe implants itself in a living organism; in its quality of virus it is developed therein, it borrows from the organism the materials of its nutrition and growth, and gives to it the detritus of its own life.

Why has this process an end? Why does the human organism cease, at a given moment, to constitute a camping-ground favorable to the development of the morbid germ, and acquire a refractory state with regard to the microbe itself?

To give the solution of this problem is to lay the foundations of a doctrine of immunity; for if the organism, which has received an impression or has been affected by infection, has been able to acquire new properties, the immunity observed or noticed sooner or later after the cessation of the microbial disease, is nothing else than the continuation of that particular dynamic state, thanks to which the anatomic elements have acquired the refractory state.

Infection is, so to speak, a contest essentially active and living. There is on the one hand the attack which is made by the microbes, and on the other hand, there is the resistance sustained by all the vital resources of the cell and the organic plasmas. The microbial disease, its form, its future and its consequences, result from the opposition of these two factors and from their relative power. In order that the sure and vaccinal state may be obtained, it is necessary that the organism should gain the superiority over the microbe, that it arrest its multiplication, and that it expel and destroy it. In a word, it is necessary that the organism destroy or reduce to nothing the two means by which the infection impresses or affects the living being, namely, the microbe itself, and the detritus of its life.

Many theories have been put forward to explain the immunity. According to some, it consists in the exhaustion of the medium, that is to say, the destruction in the organism of the substances necessary to the life of the parasite. According to others, it is the production of preventive substances; that is to say, the production of substances which may impregnate the organism, and make it undergo or sustain certain modifications, which render it unfit or incapable of a second infection. Again, others have sought the cause of immunity in the bactericide state of the blood, and from the interstitial plasmas, etc. These are all elements of organic resistance of the highest importance, but it is not that which constitutes the immunity.

For a long time certain scientists had already observed or remarked a leucocytic-affluxion towards a point of the organism, when this was wounded by a prick or a sting, for example. The role of these leucocytes appeared to arrest, to repair the morbid processes. It is in consequence of the patient studies of Metchnikoff, that the phagocytose ought to take the first place in the history of organic defence against infection. This savant has demonstrated the grand role which the living cells, and especially the leucocytes play or act in the production of immunity. These elements are all animated to a degree variable by amyboide movements, by whose aid they attain, seize and englobe the bacteria. The destruction then takes place through a veritable digestion, intra-cellular. The protoplasma of the leucocytes secretes a diastase which attacks the bacterian protoplasma, dissolves it, and realizes the disintegration of the englobed microbe. The affinity of the leucocytes for the bacteria reposes on a cellular elective sensibility which increases in the phagocytes, they being victorious as a consequence of the contests. Therefore, it is necessary to seek this apparatus, not alone in the exhaustion of the medium, not alone in the production of preventive substances, but even in the living cell. It is to reinforce and develop this activity of the cells that all the means concur, having for their design the augmentation of the resistance of the organism. This theory of the phagocytose is applied to the generality of facts, and alone furnishes a sufficient explanation of

the principal character of immunity, which is duration. Duration, however, does not constitute the exclusive base of immunity; different factors intervene and reciprocally perfect one another. The penetration of the microbe is effected according to various mechanisms. The existence of a solution of continuity, the fall or the nicroses of the epithelial elements, more easily put the germs in contact with the ways or means of absorption. Besides these are sometimes disposed for the penetration of fine solid particles, and thus they favor the introduction of the microbe. There are some germs which pullulate locally, as in diphtheria; and there are others which spread themselves in all the organism, as in septicæmia.

These microbes are disseminated in the organism, either by the lacunæ, which are between the mass of conjunctive tissues, or by the lymphatics, the veinal system, the serous, or even, as in hydrophobia, by the nervous system, in following the course of nervous fibres. The conflict of microbes with the organic cells constitutes the principal anatomic fact, which may be placed to the credit or account of infection. It takes place on the outside of the surfaces or in the extremity of the tissues. These germs penetrate into the interior medium, they are multiplied therein, they borrow from this medium the elements of their nutrition, and they secrete some soluble poisons which infect or poison it. The organism prepares the resistance, and causes to enter upon the scene the apparatus of defence, and if the conflict is not unfavorable to it, it repairs, more or less imperfectly, the disorder caused by the bacteria. Wherever there are living microbes, we find soluble poisons which are their products of secretions, and which are in relation with the vitality and the virulence of the germs which have produced them, and they constitute the principal factor of the gravity of the disease. The bacilli of diphtheria in pure culture develop in the ordinary bouillon a chemical poison, which may be found in the bouillon relieved of every figured element by filtration on porcelain. This poison, injected into tender or sensitive animals, produces after a short incubation a morbid ensemble, quite like to the experimental infection, provoked or caused by the inoculation of virulent cultures. In this infection, moreover, the pullulation of the microbes remains quite local, and the diphtheritic bacilli are not found but exceptionally and transitorily in the profound or deep organs. But on the contrary, the specific poison, abundantly produced in place of inoculation, is spread into the circulation and realizes in the different organs the visceral lesions of diphtheria. This poison has been found in the blood, in the pathological exudations, in the veins, in the viscera, and particularly in the spleen. It is the poison which shows its action on the nervous system, and realizes in experimental facts, as well as in clinical facts, the paralysis so peculiar to diphtheria.

Thus the specific toxin follows everywhere the virulent microbe, it even goes beyond its sphere of action, it generalizes itself, and

it plays or acts in the realization of the microbial disease quite a fundamental role. These microbial secretions are classed among the albuminous bodies.

We may divide or distinguish them into two groups. The first group comprises the specific toxins of the medium of cultures which can reproduce the fundamental characters of the disease, when they are injected into tender or sensitive animals, and they may be destroyed by heat ranging from 60 to 100 degrees. The second group comprises certain substances called proteids; these substances cannot be destroyed by ebullition, and possess characters identical with the different species of microbes, and they act an identical role in chemotaxis, phagocytosis, and fever. Behring says: "If the poisons do not realize the vaccinal state and the immunity, we cannot disown the grand role that they act in the placing on guard of organic forces, and in the production of these permanent antitoxin properties." We should therefore consider them one of the most important factors of the refractory state. This is confirmed in all the history of chemical vaccinations. When the infection meets an organism feebly disposed, the microbial proliferation and the organic reaction gives place to a local lesion. It is but slowly and by reason of an absorption of the soluble poisons or of a secondary generalization that the entire organism undergoes the effects of the infection.

In human pathology it is only exceptionally that we see the infection take immediately a generalizing character and a septicæmic form, for this supposes a maxima receptivity or massive inoculations. In the great majority of cases the infection makes its first appearance during a period of incubation. It is the preparation of the infectious contest, which only begins after the multiplication of the assailants, or when the germs, at first retained by the humors and the blood, fix themselves and are colonized in repose in some local seat more favorable to their development.

The bacteria thus secrete their toxins which impress the nerves, the vessels, and the phagocytes. Then the disease enters into the period of invasion. The characteristic phenomena of the disease develops itself up to a certain maximum. This is the state period which has begun. It is the phase of equilibrium between the attack and the defence. It is the disease itself. If the organism gains the ascendancy, the neutralization and the elimination of the microbes and toxins take place, the vaccinal state is realized, and the infection enters into the period of regression, which marks the arrest of the contest, the rejection of the assailants, and the reparation of the organic losses; a process which is continued and completed during the convalescence. In the meantime it is just to remark that the elimination of the toxins may be the occasion of slow specious accidents; for example, nephritis. If the contest is in favor of the microbe, all the phenomena augment, the infection is more intense, some secondary infections intervene, and the principal organs of the economy are found interested;

especially those of the defence and the emunctories, as the spleen, the liver and the kidney. Death takes place by asphyx, syncope, adynamy and coma.

The microbial pathology has neglected nothing of the old diagnostic resources; it alone has learned to better interpret and synthetize an ensemble of morbid phenomena realizing the infectious state.

It is especially the notion of the microbe and their demonstration in the infected organism, which represent the veritable conquest of modern infectious nosography. There is the fundamental criterium, the *solus sufficiens* of the microbial disease. Certainly the diagnostic of the microbial diseases should rest or lean upon the clinic and pathological anatomy, but especially on bacteriology, which permits us to class a doubtful case and complete the nosography of an infection, and whose importance, in point of view of the prognostic, is very great in establishing whether it is a question of simple infection or of microbial association. The principle of microbial diseases is outside of us; therefore there are, as Duclaux observes, some evitable or avoidable diseases—that is to say, medical intervention should hope for much from prophylactic. The protection against contagious diseases forms the most considerable chapter of contemporary hygiene.

We have now, gentlemen a treatment truly curative. True it is that it only serves for certain microbial diseases, but everything leads us to hope that before long we will have obtained antitoxins against all the microbial diseases. It is not vain to be hopeful. Have we not discovered and obtained antitoxins against hydrophobia and diphtheria? Why, therefore, should we not discover or obtain them against all the diseases produced by the germs of infection?

Permit me, gentlemen, to complete this task by relating, in a few words, the history of diphtheria, together with the truly marvellous results which have been realized during these latter years through the ministry of treatment with the diphtheritic antitoxins.

Diphtheria is a disease that has been known for a long time. In the second century it was made mention of by an author of that period; in the fifth century some medical writers speak of it; the physicians of the sixteenth and the eighteenth centuries have written concerning it; and finally, in this century Bretonneau and Rousseau have left us their studies on this disease. More recently, Virchow, Rokitansky, Gubler, Peter and other celebrities have advanced theories more or less varied, and many and very varied were the treatments which they recommended; but all are indeed ineffective. It was only in 1883 that the light began to shine on this disease, when Klebs and Loeffler discovered the microbe of diphtheria. Since then we have the memorable labors of Roux and Yersin, during the years 1888-89 and 1890; in every case of diphtheria they separated or detached the microbe, with it they inoculated animals, and this inoculation produced the disease with

all its symptoms: the false membrane, paralysis, etc. These labors, I claim, made a giant step in the study of this affection. Besides this, Messrs. Roux and Yersin obtained from the culture of diphtheria a poison with which they determined the same accidents as with the inoculation of the bacilli, and in particular the paralysis. And finally the discovery, made scarcely a few years ago, of a vaccinal serum in the blood of animals immuned against the poison of diphtheria, has transformed the therapeutic history of this terrible disease; it has immortalized the names of Roux and Behring, and it has placed them in the front rank among the benefactors of humanity. I firmly believe that no mother in the whole world to-day should be ignorant of these two names. The therapeutic serum employed or used by physicians, for only some few years, has been rewarded with most brilliant results, and it gives us much to hope for in the future.

Immediately after the discovery of the bacilli of diphtheria, experiments were made to render animals immune. In 1887 Hoffman declared formally that animals inoculated with old cultures do not die, and that they are rendered immune against the virulent cultures with regard to other animals. In 1890 Brieger and Frankel acknowledged the immunity of guinea-pigs, caused by injecting into them from ten to twenty cubic centimetres of a culture, heated at from 65° to 70°. Almost at the same time Behring attenuated some cultures with the trichlorure of iodine, and admitted the immunity of animals caused by this preparation.

On the animal immunized the subcutaneous inoculations with virulent cultures are followed by a production of false membranes, wherein may be found some virulent bacilli, but the accidents of intoxication are not reproduced. This property is due to a substance which destroys the diphtheritic poison, but the nature of the antitoxin is still unknown. Other savants have made experiments *in vitro*. They put in a glass some serum taken from an animal rendered immune; they mix with it a certain quantity of diphtheritic toxin, and this becomes inoffensive. The infection of guinea-pigs or healthy rabbits with this mélange vaccinate them against diphtheria.

Moreover, with regard to subjects vaccinated with the living virus or with the toxin, the injection of the serum, if this does not take place too late, prevents the ulterior accidents of intoxication and the animal gets better. Thus the serum of immuned animals possesses the three following properties: it is antiseptic, vaccinal and therapeutic.

A horse is made use of to immunize. The time necessary to bring him to a degree of sufficient immunity is from sixty to eighty days. We begin the experiment by injecting under the skin of the horse either some iodic toxin to the tenth, or some cultures heated to sixty-five degrees, or a very small quantity of pure toxin; and progressively it comes to pass that we have injected into the veins of the horse towards the sixtieth day from two hundred to three

hundred cubic centimetres of pure toxin without having produced any sign of local or general reaction. At this moment the serum appears to have its properties carried to the maximum. It is this serum that we sell and buy in small bottles of ten or twenty cubic centimetres. Mr. Roux is of the opinion that the serum acts as an incitant to the defensive properties of the organism. The proof that he gives in support of his opinion is this: he says that the injection of the serum will be ineffective with regard to animals weakened by anterior microbial inoculations, the cells of the defence being no longer impressionable. The very vivacious cells of young guinea-pigs respond indeed to the stimulation of the serum. With regard to the weak guinea-pig already impressed by the microbial products, the cells remain without influence in the presence of the toxin. Another savant has remarked, in studying the afflux of the leucocytes at the level of the point of inoculation with the diphtheritic cultures, that the injection of the serum prevented the death of the leucocytes among immune animals, which leucocytes were killed by the diphtheritic toxin when the animal had not received the preventive injection. The therapeutic serum therefore favors the phagocytose.

If we consult the statistics of hospitals wherein diphtheria patients are treated with anti-diphtheritic serum, we will find a considerable diminution of figures in the table of mortality as compared with those before the use of the serum. The mortality in the diphtheria ward of the Hospital des Enfants Malades at Paris was 51.71 per cent. In 1895 Behring was able to say that in the empire of Germany, thanks to the use of the serum, the mortality from diphtheria was lowered $\frac{1}{4}$ and even $\frac{1}{5}$ per cent. Baginsky, out of 163 cases treated with the antitoxin of Aronson, has a mortality of 14.37 per cent. Moizard, a physician of the hospitals of Paris, out of 231 patients treated in his service with the serum of Roux, has a mortality of 14.7 per cent. Lebreton and Magdelaine give a mortality of 12 per cent. Variod, whose mortality was from 40 to 50 per cent., lowered these figures in 1895 to 14.5 per cent., and in 1896 to 15.27 per cent. Dr. Godet, who stated at Sables d'Olme a mortality of 65 to 70 per cent., obtains twenty-seven cures out of twenty-seven cases. The statistics established by the American Society of Pediatrics give a mortality of 12.3 per cent. The Belgian Commission, charged to examine the results of the method of Roux, gave as a report of its labor a mortality of 11 per cent.

During the three years that I have had the honor to be the physician of the Civic Hospital of the city of Montreal, I have received 571 patients stricken with diphtheria. The bacteriological examination confirmed the diagnosis in each case. All these patients have been treated with antitoxin injections of the serum of Roux, prepared at the Pasteur Institute of Paris. Of these 571 patients, 77 died, and of these 77 cases, 31 died before they had been in the hospital twenty-four hours. This gives us a percentage of 13.5 per cent. If we subtract the thirty-one patients who died before they

had been in the hospital twenty-four hours, and who, as a consequence, could not have received the full benefit of our treatment, the mortality is reduced to 8 per cent. and a fraction.

Gentlemen, but ten years ago we were very far from foreseeing such a result in the treatment of diphtheria, especially among the children of a large city, which for the most part are possessed of weak and feeble constitutions.

What bacteriology has given us to fight diphtheria in the past, leads us to believe that we will obtain in the near future that which is necessary to combat all other infectious diseases.

THERAPEUTIC SUGGESTIONS FOR CHILDREN.*

BY LOUIS FISCHER, M.D.,

Professor of Diseases in Children in the New York School of Clinical Medicine, Attending Physician to the Children's Department of the German Poliklinik, and to the German West Side Dispensary, and to the Messiah Home for Children, Consulting Physician to the Un. Heb. Char., etc., etc.

IN the management of infantile disease we are apt to regard the treatment from the standpoint of drugs, and frequently some of the most vital and important therapeutic measures are overlooked. My intention, therefore, is to devote the time allotted to me to the consideration of those diseases which cause alarming symptoms and require immediate and sometimes heroic treatment. The first of these I should like to consider is Convulsions. In the treatment of this so frequent symptom, we always aim to seek the cause of the convulsion and seek to remedy the same by removing the cause if possible. Thus, a history of an overloaded stomach, with a consequent high fever and ptomaine poisoning, and the absorption of this poison-causing toxæmia, will call for, first, cleansing of the stomach with lavage, using a normal saline solution—cleaning as much as possible therefore with warm salt water until the gastric contents have been removed. Meanwhile, a strong mustard foot-bath can be used to relieve the cerebral hyperæmia, and, if necessary, a leech can be applied behind each ear over the mastoid process of the temporal bone.

Leeching can also be accomplished by applying one leech to the *alæ nasi*, and thus relieve some of the cerebral congestion through the frontal sinus. A case of this kind I have just reported *in extenso*—and will be published in *Pædiatrics*—in which a child four years old suffered with convulsions which constantly recurred at intervals of fifteen and thirty minutes, the attacks extending over a period of three to four days. In this case, although very large doses of bromide of potash and chloral hydrate were administered, no relief was obtainable until after the application of two leeches, one behind each ear.

* Read by invitation before the Eastern Medical Society of New York City.

Having mentioned the value of flushing the stomach and thus removing quickly all fermentative products, permit me to call your attention to the value of flushing the colon. This can be accomplished by an ordinary fountain syringe, to which is attached a soft flexible catheter, by gradually pushing it through the anus; first flushing the rectum, and directly pushing it through the sphincters into the colon, in all from six to eight inches, and using for this procedure from one to two quarts of warm salt water, and flushing the parts until the water returns clean. We very well know that the rectum absorbs, and therefore when the system has been de-hydrated by a long, lasting attack of diarrhoea not only can we serve the body by adding to its volume of blood by this means, but at the same time wash away the products of putrefaction and fermentation, and quite remove thereby some irritation.

This same procedure should be used when resorting to rectal feeding, so that we first cleanse the parts, and after a few moments slowly inject the nutrient enema. A point worth noting in this connection is that the rectum absorbs but does not digest.

Another therapeutic measure which is not as commonly used as it deserves is hypodermoclysis. This has been of great service to me, more especially during the last summer, in cases of extreme exhaustion, following long-continued attacks of diarrhoea, in which the blood is de-hydrated and almost thickened. In one instance, a child eight months old, suffering with a severe attack of enterocolitis, was put on a rigid form of diet, and as there was at times persistent attacks of vomiting, the stomach was put at rest by ordering a discontinuance of feeding per mouth, and rectal feeding was resorted to. The child's condition, however, was so grave, the body so emaciated, the extremities so cold, in fact, the exhaustion so marked, the pulse small and thready, that we resorted to friction, hot bottles of water to the feet, and to the hypodermic injection of one pint of the normal saline solution at a temperature of 105 degrees. To accomplish this, I took a glass irrigator, which was armed by a long hypodermic needle, and injected it into the connective tissue of the abdomen. It was surprising to note the rapidity with which the pulse responded, and also the effect on the general circulation. The child was so much brighter after this procedure that I ordered another saline injection six hours later, and thus we gave an injection of this kind every six hours the first day, and every twelve hours on the second day. In addition to careful dieting, hygienic treatment and proper medication, the child made a good recovery.

Before dismissing the question of rectal flushing permit me to add my testimony to its value in the management of constipation. In fact, an invariable rule followed by me in children is to never permit a child to retire for the night without a movement of its bowels; consequently, if the infant has been constipated during the day I advise the injection of one pint of a mixture consisting of two-thirds warm water and one-third glycerine—the latter to be used to soften hardened accumulations of fæces in the rectum.

Another alarming symptom to which I wish to direct your attention is Anuria. This disagreeable and most distressing symptom in children can frequently be combated by a most simple procedure. First of all, we can stimulate the action of the kidneys, and also at the same time the bladder, by immersing the child in very warm water, at a temperature of 105 to 110, by raising and lowering it and continuing the bath for about one minute. It is advisable to notice—and this must be done very carefully—to be sure that the child does not pass its water while in the bath. No doubt, most of you, fellow-practitioners, can second the opinion expressed by me. If, however, the immersion into hot water is not successful, then I invariably advise applying dry-cups over the lumbar region (two on each side will suffice), to be applied for three minutes at a time, and renewed if necessary in an hour, but choosing different parts of the body for their application. A case of this kind I recently saw, in consultation with Dr. Ghertler and Dr. Musgrave of this city, in a child three years old suffering from diphtheria, complicated by diphtheritic nephritis. The child had not passed its water in almost twenty hours, and the application of two dry-cups by the trained nurse in charge gave immediate relief. Dr. Ghertler reported to me that eight ounces of urine were voided immediately after this procedure.

Another symptom which is very distressing in children is Dyspnoea, and when it is caused by intense pulmonary congestion I know of no better remedy than first applying six dry-cups over the front and back of the thorax, which will sometimes afford almost instantaneous relief. The same result can also be obtained by the application of a sinapism to the front and back of the chest. Let me caution you, however, not to apply the sinapism to both sides of the chest at the same time lest the poor baby will be so raw and uncomfortable that it will be compelled to sleep on its sides, so that a good plan is to apply it one day on the front, and, if necessary the following day, to the back of the chest. It is different, however, when applying warm flaxseed poultices. These, I believe, will better serve their purpose when the whole chest is enveloped therein and covered with a strip of oiled muslin to retain the heat, and at the same time prevent the baby from being exposed too much during the changing of the poultices.

Hot turpentine stupe, made by wringing a piece of flannel almost dry, after immersing it in hot water and putting about a teaspoonful of the ordinary spirits of turpentine on to this hot moist flannel, is a very serviceable application in children suffering with abdominal pains, especially in those cases where the pain can be traced to flatulence. A hot cup of tea, peppermint tea, with equal parts of fennel or anise seed tea, and a hot poultice of turpentine applied over the abdomen, will relieve an attack of colic, following fermentative gastritis very rapidly.

Massage—gentle friction of the abdomen with vaseline or luke-warm sweet oil night and morning for several minutes is one of

the best remedies for stimulating peristalsis in the ordinary forms of atonic dyspepsia, an atony of the intestinal canal, that I know of. We can frequently modify long standing constipation by this form of gentle procedure, without the aid of drugs, if we will only persist in the application thereof.

I do not wish to be misunderstood to speak disparagingly of the fluid extract of cascara sagrada or of the value of nux vomica in the management of this disease, but my desire was to direct your attention to a few suggestions, without the aid of drugs in children.

In speaking of anuria, I did not mention the use of the catheter which we are so familiar with. The ice bag over the anterior fontanelle or over the nape of the neck, or the spinal ice bag, has its proper indications and should be resorted to very frequently in that class of cases requiring antithermic remedies. The safest antipyretic measure is certainly the cold pack in children. This can be best applied by means of a sheet wrung out in cold water and applied over half of the body, or we can take a towel, wring it out in cold water, and thus envelop the chest and the abdomen therein, and renew this application every fifteen or thirty minutes, as the urgency of the case may demand in the treatment of hyperpyrexia. Nothing will reduce the temperature as quick as cold water thus applied without producing any deleterious effect on the action of the heart. But to give this cold pack regularly may not sufficiently reduce the temperature; then the safest method is to immerse the child in a tub of water at the temperature of 90° F., and by adding cold water or a cake of ice, gradually lower the temperature of the bath until the water reaches 75° F. The duration of the bath should be from two to five minutes. The baby must be rubbed constantly while in the bath to stimulate the circulation of the blood, and, at the same time, prevent chilling usually noted by cyanosis, blue lips and finger-nails.

There is no drug (none excepted) that is known as an antipyretic that is safe in children. They are all cardiac depressants, and when given require either musk or camphor to counteract their depressing effect; therefore they are dangerous. On January 28, 1893, I was invited to read a paper before the New York Post-Graduate Clinical Society on "The Management of High Fever in Children," and the most vital point was the one which was concurred in by most of the speakers, namely: That the cold tar derivatives are, one and all, heart depressants, and therefore more or less dangerous.

PULMONARY GYMNASTICS.

This child is about twelve years old, and has been under my treatment for the last five years. She was first brought to me suffering with epistaxis. This recurred at various times, and with it the child complained of general malaise. Her appetite was diminished; her bowels did not act properly; she had frequent chills and fever, and did not seem to gain in weight. A careful

physical examination of her lungs revealed nothing abnormal. In fact, the symptoms pointed to a distinct malarial infection. There was no cough, no expectoration, and no symptom pointing to any pulmonary disease. An examination of her blood for the presence of the plasmodia malaria was negative. The spleen was normal in size. The heart sounds were muffled, but there was no murmur. There was a loud blowing murmur to be heard in the carotids, and also a distinct venous hum was heard in the neck. As the latter were so-called hæmic murmurs, they were regarded as distinctly anæmic.

The child was ordered careful hygienic treatment, consisting of proper ventilation, exercise and slow, deep inspiration followed by slow expiration, so that the lung tissue would be properly expanded. This was ordered to be carried out three times a day, one hour each time. This so-called pulmonary gymnastics seemed to benefit the patient very much. In addition to this, she was put on a strong concentrated liquid diet, consisting chiefly of milk, meat and eggs, and cod liver oil was ordered internally. The child received three drops of creosote three times a day. When I found that her weight was not increasing, and that she had a dry cough, with no expectoration, I suspected the possibility of a latent form of tuberculosis, and thus it was that after several months of careful observation, she suddenly had a large amount of expectoration, which, on careful examination showed tubercle bacilli. Thus the diagnosis of pre-tubercular anæmia, or possibly latent tuberculosis, is justifiable.

The main symptom to which I wish to direct your attention is the epistaxis, which occurred early in the disease, and a careful examination of the nose did not show any pathological condition, *i.e.*, polypi or otherwise. She is now, as you notice, in a fairly nourished condition, eats well, sleeps well, coughs but very little; her expectoration does not show tubercle bacilli during the last year, and thus I feel that we can class this patient amongst those cured of tuberculosis. I feel that with proper treatment, good, careful attention to diet, she will be absolutely well. Her functions seem to be normal, for she has now commenced to menstruate.

If I have succeeded in directing your attention this evening to some additional mechanical remedies, in addition to drug treatment, then my object has been very well attained.

187 Second Avenue.

ECTOPIC GESTATION—ABDOMINAL PREGNANCY.

BY HARRY E. VAUX, M.D., BROCKVILLE.

On October 11th, at the Brockville General Hospital, assisted by Drs. Cornell and Bowie, I operated on Mrs. B., aged 43, and removed from the abdominal cavity a lithopædion, fourteen years

after a false labor. A few notes on the history of the case may not be without interest.

Mrs. B. expected to be confined in August, 1884. During the earlier months of her pregnancy she had occasional hæmorrhages, but they were not at all profuse and lasted but a short time. During the latter months she suffered excruciating pain whenever the child moved, and was obliged to take morphine freely. There was no pain when the child was quiet. At the time of her expected delivery all motion, and consequently all pain, ceased. Menstruation was re-established, and she was able to attend to her household duties, together with the care of a dairy.

Last year she consulted me, chiefly for the relief of hallucinations and other evidences of mental disturbance. I advised her to



submit to an operation for the removal of the fœtus; but it was not until this autumn that she consented. On account of the exceeding thinness of the abdominal wall, the position of the child was readily mapped out.

At the operation, an incision twelve centimetres long was made a little to the left of the median line. The fœtus was lying with its back to the abdominal wall and its face buried in the right hypochondrium. It was contained in a pseudo-membranous sac, which was intimately attached to all the surrounding viscera, and had vascular connection by means of large vessels with the omentum. The lower part of the sac, enclosing what was the placenta, was so firmly imbedded amongst and adherent to the

pelvic organs that it was impossible to remove it. The sac was cut off a little above the lower angle of the abdominal incision, and the upper portion, tightly encircling the foetus, was carefully separated from its adhesions and with considerable difficulty, on account of the small abdominal incision, removed. The abdominal cavity was partly filled with a normal salt solution, which was allowed to remain and proved a most excellent restorative. The mouth of the portion of sac which was not removed, was carefully sutured to the lower angle of the wound and secured by knitting needles passed through its substance. The placental tissue resembled yellow tow and was very friable. Patient's temperature never rose higher than 100°, and her recovery was, to use a stock phrase, "uneventful." With the removal of the foetus all hallucinations vanished, and in a few days she expects to leave the hospital.

I would like to call attention to the fact that in this case there was no history of rupture, and the probability is that this was a case not of ruptured tubal, but of abdominal pregnancy.

GENITO-URINARY INSTRUMENTS REQUIRED BY THE GENERAL PRACTITIONER.*

BY FERD. C. VALENTINE, M.D.,

Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West-Side German Dispensary; Genito-Urinary Consultant, United Hebrew Charities, etc., etc.

TWENTY-FIVE or thirty years ago, when most of us were in the happy condition of undergraduates, our teachers disposed of gonorrhoea, if at all, very briefly. Many classed it as dermatologists once classed skin diseases, "which arsenic will cure, which arsenic will not cure, and which the devil himself can't cure."

Fortunately the time of balsams, diuretics, hand-injections and similar shot-gun treatment has passed. To-day we understand that gonorrhoea is a serious disease, and we strive to approach the threshold of its scientific comprehension. From Ricord to Neisser is a great step in the right direction. Their names mark milestones on the path. It sounds pathetic to repeat the former's plaint: "*Si je dois un jour aller en enfer, je sais bien le supplicé qui m'y attend, c'est de me voir entouré de blennorrhéens m'obsédant de leurs lamentations, de leurs instances pour obtenir la guérison.*"

Neisser's discovery in 1871 brought a turn in the pathological course. Ricord's heavy supper, a bottle of champagne and night spent with a blonde, yielded to the gonococcus as the etiological factor of nine-tenths of the suffering to which humanity is exposed.

* Presented before the thirty-first Annual Convention of the Canadian Medical Association at Quebec, August 17th, 1898.

The cause now known, the treatment has become more rational by scientists, such as I have the honor of addressing to-day.

But there remains the omnipresent prescribing druggist, the quack, the nostrum vendor, all of whom "positively cure clap in three days or less." They know nothing of, and care less for, scientific considerations; they swell that great army whose genito-urinary apparatus becomes a source of physical and mental suffering that finds its end too often only in death. But a small minority of these cases can reach the specialist's hands; small as that minority is, it keeps most specialists very busy.

Many of our most modest brethren in the all-important specialty of general practice hesitate regarding the treatment of genito-urinary diseases. They see the glittering array of instruments in the andrologist's office, and while they doubt their own skill, they shun the expense of acquiring what seems necessary for the successful diagnosis and treatment of genito-urinary diseases.

It is this hesitancy that I unqualifiedly condemn. But for it, many a case now resting under the sword, or condemned to valedudinarianism, might be well and happy to-day.

The special skill in the use of, and the expense of acquiring such instruments are not beyond the general practitioner, as I hope to show.

Without *the microscope* no physician to-day would attempt a diagnosis. This is evident, beyond discussion, when the character of a urethral discharge requires decision. All now know the pathological import of the gonococcus; all should know that when anuclear epithelium is found in the centrifuged urine, it indicates the beginning of stricture. But not all—indeed, comparatively few—general practitioners have the time to make daily microscopic examinations of each urethral discharge. For the benefit of their patients and in the interest of scientific study, microscopical laboratories exist everywhere; every town has at least one microscopist, ever ready to do this work. Without it, the practitioner is like a mariner without a compass, an astronomer without a telescope. Such a learned body as this requires no adjuration regarding so self-evident a scientific need.

The Centrifuge. The large number of centrifuges advertised gives the practitioner an *embarras de choix*. The simplest of all is Wossidlo's centrifuge, which requires less space than any other, can be readily put aside when not in use, and when revolving, communicates no vibration; therefore it can do its work on the microscope table without disturbing the employment of this instrument of precision.

The value of the centrifuge for diagnostic purposes need not be discussed here, except to refer to what seems to me is not brought out conspicuously enough in writings on the subject in connection with genito-urinary work. Too frequently a case of gonorrhœa is dismissed when all pain and discharge have disappeared, when the urine, even the first passed in the morning, is free from the slightest granules.

A centrifuged specimen of the urine, at this time, may reveal the presence of thinned urethral epithelium, in which the nucleus is faint instead of distinct, smooth instead of granular, or the nucleus may be entirely absent. If such a patient is not at once treated by the passage of large, heavy sounds or dilators, he will sooner or later show the evidences of stricture.

The fingers. These instruments are perhaps the most important of the armamentarium for genito-urinary work. Even if the efforts of the general practitioner were limited to the treatment of gonorrhœa alone, he would be derelict if he did not educate his fingers, *inter alia*, to the differentiation of the diseases that are diagnosable through the rectum. So, a case in which even the urine is proven to carry no evidence of urethral impairment, the prostate and nominal vesicles may harbor gonococci. In another paper* an effort is made to detail the method employed for their detection in these adnexa. Roughly it may be outlined, as repeated expression of the prostate and stripping the seminal vesicles. The product of such manœuvres is examined microscopically, for decision whether the patient may be dismissed as cured of residual gonorrhœa in at least the organs which so often maintain the disease.

The other uses of the fingers in determining this all-important question are detailed elsewhere.†

The two-glass test. Sir Henry Thompson suggested having the patient urinate into two glasses, as a rough office test for the determination of the location of disease. Thus, if the first urine so passed is turbid and the second clear, it would indicate that the turbidity is due to anterior urethritis. If both specimens are turbid, involvement of the posterior urethra, the bladder, the ureters or kidneys would be deduced. This matter is too extensive for elaboration in a paper merely on instruments. Suffice it to say that for current office use the two-glass test is valuable. But it does not suffice for the positive establishment of a differential diagnosis. There can be, for instance, so copious a secretion in the posterior urethra, while the anterior is healthy, as to render the first urine emitted quite turbid, and the then following clear urine from the bladder may cause this condition to simulate anterior urethritis; similarly, the secretion in a posterior urethritis may be so slight and tenacious that the urinary stream does not suffice to detach it. So we have both specimens clear, while the posterior urethra is diseased.

But, for reasons elsewhere detailed, the two-glass test should not be omitted. I have thought well to substitute a twelve-inch ignition tube for glasses in making this test. They are more convenient and cleanly than glasses, and present greater facility for such chemical and microscopic examination as are desirable in

* Valentine, "Recurrent Gonorrhœa," *Atlanta Medical and Surgical Journal*, September, 1898.

† Valentine, "The Proofs of Cure in Gonorrhœa," *Clinical Recorder*, April, 1898.

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using separate specimens. Moreover, the smaller but equal columns of urine in the tubes are better than those in glasses for macroscopic examination and comparison.

The soft bougie-à-boule. In many cases presenting indubitable evidence of stricture, a large-sized metal sound will readily glide through the urethra, revealing no obstruction whatever, even to the best educated tact. A soft bougie-à-boule, with a sharp shoulder at the neck, even if several sizes smaller than the metal sound, will catch as it is drawn out of the urethra, and reveal not only the

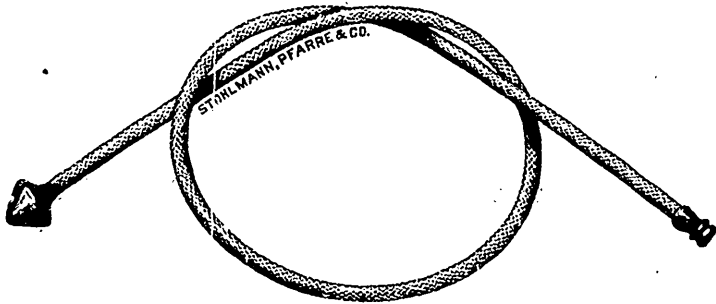


FIG. 1.—Soft bougie-à-boule.

location, but also the breadth and character of the stricture. This evidences the impossibility, in the majority of cases, of diagnosing a stricture without this little instrument. The more it is used the more the surgeon is pleased with its softness, which he seeks to enhance by immersing it before use in hot water, until it is as supple as a bit of string.

Sounds. A very large chapter might well be written upon the conditions that demand the various kinds of sounds. Indeed, the busy specialist finds scarcely a week goes by without his being

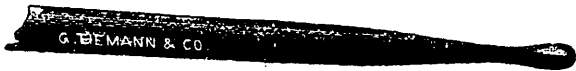


FIG. 2.—Conical hard rubber sound.

obliged to use at least once each shape of sounds to which the names of various authors are attached. In the more modern genito-urinary practice these have largely been substituted by dilators, which, however, are rather too expensive for the average general practitioner. They are described in another paper.*

The general practitioner, who must ever treat the largest number of chronic urethrites, strictures and other urethral disturbances can meet the majority by the conical hard rubber sound.

* Valentine, "Chronic Urethritis—Its Scientific Treatment," *Clinical Recorder*, January, 1898.

Hard rubber sounds. The most convenient of these has a slight olivary enlargement of the tip, towards which the shaft of the sound is somewhat more supple than its stem. In the beginning of treatment, when there is likely to be considerable urethral hyperaesthesia, or even only normal sensitiveness, the rubber sounds should be given preference. I desire here to again lay stress upon the fact that the office of sounds *never* is to produce forcible dilatation of the urethra. Their only purpose is, as the grand master of genito-urinary work, Professor Guyon, says, to exercise a dynamic influence. Therefore no sound should ever be used larger than one that will readily slip through the urethra. The promptness with which even heavy contractures will yield to the mere presence of a sound is sometimes astonishing. I have in mind a large number of cases, in which the patient could with the greatest effort expel but a few drops of urine; they were strictured so that but a filiform

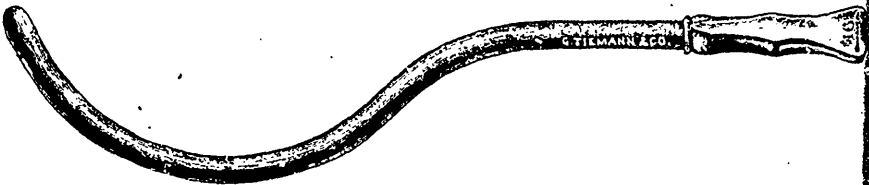


FIG. 3—Bénéiqué sound.



FIG. 4—Guyon sound.

would pass. It is nothing extraordinary to see such urethras readily transmit a 19 or 20 F. within ten to twelve days, without once employing the slightest force.

Metal sounds. Usually when the urethra will comfortably hold a 24 F. rubber sound, it will not be disturbed by the passage of a 23 metal sound. The shape of the sound then comes into consideration. For general purposes the old Bénéiqué sound is the most serviceable. Its shape is likely to appal those accustomed to the straighter shapes. But a little anatomical consideration will recall that the urethral curves, especially in the fixed portion, are much stretched by the straight sounds, and in a practical sense both physicians who use the Bénéiqué sounds and their patients prefer them. By gentle handling they are more safely and easily introduced than others in the majority of cases.

A modification of this instrument is the Guyon sound. Professor Guyon, with the modesty that characterizes greatness, persists in calling his modification by Bénéiqué's name.

The curve of this sound is about one-half of that of Béniqué's instrument. In many cases it proves easier of introduction than the larger curved instrument of the same shape. It will be found convenient to have a screw-thread in its tip, for the attachment of a filiform guide-sound. The instrument is then used as a Le Fort sound. To prevent confusion we may note here that this bears no resemblance to Fort's linear electrolyzer, either in appearance or design.

The usefulness of the soft filiform as a guide for the metal sound through small strictures is self-evident. Its occasional value in large-calibre strictures requires recollection of urethro-spasm, which sometimes is so severe as to prevent the introduction of an instrument that would easily pass the stricture. Cases are not extremely rare which will check the progress of a sound entirely; after the filiform has been gently insinuated into the bladder the large sound, even a 36, readily follows, and can be left to exercise that dynamic influence alluded to before.

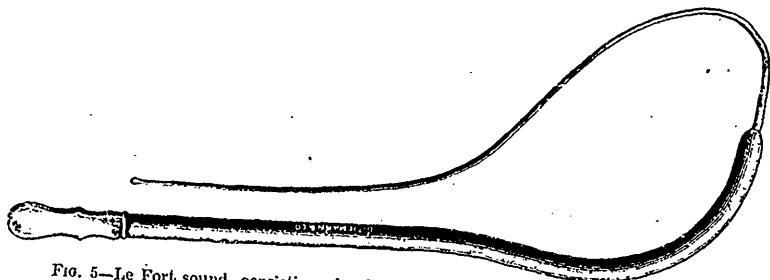


Fig. 5.—Le Fort sound, consisting of a Guyon sound with filiform guide attached.

The irrigator. Elsewhere an endeavor is made to fully detail the use of copious irrigations in the treatment of gonorrhœa.* It therefore remains to me here only to show the apparatus. The technique of its employment is as self-evident, as the results obtained are satisfactory. I would not have this understood, however, as anything but a decided advocacy of irrigations, which have done so much to wrest the treatment of gonorrhœa from the bonds of empiricism. In the past, physicians were loath to employ irrigations, because of the complicated and expensive machinery then deemed necessary, and the inevitable uncleanness with which it was associated.

The cheap little apparatus which I have the honor of presenting evolved itself from five years' persistent study of the objections. With it, at less than one-fifth the price of the Janet irrigator, the operator can grade the pressure for any depth of the urethra and for the bladder, by the right thumb and index finger resting upon

*Valentine, "The Irrigation Treatment of Clap," *International Journal of Surgery*, September, 1898.

the flange of the stop-cock. This, the essential part of the apparatus, also catches the fluid as it spurts from the meatus, and directs it into the basin held by the patient. Consequently, nothing is soiled, even when a very strong solution of potassic permanganate is used.

But it is not in gonorrhœa alone that the irrigations prove useful. Since I employed them, now over five years, after every

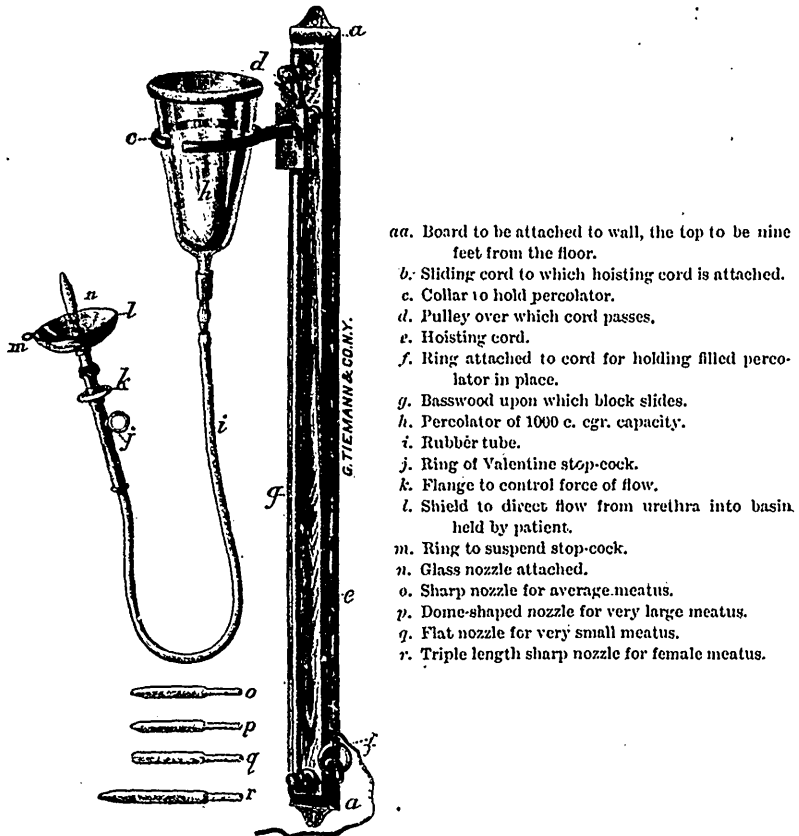


FIG. 6.—Valentine's Urethral and Intravesical Irrigator.

instrumentation of the urethra or bladder, I have not a single case of catheter-fever to record. That I am not alone in this requires but a glance at modern genito-urinary literature to prove.

The Catheter. Large volumes have been written and many more will be, on the choice of catheters. I ask the liberty of saying but a few words on their shape and material.

It is surprising that in America so much difficulty is encoun-

tered in obtaining catheters (1) whose dead end is filled, gradually sloping into the eye; (2) the margin of whose eye is not sharp; (3) whose distal end is funnelled. No discussion is required to show that an open dead-eye cannot be other, despite all attempts

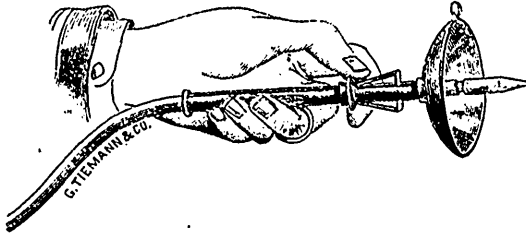


FIG. 7.—Valentine Stopcock. Pressing forward the flange, reduces and stops the flow.

NOTE.—Through an error in the drawing the middle finger appears passed through the ring, which is intended for the fourth finger.

at asepsis, than a breeding-spot for bacteria with all the dangers they portend to vesical and systemic infection.

Sharp margins of the eye are all too ready to lacerate the urethra. Therefore no catheter should be used, if the eye passed over the operator's lip, conveys any sensation of even slight roughness.

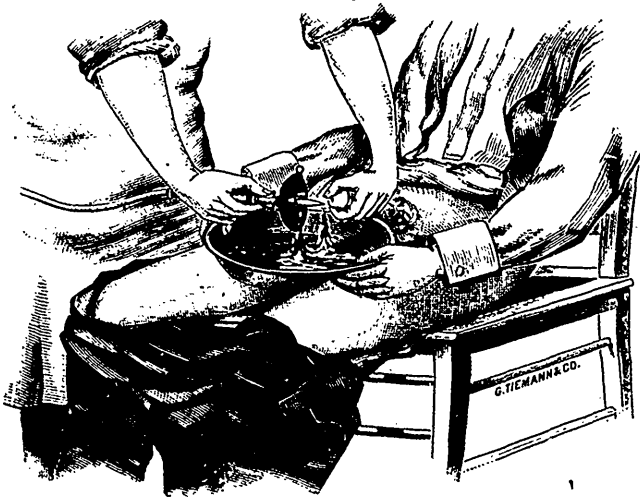


FIG. 8.—Anterior irrigation; first step: washing the meatus.

The funnel at the distal end of the catheter makes bladder-washing much easier than if the instrument were of one calibre throughout.

The catheter for ordinary use, should, moreover, be of the softest kind of soft rubber, so that even when used by inexperienced

hands it can do no harm.* This softness, however, becomes an objection when we have to deal with an enlarged prostate. Then the Mercier catheter, half-hard, is required. Four curves are given the beak of this instrument; these curves will suffice to overcome the overwhelming majority of prostatic retentions and enable the practitioner to directly treat the bladder for its consequent infection. It is also the most convenient form for the *sonde-à-demeure*, so often necessary in cystitis with, or consequent upon, prostatic enlargement.

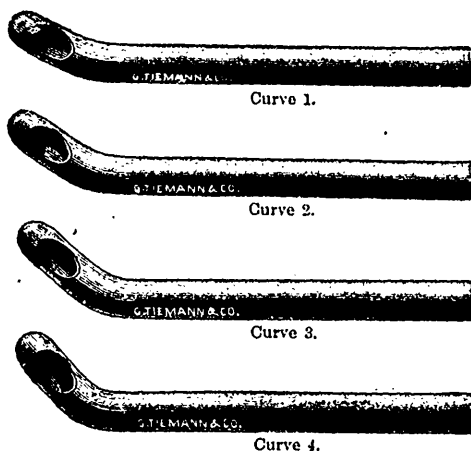


FIG. 9.—Mercier catheter

I have endeavored, in this brief sketch, to merely outline the most frequently used instruments, without which the general practitioner cannot avert those persistent and oftentimes dangerous sequelæ and complications that need never reach the specialist in genito-urinary diseases.

I appreciate that throughout I have been "carrying coals to Newcastle," and that your patience and indulgent attention are but part of Canadian courtesy.

242 West 43rd Street, New York.

WE are pleased to learn that our esteemed collaborateur, Dr. Thos. H. Manley, of New York, who has had charge of our department of Surgical Pathology ever since the inception of the *JOURNAL*, and whose contributions have been so much valued, has been re-appointed Visiting Surgeon to Harlem Hospital.

* Valentine, "The Largest Catheter Always," *Medical Record*, August 3rd, 1895.

Selected Articles.

PROTONUCLEIN IN GENERAL PRACTICE.

DR. G. W. SHERMAN, Detroit, Michigan, in reading a paper on "Protonuclein in General Practice," before the Detroit Medical and Library Association recently said: My first practical experience with protonuclein was on myself. About two and a half years ago I was taken with a severe attack of acute catarrhal inflammation of the nasal mucous membrane which rapidly extended down the trachea into the bronchi. It began on a Friday morning with an almost incessant sneezing accompanied by blocking of the nose, fulness in the head and headache, followed later in the day by a thin copious discharge from the nose and an irritating cough. By 5 o'clock p.m. the same day my headache was severe, my limbs all ached, and on taking my temperature it registered 101°. I had had similar attacks before, none apparently quite so severe, which always ran a course of from one to three weeks. I had tried quinine and other remedies without any appreciable benefit, and was a willing subject to try something new. I had a few samples of protonuclein, and began to take them *ad libitum*, starting about 5 o'clock in the evening. By Saturday morning I felt some better and continued taking the preparation through all that day, still *ad libitum*, and by evening, twenty-four hours after I began its use, felt considerably improved. I continued taking more during Sunday, when my nose cleared up, and the headache, fever, cough and soreness in my limbs disappeared. By Monday evening after three days' treatment, I was practically well and attended a meeting of the Detroit Medical and Library Association. Since then I have always prescribed protonuclein in these acute catarrhal affections with the same happy results. Experience has taught me that the proper dose for such cases, in the adult, is from six to twelve grains repeated every two to three hours. The treatment should be continued with smaller doses for a few days after the disease has disappeared to prevent a relapse.

I have found protonuclein especially useful in the treatment of broncho-pneumonia in infants and children. In these cases I usually give from two to four grains, according to age, repeated every two to three hours, and find that a recovery takes place in from three to five days. I have had remarkable success in treating pneumonia with this preparation and will briefly report cases.

CASE 1.—My mother, aged seventy-two years, on April 8, 1897, suffered a severe chill about 9 o'clock in the evening. Two hours later when I first saw her she complained of pain in the right side; was

coughing up bloody mucus, and was very uneasy. Her heart had been irregular for some years but now the pulse was 130 and her temperature 103° . Physical examination revealed pneumonia in the right lung. I prescribed two grains of phenacetin and six grains of protonuclein to be repeated every two hours. By 10 o'clock the next day her temperature was $99\ 3\text{-}5^{\circ}$ and her pulse 108; the pain in her side was less and she felt much better. The phenacetin was discontinued and the protonuclein continued. By the third day her temperature was normal and she felt so well that in spite of my protests, she was determined to sit up. She coughed up rust-colored sputum for six or seven days, but otherwise felt quite well. She has had no trouble with her lungs since.

CASE 2.—C. G., a male aged sixty-three years, had not felt well for several days, and was taken with a fever the day before I saw him. Patient complained of pain in his right side and difficulty in breathing. His temperature was $102\ 3\text{-}5^{\circ}$, pulse 110, and the lower portion of his left lung was inflamed. I prescribed six grains of protonuclein and ordered the dose to be repeated every two hours. The next day there was hepatization of the lower half of the right lung, with a temperature of 102° , and a pulse of 108. The protonuclein was now increased to nine grains, repeated every two hours. The third day the temperature was 101° and the pulse 100. He felt better and on examination the lung was found to be clearing up. The protonuclein was continued. On the fourth day the temperature was 98° , and the pulse 84, patient had enjoyed a night's rest, appetite returning and lung much improved. The fifth day I found my patient dressed and sitting in a chair. He said he felt well, but I persuaded him to go back to bed, fearing something might happen. I continued the protonuclein four times a day for a few days, when he made a complete recovery.

I have treated ten cases of typhoid fever with protonuclein, all of which made an unusually early recovery considering the severity of the early symptoms of some cases. I will briefly report a few cases:

I was called to a family in which one of the city physicians had charge of two typhoid fever cases; one, aged twenty years, who had been sick three weeks, and another, aged six years, who was just convalescing after seven weeks' illness. By the time I made my second call, a few days later, two other children of the family had taken sick. A boy seven years of age had not been feeling well for a few days, had no appetite, felt tired, tongue dry and coated, temperature 101° . I gave him four grains of protonuclein every three hours. He began to feel better in a few days, and by the eighth day had entirely recovered. I will leave the members to decide whether this was typhoid fever or not. The other case was a girl aged ten years. She had the usual symptoms of typhoid fever with a temperature of $102\frac{1}{2}^{\circ}$. Protonuclein six grains, and phenacetin two grains, repeated every three hours, were prescribed. The temperature continued to rise until the fifth day when it reached $104\ 1\text{-}5^{\circ}$, pulse 130. The phenacetin was discontinued and

the cold pack substituted (which was poorly dispensed) and protonuclein increased to nine grains, repeated every two hours. The temperature from the fifth to the tenth day ranged between $102\frac{1}{2}^{\circ}$ and $104\frac{1}{2}^{\circ}$, and considerable diarrhœa set in which was controlled with bismuth and turpentine emulsion. From the tenth day the temperature gradually declined until the fifteenth day, when it became normal and remained so thereafter. It will be noticed that larger doses of protonuclein were used in this case than in the first case, and a more decisive recovery ensued.

I have recently treated two other patients, one aged six years and the other twelve years, both girls, with large doses of protonuclein, in whom the fever ran a course almost identical with the above case. The one unusual feature in these three cases was the early appearance of the appetite. About the twelfth or thirteenth day they began to ask for food, and in a few days the desire to take nourishment became so keen that it was difficult to refuse them something more substantial than milk. All these cases lost their hair during convalescence.

Protonuclein has a wonderful effect in maintaining the spirits and vitality of a patient during fever and has no depressing effect, while it reduces the temperature. This is particularly noticeable in typhoid cases. They do not lapse into that stupid condition which is so characteristic of this disease.

When protonuclein is taken in large doses, say, ten to fifteen grains, repeated every two or three hours, it produces a deafness and ringing in the ears very similar to that produced by large doses of quinine. In such doses it may also cause an unsteadiness of the nerves and an increased frequency of the heart's action. If this condition is observed during the treatment of a disease it is well to withhold a few doses, when these symptoms will readily disappear without leaving any bad effects.

I have given protonuclein in scarlet fever with the effect of having the temperature decline and the swelling of the glands of the neck disappear, while the rash is coming out. I have given it with great success in puerperal fever, erysipelas, infected wounds, and, in fact, consider it a valuable remedy in all infectious diseases.

Protonuclein also has quite marked tonic effects which are particularly noticeable when given in cases of general debility resulting from advanced age. As a tonic it should be given in from six to nine grain doses after meals and at bedtime. In neurasthenic cases it is of benefit, restoring a normal tone to the nervous system. I have given it in a few cases of whooping-cough with benefit. I have given it to a few tubercular cases but cannot say that it was followed by special improvement. In cases wherein the temperature is high I usually prescribe small doses of phenacetin as a palliative remedy to assist in bringing down the temperature until the protonuclein has time to produce results. I consider protonuclein a very valuable addition to our remedies in combating disease, and feel that all who use it in large doses will be gratified with its results.—*The Physician and Surgeon.*

Medicine.... IN CHARGE OF ...
J. J. CASSIDY, M.D., AND W. J. WILSON, M.D.REMARKS ON THE RATIONAL TREATMENT OF PHTHISIS,
WITH REFERENCE TO NORDRACH SANATORIUM.

BY R. MANDER SMYTH, M.D. (LOND.),

Late House-Physician Hospital for Consumption and Diseases of the Chest, Brompton.

THE QUESTION OF CLIMATE.

THE almost mediæval darkness which exists amongst the public as regards the necessity of fresh air for all human beings, and especially for those suffering from pulmonary tuberculosis, has of late been considerably enlightened. It is to be hoped, however, that while importance is being rightly attached to this factor of sanatorium treatment, others of equal or even greater moment will not fall meanwhile into the background.

A recent distinguished writer, relating his experiences in the treatment of consumption, states that the only remedies he knew were air and sunshine. Doubtless we must not take this too literally, for a consumptive cannot live, still less make progress, on air or even sunshine, but one might say with some degree of truth that it was a treatment not infrequently attempted.

Diet, and the improvement of nutrition, rest and exercise, and their right adjustment to febrile and quiescent cases, supervision and regulation of every habit of life, are of far higher importance to the consumptive than excessive purity of the air he breathes, or the amount of sunshine he is able to enjoy, desirable as these factors undoubtedly are.

The idea so firmly rooted amongst even medical men that the one thing needful for a consumptive was to live in a "climate" selected with reference to some artificial classification of cases, is gradually giving ground to one more rational—namely, constant treatment in any right environment of all cases regarded from an identical pathological standpoint, that of pulmonary tuberculosis.

Whilst we shall hardly differ much now as to the value of sanatorium treatment, we are by no means necessarily agreed as to its best form. What is the right environment, and what the most successful system? The present attitude of medical thought in this country is directed towards the collection of data to form opinions upon these questions, and for this purpose the already established Continental sanatoria are eagerly reviewed.

It is now forty years since Hermann Brehmer, the founder of

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sanatorium treatment, was denounced as a charlatan in Germany for treating consumption in a systematic way, on the assumption that it was curable. Some of his ideas have, it is true, proved erroneous; notably the supposed necessity for carrying out the treatment in a district which was itself immune from the disease, and also his dogmatic requirement of a definite minimum altitude above sea level varying with the latitude. But, on the other hand, his excellent and oft-repeated advice against placing sanatoria in or near centres of life and traffic, or in a health resort frequented by other invalids and pleasure seekers, the need for strict supervision, and for carefully graduated exercise as well as for rest, have all been often disregarded since in practice.

Nevertheless, results more or less favorable have been published by many of these institutions, and although I am far from agreeing with those who pronounce them "superb," yet observers of such experience as Dr. Hermann Weber consider them to be somewhat better than those obtained outside sanatoria in the open health resorts of high altitudes. The success of a sanatorium, however, naturally depends upon many factors, and not only upon the principles of treatment professed, but upon the thoroughness with which these are actually carried out in practice.

PECULIARITIES OF THE TREATMENT AT NORDRACH.

There is at least one sanatorium on the Continent which stands out pre-eminent both in its methods and results. It has fallen to my lot to obtain a somewhat deeper insight into the working of this sanatorium—namely, Dr. Otto Walther's, at Nordrach in Baden—than can be obtained in the flying visit which a busy medical man can usually afford. I became acquainted with the existence of this institution about five years ago through the illness of a relative, and was later myself a patient there, a sufferer from acute phthisis, having, after recovery, enjoyed the privilege of assisting Dr. Walther in his work.

The methods of treatment differ materially in practice, if not in theory, from those of all other described European models, and the results are proportionally different. It is time, therefore, to draw attention to the exceeding importance of Nordrach in connection with the present movement for the suppression of tuberculosis, which, if it takes the right direction, will be the means of doing untold good in reducing the sum of human misery in our land.

It may appear strange that an institution so successful, beset by applicants at all seasons, should have remained so much unmarked by the medical profession in Germany, as also in England. It is still quite unique, although Dr. Saugmann is engaged in founding what purports to be a similar sanatorium on a fiord of the east coast of Denmark, near Vejle, and I am engaged in establishing a small one in England. The reason is chiefly the careful avoidance of publicity by the physician and the remote and

private nature of the institution, which for the sake of the patient's quiet is not open for every visitor to make a stay in.

One result of this seclusion from the world has been that until quite recently the cases received have been of a serious character, many a patient, drifting from bad to worse in different "climates," and not infrequently in other sanatoria, having come there as a last resource, not usually at the recommendation of his physician, but of some friend who had been cured there.

I am not in a position to publish statistics of the results. Dr. Walther has never done so, considering that as his sanatorium has only been in existence nine years the space of time was not long enough to enable him to make weighty statements about the permanence of cures. I am only able therefore to state as the result of my own observations that though the cases treated are probably of a more advanced nature than those of better known sanatoria, and certainly than those sent to high altitude resorts, the results are actually far better than those obtained in these places.

In reading some recent favorable statistics of treatment in high altitudes one is struck by several things. One is the very high proportion of cases in the first stage of phthisis; in the instance I refer to, sixty-five per cent., as compared with about twenty-seven per cent. in one of the larger German sanatoria. These cases, it is not too much to say, are rarely seen at Nordrach. Yet the average length of treatment in high altitudes was about twelve months, whereas the average for all cases at Nordrach is about five months. Another aspect of the same point is the careful exclusion of all severe and advanced cases from high altitudes. Pyrexial and acute cases of all kinds, cases of double cavities, "catarrhal phthisis" (whatever that may be), and laryngeal cases, were all unsuited for the "climate." Of course, a careful selection of cases makes a vast difference to statistics. Even under ordinary and disadvantageous conditions of life the earlier lesions tend to heal, as every *post-mortem* room amply shows, but the difficulty of making a cure progresses *ceteris paribus* in a geometrical ratio with the extent of the disease. I do not believe, therefore, that altitude has any favorable effect on the course of the disease, and as we see it is said to be prejudicial to the advanced cases. That also I doubt, except in cases in which the loss of lung is so great as to influence respiration in the rarefied atmosphere. It is indeed treatment that is required for these cases, not climate, and hotel life in a high altitude health resort is not treatment, or at any rate it is a very bad one.

I have seen at Nordrach occasional relapses in cases which were expected to remain well, but it must be remembered that comparatively few of the patients come from the leisured classes, and that much depends on the patient's circumstances and way of life in the two years following his cure. Sometimes necessity demands that he should at once return to hard work, sometimes he lives foolishly afterwards. Still, these relapses usually prove slight.

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One was the case of a young German who had previously spent two periods of several months each at a famous sanatorium to no effect. He came to Nordrach, became rapidly well, and in the following year went to work on a plantation in Honduras. In an expedition on the coast he had a very severe attack of malarial fever, which brought down his weight. It recurred on his return to Germany. With this upset of his general health there was a slight return of his former symptoms of phthisis. He came to Nordrach last winter, and in two months completely regained his health and strength, and is now at work again in Germany.

Perhaps a good test of the results of treatment is afforded by the case of an English doctor who was the subject of advanced disease, and had tried in turn a voyage to South Africa, a residence in the Riviera, and our own South Coast. He made a complete recovery at Nordrach, returned to London, and there soon fell ill with typhoid fever, losing 40 lbs. in weight and suffering from double pneumonia as a complication. Instead of old cavities bursting into activity as one might have supposed, the lungs emerged perfectly sound from the trial, he regained the weight lost, and now, nearly three years since, he maintains robust health in full work, is able to take long bicycle rides, and to lead a perfectly active life.

In contrast to the list of contraindications given for high altitudes, I have never observed at Nordrach any prejudicial effects of change of season or bad weather upon the patients, and the fact may be emphasized that the inclemency of the weather is often just as great there as in this country, the winters being much more severe. The results are solely dependent upon the character of the disease and the co-operation of patients in their treatment. Results are the same in winter as in summer, and I have seen rapid cures made in periods of comparatively sunless weather. Sunshine, therefore, is by no means essential, though one naturally would not elect to do without it.

Nor, indeed, is extreme purity of the air, though desirable, of such prime importance as has been supposed. I have seen better progress on Nordrach lines made by patients in the dust-laden atmosphere of great cities than one would have expected them to make in the Alps; and I have at present a case under observation, in a great Midland manufacturing town where the leaves of trees become covered with a thick deposit of dust, making the most striking advance under very disadvantageous circumstances.

PATHOLOGY OF "CHILLS" AND COMMON COLDS.

The timidity of some writers on sanatorium treatment with regard to what they apparently deem the vital factor of treatment, namely, fresh air, is lamentable. "The patient must have fresh air in abundance," say they, "but he must be moderate in its use." He must be well wrapped up, screened from wind, "which lowers the electric-tension of the body." His skin must first be rubbed with

spirit and doused to enable him to withstand "chills" and cold. Too much fresh air is apparently as bad as too much drink. One writer gravely states that "a species of drunkenness is produced on the first occasion of going out after a more or less prolonged seclusion in the house." One has heard the expression "air as strong as wine," but never before of the production of actual intoxication!

It is indeed greatly to the credit of Dr. Walther that he has been the first to teach the absolute unimportance of the weather, however bad, in the production of a common cold, which he believes to be due to an infection somewhat similar to influenza, and also with regard to the state known as a "chill," loosely used by the laity to mean as a rule nothing, sometimes a cold or a rigor, but which as applied to consumptives in nine cases out of ten is a definite though insidious relapse due to overexertion, and marked by pyrexia and increased expectoration.

If Nordrach taught us no more than this, it would still be worthy of distinction, and it is necessary to be very clear about these facts, because there is an extraordinary confusion of ideas on the subject. These "chills" occur frequently enough in the populous health resorts, from simple lack of measures for their prevention. Common colds occur, also, accompanying civilization, though I do not believe more frequently in consumptives than in other classes of people. The overexertion, "chill" or relapse rarely happens at Nordrach, because the small number under supervision renders it possible to guard against it, and great care is taken that this is done. A fresh acute cold or catarrh we never see at Nordrach, because the isolation and the open-air life render the chance of direct infection practically impossible; but when occasionally a cold is taken, it is transmitted from a visitor or some member of the staff, and can be traced to the village or station below. A remarkable confirmation of this theory was afforded by the analogy of an outbreak of influenza last winter traced to a travelling pedlar in the valley. Many members of the staff were infected, some quite severely, while not one of the patients, who are constantly exposed to draughts and all weathers, was attacked.

Nor are fresh attacks of bronchitis, pleurisy, and other complications so common in the progress of phthisis, and so often attributed to "fresh cold," ever seen at Nordrach. Where all are making progress towards recovery, symptomatic treatment is reduced to a minimum, and drugs are therefore hardly ever called for.

It is apparent that if the risk of colds and "chills" from exposure can be disregarded, all difficulties in the way of enjoying the fresh air, even in the most changeable climate, such as our own, are at an end. At Nordrach, therefore, no unnecessary "hygrotherapy" or "acclimatization" is indulged in. Patients are at once encouraged to discard overcoats, mackintoshes, and all heavy clothing, in walking, whatever the season of the year, though for the sake of comfort they may wrap up as much as they like while at

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rest, but with open windows. No regard is paid to wearing sound boots or keeping the feet or clothes dry, nor even to wearing flannel next the skin, the patient's comfort being his guide in such matters.

Sandals or thin canvas shoes are often worn in winter to prevent chilblains, and in summer on account of the heat. These are soaked through in the first puddle. Personally, in common with others, I practically never wore an overcoat during the last two winters either in England or Germany, and in the country rarely a hat nor carried an umbrella. I have, while a patient, worn wet shoes for days together, sat by open windows for hours in draughts when the temperature of the room was at freezing point, waded in ice-cold water, etc., on purpose to test the truth of this infection theory. But like the schoolboy, who also tried similar means to get a bad cold and play truant, I failed entirely, neither did any other evil follow. It is in truth certain that no harm need be apprehended from an absolutely fearless exposure of consumptives to any weather, in our country as on the Continent, provided over-exertion is avoided. A strong wind is not injurious *per se*. It is only in walking against it that a patient is liable to dyspnoea and fatigue—in a word—overexertion. At rest there is no harm, but always good, to be obtained from the free draught.

TREATMENT OF FEVER.

Brehmer's original ideas included seclusion for febrile cases, and carefully graduated exercise combined with rest for those free from fever, but most of the modern institutions which have spread through Germany and Switzerland have deviated from these principles, and adopted the less troublesome and less effectual "rest treatment" in the open air, started by Dettweiler, of Falkenstein, which consists in immobilizing even febrile patients on couches in *Liegehallen*, large verandas open to the air, for the greater part of the day.

This treatment has also influenced experimenters in our country. At Nordrach, however, the principles of Brehmer have in reality been more strongly emphasized, and I think it should be stated "that the proper place for a patient whose disease is in any degree active, that is to say, a patient whose morning temperature does not keep below 37° C. (in the rectum), and the evening temperature below 38° C., is in bed, alone in his room with wide-open windows in all weathers, obtaining the maximum amount of rest," which is certainly not possible on a couch in a *Liegehalle*, amongst talkative neighbors and other distractions. Rest on a couch is not the same as rest in bed, and is unfit for all pyrexial cases, although it is largely practised. In fact, the pyrexia of pulmonary tuberculosis is inconsistently accorded far less importance than is demanded in other diseases, the acute specific fevers for instance. It is this inconsistency much more than climatic considerations which still impedes the successful treatment of phthisis in this country as in others.

THE VALUE OF REGULATED EXERCISE.

On the other hand, after the temperature has remained practically normal for a week, and the chronic, or acute, inflammatory process is in a quiescent state, regular exercise without fatigue, however slight, is urgently needed to strengthen the weak heart, to stimulate all the functions, to bring about a reorganizing effect on the constitution, and eventually to fit the patient for the stress of everyday life again. This exercise has to be apportioned according to the patient's strength, state of nutrition, and even his temperament, and above all with constant regard to the temperature: so that the quiescent state is never interfered with, but goes on gradually to ultimate arrest. This is obviously a matter that can only be undertaken in surroundings which afford every advantage, and by a physician who devotes his whole energies to the task.

My indictment of the open-air "rest treatment" is, therefore, that it does not provide adequate rest for patients with active disease, nor properly graduated exercise for those whose disease is quiescent. In consequence, I have seen patients coming from other Continental sanatoria with, it is true, a certain accretion of subcutaneous fat, but with flabby tissues, unequal to any exertion when they returned home, and uncured. I have seen these same patients go away after a course of treatment at Nordrach, fully nourished, very muscular, capable of considerable exertion, long walks, etc., and with their disease completely arrested. These facts, I think, clinch my argument.

THE ENVIRONMENT DESIRABLE FOR A SANATORIUM.

The environment, therefore, of a sanatorium is of far greater importance than meteorological conditions, and the success of Nordrach is in some measure due to the isolation of the sanatorium from towns and traffic. The nearest stations are nine and ten miles away, the nearest town seven miles distant, and cut off by hills rising 1,500 feet above the sanatorium. It is, therefore, impossible for any but the strongest, who are nearly ready to leave to make these walks, and without making invidious comparisons, I need only give one instance out of many to show the importance of this. A young English girl who was for some months at a large German sanatorium, and who has since been cured at Nordrach, told me that patients used to go out into the adjacent villages to drink, and that she had sometimes seen them driven home drunk. Comment is needless, except perhaps to add that where such things are possible, no wonder "hydro-therapy" is found necessary to prevent "chills"!

THE ADVANTAGES OF SMALL SANATORIA.

Another very important point is the size of the sanatorium. In a large barrack a patient is lost in the crowd, so to speak.

The Nordrach sanatorium has been wisely limited to forty-five patients, distributed in four houses of four, five, sixteen and twenty beds, although great pressure is put upon the accommodation, and vacancies are taken up two, three and four months in advance. Probably no sanatorium should have more than fifty beds, and not even so many unless the supervision is highly satisfactory. To quote yet again. A German gentleman, who had been treated at a large sanatorium, told me that he once went away for three days to the neighboring city for amusement, without his absence being noticed by those in charge of the institution!

Some sanatoria allow friends to visit the patients from the very commencement; at one it is possible for the whole family to live with the patient. This execrable arrangement contravenes the first essential of sanatorium treatment—namely, that the patient should be absolutely removed from his home surroundings, and detached from the environment in which he continues to lose ground or remain stationary.

At all events it is most essential that at first he should be left entirely to the doctor and nurse, until indeed he is fully settled in the new way of life. The influences of friends, however intelligent and well intentioned, are in the majority of cases undesirable. It must naturally be so, for the friends know nothing of the patient's needs and supply him with sympathy when he wants only rest and quiet; and those whose needs are the greatest, who must refrain from conversation and mental exertion, who must conserve in short their diminishing vital energy, are often visited for the very reason that they are ill in bed.

The way of life in the great health resorts is, of course, worse still. Such a place as Davos reproduces and perhaps adds to all the evils of the home surroundings. Hotel life in a town, with "caretakers," that is, untrained friends in attendance upon the invalids, brings with it temptations of all kinds in the shape of amusements, theatres, balls, even violent exercises, which, so far from conducing to the patient's health, in many cases produce "chill" after "chill," that is, relapse after relapse, so that what may have been an early and curable case becomes, perhaps, well-nigh hopeless. Even amongst these, however, I have seen the most extraordinary arrests produced under the *régime* of Nordrach, arrests that one would have deemed incredible had not one observed their whole course.

The physicians at most of the high altitude resorts are practically consultants, although I understand that many arrange now for a season fee in order to see their patients as often as they like. That is a step in the right direction, but the control is very slight, and however good advice may be, it is impossible to be sure that the patient carries it out. No wonder we find medical writers seeking a refuge in a list of contraindications. "Pyrexial cases," says Dr. Theodore Williams, "should not go to high altitudes, for as a rule the climate augments the pyrexia." Why? Is it indeed

the climate that is to blame, or is it the mode of life the patient leads in that climate? In the few cases I have investigated in high altitudes the persistence of pyrexia was simply due to the fact that the patients were walking about with active disease.

Von Jaruntowsky says that the "action of the climate is too strong for the late stages of phthisis." Perhaps his remark had been better altered in translation to "the treatment is not usually strong enough for such cases." Amusements, in the usual acceptation of the term, are not so necessary when the treatment is efficacious, for then the patient's mind takes a positive emotional tone from the hopeful character of his surroundings, the disease loses its terrors as its curability is demonstrated, and he finds an occupation and interest in "working out his own salvation."

It is certainly a plausible theory that amusements are harmless in moderation, and even necessary for the patient's comfort. Unfortunately human nature, especially consumptive human nature, is not firm enough to draw the line at strict moderation. Even in a small institution it is difficult enough to regulate individual temperament unless amusements are very limited and unexciting, as Brehner himself well knew. One of his sayings was—and there was no truer maxim in his writings—" *Der Mensch stirbt an seinem Charakter.*" And again, in quoting from the *Davoser Blätter*, he says: "What kills us at last is not usually consumption but our temperament." In fact, at many health resorts one would imagine that the patient's business there was to be amused, rather than to be cured.

For this reason, also the principle laid down by Dr. Leon Petit—that access to a sanatorium should be easy and not far from a railway station—is thoroughly bad in practice. Easy access means the proximity of that civilization which it is so necessary to avoid if absolute quiet is to be obtained, and the nearer the civilization the more difficult is rendered that *al fresco* and unconventional life which the patient ought to lead.

DIET.

There are other points which might be touched upon, more especially the great question of diet. It will, however, suffice for the present to say that in many sanatoria there is no proper guidance for the patients in the selection of their food, and too many meals are usually provided. Only three meals a day are given at Nordrach, and yet a much greater improvement of nutrition is usually brought about there than in other institutions. Forty or fifty pounds (German) is by no means an uncommon increment. In one case a patient weighing under one hundred pounds (German) went away 190 pounds. In another case a lady who weighed sixty pounds went away over 150 pounds. Both these cases were most serious; the latter was for weeks subject to profuse diarrhoea, probably tuberculous. They have been both cured, the latter for the last seven years.

DISCIPLINE.

The methods of a rightly conducted sanatorium are, then, strictly analogous to the splint, which in surgical cases of tuberculosis keeps the diseased part continuously at physiological rest. The methods of a populous health resort hardly constitute a splint at all, and whatever restraint the treatment affords is customarily applied only in the winter. What surgeon would commit the folly of treating a tuberculous ulcer in the winter only, allowing the patient to be practically free from treatment during the summer months? And yet this is precisely what happens to many a similar case of tuberculous ulceration of the lungs, owing to our fallacious notions about climate.

In a sanatorium much depends, as I have already said, on the degree to which theoretical principles are put into practice. The splint may be so loosely applied that it may only be effective in comparatively slight cases. The best climate, then, is not, as has been poetically said, that which woos one most into the open air, but that in which this "splinting" is most effectively carried out.

It has been said that English people do not care to submit to the rigid discipline practised abroad. An observation of the faces gathered around the dining table at Nordrach will entirely dispel this idea, and will demonstrate that hope is more effectual than dissipation and distractions in making the invalid contented with his temporary lot.—*British Medical Journal*.

Not so bloody after all.

According to the *Philadelphia Medical Journal*, official reports received by the United States War Department from time to time, giving the number of men and officers who have been killed and wounded and who have died from disease in the American army from the beginning of the war up to August 31st, 1898, show the following figures, which are accurate as far as reports have been received, and will be used by the Military Investigation Commission:

	Officers.	Men.
In Porto Rico, killed	3
" " wounded	4	35
In Manila, killed	15
" " wounded	10	83
In Cuba, killed	23	237
" " wounded	99	1,332
Died from wounds received	9	82
" " accidents	30
" " diseases, etc.	75	2,150

These figures, which may be changed slightly by later official reports, show the total number of deaths in the army of 265,000 to have been 2,624, or a little less than 1 per cent.

Proceedings of Societies.

THE 'PROVINCIAL BOARD OF HEALTH.

THE fourth quarterly meeting of the Provincial Board of Health commenced on November 29th, at 11 a.m., in the office of Dr. Bryce, the Secretary, in the Parliament Buildings. The members present were Dr. J. D. Macdonald, Hamilton, chairman; Dr. J. J. Cassidy, Toronto; Dr. H. E. Vaux, Brockville; Dr. E. E. Kitchen, St. George, and Dr. Bryce.

In the morning, samples of water from which the village of Stirling proposes to draw its supply were submitted, with the plans of the proposed system. Oak Lake, situated about three hundred feet above the town, is the source of supply, and the Board expressed doubt as to whether such a supply for a village of eight hundred inhabitants would not become stagnant. They decided, however, that as the water was wanted chiefly for fire protection there would be little danger incurred, and consequently approved of the plans submitted, reserving the right to order any changes should the proposed system prove dangerous to the health of the villagers.

In the afternoon the Board first considered a letter from Dr. Goodman, Health Officer of St. Catharines, asking the Board to stop the construction of a ditch between Welland and Port Colborne for the purpose of draining the Humberstone marsh into the Welland Canal. Dr. Bryce had communicated with the Minister of Railways and Canals, who said there would be a natural objection to using the canal for drainage, as it is used for water supply. The Board decided that the canal was not to be used for a drain for the present, and the matter was left *sub judice*.

Dr. Bryce, in his report, said the past quarter had been marked by a low mortality from the several contagious diseases. There had been one case of smallpox at Chatham, four at Camden and one at Cobourg. The prevalence of the disease in New York State, Ohio and Michigan would be a menace to the Province, and local authorities are advised of the danger arising from the general neglect to vaccinate school children. Glycerinated vaccine antiseptically prepared was recommended. Such a condition as that illustrated by the report forwarded from the Department of Agriculture at Ottawa regarding the condition of large piggeries near Ottawa, where the city offal is fed, revealed a state of affairs which Dr. Bryce had again and again vainly attempted to deal with. Conditions but little better exist in the neighborhood of all our large centres, and in spite of the fullest powers to deal with such, under the Public Health Act, the rural boards have proved utterly

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useless for the purpose. Raw, putrid offal is systematically fed, although the animals are liable to seizure, and a heavy fine for the offence can be levied. A county officer, with full powers to inspect, suggest remedies, and prosecute for non-compliance, is, so far as the doctor knew, the only remedy. As at Welland, Merritton and St. Catharines all use the canal water as a public supply, it was essential that it be maintained pure, and not used to drain certain swamps, as suggested. Reference was made to several outbreaks of diphtheria in the back settlements and unorganized districts of Frontenac, Hastings, Muskoka and Parry Sound.

The Board, in Committee of the Whole, dealt with the Secretary's report. Dr. Bryce laid before them the plan adopted by several large American cities, where the school districts are divided and placed under the supervision of capable physicians, whose duty it was to visit each school after morning prayers. There they had special rooms, where pupils who appeared at all ill were sent for examination, and if necessary sent home for treatment. Then the physician was furnished with a list of absentees, and each home was visited in quest of sickness and contagious diseases. In this way almost every disease peculiar to children was discovered in its incipency, contagion was prevented, and cases isolated instead of being shielded, as is sometimes done. This was agreed to be a splendid means of combating disease, of stamping out scarlatina, measles, etc., and obviating the necessity of closing schools, to say nothing of saving lives. In Boston fifty physicians did the work during 1896 for \$9,800. The Board strongly recommended that Local Boards, in the municipalities where contagious diseases exist, appoint medical inspectors, as empowered by Section 9 of the Public Health Act. Copies of a resolution to that effect will be sent to every Local Board of Health and to the Minister of Education, with a request that such be forwarded to the boards of school trustees throughout the Province.

The Board met again at 10.30 a.m., November 30th.

An itemized account for \$1,405 from the municipal authorities of Cobourg, for expenses incurred in connection with the recent case of smallpox in the town, was presented, but no action was taken on it.

Mr. Mackenzie, Provincial Bacteriologist, reported at length on an epidemic of typhoid in Kingston Township, which had probably originated from a polluted well.

The Board will take steps to cope with an outbreak of diphtheria at Hawkestone, Ont., which has caused no less than nine deaths in one family.

At the afternoon session Dr. Cassidy read a paper, entitled "The Disinfection of the Domiciles of Tubercular Patients." "The necessity," said the doctor, in his opening statement, "of disinfecting the domiciles of persons who die of tuberculosis, or even rooms in houses which have been temporarily occupied by tubercular patients, seems obvious enough to sanitary authorities ;

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and the reason for this is simply because we believe that tuberculosis is a disease which may be transmitted from one person to another. Remove the cause, and the effect disappears. In fact, one of the postulates of sanitary science in reference to the prevention of tuberculosis is: Remove the bacilli tuberculosis from inhabited places, prevent the deposition of fresh bacilli therein, and a vast diminution in cases of tuberculosis will soon be apparent."

In order to closely observe cases of tuberculosis and carry out disinfection, the doctor recommended that tuberculosis be made a notifiable disease, the subsequent management of any given case to be conducted so as to obtain the best result, whether in a domicile or sanatorium. In order to ascertain whether disinfection of the domiciles of tubercular cases was practised by health officers in Ontario, inquiries were addressed by Dr. Cassidy to the health officers of Toronto, Hamilton, London, Ottawa and Kingston. It was quite evident from the replies received, he said, that this most important feature in the prevention of tuberculosis was neglected in Ontario. As showing what might be done to decrease the prevalence of tuberculosis in Canada, the Parisian method of disinfecting the domiciles of the tubercular poor was described. (See page 372 of the CANADIAN JOURNAL OF MEDICINE AND SURGERY, December, 1898.) In Paris the principal obstacle to practical disinfection has been the notification of the patient's disease to the health authorities. This arose from the unreasonable terror of some persons when confronted with the dread word "contagion." The only remedy for ignorance was instruction, and when the people of Ontario learned how the contagion of tuberculosis was acquired they would not object to the systematic removal of the sources of that contagion.

Dr. Bryce also read a lengthy report bearing on the establishment of cottage sanatoriums in Ontario. In this the doctor gave a classified list of persons who had died from tuberculosis during a certain period, showing that the mortality was greatest among bread-winners whose occupation compels them to remain indoors. The doctor cited well-known medical authorities to prove that an abundance of fresh air in the bedroom at night, as well as in other parts of the dwelling, was a great safeguard against tuberculosis and helped to retard its spread. Dr. Bryce gave a number of facts regarding the practice adopted by insurance companies in Germany of sending tubercular patients holding policies to sanatoriums, and of promoting the establishment of such institutions.

The Board went into committee to consider the recommendations made in both these reports. After discussion, the following resolution, moved by Dr. Cassidy and seconded by Dr. Bryce was adopted, "That in the opinion of the Board it should be made obligatory on physicians to report all cases of tuberculosis occurring in their practice; if a physician is not consulted, then this duty should fall upon the householder; that the local health board

should provide for the regular and systematic disinfection of the domicile in which the patient lives, and should be notified of the removal of any tubercular case to an hospital or a sanatorium."

The plans for waterworks and sewers at Prescott were presented by Mr. Galt, C.E. They were adopted, subject to the usual proviso, that should the water supply become impure, the municipality shall be obliged to accept the decision of the Board in obtaining a fresh supply.

Mr. Galt also presented the plans for waterworks and sewers at Oshawa. They were approved of, subject to the proviso that a supply of ice be not taken from a pond in the town into which a sewer is permitted to discharge.

The Board then adjourned.

J. J. C.

RESOLUTION OF CONDOLENCE.

At an emergent joint meeting of the Medical Board of the West-Side German Dispensary and the Corps of Professors of the New York School of Clinical Medicine held at the Dispensary and School building, the following resolutions were adopted:

Whereas, we have learned with great pain of the death of our friend and colleague, Salmon P. Cahen, M.D., Secretary of the Medical Board of the West-Side German Dispensary, and Associate Professor of Practice at the New York School of Clinical Medicine; and

Whereas, Professor Cahen, by his nobility of character, scientific attainments and devotion to the sick poor, endeared himself to us as a man and a physician; and

Whereas, his death is to us an irreparable loss; he it therefore

Resolved that in manifestation of our deep grief, we ask that the Dispensary and School be closed on Friday, the 9th instant, until 1 p.m., that all connected with these institutions may attend the services in a body; and furthermore, be it

Resolved that four copies hereof be engrossed, one to be given to the widow of our friend and colleague, another to his brother, James P. Cahen, Esq., President of the Board of Trustees, another to Julius P. Cahen, Esq., Secretary of the Board of Trustees, and another to be placed in the Assembly-room of this Dispensary and School; and further, be it

Resolved that a copy of these resolutions be spread upon the minutes of the Medical Board of the West-Side German Dispensary, and upon the minutes of the Corps of Professors of the New York School of Clinical Medicine, and be it further

Resolved that copies hereof be furnished the medical journals of New York for publication.

LOUIS FISCHER, M.D.,
*Secretary, N. Y. School of
 Clinical Medicine.*

FERD. C. VALENTINE, M.D.,
*President Medical Board of
 West-Side German Dispensary.*

Personals.

DR. ALEX. PRIMROSE has removed to his new house, 100 College Street.

DR. G. H. BURNHAM has removed from John Street to the corner of Bloor and Huntley Streets.

THE *Canada Lancet* has been purchased out and out, and is now under the sole control and management of Dr. G. P. Sylvester.

E. B. TREAT & CO., of New York, have assumed entire control of *The Archives of Pediatrics*, so ably edited up till now by Dr. William Perry Watson.

WE tender our sympathy to Dr. R. J. Wilson, of Toronto, in his recent bereavement. His esteemed father died last month at the mature age of eighty-two years.

DR. L. M. SWEETNAM and Dr. H. W. Aikins were elected at the recent Victoria University elections by a large majority. Dr. Edmund E. King was defeated.

WE are much pleased to announce that Dr. W. H. Lowe, of Toronto, whose connection with this journal has been so much appreciated, is recovering from his recent severe illness.

AT the meeting of the Senate of Toronto University last month, Dr. William Britton, of Toronto, was re-elected as the Senate representative to the Medical Council. Dr. L. S. Oille, of St. Catharines, a distinguished graduate in Arts and Medicine, was also nominated, but by a vote of twenty-seven to six Dr. Britton received the appointment. He has represented the University on the Medical Council for eight years.

Our December Number.

It has been the greatest source of satisfaction to the staff of this journal that our December issue met with such widespread approval. We only regret that it was out of our power to acquiesce with the hundreds of requests we received from all parts of Canada and the United States for duplicate copies of the JOURNAL. We printed a large number of extra copies, but they were all gone in less than a week from date of issue. We only hope that we will continue to merit the esteem of the medical profession all over this picturesque country of ours, which we attempted to illustrate as a fitting souvenir of Christmas-tide.

W. A. Y.

The Canadian Journal of Medicine and Surgery

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Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital.

Oral Surgery—E. H. ADAMS, M.D., D.D.S., Toronto.

Surgical Pathology—T. H. MANLEY, M.D., New York, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Gynaecology and Obstetrics—GEO. T. MCKEUGH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Toronto.

Medical Jurisprudence—W. A. YOUNG, M.D., L.R.C.P. Lond., Eng., Toronto.

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Pediatrics—AUGUSTA STOWE GULLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

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Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifteenth of the preceding month.

VOL. V.

TORONTO, JANUARY, 1899.

NO. 1.

Editorials.

Wishing all our readers success and prosperity for the New Year.

EXPERIMENTAL TYPHOID FEVER.

DR. FELIX RAMOND, who has made experimental studies of enteric fever in rabbits, has written an article on the subject in *La Presse Medicale* (July 16th, 1898), an abstract of which we have much pleasure in laying before our readers. He found it necessary to adopt certain precautions, in order to overcome the resistance of the animal economy to the typhoid poison and to ensure inoculation. Thus, during the fifteen days which preceded the ingestion of the Eberth bacilli, each animal received every day, subcutaneously,

three or four cubic centimetres of blood serum, taken from men who had not had typhoid fever, and a few minutes before the ingestion of the typhoid bacilli, the experimenter injected into the peritoneal cavity of the animal fifty drops of laudanum. The virulent culture used was mixed with the animal's food and introduced into the mouth, by tickling the back of the throat so as to obtain reflex movements of swallowing, or directly into the stomach through a catheter. The following symptoms were observed in the animals experimented on: some hours after the ingestion of a dose of five cubic centimetres of a young culture of Eberth bacilli in bouillon, the temperature rose to 104° F. or $105\frac{1}{3}^{\circ}$. The animal did not eat during the day. The next day it seemed to return to the normal condition, but the temperature remained elevated above the normal by a few tenths of degrees. On the following days the animal lost from 150 to 200 grammes in weight, and its appetite diminished slightly. About the twelfth day there was an abrupt elevation of temperature, which reached or surpassed 104° F.; then for fifteen days the fever continued, rising from 1° to 4° F. above the normal temperature. During the course of the disease the appetite was diminished, diarrhoea appeared irregularly for four or five days, respiratory movements were reduced in frequency, the urine did not contain albumen; the prostration of the animal was evident, it did not escape at the approach of the experimenter, but remained curled up with its back arched, its head bent beneath its shoulders, its ears hanging and its eyes half closed. If the disease was going to terminate favorably, about the fifteenth day the symptoms improved, and in a short time the animal returned to its normal condition. Sometimes, however, the animals died rapidly from peritonitis or typhoid septicæmia. In other cases the infection revealed itself only by some very slight symptoms: a temperature elevated above the normal by a few tenths of a degree, slight diarrhoea, insignificant emaciation and about the twelfth day, the normal condition was regained. However, if one of these animals, which was on the road to recovery, was sacrificed, a sowing of the visceral pulp always revealed the presence of the Eberth bacilli. Moreover, the appearance of the serum reaction from the ninth to the twelfth day sufficed to prove the reality of the infection. In all cases of survival more or less long, the serum reaction appeared at the beginning of the second week; it was always very manifest, even when diluted samples of blood serum were used, and persisted for two months after recovery. The anatomical lesions were similar to

those observed in human typhoid fever; the small intestine was congested and filled with diarrhoeal matters; Peyer's glands were prominent and had bloody dots on their surfaces; some of them showed ulcerations, shallow, it is true, but clearly defined. The mesenteric glands were hypertrophied; the spleen was voluminous and blackish, the liver congested, broncho-pulmonary and pleural lesions were pretty frequent. The author then describes the microscopic study of the infection, made from sections and sowings of the visceral pulps, showing how the Eberth bacilli can be traced and how a rational conception of the pathological physiology of enteric fever in an animal can be obtained. In the first or lymphatic stage, which perhaps corresponds to the incubation of the disease, the bacilli invade the follicles of the intestine, advance and reach the mesenteric glands. Having forced a passage through this glandular barrier, they reach the thoracic duct, and afterwards the general circulation, where their stay is short, and this constitutes the blood stage. Then they settle in the different viscera, especially the spleen and the liver, and this is the visceral stage, corresponding probably to the period of infection. Some differences observed between experimental and human enteric fever were: in the animals experimented on, the ulcerations were rather small, the microbes in the viscera were not numerous, and no renal lesions were observed. The explanations offered are: normally an animal does not contract enteric fever, probably because of the great resistance of his tissues to the development of the typhoid bacilli. If the infection is produced in him, the organic defence will be vigorous; the greater part of the microbes absorbed will be rapidly destroyed, so that the intestinal ulcerations will be small and there will be a paucity of Eberth bacilli in the visceral pulps. The toxins which inhabit the intestines will not be absorbed as they would be through the large intestinal ulcerations of a man attacked with dothienteritis. The animal's kidneys will, therefore, have to eliminate only the Eberth bacilli, which will cause but slight damage, inasmuch as experimentation shows the very slight elective action of that toxin on the kidneys (Chantemesse, Sanarelli). The digestive functions and urinary excretion suffer, therefore, from only slight obstacles in an animal affected with enteric fever, conditions which, unfortunately, are but little met with in human pathology. The child, however, appears to realize an infection almost copied from that of the animal; in children who have enteric fever the intestinal ulcerations are small, the digestive functions

are not much interfered with and renal lesions are exceptional. The morbid evolution of the disease is also more favorable than in the adult.

These experiments on animals prove the reality of the infectious process from an intestinal starting point. There is, however, much yet to learn about the etiology of enteric fever. Why does not the Eberth bacillus, which, according to Remlinger, is an almost normal inhabitant of the human intestine, cause infection more frequently? Why does this bacillus alone appear to pierce the intestinal barriers? Dr. Ramond can only give hypotheses for answers. Perhaps these infections which do occur, may result from special chemic-toxic phenomena or from microbial symbiosis, as occurs in cholera. These questions cannot be answered at the present time; but perhaps experimentation and clinical observation will ultimately solve the difficulty.

J. J. C.

A DINNER, A DIGRESSION AND A TRIBUTE.

To say that the twelfth annual dinner of the University of Toronto Medical Faculty was a success does not sufficiently express the thought and feeling of those who had the genuine pleasure of being present. The decorations, the splendid attendance, the college songs, jollity and enthusiasm of the students, the clever after-dinner speeches, the inimitable manipulation of an orange by the guest from Johannesburg, were thoroughly enjoyable. The menu card is a souvenir treasured with the accumulated bric-a-brac of the years—it is unique with its blending of the artistic, poetic and comic. The feast of good things which it enumerated was enough to make one feel like the small boy who, standing in front of a restaurant looking at a Thanksgiving bill of fare, festooned at the top by a real live turkey, said to his chum, "Say! I'd like to be found dead with that turkey in me tummy and that bill of fare for me epitaph."

The supreme object of the dinner was not, of course, the material, but rather the intellectual, and so the speeches partook of the progress of medicine and subjects closely allied thereto. One speaker, in referring to the demand frequently made for a higher standard of graduation, declared himself in direct opposition to the proposal. May we here claim a scribbler's license to digress from the subject of the dinner, to differ with the opinion of our respected confrere and put in a plea for the raising of the stan-

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dard of medical education. We believe in a higher standard of graduation for several reasons: the one important one which allotted space will allow us to speak of is, on account of the overcrowded state of the ranks of the medical profession. To support the dignity of this noble calling the medical practitioner of to-day should be a man of high mental culture and exalted moral perceptions. True, someone has wisely said, "It is not at school, but by his self imposed studies afterwards that a man is educated." The world fortunately recognizes its need of medical men, but the supply is much in excess of the demand. We believe the majority of physicians feel that the gateway to medicine has been left too long half open, and the pathway to the goal of M.D. has been strewn with too many flowers of encouragement, and so, instead of the few who should have entered, the gateway has been thronged, and the yappy yell of capping day is ever resounding through the land. We do not agree with the thought that the practice of medicine would become the province of a close corporation if a higher standard of preparatory education were enforced; enough men will always be found surmounting the difficulties of the most rigid examinations and enduring the longer years of application to study, and ultimately stepping forward to take the places of those who have fallen in the harness. Why is it that some are deserting the ranks of legitimate medicine and entering the lists of the quacks? Because, we believe, owing in a small measure to their own inability, but in a very large degree to the over-supply of medical men, they were compelled to eke out a miserable existence and face, perhaps, starvation.

Is there any remedy for this state of medical existence? We think at least a partial one suggests itself. It is this: If before all students enter the medical colleges they equip themselves with the degree of Bachelor of Arts; then acquire a thorough medical education, life would hold out to them more than one possibility, because of their broader field of culture; and if, perchance, they should not attain the top of the ladder of success in the medical world, they could gracefully withdraw themselves and turn to some other calling, rather than cling to the skirts of a departing hope, to beg, or starve, or sink with the dregs of its offscouring. So in justice to student and physician alike, let those men be "Arts men" who present themselves for the study of medicine; then let the medical graduation standard be higher, the examinations even more difficult, and the years not less than five for the medical course.

Then will the life of the medical man adjust itself, its environments be broader and richer.

We do not wish to set forth the idea that the Canadian physicians of yesterday were ill prepared for their work. Life then and here (in Canada) was totally different. Calomel and quinine worked wonders under the bits of sky seen through the clearings in this forest primeval. To the grand old practitioners be all honor. They were progressive, wonderfully so, for their opportunities. Studious, self-reliant and patient. They stand out strongly as men of bronze against the glaring sky of modern commercial medicine, embodying a philanthropy that has been crowded out of the character of the modern men by the mad rush for the almighty dollar. We devoutly thank, however, the ever-increasing opportunities for a liberal education that to-day offers, and look forward to the dawn of a new century to throw its new light upon disease and its varying conditions.

W. A. Y.

UNITED WE STAND.

THE Editor and collaborateurs of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY met at McConkey's on Saturday evening, December 17th, making dinner the ample excuse for toasts, songs, fun and fancy—in truth, a feast of reason and a flow of soul, a good-bye to another year's work, marked by hearty enthusiasm and the co-operation of one and all. They met just to take a cup of kindness, and wish each other *bon voyage*, as they stood on the pier awaiting the launching of the good ship "Ninety-nine." The only drawback to the evening's pleasure was the unavoidable absence of several members of the staff who reside in other cities. The following poem, composed for the occasion by Dr. Ezra Hurlburt Stafford, was read during the evening:

THE OLD VILLAGE DOCTOR.

They asked him out for dinner to their city club one night,
And warmly shook his hand and placed him at the honored right;
Professors, surgeons, specialists, sat round in broadcloth suits;
And he felt stiff and awkward in his tweed and muddy boots.

He was a country doctor, and his hair was white as snow:
One of the old profession, who practised years ago
Out in the smoky clearings ere life became so fast;
One of the last survivors of a race that's almost past.

He couldn't clearly understand all that he heard them say,
 For medicines had changed so much since his empiric day ;
 And so he sat in silence, gazing with uneasy eyes,
 And tried to look, as doctors do, unfathomably wise.

Amid the clink of glasses and the aromatic smoke
 The long chain of remembrance from forgotten years awoke ;
 And when they drank the old man's health with deference sincere,
 He could not see their faces, for their kindness brought a tear.

And nervously he spilled the champagne that he tried to reach,
 And vehemently shook his head when called on for a speech ;
 Of no avail, the smiling line of faces down the board
 Called louder, till at last he rose, and silence was restored.

" I thank you, gentlemen," he said, " your kindness reassures,
 And makes me think you of my time, or think myself of yours ;
 And yet an old physician of a rude unlearned day,
 In such a gathering as this can not have much to say.

" For all is changed since I began, and nothing is the same ;
 You've given each old familiar ache a new Hellenic name.
 On horse-back twenty years, and in my sulky twenty more,
 I practised in these counties, and was known at every door.

" The early pioneers were sometimes ignorant and poor,
 But still I tried to do my best, for it was kill or cure.
 The cholera lurked in our midst, ship fever and despair,
 And pus was not as laudable as my intentions were.

" In chronic pleurisy I used to fill the sack with port,
 The fever and the ague were mere intellectual sport ;
 I opened lumps and felons with a cheerful, hopeful face,
 And amputated at the knee with a peculiar grace.

" I washed my hands, and used my knife, and tried to keep my head,
 And when a man had ceased to live, I said that he was dead ;
 Jalap was my great favorite, but fresh gamboge was good,
 And I used calomel those days as you use Nestle's Food.

" I've forded winter streams, not once, beneath the midnight stars ;
 I've wakened when the horse I rode stopped at the homestead bars.
 My day's work in those holy years perhaps will make you smile--
 I've made a hundred visits and I've covered fifty mile.

" I've been both nurse and accoucher beside the settler's wife,
 Three thousand little infant hands I've welcomed into life.
 It wasn't much, but 'twas my best, among the sick and poor ;
 I wouldn't go through it again, and yet, I'm hardly sure !

" For ten years past I've tried my best to quietly retire,
 They do not need me any more, and rest the old desire ;
 And so I give each college lad who sets up in the spring
 A helping word, but it is always just the same old thing.

" As long as it was ringworm or a bit of chicken-pox,
 They call the civil young man in, and listen while he talks ;
 But when it is lung fever or typhoid it's sad to see
 The foolish way they have of posting out of town for me.

- " I say I'm an old fossil, but they smile and will not heed,
And yet, thank God, I think I've sometimes cheered them in their need.
There are worse things than sickness, and I've striven all my life
To help the poor—a thing I could afford—for I've no wife.
- " No, Amy Barnard all the distance from New Hampshire came
To share my house and hold my heart and take my honest name.
The cholera was raging then—way back in thirty-four—
And she grew pale and sickened ere we entered at the door.
- " She died there in the woods with me, there was no soul in miles ;
She died there, looking up at me so ghastly in her smiles.
I buried her beneath the trees—she whispered that I must !
From ashes unto ashes, and from dust to quiet dust.
- " And so I worked the harder to forget. The years rolled by,
The forests slowly disappeared, the swamps were drained and dry ;
And all is new and strange to me, who, while old customs wane,
In a new order of ideas confusedly remain.
- " Linneus is forgotten now ; no prudent hand disturbs
The simples that we used to prize, and irritating herbs.
We used to bleed them in the arm, but now the plan reverse,
And spare the supplicating arm to bleed them in the purse.
- " We weren't bacteriologists, but yet we understood,
Somehow, life's secret sympathy, and did the poor souls good,
Wherefore I sometimes fancy, though from pride I must refrain,
That taken so, with all our faults, we did not toil in vain."

EZRA HURLBURT STAFFORD.

PHYSICAL ADVANTAGES OF DANCING.

THAT dancing is an excellent and healthful form of physical exercise, few physicians will be inclined to deny. Conducted properly, in an outdoor pavilion in summer, in a well-ventilated room in winter, it confers benefit on the feeble as well as the strong. This form of exercise is doubly beneficial, because it is accompanied by exhilaration of mind and offers a delightful means of getting rid of the "carking cares" which beset sedentary individuals, and all those who require a healthful stimulus for the digestive organs. In fact, as Mr. Sheldrake, a medical writer, puts it, "If it is learned from those who are well qualified to teach it, and practised as it ought to be, consistently with the instructions given, dancing will contribute more to improve the health as well as the form of the human frame than any other exercise."

While so much will be conceded by everyone, all are not agreed as to the hours at which dancing parties should close, and it never will be possible to obtain a consensus of opinion about a question

which must in the end be decided according to the taste of each guest. At private parties in this country late hours are not frequently indulged in; but in the United States, according to newspaper reports, the reverse is true. A number of prominent Philadelphia women have reached the conclusion that gentlemen who attend fashionable dancing parties do not obtain enough sleep, as they are often busy men of affairs. To dance and act the agreeable from 9 p.m. to 2 or 3 a.m. next morning, and then to appear in the world of business before noon, is, from their standpoint, to carry on a programme which cannot fail to destroy both mind and body.

There seems to be a certain spice of truth running through this complaint, but when all is said, it must be confessed that the occasion of the complaint is not a sign of degeneracy. Earlier hours will, no doubt, be a solace to the elderly guests, and will do no harm to young roysterers; but such an innovation will never prove popular so long as young people dance. To the weary laborer,

“Oh, sleep, it is a gentle thing,
Beloved from pole to pole,”

and in that deep, dreamless sleep which follows toil he gets a physical compensation which wealth cannot buy, and which sends him to his work next morning with an unclouded brow. To the worshipper at the shrine of fashionable society, whose daily physical exertions are of the gentlest description, rest is very sweet after “chasing the glowing hours with flying feet,” and if he will only be careful to avoid unwholesome comestibles and beverages, his dancing may to a certain extent atone for the errors of an indoor life.

In any case, since America has put her armor on and the twentieth century seems to belong to her, an abundance of physical vigor in her young men and young women is a healthful sign of future national strength, and a prognostic that what she has won by the sword shall not be lost through luxury and indolence. J. J. C.

THE HYGIENIC TREATMENT OF CONSUMPTION AT NORDRACH.

OUR readers, who are interested in the most recent views on the treatment of consumption, will be pleased with the perusal of a

paper by Dr. Mander Smyth, published in the *British Medical Journal* for October, and which will be found at page 42 of this issue. The opinions expressed by the writer, himself at one time a patient at the sanatorium in the Black Forest, and now able, after his cure, to resume practice in England, are startling and even revolutionary. There is an old saying, however, to the effect that "nothing succeeds like success." If further experience in northern countries shows that the Nordrach plan is the right one, it will be peculiarly interesting to Canadian sufferers from consumption, who abandon their homes, often at great expense, to spend the winter in California.

There is good reason to think, also, that a physician, practising in a retired portion of Ontario, could attend to a small number of phthisical patients and preside over the accomplishment of curative results, which would compare favorably with those obtained in Baden. The climate of that portion of Germany is subject to considerable variations, like that of Canada, being hot in summer and cold in winter; but weather does not seem to have had any influence on the curative results obtained at Nordrach.

Apart from the treatment of fever by rest in bed, with the windows of the bedroom kept open night and day, the method adopted by the manager of the Nordrach Sanatorium consists principally in causing the patients to take a good deal of regulated, outdoor, walking exercise, short of fatigue, in all kinds of weather; to breathe pure air, through open windows, when indoors; to take three nutritious meals each day, and to observe strict discipline.

J. J. C.

THE TORONTO ORTHOPEDIC HOSPITAL

THE first patient was admitted to the Toronto Orthopedic Hospital last July. The hospital is situated on the north side of Bloor Street a short distance east of Yonge Street. It begins with accommodation for twelve patients. The private rooms are in a separate building. Additional accommodation will be provided as demanded, it being the intention to construct the hospital buildings on the cottage or pavilion plan. The out-patient department is open from 1 to 3 p.m. on Monday and Thursday. The work of the hospital is limited strictly to the lame, crippled and deformed, and no cases of a general medical or surgical nature will be admitted. It is the only hospital in Canada devoted exclusively to orthopedic surgery.

The hospital is completely equipped for every department of the work which it has undertaken. All the orthopedic appliances required for the patients are manufactured by trained mechanics on the premises. The application of corrective gymnastics to certain conditions, such as lateral curvature of the spine, a-symmetry and deformity resulting from muscular weakness and paralysis, the pigeon-breast or rickets, etc., is fully provided for in a specially equipped gymnasium. The operating room is exceedingly well lighted, the tables are all of enamelled steel, and the general equipment such as is required for aseptic surgical work.

A training-school for nurses is in operation, under the direction of the Lady Superintendent, Miss L. E. Applegath.

The Government Inspector, Dr. Chamberlain, has visited the hospital and expressed himself as well satisfied with it.

The hospital is strictly undenominational, and its benefits are available to rich and poor alike. Recognizing, however, the growing willingness of the public to accept hospital charity, the trustees and the staff are determined to restrict the charitable work of the hospital to those whose circumstances entitle them to free treatment. While, therefore, the poorest patient will be considerably dealt with, the profession is asked to co-operate in the effort to keep the Toronto Orthopedic Hospital free from the shameless imposition of a certain class who are able, but unwilling, to pay for medical services, and who deliberately misrepresent their circumstances in order to obtain advice and treatment free.

The following gentlemen constitute the Board of Trustees: Rev. John Potts, D.D., President; J. J. Foy, Q.C., M.P.P., Vice-President; Warring Kennedy, Esq., Secretary-Treasurer; Rev. Frank Ryan, rector of St. Michael's Cathedral, His Honor Judge McDougall, Lieut.-Col. John I. Davidson and Rev. John Gillespie, rector Church of the Messiah.

YUKON PHYSICIANS AND SURGEONS.

THE establishment of a Yukon College of Physicians and Surgeons and the election of a council for the same, has taken place. There were some twenty-five Canadian practitioners in Dawson and vicinity, and a number of American physicians who were practising in spite of the North-West Territories' Ordinance. The Canadians found it necessary to incorporate themselves into a legal body for the purpose of protection and mutual help.

At the election held on the 5th of October, 1898, the following gentlemen were elected members of the Council of the College of Physicians and Surgeons of the Yukon Territory: President, E. D. Dunn; Vice-President, R. R. Macfarlane; Registrar, A. F. Edwards; and J. W. Good and H. H. Hurdman.

The first examination was announced for October 15th, 1898; and the following examiners were appointed: Surgery—J. W. Good and E. L. Barratt; Medicine—R. R. Macfarlane and E. G. Scott; Midwifery and Gynecology—E. P. Thompson and W. G. Hepworth; Medical Jurisprudence and Sanitary Science—J. A. Sutherland and W. A. Richardson.

Since the Ordinance assented to by the Executive Council, an amendment has been added which allows all *bona fide* medical practitioners, practising in the Yukon Territory at the date of the establishment of the College of Physicians and Surgeons, who were able to produce certificates of having attended a medical college for three years and a diploma of qualification from the same, to be eligible for admission to the College of Physicians and Surgeons upon passing an examination and paying one hundred dollars to the Registrar. This amendment holds good only until the close of the first examination.

As it now stands the regulation with reference to the practice of medicine in the Yukon Territory is, in brief, that (1) licentiates of Quebec, Manitoba and the North-West Territories are eligible to practise medicine in the Yukon Territory on the presentation of their licenses and the payment of a fee of one hundred dollars. (2) Those who can present certificates of attendance for four years, or a diploma of qualification from a recognized school of medicine, are eligible to practise in the Yukon Territory, upon passing the examination of the Medical Council of the Territory and the payment of one hundred dollars to the Registrar. J. N. E. B.

TREATMENT OF INEBRIATES.

DR. ROSEBRUGH'S recent paper on the treatment of inebriates suggests a very practical plan for the immediate care and treatment of acute inebriates. An alcoholic ward, in city and local hospitals, where restraint and medicine can be used, would show to the public the practical nature of such efforts, in the cure and prevention of a certain number of cases. This would be a simple,

inexpensive way of proving the value of medical treatment, and would soon create a demand for a farm hospital. We commend this plan to our Canadian friends as the beginning of a most practical work.

It is certainly encouraging to hear the greatest criminologist of the day give it as his opinion that "the world is not going down hill. No, mankind is getting better rather than worse." Such is the conviction of Prof. Cesare Lombroso, the illustrious Italian who has made criminology a life-study. His wonderful prophetic knowledge of criminals and his strength of character are illustrated by the position he took in 1879, in the case of the crazy cook, Passanante, who attempted the life of King Humbert in Naples. Lombroso held that the assassin was driven to his deed by the suggestions of a diseased imagination.

"'Kill him!' cried the multitude. 'Away with him to punishment!' echoed the authorities. 'No!' said Lombroso, 'send him to an insane asylum, for he is mad.' Instantly there arose a storm of denunciation against the man who dared suggest that the assailant of the king should escape punishment. Experts, so called, were not lacking to testify that Passanante was perfectly sane and completely responsible for his acts. Lombroso was aroused. With perfect coolness and unanswerable logic he pointed out the errors of the experts, insisted that the criminal was not responsible for his act, and that he ought to be corrected, not punished. Passanante, he said, was suffering from a particular form of insanity known as the '*folie de persecution*.' But no one would listen to him. All over Italy he was violently attacked, denounced as an enemy of mankind, ridiculed, laughed at, and cried down. They sent Passanante to a dungeon. Thirteen years later, when the storm had blown over, a commission of alienists examined the prisoner, found that Lombroso was right, pronounced Passanante a lunatic, and sent him where he should have gone in the first place, to an asylum."—*Journal of Inebriety, October, 1898.*

DR. STANLEY KENT, of London, England, has, it is said, discovered a vaccine germ. This discovery is of the greatest importance, as its use in pure cultures removes the impure lymph, which has been the cause of the widespread objection in vaccination.

The Physician's Library.

BOOK REVIEWS.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge; Fellow of Gonville and Caius College. Vol. V. London: Macmillan & Co., Limited, 1898. Toronto: A. P. Watts & Co., 10 College Street.

This volume was to have appeared just a year ago; but the editor, though every other part of his volume was ready for press some weeks before Christmas of 1897, was delayed and kept back very much owing to have to wait for the report of the Vaccination Commission. Therefore it is but fair to the authors of the different sections to say that it is on this account that their contributions do not perhaps come just as near the mark as they might, as they were not given the opportunity of revising their work which had stood in type for so long a time. Dr. Welch, whose contribution to this volume on "Thrombosis and Embolism," would have been so much appreciated, had to be held over, owing to the author having had his time fully occupied, as President of the Congress of American Physicians and Surgeons, fighting "an iniquitous bill then before Congress, which sought to restrict medical research to a degree never before attempted." Dr. Allbutt intended to have included in this volume Diseases of the Arteries, but on Prof. Welch's account has postponed that section until Vol. VI. Vol. V. is devoted to Diseases of the Respiratory and Circulatory Systems. The former section is divided into two classes, Diseases of the Respiratory Systems Proper and Diseases of the Pleura. Under the first subdivision, Dr. Wm. Ewart treats of Bronchitis and Bronchiectasis; Dr. P. H. Pye Smith, of Pneumonia; Dr. Percy Kidd, of Phthisis Pulmonalis; Dr. J. T. Arlidge, of Pneumoconiosis; Dr. Rolleston, of Pulmonary Aspergillosis; Dr. Kingston Fowler, of Emphysema and Syphilitic Disease of the Lungs; and Dr. Jas. F. Goodhart, of Asthma and Hay Fever. Under Diseases of the Pleura, Dr. Samuel West contributes an article on Intrapleural Tension, Dr. Gee and Dr. Herringham one on Pleurisy, and Dr. D. W. Finlay one on Pneumothorax. Under the second section, that devoted to Diseases of the Circulatory System, the principal writers are Prof. Michael Foster, who has an article on General Features of the Blood, Dr. Moncton Copeman on (1) Methods of Clinical Examination of the Blood and (2) Hæmoglobinuria. Prof. Allbutt contributes several chapters, one on Chlorosis, on Functional Disorders of the Heart, on Mechanical Strain of the Heart, and a fourth on Disease of the Aortic Area of the Heart. Sir Douglas Powell writes on Diseases of the Myocardium, Dr. Cheadle on Infantile Scurvy, while other contributions are written by men who stand very high in the profession. Better late than never, but, though late, the volume is a daisy, and compares well with any one of the other four.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otolary and Dermatology, and specially prepared articles on Treatment and Drugs, by professors and lecturers in the leading medical colleges of the United States, Germany, Austria, France, Great Britain and Canada. Edited by JUDSON DALAND, M.D., University of Pennsylvania. Philadelphia; J. MITCHELL BRUCE, M.D., F.R.C.P. (Lond.), Eng.; and D. W. FINLAY, M.D., F.R.C.P. Volume III., Eighth Series, October, 1898. Philadelphia: J. B. Lippincott Co. Montreal: C. Roberts, 593A Cadieux Street.

We find among the list of contributors to Volume III. of *International Clinics* such men as Drs. Alex. McPhedran, of Toronto; J. C. Webster, of

McGill University; Thomas H. Manley, New York; Paul F. Mundé, of Mount Sinai Hospital; Sir Dyce Duckworth, of London; John B. Hamilton, Chicago; Harold N. Moyer, Chicago; T. Lauder Brunton, of London; and many others almost as well known. The first chapter is on "Drugs and Remedial Agents," under which heading Dr. H. M. Bracken, Professor of Therapeutics in the University of Minnesota, treats of "The Therapeutic Use of Alcohol." Under the head of "Treatment," we have several good and most readable articles, the one by Dr. J. C. Webster, on "Some Observations Regarding the Treatment of the Conditions Generally Known as 'Anteversion' and 'Anteflexion,'" being well worthy of perusal. Under the heading of "Medicine," the articles are contributed by such men as Drs. Lauder Brunton, Alex. James, Joseph A. Mullens, Graham Steel, T. H. Stucky, and others. Dr. Alex. McPhedran, of Toronto, whose article on "Sporadic Cretinism in Ontario," produced in our last issue, has called forth such widespread encomiums, contributes a chapter of special worth on "Peripheral Neuritis," in which the subject is treated in a most masterly manner. Dr. T. H. Manley, of New York, whose contributions to this journal for the past few years have been so acceptable, has an article entitled "Secondary Hemorrhage," appearing under "Surgery." This contribution is written in the usual clear and lucid manner of the author. Vol. III. is fully up to, if not beyond, the standard of Clinics, and the publishers are to be congratulated on it in every way.

Human Anatomy. A complete systematic treatise by various authors, including a special section on "Surgical and Typographical Anatomy." Edited by HENRY MORRIS, M.A., M.B., London, Senior Surgeon to Middlesex Hospital; Examiner in Surgery to the University of London; Member of the Council and Chairman of the Court of Examiners of the Royal College of Surgeons of England, etc., etc. Illustrated by 790 wood cuts, the greater part of which are original and made expressly for this work by special artists—over two hundred printed in colors. Second edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1898.

It is but five years or thereabouts since the first edition of Morris' Anatomy was published, but during that time it has come to occupy, in the opinion of teachers of anatomy, a very high position, till to-day it is quoted as the foremost work on the subject, and is used in nearly all the schools and universities. It is a pleasure to glance over the book, the illustrations alone being almost sufficient to teach the reader his anatomy, so clear and distinct are they, standing out in two colors. In the section on osteology, the illustrations of the bones are made to show the origin and insertion of the muscles and the attachment of ligaments in red, blue and black lines. The reason that we say that the illustrations are specially good and helpful to the student without necessitating his wading through several pages of text, is that the method of describing the illustrations is particularly simple and helpful. The descriptions of each illustration are printed at the end of pointers, that of muscles and ligaments being in one kind of type, arteries and veins in another, bones in a third and nerves in a fourth. To the second edition of the work Mr. Anderson has added a description of the skin, with at the end of the volume a chapter on Vestigial and Abnormal Structures. This book is a magnificent presentation of "The Anatomy of the Human Body," presented in a most complete form, and illustrated in a manner which is a credit to those who had the compiling of the different sections in charge.

A Text-Book of Pathology. By ALFRED STENDEL, M.D., Instructor of Clinical Medicine in the University of Pennsylvania; Professor of Clinical Medicine in the Woman's Medical College; Physician to the Philadelphia Hospital; Physician to the Children's Hospital, Philadelphia, etc.; with 372 illustrations. Philadelphia: W. B. Saunders, 1898. Toronto: J. A. Carveth & Co. Cloth, \$4 net. Half-morocco, \$5 net.

The chief point of excellence in Dr. Stengel's work is that it originated in

demonstrations upon clinical pathology for students of medicine. It is for that reason thoroughly practical, something very much lacking in books on pathology which have been published up till the present. Too few of the works referred to pay the necessary amount of attention to pathologic physiology, but, on the other hand, devote too much space altogether to matter dealt with fully in books on technique. In this work the author has cut out everything not essentially practical, having excluded the pathology of the skin, and of the organs of special sense. One of the most complete chapters is that on "Diseases of the Respiratory System." The illustrations of the sputum in cases of asthma, acute congestion of the lungs, phagocytic cells of the sputum containing blood pigment, hæmorrhagic infarction of the lung, are among the best executed we have ever seen in any work. The colored plate on page 537, on "Cirrhotic Cancer of the Liver," is most delicate and perfect. Such illustrations, so finely reproduced, add immensely to the value as well as the interest of any work. Dr. Stengel's work is well-nigh complete and should be on the shelves of every physician's library.

Practical Urinalysis and Urinary Diagnosis. A manual for the use of physicians, Surgeons and students. By CHARLES W. PURDY, M.D., LL.D., Queen's University; Fellow of the Royal College of Physicians and Surgeons, Kingeton; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School; author of "Bright's Disease and Allied Affections of the Kidneys;" also of "Diabetes; Its Causes, Symptoms and Treatment." Fourth edition, revised, with numerous illustrations, including photo-engravings and colored plates. Philadelphia, New York and Chicago: The F. A. Davis Co., publishers, 1898.

It must be a most encouraging thing to any author to be called upon to rewrite a book four times inside of three years, so large a sale has there been for it. It seems but a very short time since we had the pleasure of reviewing the third edition of Purdy's "Practical Urinalysis." This work has been adopted as text-book in between fifty and sixty medical colleges of the United States, which in itself goes to prove its value. Nowadays, when life insurance examination has come to be so important and responsible a part of a physician's duties, when so much care has to be used in pronouncing upon the expectation of life in any particular individual, it is absolutely essential that the best work, and the one containing the most recent information regarding urinary examination, should be in the possession of every medical practitioner. We know of no book which pays so much attention to this as Dr. Purdy's, and especially so in this, his latest edition, in which he has rewritten, and considerably added to this particular and vastly important subject.

The Care of the Baby. A manual for mothers and nurses, containing practical directions for the management of infancy and childhood in health and in disease. By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, to the Methodist Episcopal Hospital, and to St. Agnes' Hospital, Philadelphia, etc., etc. Second edition, revised. Philadelphia: W. B. Saunders, 1898. Toronto: J. A. Carveth & Co.

Though at first sight it might appear to some that a book of this kind, and dealing with this subject, might have a tendency, after reaching the hands of the laity, to rob the physician of cases which otherwise should come under his care, yet we are inclined to think, on the other hand, that the facts taught by Dr. Griffith will have the effect of inculcating into the minds of mothers, as a class, the importance of calling in the family physician earlier and more frequently in cases of what may appear to them trifling ailments among babies. Dr. Griffith has given in his book a category as to the treatment of the mother during gestation, and then goes on to discuss the child itself, its growth, feeding, sleeping, toilet, exercise, etc. The work will be a useful one for mothers and nurses, as also for medical students.