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OPSONINS AND THE PRACTICAL RESULTS OF THERAPEUTIC INOCULATION WITH BACTERIAL VACCINES.*

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No subject of recent years has been before the medical world more prominently than the opsonic theory and inoculation with bacterial vaccines, and we must earnestly consider whether or not such an interest is justified. To reach a right conclusion we must view the whole subject from at least two standpoints: the one is that of the opsonic theory and the other that of the therapeutic inoculation with bacterial vaccines. Let us first review very briefly the theory and then devote most of our attention to the results achieved by inoculation with vaccines.

Opsonins are substances not yet isolated, but known to exist in the blood, whose function it is to unite with bacteria and prepare them for the leucocytes to attack and destroy. Without such preparation the fastidious leucocytes refuse to ingest bacteria, and so this defensive power of the organism is in abeyance. One of Wright's discoveries was this fact, and a second was a technic by which we are enabled to measure the quantity of opsonins in a given blood. The result of such measurement is expressed as the opsonic index. If, therefore, we say that a patient, the subject of tuberculous glands, has an opsonic index of 0.5 to the tubercle bacillus, we simply mean that his blood contains but one-half the normal quantity of those opsonins which are essential to combating the infection of the tubercle bacillus.

Such an observation is of great scientific interest, but as practical physicians we want to know its application to the treatment

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and diagnosis of disease. The question, therefore, is, given a low opsonic index in the course of a chronic bacterial infection, how can we raise that index and relieve or cure our patient? Wright provided the solution of this problem and gave us bacterial vaccines.

By a bacterial vaccine is meant "bacteria or their products." In actual practice we use bacteria grown in culture-tubes and then devitalized. The principle involved in therapeutic inoculation is that a vaccine, consisting of devitalized bacteria of the same strain as that responsible for the patient's infection, should be administered by subcutaneous injection in correct doses at appropriate times. It is in this connection that the measurement of the opsonic power of the blood aids us, and, without elaborating the argument, permit me to state as my belief that the study of the opsonic power of a patient's blood does enable us to judge the proper dose of a vaccine and the appropriate time for inoculation and reinoculation.

The principle of bacterial vaccination may be brought home to our minds by an example or two. If we have to treat a patient with boils due to infection by the *Staphylococcus pyogenes*, we will grow the staphylococcus, kill it and inoculate our patient with a proper dose of this dead culture. If our patient has tuberculous glands, we will inoculate him with new tuberculin (Bacilli emulsion), which consists of devitalized tubercle bacilli. The principle holds similarly for all bacteria that we can grow.

With this very brief summary of the basic principles, I propose to deal with a few of the results already achieved with these newly forged instruments of therapy. But first let me refer to a practical, though tentative, classification of bacterial disease that four years' investigation of the opsonic index in many hundreds of cases has elicited.

CLASSIFICATION.

Class 1.—This comprises mostly *chronic infections* in which it has been determined that a low opsonic index is persistent. The lowered opsonic index is thought to be due to the absence of "auto-inoculation" (Fig. 1). By autoinoculation is meant the escape of bacteria or their products from the focus of disease into adjacent lymph or blood streams. The result of such an escape is to increase the opsonins and other bacteriotropic substances in the blood by stimulation of the machinery of immunization and often to cure or relieve the infective process. The absence, therefore, of autoinoculation determines the persistence of the infection and indicates the necessity of interference with bacterial vaccines by means of inoculation. In this great class where autoinoculation is slight or absent there are included many tuberculous affections, such as tuberculous disease of glands, bones and early, or moderately early, pulmonary tuberculosis. We find here also boils,

acne, sycosis, felons, and many cases of sepsis and persistent sinuses, etc.

Class 2.—In this class are those cases in which autoinoculation is the characteristic feature. The more severe cases of pulmonary tuberculosis may be taken as the type. The outstanding feature of these cases is the fluctuation of the opsonic power of the blood from low to high and high to low.

Class 3.—This class comprises the pure septicemias. It is probable (though not yet proved) that certain of these have a generally lowered opsonic power for reasons that need not be discussed. Here are included ulcerative endocarditis, puerperal septicemia, etc.

It is in the first great class, however, where the infection is localized and where in consequence autoinoculation is withheld that inoculation with bacterial vaccines has been most successful. I propose to summarize briefly the results that have been obtained,

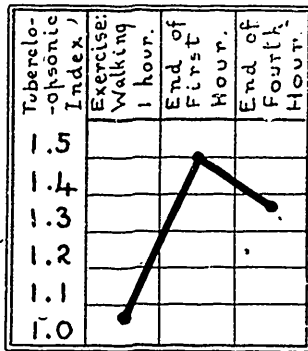


Fig. 1.—Chart illustrating "auto-inoculation" in a case of moderately severe pulmonary tuberculosis as a result of an hour's walk. The tracing shows the variation of the tuberculo-opsonic index.

but especially to refer to cases that have come within my own experience; let me, however, first present the immunizator's method of approach by citing a particular case.

History.—The patient was a young man, aged 20, who seven weeks previously had had an empyema evacuated by resection of a rib. The daily discharge had slowly lessened to about half an ounce of pus, which gave a pure culture of the pneumococcus of Fränkel. With this bacterium as the basis of my further investigation, I determined his opsonic index and found it normal. Nevertheless, I thought that I might expedite matters if I raised this index and so I prepared him a vaccine by growing the pneumococcus in culture tubes, collecting the growth in salt solution and killing it at 60 C. (140 F.). Of this vaccine, I inoculated 100 millions of pneumococci with the result that his opsonic index rose quickly to 2.5. Further inoculations raised his index when

it fell and by this means he was made to lead a life of increased resistance to the pneumococcus and was thus enabled to overcome his infection (Fig. 2.) The clinical result was striking. In less than two weeks the discharge entirely ceased and a sinus, which though narrow had been six inches long, completely closed. The boy returned to his work and had no further trouble.

I mention this case in illustration of the principles of the method, and as a rule, therefore, we must determine the particular micro-organism responsible, estimate the resistance of the patient to it, prepare a vaccine from it and inoculate in proper doses and at appropriate times as indicated by a study of the variation of his opsonic power. Time will not permit me to enter into this aspect of the subject.

Let us now consider certain groups of infections, and, since the basis of our method is bacteriologic, perhaps it would be most direct if we viewed the subject from that standpoint. I will first discuss infections due to the *Staphylococcus pyogenes*. They are numerous and common. Some are boils, carbuncles, acne, sycosis, felons, styes and septic wounds.

The tracing shown in Figure 3 has reference to a patient who had a large and very painful furuncle on the buttock. His opsonic index to the *Staphylococcus pyogenes aureus* before inoculation was 0.46. I then gave him 300 millions of staphylococci. His index rose to 1.5, as you see, and remained well above normal for some days. The clinical alteration in his symptoms was marked, and in 24 hours all pain and tenderness had left him. Further progress was uneventful.

I have treated eleven patients with boils—most of the cases is to say, within forty-eight hours in most cases the pain had disappeared and also almost all tenderness. As a rule these cases proceeded to complete relief without incident. Unfortunately, immunity from relapse is not assured. Some remain well for long periods, while others have a return after varying intervals. This much can be said, however, that relapses are usually of a less severe nature and, furthermore, can be easily controlled by inoculation if the treatment of the primary lesion or lesions was successful. The two patients of these eleven that were not cured improved considerably, but showed a persistent tendency to relapse. On the whole, however, I feel confident that the vast majority of cases of acute or chronic furunculosis can be completely and rapidly controlled by inoculation with a staphylococcus vaccine.

In Boston I treated a patient with severe carbuncle by inoculation with a staphylococcus vaccine with striking effect. The patient was a laborer of 45 who had a carbuncle on his back as large as a baby's fist. Inoculation with 300,000,000 staphylococci removed all pain and tenderness in forty-eight hours, the central slough came away in eight days and almost all the inflammatory mass was dissipated a week later.

Altogether I have succeeded in curing or greatly benefiting the patients in five cases of acne vulgaris; still the results are considerably less striking than those obtained with furunculosis. There is a number of cases in which we completely fail—why, I do not know.

Sycosis barbae is usually easily cured by inoculation with a staphylococcus vaccine. I have under treatment a patient with a very severe case of four years' standing. He is now almost well.

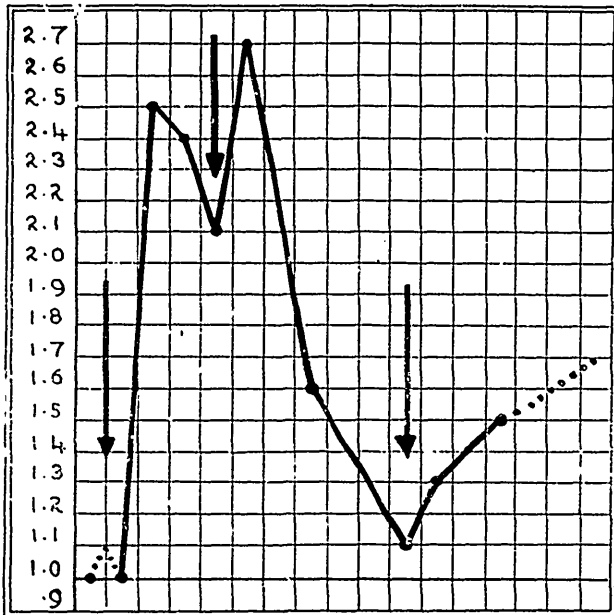


Fig. 2. Chart referring to a case of chronic empyema sinus due to the pneumococci of Frankel which recovered in two weeks as a result of inoculations with 50 to 100 millions of pneumococci. The tracing shows the variation of the pneumococcus opsonic index. The arrows refer to inoculations with the homologous vaccine.

Wright has reported many successful cases.

If my time was less limited I would give in detail a case of severe septic hand with scattered furuncles and also a case of orbital infection due to staphylococcus. In both the patients responded rapidly and satisfactorily to inoculation with staphylococcus vaccine.

Interesting and important as the results have been with such septic processes as I have mentioned, they hold our attention much less than those which have been obtained by inoculation with new tuberculin in many manifestations of tuberculosis. I shall now refer to several cases.

The first and one of the most striking that I know of was a case of tuberculous iritis. The patient was a boy of 12, who was

sent to me by Mr. Lang, of Moorfield's Eye Hospital in London. Tubercles were plainly evident on both irises and of such a severe nature on one that excision of the eye was contemplated. In addition a keratitis punctata obscured his vision. His opsonic index was 0.85 before inoculation. I then inoculated him with 1-750 milligram of new tuberculin (bacilli emulsion), and subsequent estimations demonstrated that this inoculation had increased his index to 1.4 and higher. The inoculations were continued for about six months, when I left him in charge of Dr. Clive Reviere for further treatment. At the end of the first six months all the tuberculous masses were much reduced in size and one had practically disappeared. The keratitis had almost completely cleared up. This case, in which one could actually see the tuberculous masses melt away under specific treatment, seems to me to be evidence

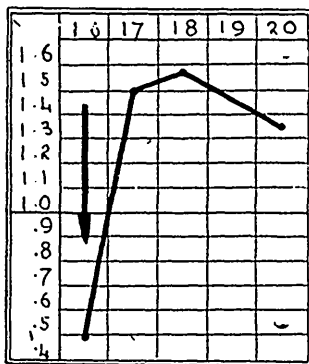


Fig. 3.—Chart illustrating the rise of the staphylococco-opsonic index as a result of one inoculation (shown by the arrow) of 300 million staphylococci in a case of furunculosis. Recovery.

of the benefit resulting from the use of tuberculin in localized tuberculosis.

I show also the chart (Fig. 4) of a young man aged 22, the subject of a tuberculous cystitis. Tubercle bacilli were easily found in his urine and cystoscopic examination revealed a tuberculous ulcer on the trigone of the bladder. He had frequency of micturition and continued perineal pain. There was little clinical evidence of improvement for three or four months, during which time his opsonic power was maintained at a comparatively high level by repeated inoculations with tuberculin. Then within a week or two the frequency and pain left him and he soon returned to a normal healthy condition. The tubercle bacilli also disappeared from his urine. Nine months later a condition of excellent health obtained and he expressed himself as quite well.

I have treated only two patients with tuberculous glands and both of these did remarkably well. Indeed, it would seem that treatment of this condition by tuberculin constitutes a real

triumph for inoculation. Sir Almroth Wright has treated many patients, and when I last saw him he had yet to meet with a failure. Time will not permit me to detail these cases.

I have successfully treated one patient with lupus. Lupus, however, has proved refractory to tuberculin and on the whole we fail in this condition as often as we succeed. On the contrary, tuberculous dermatitis usually responds most satisfactorily to inoculation. I have seen the patients in several cases that might reasonably have been termed desperate respond in a truly wonderful fashion to inoculation with tuberculin. I know also of cases of tuberculous kidney, of tuberculous epididymitis and orchitis, of tuberculous disease of bones and joints and of tuberculous peritonitis, in which, to all intents and purposes, the patients have been cured by inoculation with tuberculin, but I cannot stop to consider these cases.

The subject of pulmonary tuberculosis would be in itself a

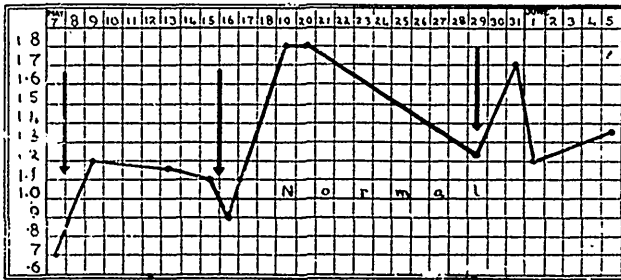


Fig. 4.—Chart referring to a case of tuberculous cystitis showing the variation of the tuberculo-opsionic index as a result of inoculations with tuberculin. The arrows refer to inoculations of 1/750 m.g. of tuberculin. Recovery.

more than sufficient theme for an address, but time will only permit me to summarize. I have treated the patients in some fourteen such cases with tuberculin. Less than half were moderately early, the rest were severe. I can only state my belief on this matter, and it is that unless the case be early or moderately early inoculation with tuberculin will be of little or no benefit. As concerns the early cases, however, I hold a contrary opinion, and my belief is that tuberculin is a powerful expedient for good if rightly used. It would be absurd for me to base this opinion on the few cases that I have treated, but Lawson and Stuart, Harris and others have reported a successful issue in a number of cases. Of especial importance, however, are the results of Trudeau and his co-workers at Saranac Lake. After an experience extending over at least twelve years, he is more confirmed than ever in his belief that tuberculin is a valuable remedial agent at least in the early or moderately early cases of pulmonary tuberculosis. Müller, at the Belzig Sanatorium in Germany, is also an enthusiastic advocate of tuberculin in pulmonary tuberculosis.

The streptococcus in one or another of its strains is responsible for many chronic or subacute infections. I have a case of chronic sinus, following on a laparotomy, in which the patient is doing well under streptococcus vaccine. I also had a case of chronic pyemia in which the condition subsided when the patient was inoculated with streptococcus vaccine made from her own micro-organisms. Patients with chronic osteomyelitis and subacute puerperal infections also have been successfully vaccinated. Gonorrhoeal arthritis in quite a number of instances has responded to a gonococcus vaccine.

Patients with pneumococcus cystitis, empyemata sinuses, etc., have been successfully treated. Cases of cystitis, sinuses, etc., due to bacillus coli have responded to a colon vaccine.

Many other affections due to a number of other micro-organisms have been treated with success, but I cannot stop to consider them. I shall also have to pass over that whole second class of infections to which I referred, where auto-inoculation is the characteristic, and consider for a moment a representative case of the third great class in which are included the septicemias, viz. a case of ulcerative endocarditis.

History.—The patient was a girl under the care of Sir James Barr, in Liverpool. You will observe from a chart (Fig. 5) that she had considerable pyrexia extending over five weeks, before inoculation was undertaken with a vaccine prepared from a streptococcus obtained from her blood. She had had 16 injections of antistreptococcus serum with no good effect. Without going into details it is interesting to note that with the general rise of opsonic power following on inoculations with the streptococcus vaccine there occurred a general lowering of her temperature until normal was reached. The clinical result was very happy, for the patient made an almost uninterrupted recovery.

Before concluding this very cursory consideration of a large subject, I wish to express certain opinions concerning it—opinions founded on over two years of practical experience in the treatment of a considerable number of affections due to a variety of micro-organisms. I may state that I have endeavored to analyze all my results coldly and critically, with a due allowance for coincidence and the intervention of other, though unknown, agencies. Nevertheless I find my belief firmly established that proper inoculation with appropriate bacterial vaccines is a powerful expedient for the cure or control of many diseases due to micro-organisms. To my own mind the evidence in favor of this belief is almost overwhelming. Concerning the relation of the opsonic theory to inoculation, however, there is considerable difference of opinion. I cannot discuss this question now, but my opinion is that though estimation of the opsonic index is often unnecessary, still such investigation has been and still is of great service in enabling us to determine the dosage of a particular vaccine and the appro-

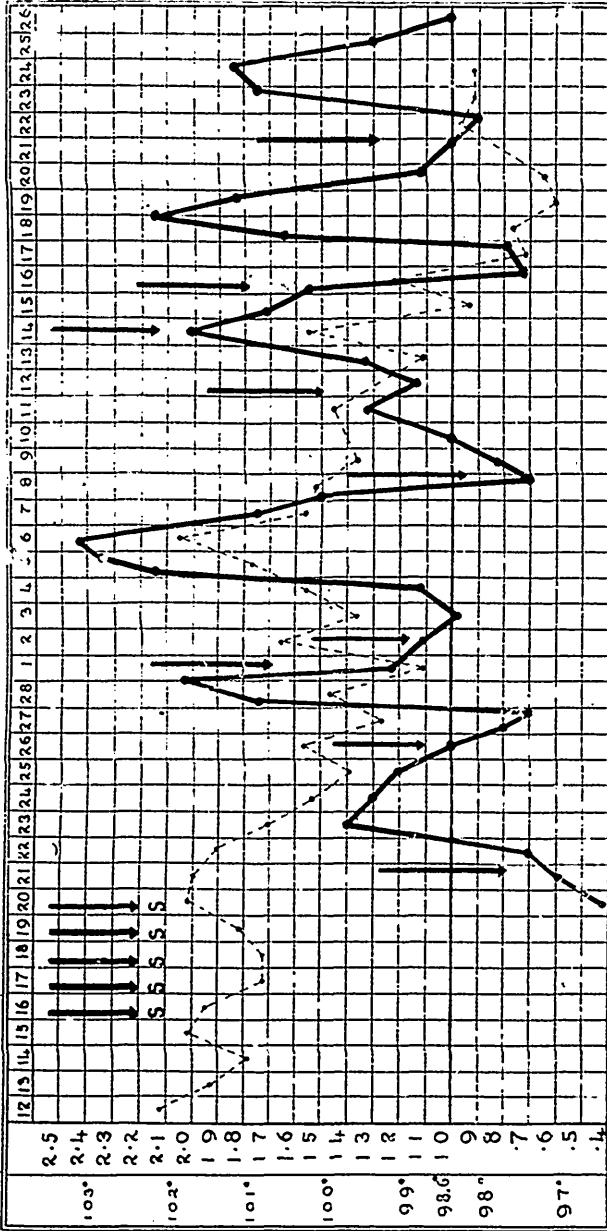


Fig. 5.—Chart (in part) of a case of malignant endocarditis due to streptococcus. The broken line refers to the temperature. The continuous line refers to the streptococci opsonic index. "S" refers to an inoculation with an anti-streptococcus serum. The arrows refer to inoculations with an homologous streptococcus vaccine. Recovery. (Curt. by Captain S. M. Douglas.)

prate time for inoculation and reinoculation when we are in doubt. That the method of estimating the opsonic index is mathematically accurate few would have the temerity to claim, but that it is sufficiently so to serve as a useful guide in the practical application of vaccine therapy to the treatment of disease few *therapeutists* who have used the methods over a sufficient length of time to justify an opinion will deny. As a practical physician, however, I am concerned with the cure or control of bacterial disease, and I am chiefly interested in opsonic methods of investigation because I believe that they do assist me in obtaining a successful issue in certain difficult cases where in default of these methods I could use bacterial vaccines neither safely nor intelligently.

DISCUSSION.

Dr. John C. Hollister, Chicago, speaking of the irregularity of the normal opsonic index, gave the results of some investigations he had made during the past eight months. The blood from eight normal individuals was taken, at irregular intervals, sometimes every day, or every other day, with lapses of one, two or three weeks. The results were as follows: Individual 1.—The tuberculo-opsonic index was taken 71 times. Without exception the average of any three consecutive indices lay between 0.9 and 1.1. Individual 2.—The tuberculo-opsonic index was taken 95 times. With one exception the average in any three consecutive indices lay between 0.9 and 1.1. The one exception was 0.8. Individual 3.—The tuberculo-opsonic index was taken 82 times. Without exception the average of any three consecutive indices lay between 0.9 and 1.1. Individual 4.—The tuberculo-opsonic index was taken 51 times. Without exception the average in any three consecutive indices lay between 0.9 and 1.1. Individual 5.—The tuberculo-opsonic index was taken 50 times. Without exception the average of any three consecutive indices lay between 0.9 and 1.1. The average of the averages in these five individuals, covering 71, 95, 82, 51 and 50 examinations, respectively, was 1. Again, the blood from 100 normal individuals was examined and the indices ran, with six exceptions, between 0.8 and 1.2. In two of these exceptions there was found to be a distinct family history of tuberculosis, and also clinical "suspicions" of lowered vitality. Dr. Hollister concluded that if the technic is carried out according to Wright's method, and by capable investigators, or if the technic is carried out by two or more capable persons, the same results will obtain in at least 95 per cent. of cases. Finally, these results will bring the normal opsonic index in tuberculosis between 0.8 and 1.2. If it is found that the opsonic index in three consecutive examinations is below 0.8 or above 1.2, that person's serum is abnormal.

Dr. Willard H. Hutchings, Detroit, agreed with Dr. Ross that

the question seems to divide itself into two parts: First, the therapeutic value of bacterial vaccines, and, second, the question of the relative value of the opsonic index as a method of controlling inoculation. During the past year he has employed bacterial vaccines in a considerable number of cases, controlling their administration by careful estimation of the opsonic index as described by Wright. In his opinion the therapeutic value of bacterial vaccines has been demonstrated conclusively, and the great question at present is that of dosage, the size and frequency of administration of which seems to vary greatly with different individuals. Concerning the value of the opsonic index as a method of controlling this dosage, he is at present undecided. In some cases he has found it of the utmost value and in others it has not served as an accurate guide. However, as Dr. Ross stated, it is the best thing we have at present, and while it must be modified before coming into general use, Dr. Hutchings does not believe that we are justified, at present, in basing the treatment of cases by this method on clinical symptoms. This is particularly true of tuberculosis, where he has found the identical dose produce, at one time, a prompt rise of the patient's resistance, and at another a prolonged negative phase. He has found the negative phase extremely variable, so much so that had he inoculated at regular intervals he would have inoculated during a negative phase. Dr. Hutchings believes that 1-1000 mg. T. R. is too large a dose to begin with, particularly in children, for while it causes a decided rise in the index, later the opsonic producing power seems to be exhausted, and following repeated doses there is no improvement. He begins with 1-4000 mg. or 1-3000 mg., and rarely goes above 1-2000 mg. These doses will practically give rise in the index and the same clinical improvement. The question of the practical value of the bacterial vaccines seems to be clearly proved. In a large majority of the cases Dr. Hutchings found that the autogenous vaccines do better in the treatment of surgical conditions than anything we have had before. But one must not use bacterial vaccines to the exclusion of other methods of treatment. He recalled one case of tubercular tenosynovitis of both wrists which was treated for two months by inoculations of T. R., controlled by the opsonic index, with but little improvement. He then tried Bier's hyperemia with this, and the improvement was rapid and marked.

Dr. George W. Ross, Toronto, Canada, said that he fears greatly that the opsonic theory and vaccine therapy will suffer more from over-exploitation than from conservatism in their application to the treatment of disease. What is most desired, he said, is conservatism, and particularly the use of Sir Almroth Wright's methods by capable men, properly trained for the work. Splendid results in many cases not amenable to the usual methods certainly will be obtained if the treatment by vaccination is thoroughly done.

**THE MENTAL OR NERVOUS HYPOTHESIS IN INTERNAL
MEDICATION — ILLUSTRATED BY THE USE OF
ACONITE AND VERATRUM VIRIDE IN PNEUMONITIS**

BY GEO. M. AYLESWORTH, M.D., COLLINGWOOD, ONT.

Gentlemen,—When a man of the calibre of the writer states that in his opinion, with nine-tenths of the profession the therapeutics of internal medication have drifted into a condition of fatuous disuse, it is apt to give rise to hilarity upon the part of the nine-tenths.

But the *British Medical Journal* of October 20, 1906, felt called upon to permit Robert Saunby, M.D., of Birmingham, to point out that Dr. Clifford Allbutt had gone so far as to send a circular to the medical schools, drawing attention to the way in which students write prescriptions at their final examinations, and asking that more attention be given to their instruction upon the point. Dr. Saunby also says: "The conditions may have improved, but nothing could be worse than they were, and if I may judge from our Birmingham students they are little better now. Prescriptions written at examinations are usually clumsy, often absurd and frequently full of verbal and grammatical mistakes."

Editorially in this same issue the journal says: "It is a curious and unsatisfactory commentary on our present system of medical education that while it concerns itself seriously with the tuition of students in the preliminary sciences, yet in the two great subjects of applied therapeutics and dietetics, it turns them loose on the world of disease without having taught them how to write a compatible and well-arranged prescription." All of which indicates that the laughter of the nine-tenths is that of those whose lack of knowledge prevents their realizing the serious nature of the situation.

It is difficult to see what good is attained by the time and labor expended in acquiring medical knowledge if effort ceases when a diagnosis is made, or, as the journal puts it: "Since the prosecution of medical study is, to the large majority of those who engage in it, an acquisition of brain capital, on which they hope to earn an adequate return from subsequent practice, it is obviously a serious flaw in our plan that the subject upon which, beyond all others, the financial rewards of the practitioner depend, should be so neglected that on no other which enters into his curriculum is the newly-fledged doctor so badly informed." Confirmation of this want of knowledge of applied therapeutics from journals on this side of the Atlantic could be supplied *ad lib.*

but it is doubtful if it would add to the impressiveness of the statements of the monument of medical conservatism just quoted. Seemingly, from the standpoint of the profession, it would be wise to discontinue the "ostrich act" and face the situation, lest a worse thing befall us. The writer thinks our leaders may be justly charged with endorsing remedies before their experience has given them that right, and that they are prone to adopt suggestions, backed by great names, as true. As an instance, during the last twenty-five years, an immeasurable amount of effort has been put forth to find an ideal microbicide which will act as well within the living body as it does in a test tube. Notwithstanding the great discoveries (?) announced from time to time, this search has proven almost wholly futile through a well-known fact having been ignored. That is that microbes are unable to injure the body when it is in a condition of perfect health. This will hardly be questioned by the thoughtful and if properly appreciated forms a sure foundation for a therapeutic hypothesis. Perfect health means perfectly normal minds and nervous systems, involving perfect co-ordination of functionary organs. No matter what powers cells individually or collectively may possess, the minds or nervous systems, whatever else they may be, are the supreme agent in co-ordination during life. In support of this contention, I briefly submit well-known facts as evidence. It is claimed that the mind or minds and nervous systems, whatever else they may be, are the supreme agents of organization during life. The vascular system is largely controlled through them, as shown by the flush of anger or pleasure and the pallor of terror. Over and above their direct control of both forms of muscular tissue, the minds and nervous systems, while profoundly dependent upon the vascular system for their integrity, regulate the quantity and quality of the blood delivered by it to the various organs. In this way they control the functions of the intestines, the kidneys, the genital organs, etc., etc., and decide whether there shall be congestion or a normal flow, inflammation or stasis in their respective bailiwicks. The minds, whether they are the nervous systems themselves or separate entities, utilize the latter for issuing and carrying out the orders they formulate, and have vastly more control of the inception and cure of disease than they are commonly credited with. Dr. Clifford Allbutt says it is an undoubted clinical fact that granular kidney is often produced by prolonged mental anxiety. Sir George Paget says: "In many cases I have reason for believing that cancer had its origin in prolonged anxiety." Sir B. W. Richardson says: "Eruptions on the skin will follow excessive mental strain. In all these, and in cancer, epilepsy, and mania from mental causes, there is a pre-disposition," and adds: "It is remarkable how little the

question of the origin of physical diseases from mental influences has been studied."

This evidence will suffice upon this point in etiology, though it could be multiplied indefinitely.

We all have the cure of disease through the minds and nervous systems forced upon our attention continually by the ubiquitous healer and patent medicine advertisement, and most medical men are awake more or less to the power of suggestion and have had personal experience with such cures incidentally. But the enormous independent powers of the mind and nervous system are so constantly in evidence, our familiarity with them prevents our learning the lessons they should teach. The older profession had a name for these processes very difficult to improve upon—*vis medicatrix nature*.

As instances we have vomiting and diarrhea to remove indigestible substances and anorexia to prevent their ingestion and secure physiological rest. We have phagocytosis and the walling off of abscesses as prophylactic processes, we have the formation of callus in fracture, and compensatory circulation, as specimens of cure by organic change, while the rise in temperature which destroys toxins, its reduction by perspiration when not needed, the relaxation of arterial walls and depression of circulation to relieve distention in cardiac dilatation, may be classed as cure of functional disease by the inherent powers of the organism itself. In this connection Sir Lauder Brunton's question, "How is it the ferments which form poisons do not pass into the blood and kill the animal?" is of interest and might be supplemented by the question, How is it the omnipresent pathogenic germs permit us to live at all?

We know nature is replete with forms of life, from the largest to the smallest, and all are dependent upon their inherent vitality and upon the varying conditions of their environment. The lower forms thrive, shrivel or die, as the case may be. Man thrives, shrivels or dies, as the case may be. Nature, or if you prefer it, nature's God, never intended man's body to be the dwelling-place of other forms of life for the purpose of destroying it. But if from any cause his body deteriorates, other forms of life invade it, to act as scavengers, but in doing so are liable to increase the difficulty. If his body is not deteriorated, these scavengers have no office to perform; the environment within the body does not suit them, so that if they are able to exist after having succeeded in entering it, they are powerless for harm. This seems a good answer to the foregoing questions. Merely killing these scavengers by germicides does not render the body any more competent to repel a new set of invaders, nor thwart nature's intention to destroy that which has become unfit for life.

So that while searching for such germicides may be highly commendable, it seems wise to increase our efforts to remedy the deterioration of the body, which enables the scavengers to thrive therein. To return to the force we have been discussing (no matter what it may be called), which does such wonders in producing, protecting from, and curing, disease, it is the power of organization possessed and used by our minds and nervous systems?

As a corollary, a departure from the norm must be present in the minds or nervous systems before disease can show itself and broadly speaking this departure must be an excess, deficiency or variation of this force, *vis medicatrix naturae*. The diagnostician who can decide which of these variations is present in a given instance should be a good internal medicationist, because emetics, purgatives, expectorants, diuretics, diaphoretics, heart tonics, depressants, etc., are numerous and efficient if we had the prescience of which one is needed and their action when administered. The effects obtained from these drugs are due to the variations in the vascular supply to the various organs. It has been shown that the vascular supply is under the constant supervision of the mind and nervous system, enabling it to meet not only the ever-varying needs of the body in general, but each organ separately. The physiological text-book theory of a mechanically self-acting force-pump, associated with a system of elastic tubes, seems absurd in the light of the fact that many miles of capillaries instantaneously dilate or contract in response to orders distributed by the vaso-motor, pneumogastric and other nerves, without our consent, but in obedience to our subjective mind, to meet needs of the body which the objective or conscious mind did not know existed. The heart is under the same control, aided by a ganglia of its own and its action varies with almost every movement of the body and every emotion of the mind, unless the nervous control is extremely prompt and efficient. This control is so completely organized that it is consistent with perfect health to have more blood present than when the organs are quiescent in two or more of them that may be functioning at the same time.

As an instance of how this hypothesis works out in practical therapeutics, let us take the action of aconite and ver. vir. in pneumonitis as an example, the more so as we have had, and have even now, its treatment under review. Hare, in "Practical Therapeutics," quotes with approval Woods' summary of the effects of ver. vir. on the circulation from a study of its alkaloids: "Veratrum viride slows the pulse by a direct depressant action on the heart muscle (jervine) and by stimulating the pneumogastric nerves (vocatroidin). It lowers blood pressure by an action on the heart muscle (jervine) and by depression of the vaso-motor centre (jervine)." With this clear statement of the

depressing action of *ver. vir.* all writers consulted agree, though many cover it with much verbiage. We are thus enabled easily to formulate the indications for its use, though Ellingwood makes the most accurate and concise statement thus far met with: "Sthenic fever, with large, full, bounding, fast pulse, with high temperature, engorged capillary circulation; at the onset of acute local inflammation, in previously strong patients; in acute convulsions, with high temperature and rapid pulse." But when aconite comes "upon the carpet" authorities are neither so unanimous nor clear, but remind one of the attitude of the profession towards the physiological action of alcohol, which for years has been an *approbrium medicorum*. Ellingwood's indications for the use of aconite are: "Sthenic fever, with sharp, hard, quick pulse, dry hot or burning skin, at the outset of acute fevers, in the early stages of acute inflammation, in the developing stages of the exanthematous fevers." No objection can be made to this, except the misapplication of the word *sthenic*, which is made by many authorities, to the great befuddlement of themselves and their followers. *Sthenic* and *asthenic* are words descriptive of two diametrically opposed conditions. Reading the foregoing indications for *ver. vir.* and aconite we have opposite conditions, but both called *sthenic*, whereas the indications given for *ver. vir.* are a description of powerful and effective cardiac action, while for aconite you have an excited but feeble and abortive cardiac action. So that if one depends upon such instruction, he will be some time learning when one should be used to the exclusion of the other. As evidence that such instruction is not a myth, you will find Wallace G. Abbott, of alkaloidal fame, as late as September, 1907, advocating in his journal the use of his defervescent compound, made up of *aconitine*, *digitalin* and *veratrine*.

If the practitioner once fairly grasps the truth that *ver. vir.* is a depressant of the circulation first, last and always and aconite a stimulant, their use becomes to him easy and efficient, not only in pneumonitis, but many other diseases. Hare goes so far as to say that after the stage of hyperemia or congestion is passed the use of *ver. vir.* is not only valueless, but malpractice. In saying this he goes too far, for no matter what the stage of the disease, *ver. vir.* is of the greatest benefit when Woods' indications (which Hare endorses) are present.

With our present knowledge, it seems peculiar to have Hare assert that aconite in moderate doses slows the heart by stimulation of the vagus centres, and almost immediately; that from large doses the pulse becomes more feeble and slow from depression of the vaso-motor centres, and if the dose be poisonous the heart is paralyzed. My contention is that the symptoms induced

by large doses of aconite are due to over-stimulation, even unto paralysis, and to call this action a depressing one is a misnomer and the cause of much bewilderment among the thoughtful. The same misuse of words occurs with other drugs. As an example, strychnine is regarded by the profession as the purest stimulant we have, and yet Hare (I select Hare because if not the greatest, he is one of the greatest authorities) deliberately says, as to the influence of strychnine upon the circulation, "Nux vomica increases the force of the pulse beat and pulse rate by a stimulation of the heart muscle and its ganglia, while the rise of arterial pressure which it causes is due to stimulation of the vaso-motor centre. If very poisonous doses are injected intravenously, a fall of arterial pressure occurs instead of a rise, which is due to vaso-motor depression and paralysis." To my mind, this establishes my contention as far as one authority can establish anything, and there is no lack of authorities would time permit reference to them. It certainly seems as though he possessed an enviable self-satisfaction to enable him to write, almost immediately after muddling us in reference to aconite, "Aconite's effects are uniformly explainable by its known physiological action." And then, "It is of great value in the earliest stages of sthenic pneumonia if great arterial excitement is present." If he means by "arterial excitement" the large, full, bounding, fast, efficient pulse, he is as wrong as possible, for this condition, no matter what the disease may be, is remedied by large doses of ver. viride and made worse by aconite. But if he means the sharp, hard, quick, inefficient pulse, he is right in recommending aconite in the minute dose in the condition whenever found, but wrong in calling the condition sthenic.

It remains for me to justify my insistence upon a different dose for these two drugs to secure a similar result. It is explained in a word by saying they are used to bring the circulation to the norm, but from opposite directions, so that to force the pulse down ver. vir. should be given in the first instance in a medium dose, and if the indications are present and its effect not gained, the dose should be increased until it is. On the other hand, to bring the pulse up to a point where the circulation is made efficient, aconite in a very small dose should be used (1 gtt. of the tinct.), and if the indications are present and the effects not obtained, the drug should be withdrawn for three hours and then given in much smaller doses (1-10 to 1-30 gtt.). Hare also says aconite ought not to be used in adynamic or asthenic affections. I have used it daily in such affections for years without many failures to securing benefit; the one thing needed is a dose small enough. The homeopaths have used it in this way with great success for 100 years.

When I began to practise, I used aconite as instructed, in doses of 5m. of the tinct. of the root and ver. vir. in maximum doses of 5 min. of the tinct., without any very clear ideas as to when either of them should be given or withheld. My success was so poor that I ceased using them. But when persuaded that ver. vir. is a depressant only and aconite a stimulant only, any symptoms of depression induced by the latter being due to over-stimulation, as also occurs with strychnia, I began to use them again.

It is now a good many years since I exceeded 1-6th m. dose of aconite and placed the maximum dose of ver. vir. at 20 m. My success leads me to persist in their use on these lines and any success I may have had as an internal therapeutist I ascribe to the adoption of the foregoing principles, not only in pneumonitis and with ver. vir. and aconite, but when my studies, experience and resultant knowledge enabled me to apply them with success in other diseases and with other drugs.

With drugs of known and uniform strength and these principles clearly understood, I have eliminated the uncertain and unknown, except the patient and his condition, and the therapeutics of internal medication has become for me a fascinating study and the worst wish I have for any of you is that you may go and do likewise.

Gentlemen of the Association, in handing back into your keeping the presidency you were kind enough to confer upon me, I would say I can see no reason why one or more of our members should not evolve ideas that would have a wide effect upon the profession at large, for I would impress upon each of you that initial steps in progress are quite as frequently originated in the minds of the almost unknown, often during his solitary rounds, as in the minds of those who have become widely known.

In evidence I would instance Jenner's vaccination, McDowell's ovariectomy and Woodbridge's treatment of typhoid fever. Each man an obscure country practitioner, each idea revolutionary, and each carrying the profession a long step towards the fulfilment of its mission to suffering humanity. In conclusion, I feel honored by having been permitted to preside over your deliberations. And inasmuch as I hold views which I have not endeavored to hide, that some regard as radical, erratic and possibly off-color, I think you have honored yourselves, not because of my merit, but because you have shown you have enough independence and breadth of mind to select a free lance in word and deed, as well as in thought, to serve in the highest office in your gift. Gentlemen, I thank you.

THE LOCAL TREATMENT OF RHEUMATISM.

BY E. R. HUTTONS, M.D., DES MOINES, IOWA.

IN the treatment of rheumatic affections local measures have always played a more or less important part. While some favor the use of heat, others prefer the application of cold to the affected joints, although probably hot applications are much better tolerated by the majority of patients. It must be confessed, however, that most of these measures are only of limited usefulness, since many patients object to the frequent renewal of the applications required to produce any prolonged action, owing to the accompanying discomfort in handling the affected parts. Then there is another series of local remedies which have been applied chiefly for their counter-irritant effect, but except in chronic cases they sometimes—and not infrequently—make matters worse on account of the irritation and soreness following their use.

Various salicylic acid preparations have been employed from another point of view, namely, that of causing the absorption of this drug, and thus directly aiding the internal treatment, as, for instance, the oil of wintergreen and ointments of salicylic acid. It has been shown, however, that unless these are vigorously rubbed in—and this is out of question in most acute cases—only very little of the drug is absorbed. For this reason attempts have been made to obtain some form of salicylic acid which would readily penetrate the skin and thus act directly upon the affected structures, whether the joints or muscles. The only way of determining whether such absorption takes place is to employ them alone, and then test the urine for the presence of salicylic acid.

Abundant evidence has now been brought forward to show that the methyl-oxy-methyl-ester of salicylic acid, which has been introduced under the name of mesotan, fulfils this requirement, and my experience with the remedy proves that from a clinical standpoint mesotan is not only absorbed, but also exerts a pronounced salicylic acid action in the system. I have had an opportunity to try this drug during a number of months in a careful and faithful way in cases of acute and chronic articular and muscular rheumatism, and have thought it of interest to present the histories of a number of cases treated by me which I think prove the efficacy of this remedy.

CASE 1.—Mr. E. H., aged 62, thirty years ago suffered with a prolonged and serious attack of acute articular rheumatism which involved his heart. He had serious endocarditis. This condition continued for more than a year, and then he was left with painful sciatica. Attacks of this type of rheumatism came

on at intervals and lasted from four to eight weeks, and such had been his life for the last twenty years. Careful investigation of the history of the case proved conclusively that the disease was rheumatic in origin, which is by no means always the case. He had taken salicylates, digitalis and colchicum until the digestive organs were showing their deleterious effects. Apart from this sciatica the man's general health was good. When I first saw him he was suffering from an acute attack of sciatica; pulse 86, occasionally intermittent. I immediately applied (and did so personally) three drams of mesotan with two of olive oil, rubbing it in gently and for a long while along the course of the sciatic nerve. Relief followed the first inunction. I kept this up for twenty-two days, twice daily, suspending it but twice in that time and only for twenty-four hours each time, and used no other remedy whatever. Gradually the pain ceased, the man felt more hopeful each day, and at the end of the twenty-second day he was well and walked as sprightly as if he were forty. He claimed that he had not felt so well for twenty years. This was more than three months ago, and he has not had the slightest pain.

I have tried mesotan in three other cases of sciatica with the same results in two of them, although the disease was not of such long standing. In the third case it was a partial failure, but the patient is still under this treatment.

CASE 2.—Miss K., aged 24, was attacked with acute articular rheumatism of both wrist and finger joints. Much pain, considerable swelling, pulse 94, temperature 99 degrees, bowels constipated, kidneys normal. A brisk saline was given which acted promptly, and she was put on light diet. I freely applied mesotan with no dilution, rubbing it in very gently. This was repeated in six hours. The patient was relieved from the first. After the second inunction I mixed the mesotan with an equal quantity of olive oil and applied this three times a day. She steadily gained, and in one week the wrists and fingers were in normal condition and the patient was well. This was a most rapid cure. The patient had been subject to attacks of acute rheumatism for five years, and had used various baths, an endless number of different external applications, and taken salicylates until she could bear them no longer. I have seen her several times since, and she has continued well.

At the same time I had cognizance of four other cases of acute rheumatism, one in a child and the other three in adults, and all were cured by the mesotan treatment only.

CASE 3.—Mr. L., aged 31. Chronic rheumatism of both ankles. No swelling, slight increase of temperature; pulse 88 and a little jerky. General health fairly good. A good deal of pain, increased by standing or walking. His occupation was that of

a writer, and this greatly increased the pain. His gait was unnatural, walking almost as if he had the rickets. There was a tendency to arthritis deformans. I applied two drams of mesotan, mixed with the same quantity of olive oil (again doing it myself), night and morning, rubbing the ankle joints gently but for a long time. He did not experience any relief, apparently, during the first twenty-four hours. On the morning of the second day he noticed a very slight diminution of pain, and was hopeful, and for six days the improvement continued, though very slight, but there was much more mobility in the joints, which was most encouraging to both physician and patient. I stopped treatment for twenty-four hours, and again commenced the inunction with the mesotan diluted with olive oil, every morning and evening for three days. The pain had materially subsided and the mobility of the joints had further increased. A slight erythematous eruption was noticed on the ankles, extending up both legs, and a cessation was again had for twenty-four hours and the applications then resumed. For a week the disease seemed very stubborn, little, if any, improvement being observed, yet all the time the patient declared that he was better, and insisted that he could walk with more ease. The case was one of such long standing, and the enormous quantity of drugs he had taken prompted the most minute and careful observation. No improvement had occurred under all this prior treatment, hence the slightest impression that mesotan was making upon the disease was hailed with delight. The pulse remained at about 88 and was still jerky, especially when the patient exercised. He had now been under treatment two weeks, and I determined to continue the mesotan, but to employ aspirin as an adjuvant. I commenced with ten-grain doses four times a day, and on the third day increased it to twelve grains. The inunctions were continued faithfully. At the end of the fourth day the pain had diminished perceptibly, and this treatment was continued for three weeks more—the mesotan steadily, with the exception of two intervals of but twenty-four hours each. The pain had almost entirely subsided, the temperature was normal, the jerky pulse had disappeared and it was regular and 79. That the aspirin had joined hands with the mesotan, and that the combination was acting efficiently, could not be doubted. But the most encouraging feature was the decidedly increased mobility of the joints. The dose of aspirin was cut in two, and the inunctions were continued. There was no sign of erythema. This was the twenty-fifth day. On the twenty-eighth day aspirin was stopped altogether, and but one inunction was employed each day. This treatment was continued eight weeks. The patient was not perfectly well, but his pulse was 76, heart action perfect, no pain when quiet, and but little when exercising.

The patient was then given a bottle of mesotan mixture, with directions to use it once daily. A few days ago he wrote: "I do not use any more of the oil, nor any medicine whatever, for I am well." This case is especially interesting from its long standing, its slow yet sure yielding to treatment, from the steady improvement in the movement of the joints, and from the disappearance of all heart disturbances. Here was a man who had taken the salicylates until his digestive organs were in a serious condition. The irregularity of the heart action had come on after these remedies had been given faithful and prolonged trial, suggesting that while they may be considered alleviators of pain they unquestionably brought about or aggravated his cardiac complication. In this case the aspirin supplied the place of the salicylates to an extent, but the value of mesotan cannot be too highly estimated. This case was of eleven years' standing.

CASE 4.—Mr. E., aged 63, had lumbago in its most acute form. On stooping over and attempting to rise he would shriek with pain and almost fall forward on his face. In bed he could turn in no direction without great agony. Mesotan without dilution was employed by inunction, and relief followed the first application. Three applications were made daily, and on the evening of the third day the patient was completely cured.

I used mesotan in three other cases of lumbago in adults this summer and fall, and in each case the results were the same as in the preceding one.

CASE 5.—Mrs. B., aged 32, stenographer. This was a case of singularly severe torticollis. The neck was greatly twisted, and the pain on the slightest movement was most excruciating. She was totally disabled from work. The relief from one application of mesotan was quite plain. Three applications were made daily, and on the morning of the third day she was perfectly well and at her work.

A lad of fourteen was afflicted with the same ailment at the same time, and after mesotan had been applied three times he was also cured.

There can be no question of the efficacy of mesotan in rheumatism. Perhaps its effect is more quickly seen in cases of muscular rheumatism, but it unquestionably is of great value in all forms of the disease. I have had no bad effects from its use, and yet I have employed it two and three times daily on patients for weeks at a time, discontinuing its use seldom, and, when so, for only a day or so at a time. The utmost care should be used, it seems to me, in its application. The rubbing should be of the gentlest kind.

Selected Articles.

AN ADDRESS ON INHALATION.*

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Gentlemen,—Perhaps we prescribe few things more ignorantly than an inhalation; the nature of the drug or drugs chosen we may take the trouble to indicate, but who amongst us knows the strength of the actual inhalation or what change must take place in that strength ere it reach the lung alveoli. Moreover, our directions as to the method of employment are often vague: how much and how hot should be the added water, how long should each treatment last, how often should it occur. The fact is, we are half-hearted in our belief of its efficacy and so take but little interest in its administration. I think the advent of the throat surgeon is the chief cause of this; we can see, without much thought, the result of his labors and so gladly hand over to him conditions we previously treated by the slower and more doubtful method of inhalation. If this were all I should not greatly complain. But unfortunately we hand over not only the local but the constitutional treatment; this means—and small blame to the surgeon—that the constitutional treatment is to a large extent neglected, with the consequence that the patient remains for years in the hands of his local ameliorator till such time as his *vis naturae* may choose of herself to bring about a betterment of his constitution. For the greater proportion of these naso-pharyngo-laryngo-tracheal conditions are constitutional. The local trouble is merely the maximum expression of a dyscrasia which exists throughout the body and can there be detected by the painstaking physician, though the symptoms may be so vague and indefinite that they pass unnoticed by the patient himself.

The real source of the trouble is often not in the local mucous membrane but in the nutriment supplied to this by blood and lymph; perhaps these fluids are themselves deficient in nutriment, as in the anemias, the gouty diathesis, or chronic renal disease; or, though not deficient in nutriment, they contain irritating material, as again in gout and renal disease or in gastrointestinal catarrh, these producing a hyperplasia of connective tissue throughout the body, one of its local expressions being hypertrophic rhinitis, pharyngitis, or laryngitis; or, though the

* Delivered before the Midland Medical Society.

fluids themselves are fairly healthy, the vasomotor control is imperfect and the tissues lie too long soaked in venous blood and used-up lymph; or, lastly, there is feeble action of the governing system, there is nervous debility or acute prostration, the stimuli have lost their energy and directness of command, with a resulting inertness and flabbiness of the stimulated tissue, a granular and edematous pharyngitis resulting. The special surgeon may say that, while removing the local trouble, he in no way forgets the constitutional dyscrasia and is as competent to treat it as the physician. He may be, though I do not think he is; but whether he be so or not his patient does not believe him to be so. Not seldom I have had patients who have been to such a surgeon, have reaped much local benefit at his hands, have trusted greatly in him, and have persistently continued the local medicament he prescribed, but have omitted altogether, or very soon, his general treatment, supposing it was not likely to be of much benefit as it "was not in his line." This is one of the curses of specialism.

The layman supposes that if there is any local anatomical *abnormality* then the local malfunction must necessarily be due to this. Are we always careful to point out that though it may increase the malfunction it is very rarely its cause? Do we not too readily allow the sufferer, eager for relief, to submit to the removal of the abnormality with but a temporary improvement, perhaps none at all, or, may be, speedily followed by an exacerbation of his condition? Do we always insist upon explaining that his abnormality existed years before his malfunction, was perhaps even congenital, and that if only the malfunction can be otherwise remedied he will again cease to observe it? Yet I am convinced that in most of these cases the correct treatment is to endeavor to relieve the constitutional condition which has caused the local trouble, and then, if you like, remove the cause which has rendered the locality peculiarly susceptible to the dyscrasia. And why? First, because it is never right to allow a patient to continue with any dyscrasia if it can be remedied; it is our duty to remove him from this danger zone, where he is constantly liable to attack, and place him in a condition of good natural resistance. Secondly, if an operation should then prove necessary, it is more likely to prove successful than if attempted when he is functioning badly. Even in war we try to remove our wounded from the danger zone to the field hospital before we operate, and, I understand, our civil surgeons prefer to wait till the patient be in the best possible condition physiologically before they undertake a serious operation. Thirdly, we must remember that in most of these nasopharyngeal operations a raw surface is left bereft of mucous membrane. We hope that healthy mucous membrane will in time cover it. What chance is there of this if the neighboring

mucous membrane be unhealthy? If it should succeed in covering it with unhealthy membrane like itself the old condition will soon reassert itself, but more probably a scar tissue will be left as after a skin burn and, like this, incapable of taking on healthy action, so that the result in either case is merely temporary amelioration, the patient becoming a lifelong visitor to his surgeon.

It may be objected to me that results are not so gloomy as my remarks would suggest. I must say they thoroughly bear out my own observations, but then, perhaps naturally, I am more likely to see the surgeon's failures than his successes. I will take, therefore, the records of the surgeons themselves. Let us take nasal asthma.

Out of 313 cases of nasal asthma* recorded by Hack, Hering, Lublinski, Sommerbrodt, Bosworth, and Roé, 150 are reported by these surgeons as cured and 40 others as improved. But I think we must be rather guarded in accepting these numbers; anyone acquainted with hospital statistics knows how rosily the surgeon anticipates the distant future, provided the immediate result be good. One of the authorities I have quoted—Roé—accentuates this view by pointing out that of his 35 cures 17 have remained well for more than one year; or, to put it my way, 18 of his 35 cures relapsed before the year was out. If his statement should prove true of the others then the cures would only reach 25 per cent. But let us put them at $33\frac{1}{3}$ per cent. A method which cures for over a year one-third of the cases of nasal asthma is one which we must respect, for this result is a good one. Yet the most enthusiastic of these surgeons admit that there is one grave drawback to operative procedures: some of the cases, and not seldom some of the slighter ones, are made worse. This is a very serious objection, and it is one that impresses itself most upon my mind, for it is just these which come back to the physician.

The physician's methods, if slow, ineffectual and undramatic, have, at any rate, no such drawback. That they are slow I grant, and, therefore, to the gasping hurry of this twentieth century must seem undramatic. But I cannot admit the ineffectual. I certainly think he can claim one-third of his cases as cures of more than one year's duration. I believe he could say one-half. But it is also quite true that some which he cannot cure temporarily or permanently will speedily be cured by the surgeon. I do not think the proportion is large, perhaps 10 per cent. They are the cases where the local cause is a gross one and the constitutional enters little, if at all. I have said the physician's method has no drawback. It has, on the other hand, the great advantage

* L'Asthme d'Origine Nasale, de son Traitement par les Eaux d'Uriage. Par Francoi Teulow-Vallo, M.D. Gustave Firmin et Montane, Montpellier, 1898.

of putting the patient on a healthy basis generally. Indeed, often the constitutional is the only treatment needed. Let me instance a case. A mother brought her little boy, aged four years, complaining that he daily suffered from violent attacks of sneezing which left him prostrate. I concluded that he had nasal asthma, but found he had also gastro-intestinal catarrh and nervous irritability. I did not examine his nose nor did I locally treat it, but cared for his body generally. He came again with his sneezing but little better, but I still refused to heed it and his mother took him away sorrowfully. By the next visit she had evidently come round to my view, for she said nothing about the sneezing, contenting herself with remarking that the other symptoms were greatly improved. The tables were turned; it became my duty now to inquire minutely after the sneezing and to find that, though he still occasionally sneezed, yet all the paroxysmal severity had vanished. Nor did it recur during the few remaining months she thought it necessary to bring him to me. But what I particularly wish to point out is, that the result was not only a better nose, but a better child altogether—body, mind and spirit—than when he first came to me, the better nose being merely an incident in the general amelioration.

Another instance. A man, aged 42 years, came complaining of a troublesome, racking cough which kept him awake, wore him out, and was accompanied by thick, yellow, blood-stained phlegm. His lungs were healthy, but his pharynx was velvety, with edematous granulations. I found he was alcoholic. His liver was firm, large and congested; his heart was dilated and feeble; and his kidneys passed urine excessive in quantity, of low specific gravity, and with a too small excretion of proteid waste. He had slight general anasarca. I gave him some chlorate of potash lozenges to satisfy his mind but otherwise disregarded his throat, feeling sure this would recover long before his heart and moral fibre were fit to run alone. And that is what has happened. At his last visit his cough was not worth mentioning and he had hoped I should bid him good-bye, but his heart was only slightly better, though the anasarca had gone, and he still looked at me with the pitiful eyes of moral instability. So I continue to keep him in tow with threats of pharyngeal relapse till heart-muscle and nerve-cell are stronger.

What has all this to do with inhalation? A great deal, I think. Inhalation often fails, just as operative procedures do, because we trust to it alone; and often the local disease can be remedied without the aid of either. They are both limited in their scope, and are but the handmaids of constitutional measures. If the lesion be gross and limited, *e.g.*, a polypus, operation is the better maid; if it be widespread, though mild, inhalation is to be preferred. In thus pointing out how limited its scope and how

often it is needless, I think I have said one-half of what I want to say on this subject of inhalation.

It is not only surgical methods which have improved during the last forty years. The methods of inhaling have made equal strides. Perhaps the greatest was the introduction of atomization, which enabled us to do away with the relaxing effect of steam. Another great development is the institution of inhalation chambers. If these rooms, full of medicated air, could only be generally distributed, I believe inhalation would at once take a front rank amongst our curative efforts. At Marlioz, close to Aix-les-Bains, is a large room of this kind, some 60 feet by 30 feet, supplied with tables, chairs, and lounges, where invalids can go and chat, stroll up and down, dream in easy chairs, read books of their own or the news of the day in the papers and periodicals on the table, write their letters or prosecute their studies. Each half hour or so everyone is turned out to wander a few minutes in the beautiful park whilst the room is thoroughly ventilated. In this way the patient can inhale for hours a day, without any effort on his part, the medication necessary for his nose, his throat, his windpipe, and his lungs. Allevard* is perhaps the headquarters of this method. As long ago as 1852 Dr. Niépee noticed that the patients used to go up to the galleries of the establishment, where the sulphuretted hydrogen was in greatest percentage, as they found the atmosphere most alleviating there. Hence in 1852 he devised inhalation rooms, both cold and hot. There are seven cold rooms, each 20 feet high by 20 wide by 24 long. In the centre of each is an ingenious apparatus for forming a huge spray of the water. The sulphuretted hydrogen is thus disengaged and mixes with the air. Before being sprayed the water contains 24 volumes of sulphuretted hydrogen per 1000, but when it leaves the room it only has 1 per 1000. The *séances* here, too, last half an hour. At their commencement there is very little H_2S in the air, but before they end this mounts up to 19 volumes in the 1000. Four other rooms of the same size are set apart for warm inhalation. There is the same central arrangement for distributing the gas. Around it the seats arise in tiers. Beneath each tier the floor is perforated and through the perforations immense volumes of H_2S vapor at from 80 to 86 deg. F. pour into the room. Patients take off their outer garments and sit in waterproof gowns for from 25 to 50 minutes. They then rest, dressed, for from 15 to 20 minutes in a room of intermediate

* Allevard is a little manufacturing town of 3,000 souls on a small branch on the south side of the main line between Chambéry and Grenoble, 1,500 feet high. Its water contains 24 volumes per cent. of sulphuretted hydrogen gas. Apart from the H_2S the water is a very pure one; in fact it is nearly identical with the sulphur water of Llanwrtyd in Brecknockshire, a village of 700 feet above the sea. Both have but little smell or taste of sulphuretted hydrogen, and both are largely drunk by the patients. But whereas at Allevard inhalation is the chief means of medication, at Llanwrtyd this means does not exist. Moreover, Allevard has a theatre with a play every evening, and a very fair band plays twice a day. Llanwrtyd holds out no such attractions. Allevard has sunshine. Llanwrtyd beauty. Llanwrtyd has the better baths; both have excellent hotels.

temperature and finally harden off in one of the cold rooms. They, in fact, give their respiratory lining membranes a sulphur Turkish bath. This seems to me to be the method of inhalation *par excellence*; I cannot see why it should not be adopted at, say, the sulphur spas of Askern, Harrowgate, Llanwrtyd, and Strathpeffer. I am sure the British would take to it kindly and many would rejoice at not having to leave Great Britain. The only instance that I know of a similar installation in England is the creasote room at Brompton. Dr. Hector W. G. Mackenzie has kindly written me this description of it: "The room at Brompton is a fairly large one, about 12 feet by 16 feet and 12 feet high. The creasote vapor is produced by heating about two ounces of coal-tar creasote in a metal dish over a lamp placed on the floor. The room is made, as far as possible, air tight. The patients put on cotton overalls and wear eye-protectors. A covering is also worn over the hair. It is advisable to put cotton-wool in the ears. The patients sit on stools or chairs. The lamp is not placed under the creasote until the patients are settled in the room, so that they get the vapor gradually mixed with the air. The average duration of a *séance* is half an hour; at first shorter, afterwards longer, possibly an hour or an hour and a half. The treatment is repeated as a rule every day, but occasionally I have had it given twice a day. Bronchiectasis is the only condition which seems to derive benefit from it, but in that the benefit is usually very marked."

Coming now to the ordinary local inhalation, here again we see things undertaken much more thoroughly abroad. Each patient has his own private coupé, but the water, air, or steam is supplied to all from one source. Speaking generally, at the sulphur spas of Challes, Marlioz, Allevard, and Uriage pulverization, or, as we call it, atomization, of the water is the only method used. There are three varieties. The first is called "brisement," where the water is broken up by impinging on a metal surface. It is previously forced into a sphere under a pressure of 15 to 20 atmospheres; thence it comes with great force through a very fine agate or ruby nozzle with a lumen of one-fifth to one-tenth of a millimetre in diameter. The metal surfaces on which this fine jet forcibly impinges are of three kinds: (a) A tambour. This is a small hollow cylinder about one and a half inches long and three-quarters of an inch in diameter. This cylinder is hinged on a metal stalk, which in its turn is fixed into a solid earthenware foot some three inches in diameter. The jet enters one end of the tambour, is so directed that at the centre it impinges on the concave surface, is at once broken up, and issues in a cloud of the finest dust at the other end, the circumference of this end cutting off the outer portion so that a comparatively small, fairly cylindrical column of atomized water having a considerable velocity is the result. This tambour form is used for throat and

bronchial inhalation (oral), as the whole of the column can enter the mouth without wetting the face. (b) A palette. This is a small disc of metal which replaces the tambour. It has a spray which radiates more widely than that from the tambour; it is used for skin eruptions, conjunctival or nasal troubles, and can be placed close to the diseased spot. (c) A tamis, or fine meshwork of platinum, through which the jet forces its way and is broken up in so doing. The resulting spray is a much coarser one than by either of the other methods, and as far as I could see is not much used.

Another variety of inhalation is that where the fluid is drawn up and atomized by a jet of steam, a warm cloud of particles resulting; this is used a great deal at Challes and Uriage. Lastly, there is the variety so commonly made use of on a small scale in England where an air jet draws up and atomizes the fluid. But with us the force of the air jet depends upon a small rubber bellows worked by the patient himself; at foreign spas this work is done for everyone by a common force which is always acting. For sulphur waters this method is not available, as the jet of air speedily decomposes them. Here again, in the matter of these local inhalers, we see how abroad they make things as easy as possible for the patient. It may seem a small matter whether you blow your own bellows or not; and if the inhalation is to be for five or ten minutes only perhaps it is not of great importance. Yet we must remember that our inhalers are invalids to whom every exertion, mental or physical, is something of an annoyance.* But it is just these prescriptions of five and ten minutes which seem to me to be a mere playing with this form of medication, a species of quackery. What can you expect from a medicament which only acts for one-seventieth of the day. The inhalation bathes an excreting, not an absorbing surface, so that we cannot suppose that its action can continue for long after the inhalation has stopped. Cells so essentially scavenger-like as are the ciliated cells of the bronchi can scarcely be expected to pass on the medicament to the deeper tissues with any great energy. When I prescribe an inhalation I always try to get the patient to inhale for three hours daily, and if I fail to get a promise of one hour at least I drop it altogether for some other method of treatment. During inhalation respiration is deeper than with ordinary breathing. It should, therefore, always be done in pure air. I always endeavor that it shall be used out of doors. There are occasions

*I have tried, with the assistance of Messrs. Philip Harris & Co., of this city, to devise some plan for obtaining this constant pressure on a small portable scale suitable for one person. The city water pressure was evidently altogether insufficient for the purpose, and we found it practically very difficult to obtain sufficient pressure by placing weights on the open end of a cylinder which communicated with the fine nozzle. Either the cylinder was so small that its contents were speedily exhausted or else the requisite weight was so great as to be very cumbersome and impossible to be manipulated by the patient. A motor of some sort—a steam engine is used abroad—seems to be the only solution. Still I trust it is not too Utopian to hope that such an apparatus may be placed in each large town where patients could resort, each taking his own nozzle and medicament, to be attached to the central power installation for a small fee per *séance*.

when inhalation is used as a palliative only—*e.g.*, as a sedative to cough before going to bed. Here, manifestly, if you achieve palliation it matters not how short a time the treatment has lasted. But when more far-reaching curative effects are desired then the longer periods are necessary.

I do not suppose any one of us questions the efficacy of treatment by inhalation when we have to do with nose, pharynx, larynx, or main bronchi, but many are sceptical as to its influence on diseased conditions of the alveoli or fine bronchioles. I think this scepticism is largely the result of our want of thoroughness in carrying out the treatment. When I have succeeded in getting it done for three hours daily for two or three weeks the improvement is usually so marked that there is no difficulty in persuading the patient to continue for two or three months. If the inhalation be a gaseous one—*e.g.*, H_2S —I do not see how we can avoid the conclusion that diffusion will carry it right into the alveoli and that it will be there taken up into the blood along with the oxygen. But when the inhalation consists of an atomized liquid I admit the result is more doubtful. It will largely depend upon the fineness of the atomization and upon the weight and volatility of the drugs used. In any case a large proportion must necessarily be deposited in the upper air passages. It would be unwise to use drugs which are not largely volatile at the temperature of the lungs; hence we find the volatile oils are favorite drugs for inhalation—*e.g.*, the terpenes, eucalyptus, balsams of Peru and tolu, oil of cade, and betul. But we must remember that the tidal air is only one-thirteenth of the total air in the lungs; one-half of this comes back again more or less unchanged; hence the inhalation when it reaches the alveoli can only be one twenty-fifth as strong as when it enters the mouth. When we consider the amount which has been deposited on the way we shall probably be right in saying that the percentage of active medicament which enters the alveoli cannot be more than one-fiftieth of that which enters the mouth. I am not saying this to discourage inhalation, for I believe it has a future; but there is no surer way of damning a therapeutic method than by expecting from it more than it can possibly give. On the other hand, when we call to mind the immense difference a comparatively minute change in the ordinary air makes in our health we cannot help believing that inhalation, properly employed, is a powerful therapeutic measure. But its power resides not in the percentage strength of the inhalation but in the vast quantity of it inhaled; that is, in the long duration of its employment.*—*The Lancet*, London.

* The amount of air inhaled daily by an average man is no less than 10,000 litres. If we take the absolute amount of water vapor in the air we find that a considerable change in this, which acts as a diluent to the gasses of the air, can make a considerable difference to the intake of oxygen—*e.g.*, at Madras a man inhales 80.7 kilogrammes of oxygen a month; at London or Brussels 87.3; and at St. Petersburg as much as 90.4 kilogrammes—*i.e.*, one-eighth more oxygen at St. Petersburg than at Madras; or, *anglicè*, in a year he would inhale 270 pounds more oxygen at St. Petersburg than at Madras.

A CLINICAL STUDY OF THE USE OF ANITOXINE SERUM
(DUNBAR'S) IN HAY FEVER DURING THE SEASON
OF 1903. A NEW AND DISTINCT ADVANCE
IN ITS MANAGEMENT.*

BY ALEXANDER W. M'COY, M.D., PHILADELPHIA, PA.

THROUGH the courtesy of Dr. Emil Meyer, of New York, I had the opportunity of testing in my private practice the antitoxine serum of Dunbar in cases of hay fever. I have no experience with the earlier attacks of the disease known as "blossom cold," "rose cold," etc. My observations extend over July, August and September, and were confined to *periodic* attacks *only*—rhinitis vasomotoria periodica.

I had not gone far in my study before I was impressed by the great latitude in public opinion as to what was to be called hay fever. Many cases coming under observation as hay fever were in no sense periodic in the summer months only, and not a few were composite or mixed cases, such as nasal polypi, nasal asthma, and chronic vasomotor rhinitis. I have limited my observations to such cases as could show summer periodicity, with a clear history of previous similar attacks, after these were reinforced by the history of heredity from one parent of similar attacks, and, chiefly, by finding all the clinical evidences in each case present upon *examination*, i.e., itching of nasal membrane, sneezing, itching of the conjunctival membrane and of the palate and fauces, spasmodic cough and asthma, as well as the intense nervousness and general lassitude often accompanying the attacks. Examination of the nasal cavities in the several cases showed the typical features present, such as a pale gray, boggy and leaking membrane, and the nasal cavities were often filled with watery seepage. Eliminating all but purely periodical autumnal attacks, which were always examined and the history taken, I began the treatment by the local application of the serum to the eyes and nasal mucous membrane by means of a pipette. To the conjunctival mucous membrane one or two drops were instilled from two to four times a day. For the nasal passages, from two to four drops were dropped in each nostril from two to six times a day. Fifteen cases were treated, all typical cases of periodic hay fever. One or two typical cases are reported as follows:

CASE 1.—Patrick ———. Has had hay fever for eight years, coming on in early August. Has not missed a season for eight years. The patient has been under my care for six years, and has been treated each year according to the latest and best remedies, with but little relief. Owing to my absence from home during August the patient did not come under treatment until September

* Read before the Section of Otolaryngology of the College of Physicians.

2nd. I found him suffering from a pronounced attack. After two days' treatment he had some relief from symptoms. The relief continued and increased, and at the end of one week all symptoms had abated and he had complete freedom from sneezing, itching and watery discharge, and had no asthma—which in previous years had been especially bad on or about September 10th. In previous seasons the asthmatic seizures had been severe, and had lasted all through September and part of October. This case has been under daily observation and has continued—and now remains—free, absolutely free, from every symptom. This patient used eight bottles of serum—about a bottle a day; much more than any patient under my care.

CASE 2.—Mrs. W. H. S., has had hay fever for twenty years. During the present season she had immunity from an attack of hay fever until September 3rd. She attributed the immunity to massage of the face and nose instituted before the time of her attack. On September 3rd without warning, all the symptoms of an attack of hay fever appeared. The serum treatment was begun the following day. In two days from beginning the serum treatment all symptoms had ceased, and she has remained perfectly well since up to present writing.

CASE 3.—H. S., aged 18 years, has been subject to attacks of hay fever for many years. The attacks have been so severe that he has found it necessary to select an immune locality in which to spend the summer. This year he returned home on September 8th, and had symptoms of hay fever immediately. Antitoxine serum was begun the following day; the serum relieved the itching of the eyes and sneezing, and mitigated the nasal distress. On October 7th he reports having been entirely free from attack, although some of his friends still have them. He has used four bottles of serum.

The above reports are sufficient to illustrate the effect of the serum treatment. In the fifteen cases in which I made my clinical experiments, the effect was so promptly manifested, the relief so complete, and the result so permanent for this season, that it appears really marvellous! We have all heretofore experienced such deep disappointment in our trials of various methods of cure—surgical and medicinal—that the writer was, to say the least, not enthusiastic concerning results, but he can truthfully say that he believes no such advances have ever yet been made in the treatment of hay fever. It remains to be determined whether there are in America some cases of hay fever not amenable to cure by the use of the antitoxine serum of Dunbar. So far as my fifteen cases can illustrate, they appear to confirm the contention of Professor Dunbar, that cases of hay fever are dependent upon the toxine resident in the various pollens of *grasses*. It is interesting and noteworthy that the experiments of Professor Dunbar open up a new field, this being, so far as I am aware, the first instance of the production of an antitoxine serum or fluid where the animal product has been crossed with a vegetable product.

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Editorials.

NOTIFICATION OF TUBERCULOSIS IN ONTARIO.

A few years ago the Town Council of Sheffield, England, applied to Parliament and obtained a private Act, making the notification of consumption compulsory throughout the town for a trial period of five years. The trial has been justified and has proved successful in Sheffield.

In New York and Philadelphia such notification is now re-

quired, not with the idea of quarantining the cases, but in order to keep informed as to their location, and to make it possible to direct approved preventive measures against the spread of tuberculosis from the sick to the well.

The investigations of Anders and Flick, of Philadelphia, and those of Biggs, of New York, show that tuberculosis is not uniformly diffused through a community, not even in those localities where it occurs most frequently; but is confined largely within narrow boundaries, as in certain streets, and within the walls of certain houses. These investigations have shown that, when a house is once infected with tuberculosis, repeated cases are developed in it among the new tenants occupying such a house. These infected houses are most frequently found in the narrower streets, in courts and in alleys. Though there is some danger of infection from the inhalation of dust in the open air in the crowded parts of a city, it seems probable that a more prolonged exposure to a concentrated atmosphere of infection, as found in infected houses, is the most frequent mode of contracting the disease. The dust in street cars and various public places is often infected, and may occasion the contraction of this disease, so that the prohibition of spitting on the floors of cars, ferry boats and other public conveyances should be strictly enforced, as a wise sanitary measure.

Statistics compiled by the Provincial Board of Health show that in the ten years from 1896 to 1906 there were 36,700 deaths from tuberculosis in Ontario, 11 per cent. of the total mortality. The records of deaths from tuberculosis in Ontario are: In 1897, 3,164; 1898, 3,291; 1899, 3,405; 1900, 3,484; 1901, 3,284; 1902, 2,694; 1903, 2,723; 1904, 2,877; 1905, 2,666; 1906, 2,911. These figures, based on a conservative estimate of four cases to each death, would show that there are about 12,000 cases of tuberculosis in various stages continually present in this Province.

What a reflection on our boasted knowledge of disease and our civilization! If tuberculosis is preventable, why not try to prevent it? Much alarm is exhibited at the proximity of smallpox, a preventable disease, a voluntary disease in truth, which one need not have if one is properly vaccinated.

There is no reliable vaccination against the infection of tuberculosis, and the best preventives are to keep oneself in good trim by avoiding bad air, bad whiskey and bad food.

In reference to the large mortality from tuberculosis in Ontario there is much public indifference, many persons considering it a weeding-out process for the removal of degenerates and weaklings. As long as the taking-off process does not become sensational the large mortality from tuberculosis is accepted tranquilly. And yet, after all, death is death, and if the cause of death from a disease is a preventable one, efforts should be made to prevent it. If in 1906 some 2,911 deaths had been traced to foul water, to dirty milk, to impure foods, there would have been much ado about it.

Whether they are situated in populous city or thinly populated village, premises occupied by consumptives should be known to the local health authorities. Consumptives should be taught simple measures to prevent the infection of their friends and neighbors. The premises should be thoroughly renovated after the removal or death of a consumptive.

J. J. C.

FLORENCE NIGHTINGALE.

GLANCING at the head line in a newspaper a few days ago, we read, "Honor for Miss Nightingale."

How that wonderful woman's name almost seemed like a half-forgotten song; how it recalls the school days and the old verse in the "Reader":—

"A lady with a lamp shall stand
In the great history of the land."

Yet, all worthy and beautiful her life and deeds of ministering when the old world was tossed on a sea of blood and tears, the nation somehow forgot to thrust much public honor upon her. Of course the late Queen Victoria recognized her worth fittingly. It was at the instance of Queen Alexandra that Miss Florence Nightingale was decorated last year with the English Order of Merit, the statutes of which had to be modified by King Edward in order to admit of her being rewarded by this highly prized appointment, and the part which the Queen played in the affair was emphasized by the fact that her own birthday was selected as the most suitable date for the bestowal of the honor. On March the 16th of this year "the freedom of the City of London" was conferred upon her.

The ceremony took place in the Guild Hall in the presence of a large gathering of physicians and nurses. But almost too late, for it is near to the sunset hour of Florence Nightingale's life—eighty-eight years. She was too weary to attend the ceremony, and so was represented by her nephew. No wonder the Chamberlain of the City of London, Sir Joseph Dimsdale, regretted that, by the unexplained omission of a former generation, Miss Nightingale had not been honored in this way half a century ago. We cull a couple of paragraphs of interesting detail of this good woman's early surroundings from "The World":—

"It is not generally known that Miss Nightingale was known in her girlhood by a different name. Originally her patronymic was Shore, which she bore until after she had attained womanhood. Her father was William Shore, and it was only on inheriting the estate of Lea Hurst, that beautiful place in Derbyshire, from his uncle, Peter Nightingale, that he, in accordance with his relative's will, assumed the name and the armorial bearings of the testator. He came of an old family, which for generations had owned the leading banking house in Sheffield, which has been possessed of land in the Counties of Derby and York since the fifteenth century, and which exists to-day in the person of Harrington Shore of Norton Hall and Lindridge House, Leicestershire. Her father was a very wealthy and very cultured man, who mingled much in the literary and fashionable society of the day, and was a great traveller.

"It was in Italy that his two children were born. One of his daughters—that is to say, the one now decorated with the Order or Merit—received the name of Florence, from the city of her birth. The other daughter, born at Naples, received the extraordinary name of Parthenope and married the late Sir Henry Verney of Claydon, which is now in the possession of his son, Sir Edmund Verney.

"Miss Nightingale is the only woman to have received the Order of Merit."

Honors, come they early or late, mean little to one whose life is so full, whose sympathy so deep, whose devotion to service so profound, and whose outlook is as broad as life's sorrows, and as high as the gate of Heaven.

W. A. Y.

SOME REFLECTIONS ON THE TUBERCULOSIS CONFERENCE HELD AT TORONTO.

A TUBERCULOSIS conference was held at the Alexandra Theatre on the afternoon of March 4th last. The chair was taken by His Excellency the Governor-General of Canada, with His Honor, Sir Mortimer Clark, seated at his right. Among those on the platform were Hon. W. A. Charlton, Mr. W. J. Gage, Hon. W. J. Hanna, Mr. Edward Gurney, Mr. Ambrose Kent, Mr. J. P. Downey, M.P.P., Mr. and Mrs. P. D. Crerar, Hamilton; Mayor Stavely, London; Mayor D'Arcy Scott, Ottawa; Judge Barron, Stratford; Mr. J. W. Bowlby, Brantford; Dr. N. A. Powell, Mr. Lloyd Wood, and Mr. Thomas Long.

His Excellency reprimanded the Canadians for their antipathy to cold air in their bedrooms in winter. He said: "I never pass through a city in Canada in the early morning, after leaving a railway station during the winter, without counting the number of open windows that I see, and I pass through street after street apparently without a cranny or a crack through which the fresh air from outside can penetrate into the house, and I reflect upon the way in which the poor people, out of sheer ignorance, are manufacturing consumption by preventing the blessed air of heaven from coming in and saving them from becoming victims of that plague."

A resolution to the Provincial Government, asking that the grant towards the maintenance of consumptive patients in sanatoria be raised from \$1.50 to \$5 a week per patient, was moved by Hon. W. A. Charlton, and seconded by Mayor Stavely, London. The resolution was carried without a dissenting voice, although a delegate from Western Ontario expressed the opinion that the Provincial Government should be asked to shoulder the whole expense.

Hon. W. J. Hanna, Provincial Secretary, said that the Government was favorably disposed to give increased financial assistance to sanatoria; but he did not state how far it would be prepared to go. He said, further, that the Government proposed issuing a pamphlet dealing with the whole subject of tuberculosis. This pamphlet could be placed in the hands of every adult in the Pro-

vince, and would leave no excuse for ignorance on the subject, such as at present exists.

His Excellency's remark should be a stimulus to improvements in the ventilation of public and private buildings. During the last decade the ventilation and heating of many churches, halls and theatres in Toronto have been perfected. Many modern dwellings here are also well ventilated artificially; but in the great majority of dwellings in this city an open window is the only route by which fresh air can be introduced, particularly at night, when the occupants are asleep.

A grant of \$5.00 a week for each patient, instead of \$1.50, would be a popular step. In keeping a sanatorium for consumptives the chief expense is incurred in paying for food supplies. If the Provincial Government will feed the consumptives, the Ontario municipalities ought to house them. In thus dividing the expense of this necessary undertaking the Provincial Government would handle the big end of the stick; for a modern sanatorium is to be an inexpensive structure, which, as Dr. Osler quaintly says, might be burned down every four or five years with advantage. Keeping this last suggestion in mind, and realizing the necessity of making natural ventilation the characteristic feature in a sanatorium for consumptives, an architect should be able to design a country sanatorium without running up a very large bill.

J. J. C.

THE PROPOSED AMALGAMATION OF GRACE AND THE WESTERN HOSPITAL.

THE first formal meeting of the Boards of Grace and the Western Hospitals was held two weeks ago, when a preliminary chat took place as to what, up till then, had been but a matter of newspaper gossip, viz., a scheme to amalgamate the two institutions. It was proposed that Grace Hospital sell its buildings and site on the corner of Huron and College Streets, and with the money and a grant of about \$200,000 from the City of Toronto, put up a splendid modern building on the spacious grounds of the Western Hospital on Bathurst Street. Nothing definite was done at that meeting, but we trust that the idea will not be dropped. It seems to us that the scheme of amalgamation is a good one, as both

Institutions are overcrowded with patients, lacking in accommodation and cramped financially. The Western Hospital has the site for a magnificent institution, and is situated in a part of the city needing large accommodation for the sick. Why not throw the two interests in one and make a hospital worthy of the west end section of our beautiful city?

W. A. Y.

EMETICS AS AIDS IN THE PROMOTION OF TEMPERANCE.

EMETICS are employed medicinally for a variety of purposes. The removal of an irritant poison, such as arsenic, is facilitated by giving the patient plenty of lukewarm water, or the stomach may be washed out with the stomach pump. In a case of opium poisoning there may be difficulty in exciting vomiting, owing to partial paralysis of the vomiting centre, and a local emetic, such as sulphate of zinc is used with advantage. While the stomach pump is more effective in washing out the stomach, the operation of an emetic helps to rouse a narcotized patient from his heavy sleep. Besides, a stomach pump is often not at hand when it is most wanted. In disorders of the respiratory tract, as in bronchitis, when a quantity of mucus accumulates in the bronchial tubes, an emetic is used with advantage, instead of keeping up a prolonged nausea, by the use of an expectorant. An emetic is also useful to remove false membrane in croup and diphtheria.

These are probably the chief medicinal uses of emetics; but there are other uses. For instance, gourmands use emetics to remove a quantity of expensive food which they are unable to digest. Emetics are not usually advised as means to enhance the powerful effects of oratory; but something may be said on that score. A husky or nasal-toned voice distresses the listener's ear, and the best-turned periods cease to charm when the speaker begins to cough. In ante-bellum days, a famous Kentucky lawyer, on the morning of the day when he addressed a jury in an important case, used to take an emetic, experience having taught him that a clear head made his arguments cogent, while a clear voice enhanced the effect of his impassioned appeals.

In Ontario emetics are rarely dispensed. A druggist of nine years' experience in Toronto tells us that he does not recall a

single instance in which he had been asked for an emetic by a customer. Other druggists here have made somewhat similar remarks.

It is quite the other way at St. John, New Brunswick, as we learn from a paper read by Dr. Geo. G. Corbet before the St. John Medical Society (*vide Maritime Medical News*, December, 1907, p. 465).

Dr. Corbet says: "I am surprised at the indiscriminate use of emetic powders and the size of the dose, which the druggists dispense without a physician's prescription, the said powders being a poisonous dose. It seems that tartar emetic is sold in this city without even a poison label being affixed, and in doses that exceed those allowed by the British Pharmacopœia. These powders are supplied to anyone asking for them, without the druggists even taking the precaution to find out that the person using them understands the nature of the drug they are supplying."

Curious to learn the reason of the predilection of the people of St. John for tartar emetic, we wrote to Dr. Corbet, St. John, about it, and learn from his reply (*vide p. 244*) that the emetic powders are used to relieve people who have been drinking too freely. The full dose of tartar emetic, as an emetic, being from one to two grains, four grains given at one dose would be poisonous. It should only be dispensed on prescription and in proper doses. J. J. C.

WHY CONDEMN THE NINETY AND NINE ?

As the matter for our April issue has just been sent in to the printers, we can only add this note.

The citizens of Toronto have been astounded by reading recently in the daily press of the grave charges of illegal practice brought against several Toronto physicians. As the cases at this date are still *sub judice*, it is not as yet within our province to discuss them.

Not for one moment would we condone this condition of affairs in professional circles, as it is beneath contempt, but, as men, we believe in British justice, and think that everyone should be considered innocent until he is proven guilty. We extremely regret that there should be even the suspicion of ground for such serious charges being laid at the door of any members of our honorable profession. That the reverend gentleman who edits the *Toronto*

Globe should have treated the subject as he did in his issue of March 18th, as if the whole profession were on trial, is simply contemptible, and we think that a special meeting of the Academy of Medicine should be called to discuss the editorial. If not, then let the Toronto representatives of the Ontario College of Physicians and Surgeons be the standard-bearers in a matter which so seriously reflects upon the ethical dignity of our medical men as a body.

When grave charges are (fortunately infrequently) brought against a clergyman, he is judged and spoken of as an individual and a sinner, the other ninety and nine are left to bleat and nibble away secure within the sheep fold, and the reverend editor's pen is left sticking in the property potato on his desk.

Then why this attack on the doctors of the Province? Fortunately the age of witchcraft is past; but it would be, indeed, an evil day did the honor and reputation of the profession of this country depend upon the statements of harlots.

"For, as God lives, I'd not condemn
An Indian dog, on word of them."

March 19th, 1908.

W. A. Y.

EDITORIAL NOTES.

Vital Statistics of Ontario for 1905.—The Annual Report of the Registrar-General of Ontario for 1905 shows that there were in this Province in that year 51,911 births, 20,426 marriages, and 31,369 deaths—the estimated population being 2,208,364. A recapitulation, by classes, of diseases causing the deaths, by counties, in 1905, including cities and towns, gives the following results:

	Deaths.
1. Communicable, epidemic diseases	1,457
2. Other general diseases	4,812
3. Diseases of nervous system and organs of sense	3,504
4. Diseases of circulatory system	2,084
5. Diseases of respiratory system	3,215
6. Diseases of digestive system	3,193
7. Diseases of genito-urinary system	1,145
8. Puerperal diseases	211
9. Diseases of skin and adnexa	76
10. Diseases of locomotor system	36
11. Malformations, diseases of infancy and old age	8,988
12. Suicides	109
13. Accidents	1,339
14. Ill-defined causes	1,200
Total deaths	31,369

Canadian Legislation Regarding Denatured Alcohol.—In the February (1907) number of CANADIAN JOURNAL OF MEDICINE AND SURGERY we commented on a paper read at the Toronto meeting of the British Medical Association by Casey A. Wood, M.D., Professor of Clinical Ophthalmology, University of Illinois. The author of the paper made a plea in favor of prohibiting, or rendering unprofitable, the manufacture or sale of wood spirit in Canada. This procedure had been accomplished in the United States by the adoption of a "denatured" alcohol bill. Canada, we learn, is about to adopt the suggestion of the author of the paper and join the United States in using cheap, untaxed, denatured grain spirit for light, fuel, solvent and power-producing purposes. In the House of Commons, Ottawa, February 26, 1908, the Hon. W. Templeman, in reply to a motion by Mr. Bole, respecting the industrial use of alcohol, objected to a duty-free alcohol for medicinal and pharmaceutical preparations, because, after the articles had been manufactured and sent out, the alcohol in them could, by redistillation, or some chemical process, be made drinkable. No country permitted the employment of other than duty-paid alcohol in the manufacture of pharmaceutical preparations. He did not think that the druggists of Canada should have access to alcohol duty-free for manufacturing purposes. The policy of his department was to aid and encourage the use of alcohol in the manufacture of products from which it could not be again taken and used for potable purposes. Hon. Mr. Templeman thought it would be possible to put on the market, in the course of a few months, denatured alcohol in the neighborhood of 50 cents a gallon. This is a matter of some importance because cheap denatured grain spirit may with safety be used for light, fuel, varnish-making and other industrial purposes instead of that dangerous product, wood spirit. Owing to the fact that in several cases loss of life has occurred, and that in other cases total blindness has resulted from the use of wood spirit, it is for the benefit of the public health in Canada that denatured grain alcohol is to be employed for industrial purposes instead of wood spirit.

Insanity Prevented by Curing Neurasthenia.—From universal experience, it is of the first importance that a neurasthenic patient should not cross the border line and stray into insanity. Dr. Campbell Meyers, neurologist, in charge of the nervous wards of the Toronto General Hospital, claims that treatment of neuras-

thenic patients in these wards has prevented insanity (*vide* First Annual Report of the Nervous Wards for the sixteen months ending September 30th, 1907, reprinted from the Annual Report of the Hospital). From this report we learn that one hundred patients were admitted to the nervous wards from May, 1906, to September 30th, 1907. The wards contain twelve beds, eight of which are in two wards. Each of the four remaining beds is in a separate ward. Of the total number of patients 24 were admitted for observation, 76 for treatment. Of the 24 observation cases, 16 were found to be insane; 3 refused to obey directions and were discharged: 2 were cases of brain tumor; 1 of cerebral syphilis; 2 still remain under treatment. Of the 76 cases of functional neurosis under treatment, 64 suffered from neurasthenia, 2 from hysteria, 2 from catalepsy, 1 from epilepsy, 7 remain under treatment. Of the 69 cases whose treatment has terminated, 26 recovered, 35 were improved, 8 were unimproved. Three relapses have occurred among the 26 classed as recovered. Of those classed as only improved, 9 reported later as quite well. Of the 8 unimproved by treatment 3 died after leaving the hospital, 4 recovered, and 1 became insane. Dr. Meyers attaches great importance to the fact that of the 69 patients treated 50 were suffering from psychasthenia, an intensification of which would have resulted in an attack of insanity. The results of treatment in these 50 cases were: Recovered, 19, or 38 per cent.; improved, 24, or 48 per cent.; unimproved, 7, or 14 per cent. Hence, of these 50 cases which were threatened with insanity, 43, or 86 per cent., recovered or were improved by treatment. These results would justify the use of the nervous wards of the hospital as a means of preventing insanity in cases of neurasthenia.

Protection Against Fires in Public Schools.—As the warm air furnace is situated in the basement of a schoolhouse, a fire originating from an overheated smoke-stack, a defective smoke-stack collar, or an uncleaned smoke-flue speedily ascends to the ground floor, and may, according to the location of the furnace, bar egress at the front or back door of the building. Uncovered fire escapes should be attached to schools of more than one story. A municipality should be obliged, under penalty, to inspect the heating and ventilating apparatus of public schools, which are supported out of the municipal taxes. The safe condition of the heating apparatus in a school should be certified to by compe-

tent examiners (local Board of Health). When soft coal is burned in a school furnace, the smoke-flues should be examined several times during the winter. On no account should a janitor leave the school building during school hours; he should be a sentinel, to notice and report an outbreak of fire in the school. Of course, in schools provided with spacious stairways, hallways and exits, the doors of which open outwards, escape, in case of fire, is easier than in school buildings with narrow stairways, hallways and exits, in which the doors open inwards; but there is no sufficient reason why fire should ever break out inside a school; and, should a fire break out, it means that some responsible person has blundered. A portable fire extinguisher should be on hand in every school. It should be regularly discharged, and charged again with chemicals, whether a fire occurs or not. In places not provided with a municipal water supply, water should be collected from the roof of the school, stored in a tank, at a proper elevation, and discharged by fire hose at suitable times.

Clean Milk.—All cows should be tested with tuberculin before their milk is used for human consumption, either as raw milk, or in the form of cream, butter, or possibly cheese. It is well, also, that a veterinary surgeon should examine every herd of cows twice a year. Even under favorable conditions as regards the ventilation and cleaning of stables, the feeding and care of the cattle, dairy cows are more subject to tuberculosis than cattle which feed on the ranges. The confined cow suffers from tuberculosis just as the confined man is subject to tuberculosis, because the power of resistance to disease is lowered. A despatch to the *Globe*, March 12, 1908, stated that "70 per cent. of the dairy cows in Winnipeg are affected with tuberculosis. No inspection of these cows by a veterinarian has been made in ten years. So diseased are the cattle that abattoir-firms have refused to buy dairy cattle for slaughtering purpose." Just how commonly tuberculosis in the cow becomes a source of the disease in man through drinking the milk of tuberculous cows, it is impossible to say. Cases of tuberculosis in human beings have undoubtedly arisen from this source. The Doctors Mayo, of Rochester, Minn., have recently shown the large proportion of tuberculosis of the abdominal organs among their patients who come from the agricultural regions. The inference which they draw is that the source of the infection in these people must be

from the milk, since they are milk-users and germs of tuberculosis entering the lungs in the air would cause tuberculosis of the lungs, or consumption. According to the observations of Dr. Calmette, Lille, tuberculosis in man starts frequently in the digestive tract, even when the disease is situated in the lungs and other parts of the body. If the people of Canada take hold of the tuberculosis question in earnest, they should insist on milk free from tuberculosis on their tables, with at least as much earnestness as they demand fresh air in their homes. No cow should be placed in a herd until it has been tested and found free from tuberculosis. Such testing should be repeated once a year. One tuberculous cow may infect a whole herd.

J. J. C.

PERSONALS.

DR. MILTON COTTON has removed from Simcoe Street to 210 Bloor Street West.

DR. E. A. McCULLOCH, partner of Dr. N. A. Powell, is considerably better. The doctor spent a couple of weeks at his old home in Omeme last month.

WE are sorry to announce that Dr. J. W. Peaker, of Bathurst Street, is not recovering from his recent prolonged illness, but is, we fear, losing ground. The doctor is suffering from cardiac trouble, a sequela to rheumatic inflammation.

S. J. MELTZER, M.D., LL.D., head of the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research, New York, will deliver a lecture on "Nature of Shock" the first Tuesday in April before the Academy of Medicine, Queen's Park.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

J. J. CASSIDY, ESQ., M.D., EDITOR CANADIAN JOURNAL OF MEDICINE AND SURGERY:

Dear Doctor,—Your letter received and noted. When writing my paper, "Liberty," I had one object in view, and that a local one. My object was to break up cliques which govern our hospital and our public affairs. Being local in origin, that part of my paper will not interest you, unless you have the same to contend with in Toronto.

I want our young men to be men, and not toadies to the mighty ones. I want to improve medical St. John, so that we can take our proper place in the medical world. (I am one of the younger men—McGill, 1898.) I claim rightly when I say that the rank and file of our medical brethren here are O. K. No city can produce a better lot.

My first attention was drawn to the indiscriminate use of tartar emetic, grs. iv., when I was called to a supposed case of (H_2Cl_2 solution) poisoning. The druggist informed me that he administered 1 grain to the patient, i.e., he sent it to the patient, who took it. In making inquiries I was informed that it was an everyday occurrence, when anyone asked for an emetic powder, to dispense grs. iv. tartar emetic and ask no questions, or even ask for a prescription. Any child can get said powder. The following is the usual method: A child or adult goes to a druggist and asks for emetic powder (for someone who has been drinking). The druggist will dispense tartar emetic without suggesting anything else. One of our leading druggists told me it was done in all drug stores he had worked in (three of them) before starting for himself, and it was he who suggested to me to incorporate that part in my paper, as he very strongly objected to it. The sale of paregoric is almost universal.

I have been in a drug store when emetic powder was sent to a party, and upon asking the druggist what quantity he sent, he said 4 grains tartar emetic.

If you need any further information on said subject, tabulate any questions and I will be pleased to answer fully.

Would you kindly get me, or if you have in your possession, information regarding the hospitals in Toronto or Ontario. What hospitals have the open door, i.e., allow the patient's own physician to attend them, they occupying private or semi-private rooms? I would like official information, as I will shortly need it.

I am, yours fraternally,

176 Waterloo St., St. John, N.B., Feb. 29, '08.

GEO. G. CORBET.

News of the Month.

PRIZE LIST OF THE INTERNATIONAL CONGRESS OF TUBERCULOSIS.

THE Central Committee of the International Congress on Tuberculosis has announced the offer of the following prizes:

1. A prize of \$1,000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary association since the last International Congress in 1905. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

Evidence is to include all forms of printed matter, educational leaflets, etc.; report showing increase of membership, organization, classes reached—such as labor unions, schools, churches, etc.; lectures given; influence in stimulating local Boards of Health, schools, dispensaries, hospitals for the care of tuberculosis; newspaper clippings of meetings held; methods of raising money; method of keeping accounts.

Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required.

2. A prize of \$1,000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

3. A prize of \$1,000 is offered for the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designated to stimulate efforts towards securing a maximum of sunlight, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawings, specifications,

estimates, etc., with an explanation of points of special excellence. Entry made be made under competitor's own name.

4. A prize of \$1,000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

5. A prize of \$1,000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management and results obtained. Each competitor must present a brief or report in printed form.

6. The Hodgkins Fund Prize of \$1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis."

The detailed definition of this prize may be obtained from the Secretary-General of the International Congress, or Secretary of the Smithsonian Institution, Chas. D. Walcott.

7. Prizes for educational leaflets:

A prize of \$100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of \$100, a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award.

Competitors must be entered under assumed names.

- (a) For adults generally (not to exceed 1,000 words).
- (b) For teachers (not to exceed 2,000 words).
- (c) For mothers (not to exceed 1,000 words).
- (d) For indoor workers (not to exceed 1,000 words).
- (e) For dairy farmers (not to exceed 1,000 words).
- (f) For school children in grammar school grades (not to exceed 500 words).

In classes *a*, *b*, *c*, *d*, *e* and *f*, brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

- (g) Pictorial booklet for school children in primary grades and for the nursery.

Class *g* is designed to produce an artistic picture book for children, extolling the value of fresh air, sunlight,

cleanliness, etc., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs without printing.

8. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States, illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

9. A gold medal and two silver medals are offered for the best exhibits sent in by any state or country (the United States excluded), illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

10. A gold medal and two silver medals are offered for each of the following exhibits; each medal will be accompanied by a diploma or certificate of award; wherever possible each competitor is required to file a brief or printed report:

- (a) For the best contribution to the pathological exhibit.
- (b) For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State of the United States. Brief required.
- (c) For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any state or country (the United States excluded). Brief required.
- (d) For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required.
- (e) For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required.
- (f) For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required.
- (g) For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required.
- (h) For the best plans for employment for arrested cases of tuberculosis. Brief required.

11. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a workshop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

The following constitute the Committee on Prizes: Dr. Charles

J. Hatfield, Philadelphia, Chairman; Dr. Thomas G. Ashton, Philadelphia, Secretary; Dr. Edward R. Baldwin, Saranac Lake; Dr. Sherman G. Bonney, Denver; Dr. John L. Dawson, Charleston, S.C.; Dr. H. B. Favill, Chicago; Dr. John B. Hawes, 2nd, Boston; Dr. H. D. Holton, Brattleboro; Dr. E. C. Levy, Richmond, Virginia; Dr. Charles L. Minor, Ashville, N.C.; Dr. Estes Nichois, Augusta, Me.; Dr. M. J. Rosenau, Washington; Dr. J. Madison Taylor, Philadelphia; Dr. William S. Thayer, Baltimore; Dr. Louis M. Warfield, St. Louis.

THE POST GRADUATE MEDICAL SCHOOL OF CHICAGO.

THE Post Graduate Medical School of Chicago announces a very attractive course for May and June, up to and after the time of the meeting of the American Medical Association. In conjunction with the other clinical institutions of Chicago, it will also make special arrangements for clinics before or after the meeting for the members of the American Medical Association.

The School is now giving a very attractive three-week course, which should appeal particularly to busy men. This general course includes general surgery, medicine, gynecology, ear, nose and throat, children's diseases, rectal diseases and diseases of the eye, and all operative work of the various hospitals. The fee, a special one, is \$25.00.

Arrangements can be made, by the payment of an additional fee, for special courses of short duration in pathology, bacteriology, examination of blood, sputum and urine, refraction, Wright's serum therapy, cystoscopy, operations on the cadaver, physical diagnosis, operations on animals, infant feeding, electro-therapeutics, hydro-therapy, etc.

THE ONTARIO MEDICAL ASSOCIATION.

THE attention of the profession is again called to the 28th annual meeting of the Association, which will be convened in the Normal College building, Victoria Avenue South, Hamilton, on the 26th of May next, and continue in session for the two succeeding days.

The provisional programme has been distributed throughout the Province. The prominence given to the scientific side of the meeting—and this will be of exceptional merit—will not be permitted to dwarf its social aspects. At the smoking concert at the Yacht Club, Hamilton Beach, on Tuesday evening, there will be a most entertaining programme presented. On the succeeding Wednesday

at the Royal Hotel the visiting members will be the guests of the medical men of Hamilton at dinner.

Outside members who are fond of golf are asked to take their clubs, as the privileges of the Hamilton Golf Club have been extended to all visitors through the courtesy of the president, Mr. J. J. Morrison, and of his committee. Members who are visiting the meeting are also extended the privileges of the Thistle Club, by courtesy of the president, Mr. T. C. Haslett, and of the president of the Bowling Club, Dr. E. A. Wardell. Bowls will be supplied.

A luncheon at the City Hospital has been arranged following the morning session on Tuesday. Other entertainment is under consideration, and full announcement will be made in the final programme, which will be issued in May.

The Committee on Arrangements hope that visiting members will bring their wives and daughters, who will be happily cared for by the local ladies, and they trust that this may be one of the features of the meeting.

A MODERN SANITARIUM.

THE opening of the Dr. Hutchison Sanitarium, at 218 Simcoe St., Toronto, is an event which should interest all medical men, being an institution devoted exclusively to the treatment of liquor and drug habitues, and dependent entirely upon the medical profession for support.

The building is a modern home, thoroughly equipped for the purpose, and the treatment is ethical and non-secret.

The remedies used contain no alcohol or other sedative drugs, and in this respect are considered an advance on all former methods of treatment. No patient can be considered cured so long as he takes a tonic or drug of any kind. He must not only be freed from the stimulant to which he was addicted, and all substitutes for it, but also from all tonics or other remedies used in his treatment upon which he might place even a mental reliance.

The most important steps are to free the system from toxic matter and to neutralize the remnant of alcohol or drug in the blood; to destroy the appetite or craving, then to build up the patient's physical vigor and tone up his nervous system, so that there may be no demand for stimulation because of weakness or exhaustion.

A thoroughly equipped, well regulated sanitarium is the only place where uniformly satisfactory results can be obtained in the treatment of such cases. With the methods used at this institution patients enjoy at all times the greatest degree of freedom consistent with their welfare. There being no sickness or solitary confinement in connection with the treatment, the patient can always look back with pleasure on the short time spent there.

SMITHSONIAN INSTITUTION—HODGKINS FUND PRIZE.

IN October, 1891, Thomas George Hodgkins, Esquire, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In furtherance of the donor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations, and issued publications.

In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, September 21 to October 12, 1908, a prize of \$1,500 is offered for the best treatise "On the Relation of Atmospheric Air to Tuberculosis." Memoirs having relation to the cause, spread, prevention, or cure of tuberculosis are included within the general terms of the subject.

Any memoir read before the International Congress on Tuberculosis, or sent to the Smithsonian Institution or to the Secretary-General of the Congress before its close, namely, October 12, 1908, will be considered in the competition.

The memoirs may be written in English, French, German, Spanish, or Italian. They should be submitted either in manuscript or typewritten copy, or if in type, printed as manuscript. If written in German, they should be in Latin script. They will be examined and the prize awarded by a committee appointed by the Secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis.

Such memoirs must not have been published prior to the Congress. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded.

No condition as to the length of the treatises is established, it being expected that the practical results of important investigations will be set forth as convincingly and tersely as the subject will permit.

The right is reserved to award no prize if, in the judgment of the committee, no contribution is offered of sufficient merit to warrant such action.

Memoirs designed for consideration should be addressed to either "The Smithsonian Institution, Washington, District of Columbia, U. S. A.," or to Dr. John S. Fulton, Secretary-General of the International Congress on Tuberculosis, 714 Colorado Building, Washington, District of Columbia, U. S. A." Further information, if desired by persons intending to become competitors, will be furnished on application.

Items of Interest.

"The Night Vigil."—We had the pleasure of receiving from Messrs. Reed & Carnrick, Jersey City, recently a copy of "The Night Vigil." This is a beautiful photogravure that is most acceptable and an ornament to the wall of any physician's office.

An Oversight.—We regret that, owing to a typographical error in our March issue, we forgot to give credit to *Toronto Saturday Night* for the verse that was appended to our editorial entitled "Why So Much Sob Copy?" on pages 174 and 175. We tender our apologies.

The Academy of Medicine, Toronto.—At the regular meeting of the Academy of Medicine, Toronto, held at the New Medical Buildings, Queen's Park, on March 3rd, Dr. Hugh H. Young, of Johns Hopkins Hospital, Baltimore, Md., lectured to a large audience on "Operative Treatment for Various Diseases of the Prostate." The lecture was most instructive and entertaining, delivered, as it was, by one who might be termed a past master in prostatic surgery.

Don't Buy Books Unless You Really Want Them.—A library is something more than a collection of books. An imposing array of sumptuous—and untouched—volumes does not make one. Your books should express your own individuality, says a writer in *The Delineator*. Do not let anyone persuade you to buy a book you know is not your kind of book. Do not be lured into buying a handsome library edition of some author that you do want, if the library edition is heavy and uncomfortable to hold and your own preference is a comfortable pocket edition with flexible covers. And, above all, if you are building up a home library, to which the whole family is to have free access, do not choose bindings of such delicate colors or expensive textures as to destroy all the comfort of reading.

The Physician's Library.

BOOK REVIEWS.

Surgery: Its Principles and Practice. In five volumes. By 66 eminent surgeons. Edited by W. W. KEEN, M.D., LL.D., Hon. F.R.C.S. (Eng. and Edin.), Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume III. Octavo of 1,132 pages, with 562 text-illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company. 1908. Per volume: cloth, \$7.00 net; half morocco, \$8.00 net. Canadian agents: J. A. Carveth & Co., Ltd., Toronto, Ont.

The contents of Volume III. are Surgery of the Head, by Harvey Cushing, M.D.; Surgery of the Neck, by E. Wyllys Andrews, M.D.; Diseases of the Thyroid Gland, by Albert Kocher, M.D.; The Nose and its Accessory Sinuses, by Harmon Smith, M.D.; Surgery of the Larynx and Trachea, by George Emerson Brewer, M.D.; Surgery of the Thorax, by George Emerson Brewer, M.D.; Surgery of the Breast, by John M. T. Finney, M.D.; Surgery of the Mouth, Teeth and Jaws, by Edmund Owen, M.B., F.R.C.S.; Surgery of the Tongue, by John Chalmers Da Costa, M.D.; Technic of Abdominal Surgery, by John C. Munro, M.D.; Surgery of the Abdominal Wall, by John C. Munro; Surgery of the Peritoneum and Retroperitoneal Space, by John C. Munro, M.D.; Surgery of the Esophagus, by George Gottstein, M.D.; Surgery of the Stomach, by A. W. Mayo Robson, F.R.C.S.; Surgery of the Liver, the Gall Bladder and the Biliary Ducts, by William J. Mayo, M.D., and Charles H. Mayo, M.D.; Surgery of the Pancreas, by B. G. A. Moynihan, F.R.C.S.; Surgery of the Spleen, by B. G. A. Moynihan, F.R.C.S. The index follows.

A surgeon craving enlightenment about some difficult question of diagnosis or treatment may consult Keen's *Surgery* with great satisfaction. The probability of gaining fresh knowledge from this work might be naturally surmised by glancing over the names of the contributors, most of whom are well known to readers of medical literature. To get the right idea of the greatness of the work, however, one must read some of the articles themselves. Each one is written by a master, who fortifies his individual teaching by citations from the writings of specialists engaged in similar work. The photographs are very instructive and enable the writer of an

article to shorten his descriptions. Simplicity of style has been aimed at in the work, and in view of the number of writers, its attainment is remarkable.

J. J. C.

A Text-Book of Alkaloidal Therapeutics, being a condensed resumé of all available literature on the subject of the active principles added to the personal experience of the authors. By W. I. WAUGH, M.D., and W. C. ABBOTT, M.D., with the collaboration of E. M. EPSTEIN, M.D. Second edition. Chicago: The Clinic Publishing Co. 1907. Canadian agents: W. Lloyd Wood, Limited, Toronto.

“This book is dedicated to those who believe in the smallest possible quantity of the best obtainable means to produce a desired therapeutic result.” That dedicatory notice we find on the fly-leaf of this text-book, and it expresses perhaps better than we can put it the firm belief of the authors in alkaloidal therapeutics. The book is a somewhat exhaustive study of alkalometry, and no one can read very much of it without becoming more or less of a convert to the use of active-principle remedies in lieu of the indefinite galenicals. As we have already stated in another review of a book on a similar subject, alkaloidal therapy is unquestionably being adopted by a rapidly increasing number of practitioners, who now find that by it they can look for definite clinical results. We commend this book as worthy of careful study.

The Diagnosis and Treatment of Diseases of Women. By HARRY SURGEON CROSSEN, M.D., Clinical Professor of Gynecology, Washington University; Gynecologist to Washington University Hospital, and Chief of the Gynecological Clinic; Associate Gynecologist, St. Louis Mullanphy Hospital; Consulting Gynecologist to Bethesda Hospital, St. Louis Female Hospital, and St. Louis City Hospital; formerly Superintendent of the St. Louis Female Hospital; Fellow of the American Association of Obstetricians and Gynecologists; ex-President of St. Louis Obstetrical and Gynecological Society; Member American Medical Association, Missouri State Medical Association, St. Louis Medical Society, etc. With seven hundred illustrations. St. Louis: C. V. Mosby Medical Book and Publishing Co. 1907.

This handsomely gotten-up work of some eight hundred pages is one which will be found of great value to the medical student and the general medical practitioner. While highly scientific, it is yet exceedingly practical. The illustrations are very numerous, mostly photographs, and, being carefully chosen, are highly demonstrative. The first chapter, on gynecological examination methods, is extremely practical. The chapter on treat-

ment is especially valuable to the general practitioner, ordinary methods being given due attention.

Throughout the whole work great stress is laid on practical anatomy and practical treatment. The chapter dealing with the Displacements of the Uterus is especially good, unnecessary padding being avoided. The Medico-Legal Points in Gynecology are dealt with in a special chapter, constituting a very useful departure from the usual gynecological text-book.

A special chapter is also devoted to formulæ, and is carefully devised and classified.

This work can be highly recommended, for it combines the scientific knowledge of the latest works with very practical instruction in examination, diagnosis and treatment. W. J. W.

"First Aid" to the Injured and Sick. An advanced Ambulance Hand-Book. By F. J. WARWICK, B.A., M.B. (Cantab.), M.R.C.S., L.S.A.; and A. C. TUNSTALL, M.D., F.R.C.S., Edinburgh. Fifth edition, revised and enlarged; 30th thousand. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1908.

The fifth edition of "First Aid" is better and fuller than any preceding one. It includes a chapter on "Transport of Sick and Injured," and a number of new illustrations.

A Short Practice of Gynecology. By HENRY JELLETT, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I. Third edition, revised and enlarged. London, Eng.: I. & A. Churchill.

The third edition of this work, making its appearance in a comparatively short time since the publication of the second, is an endorsement of the popularity of the book. Dr. Jellett's writing is always clear, concise, and convincing. His "Practice of Midwifery" is standard, and this work on Gynecology bears comparison very well. If any fault can be found it is that he is not dogmatic enough, giving too much the opinions and operative work of other authorities. His treatment of retroversion of the uterus by means of replacement and keeping in place by glycerine and cotton tampons, which soon become very small, hard balls, offering no support, does not commend itself. He makes no mention of Englemann's dry treatment by means of lamb's wool and antiseptic powder, which is a much more practical procedure and gives better results, owing to the non-absorbent quality of the wool and resiliency thereof. The opening chapters on methods of examination instruments, etc., are excellent. Plastic surgery is well and clearly written, particularly that on the various fistulæ. As a whole it is a good little work, and we can recommend it to the busy practitioner wishing to make a hasty reference on this subject. It is

beautifully got up, the illustrations are excellent, paper and printing very fine, and reflects credit on the old and always reliable firm.

Diseases of the Lungs. Designed to be a practical presentation of the subject for the use of students and practitioners of medicine. By ROBERT H. BABCOCK, A.M., M.D., author of "Diseases of the Heart and Arterial System." London and New York: D. Appleton & Company, 1907.

When those who had never met Dr. Babcock received his work on the diseases of the heart, published five years ago, the general opinion expressed was that only a master of diagnostic and therapeutic art could have given to the world a text-book so thoroughly satisfactory. Those who knew him, and the writer of this review is of the fortunate number, remembering that Dr. Babcock has worked out a splendid success against the handicap of total blindness, rejoiced at every word of praise given to the book and to its author. There comes to us now an opportunity to recognize the deeper obligation under which Robert H. Babcock has placed the profession by the production of a work upon the diseases of the lungs, equal to or surpassing the one to which reference has just been made. For a happy combination of the latest and most accurate work in science with the most practical and helpful suggestion in practice, it has only too few rivals. In practice, we all drop into ruts and routine ways, and we need books like this to start us along new lines of thinking and of working.

The illustrations and the bookmaking generally are up to the Appleton standard, and, saying this, it is needless to say more.

N. A. P.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D. Volume IV. December, 1907. Philadelphia and New York: Lea Brothers & Co.

Volume IV.—the last for 1907—begins with a review of diseases of the digestive tract and such allied organs as the liver and pancreas. This is followed by a short section on diseases of the kidneys. After these considerable space is given to surgery of the extremities, fractures, dislocations, tumors, surgery of the joints, shock, anesthesia, and infections. Bier's method of induced hyperemia is recommended in the treatment of acute and chronic infections that are accessible to its application.

Several interesting topics are discussed in the chapter on genitourinary diseases. Among the more important of these are hematuria; ulcer, cancer, and tuberculosis of the bladder; various conditions of the prostate and testicles, sterility, and gonorrhoea.

The last section contains a review of literature that relates to

practical therapeutics. The writer says that it should not be understood that the use of drugs has depreciated, or that we will ever arrive at a time when drugs will not play a most important part in the treatment of disease. Yet there is, undoubtedly, an increasing tendency to emphasize the importance of hygienic management. Rest, regulation of exercise, ventilation, fresh air, and a suitable dietary are matters of the utmost importance, whether drugs are employed or not.

Important topics in this chapter relate to the value of adrenalin, alcohol, anti-diphtheric serum, and other serums, digitalis, thyroid extract, iron, quinine, fresh air, and exercise. A. E.

Cosmetic Surgery. The correction of featural imperfections. By CHARLES C. MILLER, M.D. Including the description of a variety of operations for improving the appearance of the face. 136 pages; 73 illustrations. Prepaid, \$1.50. Published by the Author, 70 State Street, Chicago, Ill.

Instead of "Cosmetic Surgery," it seems to me that a more appropriate title for this little book would be "Chirurgie Cosmetique," for when it comes to delicate, plastic work, one naturally turns to the French, and for description to the French language. It is a subject that has been somewhat neglected, but is none the less important, and Doctor Miller has made out a good case as to why the regular surgeon should give this question some considerable attention, rather than leave such things to the charlatan and quack. The illustrations are somewhat crude, but at the same time demonstrate very well what is in the author's mind.

F. N. G. S.

A Text-Book of Alkaloidal Practice. By WM. F. WAUGH, M.D., and WALLACE C. ABBOTT, M.D. Chicago: The Clinic Publishing Co., 1907. Canadian Agents: W. Lloyd Wood, Ltd., Toronto.

This book deals with the Treatment of Disease by the use of the active principles or the alkaloids of the different drugs, in place of the older method, whereon less reliance can be placed. To Drs. Waugh and Abbott must be given a large part, if not all, of the credit for the introduction and untiring efforts in behalf of alkaloidal therapeutics in America. Their theory, and it is no longer a theory, is winning out with almost marvellous exactitude, and thousands of practitioners have adopted the alkaloidal system of medication with the most satisfactory results.

The book consists of nine parts in all, viz.: Infectious Maladies, Fever and Its Management; Constitutional Diseases; Diseases of the Blood and Ductless Glands; Diseases of the Respiratory System; Diseases of the Circulatory System; Diseases of the Digestive

System; Diseases of the Genito-Urinary System; Diseases of the Nervous System, and Intoxications.

Turning to the treatment of broncho-pneumonia, so prevalent this spring, we find the authors lay stress upon the use in the acute stages of veratrine, gr. 1/134; aconitine, gr. 1/134, and digitalin, gr. 1/67, advising that the veratrine be changed to strychnine arsenate at the first indication of debility. To favor and aid resolution and fluidify the exudate, the authors advise strongly ammonium iodide or strychnine in "desperate" doses.

In acute bronchitis, aconitine amorphous gr. 1/134, atropine gr. 1/500, and morphine gr. 1/67, should be given together, and repeated every ten minutes till physiological effect is produced, viz., dryness of the throat, when doses are to be cut down in frequency, though the effect should be kept up.

The book, though new in theory, is a welcome addition to drug therapy.

W. A. Y.

Minor Surgery. By EDWARD MILTON FOOTE, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University; Lecturer on Surgery, New York Polyclinic Medical School; Visiting Surgeon, New York City Hospital; Visiting Surgeon, St. Joseph's Hospital; Consulting Surgeon, Randall's Island Hospitals and Schools; formerly Chief in Surgery at the Vanderbilt Clinic. Illustrated with four hundred engravings from original drawings and photographs. New York and London: D Appleton & Company. Price, \$5.00.

Dr. Edward Milton Foote, in his *Minor Surgery*, presents to the profession a book of the most practical nature. He covers fully and in detail exactly the class of surgical conditions with which general practitioners most frequently come in contact. He describes the treatment of many minor surgical processes which are almost untouched either by books on general surgery or the comprehensive systems of surgery. It will prove valuable to the older members of the profession by bringing some of their old-fashioned ideas up to date, although it is to be regretted that Dr. Foote has not seen fit to include such recently established principles as the treatment of acute inflammatory changes by vaccine injection or by the hyperaemic methods of Bier. It is almost needless to emphasize the infinite value of this work to both the surgeon in charge and the student in attendance at out-patient clinics, for it is from this class of cases that the author has drawn his data.

The book is divided into sections on the anatomical regions of the body, under each of which injuries, inflammations, tumors and deformities are discussed. The arrangement is excellent, and a good table of contents and index enable one to conveniently use it for reference. Original and well-finished photographs are pro-

fusely distributed throughout the book. If space allowed, one might mention numerous articles on particular subjects which are worthy of special attention. One cannot fail, however, to commend the author for including a chapter on the female genito-urinary organs, for which one usually has to refer to works on gynaecology. Other chapters deserving of special mention are those on anus and rectum, on dislocations and fractures of the hand, and on injuries of leg and foot, on bandaging and on surgical dressings.

The medical profession has waited long for just such a book as Dr. Foote has written, and will thank him many times for the admirable way in which he has accomplished his task.

E. S. R.

The Archives of Diagnosis. A Quarterly Journal devoted to the Study and the Progress of Diagnosis and Prognosis. Edited by HEINRICH STERN. Published by The Archives of Diagnosis, 250 West 73rd Street, New York. One dollar per year.

The first number of this new quarterly has just come to hand. Its purport is to publish papers which embody results of original work and investigation pertaining to Diagnosis and Prognosis. Some twelve special articles, covering 80 pages, are presented, most of them good, but contributing little that is new. A splendid review is given of the recent literature appearing in current journals, both American and foreign, on the subjects of Diagnosis and Prognosis. These are arranged under appropriate departments -- General Method of Examination, Respiratory and Circulatory Organs, Alimentary Tract, Nervous System, Urinary Organs, etc. The publishers state that no advertisement of whatever nature will be received for publication. There is a place for a journal such as this, and we wish it all success.

J. H. E.

A Text-Book of Pathology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York, and T. MITCHELL PRUDDEN, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Eighth edition. With 13 full-page plate and 650 illustrations in the text in black and colors. New York: Wm. Wood & Co. 1907.

As one of the leading text-books of Pathology, this book is almost too well known to require much commendation. The book, however, has been largely revised and over one hundred and fifty new illustrations have been added. It is rather a relief to note

that there is less bacteriology than in the former edition. This has become necessary from the very wide field which this book covers. As in former editions of the work, an effort is made to give students and practitioners a proper knowledge of how to make autopsies; the preservation of tissues and their preparation for microscopical examination. Then comes the consideration of infection and immunity, describing, with illustrations, the lesions of the acute infectious diseases and the micro-organisms inciting them. The various phases of degeneration and inflammation, characters of tumors, the lesions of the general diseases, of poisoning, and of violent deaths, and the lesions peculiar to different tissues and organs of the body are all thoroughly and concisely described.

For a thorough knowledge of post-mortem examinations, and on the technique of tissue preparation, this is perhaps the best book that any student or practitioner could obtain.

A. J. J.

Blood Stains: Their Detection and the Determination of Their Source. A Manual for the Medical and Legal Professions. By MAJOR W. D. SUTHERLAND, of His Majesty's Indian Medical Service, Doctor of Medicine. Paris, London, Madrid. London: Bailliere, Tindall & Company, 8 Henrietta Street, Covent Garden. 1907. All rights reserved.

Anything new on the subject of detection of blood stains will be at once seized upon by all those interested in medical jurisprudence, and this comparatively small book is practically a compendium of the modern tests by which the detection of blood stains and the determination of their source may be carried out. It is not written solely for medical men, but also for the Bench and the Bar. Much that is written in it will be quite new to all English readers. The writer has evidently written what he believed to be true. The large number of authors quoted shows the varied sources from which Major Sutherland has obtained his data.

This book is published in the United States by Wm. Wood & Co., New York, N.Y.

A. J. J.

A Manual of Pathology. By GUTERIE McCONNELL, M.D., Pathologist to the St. Louis Skin and Cancer Hospital and to St. Luke's Hospital, St. Louis, Missouri. 12mo of 523 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1906. Flexible leather, \$2.50 net.

Dr. McConnell discusses the subject with a clearness and precision of style that renders the book of great assistance to both student and busy practitioner. The illustrations selected are both useful and artistic. The author's extensive laboratory experience has given to the work a practical character.

Nisbet's Medical Directory, 1908, in two parts. Part I., Directory of Medical Practitioners. Part II., The Local Directory. London: Jas. Nisbet & Co., Limited, 22 Bemers Street W.

This Directory comprises in small bulk an alphabetical list of medical practitioners resident all over the world. We have taken means to ascertain the reliability of the information contained in this book, and we have reason for congratulating the publishers upon the outcome of their labors. The Directory gives the year of qualification of each physician, his diplomas, degrees and distinctions, as also his contributions to medical literature.

Part II. consists of a local directory, and contains the names of places where British medical men are resident in Great Britain, Ireland and abroad. The Directory sells in England at seven shillings and sixpence.

Diagnostics of Diseases of Children. By LEGRAND KERR, M.D., Professor of Diseases of Children at the Brooklyn Post-Graduate Medical School. Octavo of 542 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, \$5.00 net; half morocco, \$6.50 net.

Dr. Kerr has particularly emphasized the objective symptoms, indicating the importance of their correct interpretation. The constant aim throughout has been to render a correct diagnosis as early in the course of the disease as possible, and for this reason differential diagnosis is presented from the very earliest symptoms. Just sufficient of etiology and pathology has been introduced to assist in arriving at right conclusions; and sequelæ have been considered only to the extent that they may be anticipated and thus early recognized. The physician will find the many original illustrations a source of much information and help in his daily pediatric work.

The Essentials of Cytology. An introduction to the Study of Living Matter, with a chapter on Cytological Methods. By CHARLES EDWARD WALKER, Assistant Director of the Cancer Research, Liverpool, and Honorary Lecturer in Cytology to the School of Tropical Medicine in the University of Liverpool; formerly Demonstrator of Zoology in the Royal College of Science, London. Preface by PROFESSOR C. S. SHERRINGTON, F.R.S. London: Archibald Constable & Company, Limited, 10 Orange Street, Leicester Square, W.C., 1907.

Cytology, or the sum of our knowledge of cells, appears in this book as a distinctly specialized study, both in the scope of its observations and in the means of making them. The study of cell growth has always been one that has been of the greatest interest to microscopists, and this book seems to be distinctly in advance

of anything that has gone before it. The preface is written by Professor C. S. Sherrington, F. R. C. S., a gentleman well known to most Canadians on account of his original research, and from the fact of his having on more than one occasion given most interesting lectures in this country. The chapters on Cytological Methods contain practically everything that the up-to-date microscopist could wish for. A number of photographs contained in a pocket in the cover of the book are most interesting. A. J. J.

Manual of Anatomy, Systematic and Practical, Including Embryology. By A. M. BUCHANAN, M.A., M.D., C.M., F.F.P.S. (Glasgow), Professor of Anatomy in Anderson's College, Glasgow, etc., etc. Vol. II., 363 illustrations. London: Bailliere, Tindall & Cox. 1907.

This work from Professor Buchanan's pen is one of the most recent additions to anatomical literature. It is well gotten up in two handy volumes, clearly printed on good paper.

An Anatomy falls readily into the class of either an atlas, a text-book, or a dissector's guide. The modern writer on gross human anatomy can offer but few new facts—his claim to merit must lie in the arrangement of his subject, the fulness and clarity of presentation, and the effectiveness of his diagrams.

There are many familiar drawings and some original diagrams, many of them colored in a helpful manner. A very useful glossary is appended. With Scottish conservatism, the new nomenclature of the B. M. A. is ignored, which must be regretted. In view of the size of the work, perhaps the section on Osteology and Embryology would have been better omitted, and the book kept strictly as a dissector's manual. As such it would find a field of usefulness, for the descriptions are lucid and terse and presented with a very pleasing continuity. O. T. D.

Syphilis. A Treatise for Practitioners. By EDWARD L. KEYES, JR., A.B., M.D., Ph.D., Clinical Professor of Genito-Urinary Surgery, New York Polyclinic Medical School and Hospital; Lecturer on Surgery, Cornell University Medical School; Surgeon to St. Vincent's Hospital. With sixty-nine illustrations in the text and nine plates, seven of which are colored. New York and London: D. Appleton & Co. 1908.

Dr. Keyes gives in this treatise the result of, in all, nearly sixty years' experience in Syphilology, so that, though we have had presented to the profession during the last decade a good deal of literature on this subject, the latest contribution has a value all its own. A record of 2,500 cases of syphilis is one from which a good deal of information can be gleaned, especially when they largely comprise, not clinical cases in a hospital out-patient.

department that are dealt with hurriedly, but private patients that have been treated with some degree of care and intelligence. The book consists of sixty chapters, and makes a volume of between five and six hundred pages. The author commences by considering syphilis in relation to public health, going afterwards into the general characteristics, etiology, transmission, inheritance, diagnosis, and treatment. Under the latter head, Dr. Keyes goes fully into the administration of mercury and the mixed treatment. He devotes also several chapters to syphilis of the different organs of the body, skin, mucous membranes, the eye, bones, nervous system, muscles, air passages, liver, and genital organs. In the last two chapters he goes fully into hereditary syphilis in utero and in infancy, relapses, and late lesions. The author has given us a book that is practical, and, what cannot be said of many other volumes, one that is original.

The Battle Creek Sanitarium System: Its History, Organization and Methods. By J. H. KELLOGG, M.D., Superintendent. Battle Creek, Mich. 1908.

Any medical man desiring to get an epitome of Battle Creek Sanitarium, an institution that has experienced nothing short of phenomenal growth, and is now undoubtedly the largest sanitarium in the world, should write Dr. J. H. Kellogg for a copy of this brochure. It is not, as many might expect, altogether an advertisement of Battle Creek Sanitarium, but is, on the other hand, a picture of the advances made of recent years in the varied applications of scientific medicine, so successfully carried on in that institution. The brochure is interesting, instructive and worthy of careful perusal.

The Pancreas: Its Surgery and Pathology. By A. W. MAYO ROSSON, D.Sc. (Leeds), F.R.C.S. (Eng.), of London, and P. J. CAMMIDGE, M.D. (Eng.), D.P.H. (Camb.), of London. Octavo volume of 546 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, \$5.00 net; half morocco, \$6.50 net. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

This work is certainly the most interesting book upon the pancreas which has appeared for some time. It shows the character of completeness, which is perhaps not common in modern English works, and no matter what side of pancreatic disease interests the reader he will find it not only well discussed, but full references to the literature, so important in a monograph.

The first ten chapters are devoted to a discussion of the Anatomy and Comparative Anatomy, the Embryology, Physiology and Pathology. We note, by the by, that, although the authors very

fully discuss the structure of the Islands of Langerhans and their relationship to carbohydrate metabolism, and are apparently inclined to agree with Opie and others in regard to the significance of the changes in their structures in diabetes, yet they do not commit themselves positively.

A somewhat unsatisfactory part of the work is the discussion of Cammidge's reaction in diseases of the pancreas. It strikes me that the scientific basis for the conclusions is too slight, and that the reactions cannot be of the importance the authors would have us believe. On the whole, however, the book is a valuable addition to the subject of pancreatic disease. It is specially well illustrated.

J. J. M.

Proceedings of the Royal Society of Medicine. Vol. 1, Nos. 2 and 3. December, 1907, and January, 1908. London: Longmans, Green & Co., 39 Paternoster Row. Price, seven shillings and sixpence per volume.

We are privileged in having received the December and January issues of the Proceedings of the Royal Society of Medicine, which we had occasion to refer to in our February number. Each issue seems to be getting better and more elaborate. The two issues consist of an account of the clinical cases shown before the Clinical and Dermatological Sections, and also include the addresses delivered before the Electro-Therapeutical, Epidermiological, Laryngological, Medical, Obstetrical, Odontological, Pathological, Surgical, and Therapeutical Sections. As we have already stated, the Proceedings of the Royal Society of Medicine contains the cream of English medical literature. The paper used is the best and the type clear, distinct, and attractively readable.

Part 4 of Volume I. of the Proceedings of the Royal Society of Medicine consists of similar sections to the preceding parts, and is in itself a volume worthy of binding. In the clinical section, for instance, we find case reports by such men as Lockhart Mummery, F.R.C.S., Sidney Phillips, W. Sampson Handley, J. Graham Forbes, A. E. Barker, F.R.C.S., and Herbert French. In the dermatological section are found articles by such well-known writers as H. Radcliffe Crocker, J. H. Sequeira, and J. A. Ormerod. Under laryngology Sir Felix Semon, Herbert Tilley, F.R.C.S., and Cresswell Baker give cases and exhibit specimens. Part 4 of Volume I. is full up to, if it does not excel, its predecessors.

The Production and Handling of Clean Milk. By KENELM WINSLOW M.D., M.D.V., B.T.T. (Harv.), formerly Instructor in Bussey Agricultural Institute, and Assistant Professor in the Veterinary School of Harvard University; author of a text-book on Veterinary Materia Medica and Therapeutics; Chairman of the Committee on Milk of the Washington State

Medical Association, etc. New York: William R. Jenkins Co., Publishers, 851-853 Sixth Avenue.

The scope of this work may be gathered from the contents, viz.: Chapter I.—Germis in Their General Relation to Milk. II.—Composition of Milk and Cream and Their Products. III.—Milk Products. IV.—Feeding for Milk. V.—Housing and Care of Cows. VI.—Handling of Milk and Cream. VII.—Cost of Producing and Distributing Clean Milk. VIII.—Some Hints Concerning Milk Distribution. IX.—Milk Inspection. Appendix.—Plans of Barns, Milk Houses, etc.; General Outline of a Scheme for the Control, Supervision and Inspection of a City Milk Supply. Index.

While much of the book relates to the inspection of milk, and would belong to the domain of the medical health officer, most of it is taken up with problems of special interest to the dairy farmer. When the farmer learns that he can produce clean milk without great expense, in ordinary barns and milk rooms, and can, by so doing, make more money, even with the added expense, milk supplies will improve in quality.

For bottling milk at the farm the author prefers paper bottles to glass ones. He objects to the constant dipping into cans in retailing small amounts of milk, which causes the contamination of the milk. The book is finely illustrated. The type is clear and large.

J. J. C.

A Therapeutic Guide to Alkaloidal-Dosimetric Medication. By JOHN M. SHALLER, M.D., former Professor of Physiology and Clinical Medicine in the Cincinnati College of Medicine and Surgery, former Professor of Comparative Physiology in the Ohio Veterinary College. Second edition. Enlarged and revised. Chicago: The Clinic Publishing Co. 1907. Canadian agents: W. Lloyd Wood, Limited, Toronto.

There is perhaps no better way for an author to judge as to the merits of his book than by the reception it receives from its readers. Dr. Shaller, the author of "A Therapeutic Guide to Alkaloidal Medication," should be satisfied to think that several editions of his little book have been called for since it first came from the press. His volume consists of notes from his lectures delivered before the students of the Cincinnati College of Medicine and Surgery. It deals largely with drugs and their physiological action, and, though somewhat elementary for the average practitioner, is full of common sense, pointing out how important it is to study, first, normal physiological action, and then to apply the proper remedy to restore any abnormality found to exist.