

MEDICAL SCIENCE

ISSUED MONTHLY

VIDEO MELIORA PROBOQUE

TORONTO, JULY, 1888

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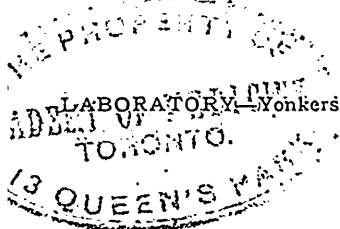
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MEDICAL SCIENCE

VIDEO MELIORA PROBOQUE

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SUBSCRIPTION, IN ADVANCE
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ORIGINAL ARTICLES.

MALARIA AS THE CAUSE OF DISEASE.

AN ADDRESS BEFORE THE ONTARIO MEDICAL ASSOCIATION,
BY DR. MULLEN, HAMILTON.

I PROPOSE to refer to malaria and enquire how far its influence is observed (as a cause of disease) in this Province. In doing this I am not prepared through enquiries in different parts to present information showing the prevalence of malarial influence throughout the Province, but shall only attempt to show to what extent its influence has been observed in my own locality, leaving to others to present to the Association the results of their observations on the extent of its influence in other places. It has been said of life that "what it is we know not, what it does we know well." Of malaria it has appeared to me that we do not know either what it is or very accurately what it does; perhaps, however, some scientist will tell us the special-germ to which it is due, and give us its life history, and someone may be able to show that the potent influences of malaria can be seen in cases where, as yet, I have not been able to detect them. I do not speak of malaria in the literal meaning of this word: for to speak of the disease-producing influences of bad air would offer too wide a field for discussion in our limited time and it might also encroach on the sphere of the public health committees or that of the Provincial Sanitary Board. I shall refer only to the influence of that miasma which is probably best known as the cause of ague. While with us it is mainly known through the ague which is more or less prevalent in the warmer part of the year in many localities of Ontario, it would seem that in some places it is better or commonly known through other effects which have been attributed to its influence. A

lady the other day in course of conversation referred to a friend who was subject to occasional attacks of headache and indigestion; she said that in her former residence in one of the western States, they had so much malaria that it still lingered in her system and sometimes cropped out in this way. Some time ago I had a patient who had lived in Chicago and she brought away so much of the malaria that prevailed there that she felt the almost constant necessity of a quinine mixture to meet the symptoms. Of course it may be said that these are the ideas of the laity, but in their expressions we generally have a pretty truthful reflex of the opinions which have been given by the medical men whom they have consulted. Several years ago a minister of the Gospel, resident in New York, gave me an account of the symptoms in his case, which were attributed to malaria. He had been dosed with quinine almost to the extent of the forbearance of the human body, by a prominent neuropathic physician, who also applied the galvanic current for the relief of the nervous symptoms, but without effect. My friend left that malarially inflicted city, and visiting a part of this Province to the east of Toronto, consulted his old family physician, who knew nothing at all of malaria, for it had not at that date infected that region, from him he received some blue pill and colocinth and some medicines to remedy certain functional derangements shown by the urine, and the malarial poisoning passed away. I do not doubt that the continued residence in a malarious district exercises prejudicial influences upon the health; such influences were noted by the first writer on the Practice of Medicine I ever read, Sir Thos. Watson. He says that in England

"such effects are not much seen, but in places where malaria is more constantly and abundantly present the race of inhabitants deteriorates; their stature is small, complexion sallow and yellowish, they are prematurely old and wrinkled; even the children early acquire an aged aspect." Later writers confirmed these statements, but it is to be noted that according to them the malarial cachexia is only to be met with in the most intensely malarious regions, and they do not justify the reference to it of various ills occurring as frequently in the cold as in the warmer parts of the year. I take it that ague is the typical disease whose phenomena occurring with marked periodicity we should bear in mind in considering malarial influences in other diseases; and before referring certain symptoms to malaria we should enquire how far that influence is shown in any healthy locality in producing ague. If we find that such cases occur at seasons of the year when marsh miasma is not likely to be generated, and if cases of ague are infrequent or if the morbid conditions present do not show some features of periodicity corresponding to those which occur in ague we should hesitate before referring them to this cause.

Last month, a patient who had given birth to a child about two weeks previously, after rising from bed began to suffer from hemicrania. The first attack occurred in the afternoon and was severe for about two hours; the next day it did not return; the day following at about the same hour in the afternoon the pain returned; she was advised to go to bed for a few days; a few doses of quinine were given and the pain did not again trouble her. This may have been a case of neuralgia depending upon malarial influence, and its recurrence upon the third day with complete freedom on the intervening day pointed to this, her residence also was in a part of the city, where, in previous years, ague had been ripe; upon the other hand, this patient had never suffered from ague. She had lost rather more blood than usual at the close of labor, and after rising the discharge had returned rather freely, this weakening the system and probably determining the neuralgic attack; the intermission of a day without pain is not unusual.

Early in the month of April last, a child aged 14 months, of not very robust constitution, was suddenly attacked with febrile symptoms and slight

cough, after being exposed in a child's carriage the day before, when the weather was somewhat harsh. The left lung presented indications of lobular pneumonia; after four days the febrile symptoms passed off. On visiting in the morning the temperature was normal. The following day I found that the fever had returned early in the morning, but had partly subsided at the time of my visit. The next day the temperature was normal, sweating having occurred as the fever subsided. A similar febrile attack followed the next day, after which quinine was administered in doses sufficient to prevent the recurrence if there had been a dependence upon malaria.

It was found, however, that notwithstanding the administration of quinine, the febrile attack recurred sometimes every day, at others, every second day, lasting from early in the morning till the middle of the day, and then gradually subsided with certain intervals of complete freedom from fever. The last febrile attack occurred after an interval of five days with the entire absence of fever. Such a case as this might, to some, appear to show the influence of malaria, but the child had never suffered of ague and no cases had ever occurred in the city, or indeed in the vicinity, to my knowledge. No doubt the exacerbations of fever were merely incidental to the pneumonic process in the lungs. The child recovered completely.

Several years ago I was called to visit a former patient who was under the care of a practitioner in the locality he at this time resided; this patient had presented a succession of chills followed by high fever and profuse perspiration, the chills came at regular intervals, sometimes of a day, and at others for a longer period; they had not occurred at the same hour of the day, and although the patient had had doses of quinine to the extent of from 40 to 60 grains in the day for almost a week, the chills returned after this. The patient suffered from pain in the lumbar regions more marked on one side and pus was found in the urine. He recovered from the illness and afterwards I had from time to time an opportunity of seeing him, and learned that he frequently suffered from the symptoms indicating the existence of a renal calculus.

Recently there was communicated to the Philadelphia Obstetrical Society the report of a case of *puerperal malarial fever simulating sepsis* in a patient delivered of a premature child by induced

labor on account of *placenta previa*; twelve hours after the temperature was $101\frac{1}{2}$ F.; the day following temperature $100\frac{1}{2}$ F.; in the evening of third day a severe (twenty minutes) chill, followed by fever and profuse sweating. These chills occurred daily for nine days, decreasing in severity, at times slight delirium, pulse rapid and full. It is said there was little tympany and no pelvic pain or tenderness and the lochia normal. The condition was attributed to malaria, not because the patient had suffered from ague, but the physician learned that during her pregnancy "she had suffered considerably at times, from an ill-defined feeling of lassitude and an aching of the whole body; and further, that the street on which she lived had been in a miserable condition, stagnant pools of water being allowed to remain, creating a favorable nidus for the germs of malaria." No marked change took place in her condition till the 17th day, when there was an abatement in all her symptoms and a rapid convalescence. When I add that the writer says the treatment consisted in large doses of quinine and stimulants, the amount of quinine given without producing cinchonism having been unusually large, in one dose 30 grains, followed in two hours by 30 grains more, it seems to me that there is reasonable grounds for suspecting that the case was one where *sepsis simulated malaria*. Formerly, ague prevailed in Hamilton and its vicinity to a considerable extent in the warmer season; it occurred chiefly to the western parts of the city and those bordering upon the bay. About four years ago we had one season of unusual prevalence. In that year the cases began to appear very early in April and continued in great numbers through the season. Since that the change has been marked, although some cases are met with every season. I cannot attribute this to any change noticeable to a marked extent in the condition of the localities. The malaria was largely referred to the Dundas marsh, in the west, which is still existent, and while the low grounds near the water are being filled up every year, yet the changed conditions in this respect are not so extensive as to account for the different degree of its prevalence, though probably the water level has been higher than usual during these years. It has been observed in other places that where intermittent fevers prevailed along certain rivers they have suddenly ceased without any known cause; and they

have been known to grow milder and less frequent and their disappearance without any change known in the conditions of the soil. It is quite possible that in other localities malarial influences are more marked than in our vicinity; in parts to the south along the Grand River and in some of the malarial districts in the west the average summer temperature is higher and the more severe effects may probably have been observed. I notice that in the returns of the Registrar-General of Ontario, each year some deaths are reported which may have been due to malarial influences. Some cases of bilious congestive and remittent fevers are reported each year. In the five years, 1882 to 1886, about 300 deaths have been returned. It is noticeable, however, that a large number of these deaths occurred in months when it would not be thought that malarial influences are potent. In the years mentioned, 130 deaths out of the 300, occurred in the months of December, January, February, March, and April. It does seem that if these cases have been due to malaria it is somewhat remarkable that a larger proportion should not have taken place at seasons when it is thought that malarial influences are most ripe. Having heard of some cases and seen others which have been called malarial fevers, I suspect that the research of the writer of the article on malaria in Zeimmen's Cyclopædia may be applicable to other places besides Germany. He says: "But not all those diseases which are regarded as remittent or continued malarial fevers in the tropics or in more northern malarial districts could maintain their claim to this title if subjected to the test of scientific criticism. Even the physicians of our own land are too liable to designate as malarial diseases attacks of pneumonia accompanied with jaundice, or simple gastric disturbances with or without jaundice, or mild grades of typhoid running an irregular course." If cases of remittent fever corresponding to those which are described by writers as prevailing in very malarious regions, have occurred in this vicinity, I have not seen them. In August, 1887, I attended a patient having a fever that set in sharply with marked symptoms of gastric and intestinal derangement, very difficult to control for almost a week; the fever did not show the marked intermissions which are seen in intermittents; then on my morning visit I found that the diarrhoea had ceased and the

temperature was normal. The following day the fever returned and in a high degree, followed by rapid decline and copious perspiration. A few large doses of quinine were given and no other paroxysm occurred. Some might say this was a bilious fever or perhaps gastric remittent, but it seems to me to have been one where the usual course of an intermittent was influenced by the gastric intestinal derangement. I have heard of some cases beginning as remittent and developing into typhoid. The usual course of a typhoid is to begin with a low temperature and gradually increase until a certain stage of the disease; but sometimes a patient in the early stage of typhoid will continue at his usual occupation until so prostrated by the poison that he is obliged to go to bed and call his physician; in such a case the fever may be so high at the outset as to simulate malarial poisoning; after a few days rest in bed without any anti-malarial remedies the fever subsides; if quinine is given, of course the same results occur, and to a physician whose mind recognizes the influence of malaria in such cases, this apparent result will confirm the idea. Again in the early stages of typhoid we sometimes find that chills, high fever and sweating will take place; but when we consider the morbid processes in typhoid it is easy to find an explanation of these febrile exacerbations without involving malaria as a cause; and the small effect of quinine in checking these phenomena justifies us in doubting such an influence. It is certainly incumbent upon us as practitioners of medicine to study carefully the cases we treat and avoid being led by the supposed presence of malaria into errors of diagnosis and the heroic administration of anti-malarial remedies which are not always harmless in their results. I need scarcely say that I do not think the whole truth regarding malaria has been presented; such is impossible for anyone forming his opinions in the narrow sphere to which individual observations are confined. We shall have a more correct view when we obtain the results of the observations of the members of this Association.

NEURASTHENIA

BY DR. D. CLARK, MEDICAL SUPERINTENDENT OF THE ASYLUM FOR THE INSANE, TORONTO: READ AT MEETING OF ONTARIO MEDICAL ASSOCIATION, JUNE, 1888.

THE name *neurasthenia*, or *neurastropia*, is as good as any term we can use to describe this nervous disorder. The class of patients to which this

formidable word can be applied is very large, and is growing larger day by day in this nerve-exhausting age. The patient's mind is "centred all in self." The woes and aches and pains—real or imaginary—such endure and which are recited to the physician with wearisome reiteration, are legion. The old story is to such ever new. The history of these multiform afflictions becomes an old friend in its familiarity. The weary doctor in his rejoinder can only *encore* his previous homily to relieve the recurring distress. The sad recital is repeated from week to week, and from month to month, until recovery or insanity has taken place. The concentration of thought on all the varied moods and feelings which the patient may possess intensifies the mental pain and aggravates the nervous condition. We know in our own experience how much mental anxiety or anguish depresses physical function. Fear is more distressing than pain, and tugs at the heart-strings with greater intensity. Out of this class come the many suicides who are not insane, and who leave behind them sensible but woeful epistles to friends or acquaintances.

In medical literature this complaint has been given many names, such as cerebraesthesia, brain exhaustion, general debility, nerve starvation, "run down," poverty of blood, spinal irritation, and other terms "too numerous to mention." This disease is not to be confounded with hypochondria, hysteria, or insanity. Each of these conditions is well marked and easily discerned by any observant physician. The morbid fears of insanity are usually definite and permanent, and accompanied by delusions, which are fixedly believed in by the insane patient. The neurasthenic, on the other hand, will tell you how unfounded are their extravagant ideas, and that they can temporarily banish these vagaries, but only to return again, like the swing of a pendulum. These ever-recurring whims pull down the physical energy, and the bodily depreciation reacts on the mental until the nerve masses and the physical activity are mutually put out of gear for the time. The functional want of harmony is bordering on the pathological.

The morbid fears of people thus nervously unstrung are as varied as are the individuals. The list of their fancies and wild imaginings is endless. All are based on some groundless alarm in respect to themselves or in their relation to others. Men full of energy and push succumb to the depression.

"Enterprises of great pith and moment," which in their best estate they would have gloried, without wavering, to have carried through successfully, now paralyze them in mere contemplation. The brain debility conjures up lions in the way, or mountains too high to climb over. The fears and forebodings of indefinable evil about to come, the unnatural and morbid dread of impending adverse circumstances have been the means of bringing about commercial or business disaster before friends see that worry of months, and it may be of years, has been rugging at the patient's heart-strings. The reserves of the nervous system, which we all have in store for emergencies, have been consumed, and the fagged-out system has no alternative but capitulation, which it never does without a struggle.

The neurasthenic may be divided into three classes:

1st. Those who complain of general weariness, becoming easily tired, having poor or capricious appetites, being restless, yet look fairly nourished and healthy.

2nd. Those who are evidently feeble. They are usually pale, thin, and show generally a waste of tissue and a breaking down without any evident local disease.

3rd. This class contains those in which we find a hysterical condition and anæmia, in chlorotic females.

It is well, however, in all such cases not to jump too hastily at conclusions, lest organic and local disease should exist, and the nerve conditions only prove to be symptoms indicating permanent trouble, which may need special and direct treatment. I have made mistakes myself in this direction, and many cases have come under my care in which my professional brethren have been guilty of the same sins of omission. Be thorough in your examinations.

All these phenomena are defects, outside of brain diseases, of a permanent character. The identity is not present, but the family resemblance is striking in this brood of evils which border on insanity. The want of sleep, followed by a low power of thinking in the pursuit of daily business; the weakening of a power of attention and a desire to wander from necessary thought; a shrinkage from doing a business which heretofore was a delight; becoming abnormally wearied in mind when doing routine and ordinary work; not the natural

facility to put ideas into words, and an unnaturalness of temper in respect to small matters and on small occasions; and change of manners and feelings to near friends and relatives without any just reason, are cardinal characteristics.

We often meet with the other psychical extremes, such as unusual and constant buoyancy of spirits, mental exhilaration not natural, loquacity and flightiness, which are observed by everyone except by the individual himself. So marked are those changes of character, that many such are accused of having become drunkards. The accusers do not know that these symptoms are signals of distress. The indecision of the will, the bewildered judgment, the lack of self-control and of discretion, the excitement, alternating with unaccountable mental depression may be only temporary and evanescent, or they may be "coming events casting their shadows before."

If there is any hereditary taint of insanity, or any serious neurosis existing, then these evidences of physical and mental deterioration are not to be lightly thought of, for any such condition may evoke from latent tendencies active diseases of an alarming character. The deficient mental control of sane people thus afflicted is a psychological study of great interest. They know how absurd are their fears and forebodings, yet no reasoning can shake them off or remove the general nervousness. The hopelessness, the silly fancies, the unnatural dread of being in company or of being alone, the fear of contamination in many ways undreamed of when well, the undefined terror on walking certain streets or living in isolated houses, and the general sense of ill-being with a dread of something undefinable about to happen, are only a few of the many psychical conditions found in the neurasthenic. The most pronounced manifestations underlying these morbidly tinged conceptions and misconceptions are timidity, irresolution, and, usually, irritability of manners and speech not natural to the person. This state of feeling has a defined period of invasion, and has not been gradually acquired through daily experience and repetition, nor is it a congenital trait of character. This abnormal condition is often the primary stage of insanity. It is interesting to note how conversely we often find insane convalescents show merely this modification of mental weakness in the last stage before recovery. Just as the colors of the rainbow, or

those of the spectrum, blend into one another so imperceptibly that no boundary between each shade can be located, so it is often difficult to know by observation, or to define in language, where the dividing line, in many cases, is between it and the disease we call insanity; nerve-starvation is not, however, *a fixed physical disease and does not affect and control abnormally the language and conduct of an individual*, as in insanity. The physical condition is not to be overlooked. We often find abnormal dryness of the skin and mucous membranes, tenderness of the spine in circumscribed places, as, we often find in hysterical women. Complaints of feeling heaviness of the loins and limbs; shooting pains simulating those of ataxy, irritable heart-action, best known by a tremulous, variable pulse accompanied by palpitation and it may be intermissions of beats, mostly the third and fifth beats; convulsive movements, especially on going to sleep, which have often been mistaken for nocturnal epilepsy; localized hyper-æsthesia; sudden giving out of general or special functions; temporary paresis, or it may be paralysis, and *generally a feeling of profound exhaustion unaccompanied by positive pain*. Some graphically say: "They have a feeling of *goneness*."

It need scarcely be added that these signs and symptoms, as a whole, are not to be found in any one patient, nor are all enumerated in the above recital. When the imagination has full sweep, based upon feeble or no impressions, then has it "no pent-up Utica." The usual diagnostic and differential skill will enable any one readily to distinguish this disease from either hysteria or ordinary anæmia. It is not chiefly found to exist in naturally nervous persons.

A patient may be plethoric and muscular—not necessarily anæmic, and yet have impoverishment of the nervous system. *Neuratropia* exists chiefly in patients between the ages of 25 and 50 years. Its existence does not depend on any important recognizable organic disease. I have found in a majority of cases a full, normal pulse, but sometimes it is very rapid, or abnormally slow with a fluttering feeling under the finger. There is no cardiac-disease present in most cases, and the face may look the picture of health. The patients will often apologize for their satisfactory appearance. In spite of apparent strength such are easily

fatigued by mental exertion, and complain of giving out long before the usual time of resting. The memory is often temporarily weakened; consecutive thinking, intense attention, or sustained mental activity of any kind, is found to be impossible, even when there is no muscular fatigue. It is at this stage, when insomnia is complained of, usually to be followed by mental depression and by distressing forebodings of some impending calamity, which they cannot define. It is a general sense of ill-being and ill-happening. It is common to both sexes, but is more common in the male sex. A frequent mistake is made by medical men in attempting to lecture such patients out of their notions about themselves. This will only deepen the morbidity and intensify the evil. It is best to accept the evil as a fact, but to raise hopes for the future in a *sunshiny* way. This is mental therapeutics.

No two cases can be treated alike. If it is a case merely of brain exhaustion, then our main reliance must be upon vigorous out-door exercise and light mental exertion. The muscular and organic life can do much through activity in bracing up the nerve centres. If we have an anæmic case, or one in which there is evidently exhaustion of the cord, especially in chlorotic women, then absolute rest and quiet are indicated; digestive power and hygiene are our auxiliaries. I am a great believer in the "gospel of fatness," or alimentation—not over-feeding, but what the system can fully assimilate. It is nerve nutrition which we have to do with, hence the necessary pabulum must be provided. Such usually recover but gradually, and so slowly as to discourage patient, friends and physicians. The fact is, that all nerve deterioration needs a protracted time to recuperate, and it is well to set out in treatment with this understanding by all, that this depressing condition has invaded the nervous system by slow approaches, and that it will leave the seat of disease with reluctance, under the most favorable circumstances. It is necessary to start out with a large stock of patience in treating such cases.

A close catechising of a number of young persons has led me to believe that this abnormal condition is often brought about, or at least intensified, by the vicious habit of self-abuse, or from syphilis. It is also well to make minute enquiry as to the existence of the mild form of

epilepsy, especially of the nocturnal or *larvated* or masked variety, which is often over-looked; yet by its enervating shocks not only does it pull the system down, but also keeps it prostrated when the mischief is done. A rigid enquiry on these points is of paramount importance in diagnosis of many cases. I am inclined to think that the abnormal mental conditions are always secondary, and that the primary trouble is in the sympathetic and spinal systems.

The constant complaints of unusual sensations in one or more of the abnormal organs are evidence of this. The heart's irregularity, the atonic dyspepsia, the obstinate costiveness, the kidney derangement, and the temporary dyspnoea, all point to these great nerve centres as the efficient causes of these derangements.

If we keep in mind that in the neurasthenic we have mostly to do with reflexes of the sympathetic system and the spinal cord, including all the organs to which nerve stimulation is given from these centres of influence and control, we can understand how varied must be the symptomatology of this generic disease. If we add to these disturbing causes a tendency to insanity, or at least find a nervous diathesis predominating, then, of necessity must our prognosis be less favorable. I have found that those who usually complain of pain in the back, show that the spinal nerve function is temporarily deranged. This fact is evident when we find the oxalates, the urates, and uric acid in excess. These are present only as results, and are not pathognomonic, as in oxaluria, because on a return of tonicity in the nervous system these abnormalities disappear. They are at first only signals of distress, which warn us of greater evils should the disease intensify and continue. The pathology of the disease is not yet fully determined. It may be a change in the *quality or quantity* of blood supply to the nervous system, it may be an impoverishment of nerve force, it may be bad nutrition from low power of assimilation; one or all of these causes, or others yet unknown, would account for the exhaustion, the positive pain, the unsteadiness, the fluctuating character of the morbid sensations and phenomena. Whatever may be the *cause* or causes they result in nerve starvation, the cry is for more food and for more reserve energy.

Let me summarize the treatment:

1st. Rest and cheerfulness for the anæmic.

2nd. Outdoor exercise and work for the plethoric and sedative.

3rd. Fresh air, substantial food and absolute cleanliness for both classes, as a rule.

4th. No chloral, no opium, no alcohol; in short, no artificial stimulant, soporific or narcotic, of any kind. Three hours of natural sleep or rest have in them more recuperative power than nine hours of stupor or drugged quietude. Such short cuts to rest only murder natural sleep and strangle the heroic efforts of nature to come back to normal conditions. Even when these stilts are used, it must be after serious and thorough deliberation.

5th. Any employment which will have a tendency to divert the mind away from self-contemplation and, in short, seeking relief by the law of substitution.

6th. I find the best remedies are such as the arsenites, cod liver oil, zinc phosphide, ferrum pyrophosphate, nux vomica, bromides with caffeine, zinc oxide with ergot, and such like.

These tonics and calmatives assist nature to seek again the old paths. Allow me to add a word of warning to the younger members of our profession. If sedatives, or narcotics, or stimulants are administered, it is well to mask them as much as possible. We all know their seductive power, and I have been told by dozens of victims to the alcohol, chloral or opium habit, that the first knowledge they had of the pleasurable potency of such drugs was received from the family physicians. After their visits ceased the remedy became a luxury, and the druggist was applied to for the material to inflict infinite injury to many a valuable life. My method has been to use some menstruum which would disguise the taste and smell of these drugs and to maintain a stubborn silence as to their presence in my prescriptions. This warning is given here, as there is a great temptation to use them in neurasthenic cases, in which are found insomnia, local pain, and mental distress.

PATHOLOGICAL NOTES FOR 1887 OF CLINICAL INTEREST.

BY DR. McCALLUM, LONDON.

Mr. President and Gentlemen:—The past year's work on Physiology and Histology having a Pathological and Clinical bearing is the subject of my paper. Let us consider the subjects under the following heads:

i. *Respiratory Physiology.*—In this field two

facts can be considered worthy of our attention, *i.e.*, certain experiments on the pleura and Von Fleische's theory of the heart-beat aiding the oxidation of the blood. A certain London physician (*New York Med. Record*) in experimenting on a large number of living dogs by opening the pleural cavity found that collapse of the corresponding lung occurred in a very small percentage of cases. But if the dog were dead for any length of time before the operation, the corresponding lung invariably collapsed. He offers the following explanation that the pleural secretion has the power of keeping the pleural surfaces in apposition during life. Our former teaching in Physiology has done much to retard the surgical treatment of disease of the pleuræ by warning the student and surgeon that opening this cavity would be followed by collapse of the lung.

With regard to the heart-beat aiding the oxidation of the blood, Prof. Von Fleische, of Vienna, has lately advanced the theory that the jar given by the heart to the blood is an important factor in freeing the latter of carbon dioxide. He bases this theory on the law of Physics, that a fluid holding a gas and solution or weak chemical combination having suction applied to its surface will very readily give off its gas if it be subjected to a smart blow. This would lead one to believe that blows to the chest in a feeble heart would aid in the elimination of carbonic dioxide.

2. *Cardiac Physiology*.—Much work has been done in America by Mills of Montreal and Martin of Baltimore in this department. Mills' paper read before the Canada Medical Association, on a plea for a better cardiac pathology, did not receive the credit it deserved. Da Costa's recent discovery in pathological anatomy of a nervous origin to the heart complications in Bright's disease was well foretold by Mills in this paper. Prof. H. Newall Martin, of Baltimore, has demonstrated by carefully conducted experiments on the coronary arteries of the heart that they fill by blood pressure alone and their pulsation is simultaneous with that of the carotid. It must follow, therefore, that in disease of the aortic valves, whilst good blood pressure is being maintained there can be no degenerative changes in the heart muscle unless the coronary arteries are themselves affected.

Gaskell (*Jour. Physio.* Vol. VII., p. 451) makes some interesting investigations into the electrical

changes of a quiescent cardiac muscle. He maintains all tissues are supplied by two sort of nerves which he named anabolic and catabolic. The function of the first is inhibition, of the second contraction. These ideas he attempts to confirm by vagus stimulation. Stimulation of the vagus in the neck of an animal provokes a positive variation in the muscle of the auricle; while contraction of the same muscle is accompanied by negative (electric) variation. By using a small dose of atropine in a partly detached portion of auricle (heart of a tortoise) paralyzing the inhibitory action and operating during repose, the positive variation was prevented when the nerve was stimulated. By the anabolic process, Gaskell means that the muscle fibre is undergoing nutrition, and that while so doing it is incapable of work. Inhibition means, therefore, storage of nutrition in the muscle fibre, while contraction or catabolism breaks down the products of nutrition. Inhibition of the heart being a nutritive process would not frequent stimulation of the vagus be proper treatment for degenerative changes in the heart muscle?

3. *Digestion*.—Bacteria in relation to digestion have been receiving a goodly share of attention. Pasteur published in August last his researches (*L'Union Medicale*, August, 1887), on seventeen kinds of bacteria (found in the mouth) on articles of diet. Seven dissolved albumin, ten fibrin, six casein and seven partly converted sugar into alcohol. Pasteur's conclusions were that many micro-organisms were useful in digestion. But these conclusions stop short of the truth. True enough, bacteria convert proteids into soluble material, but this material will not only fail to nourish but in many cases act as an irritant poison to the tissues. These toxic products of mycology are now known by the name of ptomaines. Since Pasteur found and cultivated six of these bacteria from the faecal matter there can be little doubt that ptomaines are generated in a healthy intestinal canal, through more freely in a catarrhal condition. How, then, is a toxic condition prevented in a normal body? Roger, of Paris, (*Gazette de Hôpitaux*, 1887), has proved that ptomaines and medical alkaloids are destroyed to a great extent in the liver, so much so that the latter are twice as potent given subcutaneously as by the portal vein. Rogers brought forward facts to prove it was the glycogen which exercises this protective function. The liver

is not the only organ said to possess antitoxic function. McNum (*British Med. Jour.*, January, 1888) works up a claim for the suprarenal capsules. German physiologists have been advancing a similar claim for the thyroid gland. Lauder Brunton (*Disorders of Digestion*) has a peculiar explanation for the bitterness of bile (which he asserts is not always bitter), i.e., it is bitter by virtue of the ptomaines it contains (all cadaveric alkaloids being bitter). He goes further and asserts that all symptoms of jaundice are due to the ptomaine in the absorbed bile. This, if true, and there is good reason to think so, would throw light on many a clinical feature in liver disorders. Another matter of clinical interest is Langendorff's studies on sugar formations in the liver (*Archiv für Physiologie*, 1886). It is well-known that strychnine and curare produce, when administered to animals, artificial diabetes. Langendorff found this due to the action of these therapeutic reagents on a nervous centre; for when the spinal cord was destroyed about the fourth dorsal vertebra in frogs these drugs fail to produce diabetes. If this region were intact, but the other parts of the nervous system destroyed, strychnine operated in producing diabetes. This points to a nerve centre which calls the liver cells into activity or produces vaso-dilatation of the liver capillaries. This is not all. For the production of diabetes by strychnine the presence of the liver is necessary, while curare will act without its presence and the amount of sugar excreted is as great when the liver is removed as when it is present. Before leaving the subject of digestion I would like to draw attention to Bunge's views on the assimilation of iron (*Zeitschrift für Phys. Chemie*, 1885) found in albuminate of iron, in the yolk of eggs, milk, etc., which was very stable, only strong chemical agents setting the iron free. Sulphuretted hydrogen and sulphide of ammonia separate the iron as an oxide in a couple of hours at body heat. He named this albumin "hæmatogin," believing that it gives rise to the hæmoglobin of the blood. Working on this line Bunge assumes that in anæmia this albumin is decomposed, the iron being converted into an inorganic compound which cannot as such be assimilated by the system. Putrescent changes in the food stuffs in catarrhal conditions effect this decomposition by generating sulphuretted hydrogen, etc. Bunge considers that iron administered in anæmia is not absorbed and assimilated, but combines with sulphur, hydrogen,

etc., etc., and so protects hæmatogen of the food from decomposition. He finds a proof in the good effect of intestinal antiseptics in anæmia. In regard to the occurrence of iron in the body, Zalewskii's experiments are of importance. He isolated the combinations of iron occurring in the liver cells and found that the combinations could be put under two classes. One, the inorganic which occurred in very small quantities in the cells and easily detectable; the other in which the iron is held in very strong combination and needs powerful reagents to separate it. The latter compounds were obtained from the nucleus, and presented all the characters of the nuclein class. These experiments of Zalewskii raise the question whether iron is not present in the nucleus of every living cell. Its presence in the nucleus and in combination with nuclein, which has been so well termed the "ground substance of life," points strongly to the view that iron is absolutely essential to the life process of the cells. The old view was that iron entered into combination with hæmoglobin only in the economy. At the present time researches show that hæmoglobin is a degradation product of the constituents of the nucleus holding iron in combination. The tendency of research has been to show that iron does not enter the body in the form of ordinary salts, but in combination with such complex proteids as nuclein and that only vegetable protoplasm is capable of affecting a combination between iron and albumen.

4. *Blood*.—Gaglio (*Arch. für Anat. & Phys.*, 1886), established the occurrence of lactic acid in blood of normal rabbits to the extent of 5%, in dogs, 8%. Berlinerblau (*Arch. für Experim. Pathologie*, 1887), also finds that lactic acid is normally present in human blood. We have yet to discover its relation to rheumatism and rachitis. In this field of physiology there has been no better worker than Prof. Osler. His views that the white blood corpuscles do not develop into red, and that the function of the blood plaques of Osler is the generation of the fibrin ferment are now generally accepted by physiologists.

5. *Urine*.—Posner (*Arch. für Anat. & Physiologie*) maintains that albumins, more especially peptones, are present in the urine of every individual, but the amount is so small that their presence can only be demonstrated after concentrating the urine by evaporation.

6. *Histology*.—Great improvements have been made in the methods and reagents in staining, hardening and fixing tissues. Flemming and Strassburger have done an immense amount of work on the cell, but it was left for Carnoy to complete these studies. He makes four divisions of cell protoplasm: 1, the granules or chromatine bodies; 2, connecting rods between these chromatine bodies in the nucleus he named caryoplasma; 3, these connections without the nucleus he named cytoplasma; 4, the fluid in the cell he named enchylema. He rightly asserts that the chromatine bodies are the seat of life. They are diminished after secretion and exhaustion and absent in slow death of the cell, as may be seen in cell death from amyloid, colloid, or mucoid degeneration. In the light of this histology, I think there can be no doubt that

amyloid material is the enchylema or lifeless fluid, plasma holding ptomaine in weak chemical combination or solution, the latter giving the diagnostic color with staining reagents.

One more point: When I have referred to the late work done on the terminations, I have done (I have not touched on the late physiology of the nervous system). Pfluger, of Germany, demonstrated the nerves entering into the cells of the parotid gland. McCallum, of Toronto University, demonstrated the nerve terminations in the epidermis and liver. In each of these he found the ultimate endings were in the network of the cell or nucleus. The abnormal relation of the cell to the nervous system, I feel sure, will yet be the pathology of carcinoma.

EDITORIAL

THE ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

THIS, of all the medical meetings in Canada, the largest, and in some ways the most interesting and important, held its annual session in the Normal School on Wednesday and Thursday, June 13th and 14th. As usual, the weather at this time of the year was perfect and the many members from outside Toronto apparently had made up their minds to profit by the meetings, and at the same time enjoy thoroughly their brief holiday.

The Committee of Arrangements have to thank the Secretary for his untiring endeavors to make the meeting move off smoothly, and in this he succeeded admirably. The number of American guests promised, failed somewhat in its realization, but conspicuous by their presence were Dr. Fox, New York, Dr. Johnston, Danville, Ky., and Dr. Rice, of New York. These gentlemen at the afternoon session, and prior to the President's address, were introduced to the Association and cordially welcomed. The address of the President, while somewhat extended, dealt rather with the general prospects of the Society and medical science than with any special subject. His suggestions that the Association affiliate with the British Medical Association, and that this Association establish an official journal were timely, and

we will doubtless see steps taken in such directions when their practicability is more apparent. Regarding the number of papers on the programme, as well as regards the character of some of them, remark, as would be expected, has not been wanting; and we are much inclined to think that the Committee on Papers are not doing all that might be done in obtaining all the best papers for the Association which the profession of the Province is capable of. Too many papers must necessarily lower the standard of the good papers, while they practically make impossible discussion on subjects which are of greatest interest and importance. This question of selection is, however, a most difficult one in all societies, and one which a committee has to deal with very *gingerly*; but we think more members would attend were they assured that *cases* were not to occupy the larger portion of the time of the meeting.

One who has opportunities for visiting similar American Associations cannot, we think, fail to be struck with the high relative quality of the Ontario profession as a whole. We speak after some experience and feel proud, as Canadians, that our professional status is high and grows year by year. Our fervent prayer is, *Crescat!* The development of electrical energy at the last session over the question of the election of the Secretary was, to say the least, unfortunate. We have endeavored to get at the origin of the trouble, and candidly confess

to the opinion that, if not in spirit, at least in letter, the action taken was unconstitutional; but would add to this the conviction that the character of the clause of the constitution dealing with elections is of such a nature as to be sadly in need of alteration, and which, if allowed to stand, is certain to lead to further trouble in the future. The Committee on Nominations, so the clause reads, must have the names of candidates whom any member may wish to propose for an office, submitted to them for consideration. The committee brings in a report which is as usual a majority report, and any candidate dropped by this committee is, we think, thrown out; since after the report has been submitted, *the Society may proceed to elect*. We suppose it competent for the Society not to accept the report and refer it back to the committee, but if that committee choose not to report this or that name, the election is blocked according to the constitution as it stands. The rump of a committee in this case did bring in a report with the name of another candidate; but the facts that this was at a last session when few members were present, and as stated, the committee only small, were, as might be expected, sure to cause trouble. It has been made abundantly manifest that the constitution is defective in making it difficult to have the Association, as the final popular tribunal express its wishes, except by a circumlocutory process, and we trust that it will be as soon as possible altered so that in open session other names may be presented to the Association in addition to such an one as may be the choice of the committee.

THERAPEUTICS OF DIPHTHERIA.

MUCH has been written on the above subject and much might well, it seems to us, have been left unwritten; but the preeminent importance of the subject causes us to refer with very great pleasure to an address on this subject, read before the Philadelphia County Medical Society, by A. Jacobi, M.D., of New York. We have referred before now, both by notes and editorials, to the first fact which Jacobi refers to, and it is one which, even yet, a certain class of older practitioners seem very loath to accept. He says: "Diphtheria is a contagious disease. Severe forms may beget severe or mild forms. Mild cases may beget mild or severe cases. What has been called follicular amygdalitis (or tonsillitis)

is diphtheria in many, perhaps most instances. It is seldom dangerous to the patient, because the tonsils have but very little lymph communication with the rest of the body. But the diphtheria variety of follicular tonsillitis is also contagious. This mild variety is that from which adults are apt to suffer. . . . With this variety the adult is in the street, in business, in the school-room, in the railroad car, in the kitchen and nursery. With this variety parents, while complaining of a slightly sore throat, kiss their children." The following quotation we conceive to be of the greatest importance, and recommend it to our many readers who may have been in doubt as to their duty in such a case:—"Wherever it is suspected it ought to be looked after. Where it is seen, it ought to be isolated and treated, less perhaps for those who are sick, than of those who are in serious danger of being infected. This is the more necessary, as this form is apt to last long and give rise to repeated attacks. But it is not only the mild variety that is likely to last long. Serious undoubted cases are also apt to last for weeks, and some of them for months. As long as they do persist they are contagious. These reminiscences and quotations from former writings must justify the preeminent place I claim for preventive treatment." The writer thereafter discusses most thoroughly and practically the isolation treatment of cases of the disease and, we notice with delight, refers to a suggestion of his before the New York State Medical Society, at its meeting in 1882, which has resulted in the William Parker Hospital of New York, for the benefit of those suffering from diphtheria and scarlatina. "The erection of a sufficient number of temporary houses would be a still greater blessing to the poor and a greater protection to the public at large. Surveillance of all persons, especially children, who have been exposed to the disease should be carried out." Regarding the dangers to the public, he remarks: "In times of an epidemic every public house, theatre, ball-room, dining-hall, and tavern ought to be treated like a hospital. Where there is a large conflux of people there are certainly many who carry the disease. . . . Livery stable keepers, who would be anxious to destroy the germs of small-pox in their coaches, must learn that diphtheria is as dangerous a passenger as variola, and what is correct in the case of a poor hack is more so in that of a railroad car, whether emigrant or

Pullman." In reply to the question whether such measures would not be opposed, he says: "Certainly there will be, exactly as there was when municipal authority commenced to compel patients to keep their children from school when they had contagious diseases in their families." . . . In such cases it is not society or the state that tyrannizes the individual; it is the individual that endangers society."

On personal prophylaxy, his remarks are extremely timely inasmuch as they set forth in an admirable manner the relationships of the disease. "Prevention can accomplish a great deal for the individual. Diphtheria will, as a rule, not attack a healthy integument; be this cutis or mucous membrane. The best preventive is, therefore, to keep the mucous membrane in a healthy condition. Catarrh of the mouth, pharynx, and nose must be treated in time."

For chronic pharyngeal and laryngeal congestions he recommends *pimpinella saxifraga* as being of great value.

Again, "The presence of glandular swellings around the neck must not be tolerated. They and the oral and mucous membranes affect each other mutually. Most of them could be avoided, if every eczema of the head and face, every tonsillitis and rhinitis resulting from uncleanness, combustion, injury, or whatever cause, were relieved at once. A careful supervision of that kind would prevent many a case of diphtheria, glandular supuration, deformity, or phthisis."

On the matter of treatment he says no hard and fast line can be laid down. It is necessary to deal with symptoms and complications as they arise. The various details of treatment of symptoms is then gone into most thoroughly, and he speaks of the local treatment of pseudo-membranes, by mercurials and especially favorably of steam, especially medicated, and favors what our experience has proved so beneficial, turpentine and carbolic acid in the water. This action in its early stages we again notice is aided by jaborandi. He refers to the dangerous character of diphtheria of the nose, and recommends carefully-given nasal injections of common salt-solution or bichloride 1-5000 parts. He goes on to speak of the dangers to life through heart paralysis, and recommends carefully-given digitalis and alcoholic stimulants. Of general tonics, iron must be freely and conscientiously given. He fin-

ally commends favourably, bichloride of mercury in minute doses frequently given in laryngeal complications.

Altogether, the paper is the completest summary of the true clinical character of the disease we have ever seen, and fulfils even to the minutest details, the essential points of treatment which, in our hands, have proved successful. We recommend the careful perusal of the paper.

A SUMMER HOLIDAY.

IN a country so new as Canada and blessed with inland lakes of unequalled size and convenient of approach, and with a river like the St. Lawrence inviting to an excursion over its blue waters till one reaches the Gulf, and the "ever restless and homeless ocean," the question is not so much of "where one can go for a holiday," as "will he take any holiday at all." Many are inclined to discuss very seriously whether the trouble of getting ready to go, the going, and the inconveniences of travelling, and of the health resort hotels, when one gets there, do not more than counter-balance any good effects one may obtain by a summer holiday.

They look upon their cosy, trim up-town residence, made fresh and cool every evening by the lawn sprinkler, as the *ne plus ultra* of comfort, which further enables them to pursue, with uninterrupted labor, the struggle for the "mighty dollar." There are, indeed, circumstances which may make this argument good and reasonable. Some of these are: the difficulty of leaving a family of children behind, and the equally great difficulty of travelling with them; to others the question of expense and the loss of business entailed by the holiday are cogent; while to a third it may be that the social customs and habits of the *habitués* of summer resorts are wholly opposed to the idea of a holiday. Granting that these many reasons serve to keep a number at home in the city or town, and that they content themselves with the short, pleasant, daily trips by boats which are now to be found everywhere, still, the fact remains, that the primary good and the strongest argument for a summer holiday, is that it means physical and mental change and relaxation. In those older communities of Europe, where, for generations, the science of "how to live" has been studied with all the ingenuity which people of position, leisure, and wealth have been capable of, this one point has been clearly

arrived at, until it can no longer be considered good form to remain in town in Britain after the 12th of August when grouse shooting begins; and should the pecuniary circumstances render holidaying impossible, the fiction of brown paper in the drawing-room windows is gravely carried out, with the notice that letters and parcels be left at the warehouse down town. Underlying this fashionable excess upon a good custom is however the fact which, as physicians, we are forced to realize, viz., that the daily routine, even of prosperous employment, means nervous exhaustion. The same nerve cells and the same muscles are day after day called upon to perform their accustomed task, often to the neglect and exclusion of the use of other parts, the stomach gets no great change in the food or the manner of its cooking, the eye becomes an organ accustomed to seeing the same old things so frequently that one almost comes to fulfil the scriptural description of "having eyes but seeing not," and the same may be said with reference to the town sounds, which so constantly are impinging upon the ear that it ceases to hear. All of this wears, however, whether we are conscious of it or not, and becomes a monotony of nature which simulates the task of Sisyphus. Its end neurasthenia, or nervous exhaustion, we all know, but knowing decline, probably more than any other profession, to see that the moral which it points applies to us. The worn physician keeps toiling up a hill, whose top he never touches; he becomes fearful for this or that ordinary case, be-

lieves that it will die, if he leaves that he will be considered as neglecting his practice, that others may go but he must stay just till this one is better, and finally that he will lose his practice, and his historic enemy, *the other fellow*, will get the patients. The hard-worked country physician gets fresh air, but he fails in health; why is it? The results of infinite labors, night and day; he works, loses rest, has irregular meals, is anxious regarding the sick. Lauder Brunton, some years ago, well described in *Practitioner* the effects of this continued mental strain. He says in effect: One goes to the Welsh mountains or to the Scotch moors and undergoes daily and unusual fatigue. He stops thinking, his brain rests, his sleep is dreamless, his appetite is enormous; but his eye brightens, the step becomes full of vigor. He returns after his month of holidays a new creature, work sits lightly on him, unfinished tasks are taken up and performed with pleasure, and so he runs on through another year. We demand of our fellow practitioners that they apply to themselves somewhat of the same cordial and healing balm, which they recommend to their patients; and hope that year by year we shall hear of physicians applying for a *locum tenens* to take care of the interests of the patients while they stop work and go away, whether to breezy uplands or to the shores of the much resounding sea, and seek in change that recuperation which wearied nature often so urgently demands.

INDEX OF PROGRESS

SURGERY.

Address on General Surgery.

BY E. M. MOORE, M. D., ROCHESTER, N. Y. DELIVERED AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION, MAY 9.

A general view of the relation of surgery and the surgeon to the community in which he lives might be of interest to the devotees of this broad field of inquiry. This must revive well-known stories and allude to present movements familiar to all; but they contain triumphs which always stir the heart of the true surgeon. Pope, in his couplet, has interpreted the thoughts of Homer of 3000 years ago, when he sang that

"A wise physician, skilled our wounds to heal,
Is more than armies to the public weal."

Notwithstanding Homer's complimentary opin-

ion, the surgeon has always found an influence that overshadowed him till very recent times. The progress of his knowledge for long ages was fearfully handicapped by the supernatural; indeed, this still holds firm in many minds. We have accounts of Egyptian medicine 1500 years before the time of Hippocrates, but the physician was always also a priest, and must ever administer his services with a prayer to Horus. A divided responsibility is always enervating. Restraint was upon him everywhere. He could not examine the dead, for they were to be preserved. The body was to be reclaimed by its owner in a period of time varying from 3000 to 10,000 years, according to the moral and intellectual status of the individual; therefore it was to be preserved with the least possible in-

jury. The pressure of the gods was lighter upon the Greeks than upon the Egyptians, who were their teachers. It must be recollected that the Father of Medicine lived at the time when Greece was at her highest pitch of greatness. He was the contemporary of Pericles and Socrates,—the two most extraordinary men of antiquity. Socrates admitted the division between the natural and the supernatural, and assigned to each a distinct and independent province. Hippocrates treated all phenomena as at once both divine and scientifically determinable. Hippocrates can hardly be said to have amputated at all, as we understand the operation. We find the modification and growth of the procedure to have begun less than 300 years since. The ligature of Parè marks an era of movement, but the changes were slow of adoption. At length, the simple plan of the present was confirmed by experience, and as far as the ligature in relation to its action on the blood vessels is concerned, nothing is left to be desired. Then the form of flap became the subject of endless variation. It scarcely seems possible to devise any line of cut that has not been proposed. Long antedating the form of the wound, the surgeon had to meet the dangers of hemorrhage. One is amazed that they came so near the modern plans and yet missed them. A water dressing was the method of the Father, but down through the ages every imaginable device in the shape of ointments was used by surgeons. The recipes are amusing reading, but not profitable at the present moment. The movement of the open wound of necessity, to the closed one antiseptically treated with soluble ligatures and sutures, has been long and slow. In amputation, the custom of the ancients was to pick away the dead part and divide the bone high up. One stands aghast at the shapes their stumps must have assumed. The attempts at primary union have seldom been other than partial till the advent of the modern antiseptic methods.

The advent of the gunshot wound appeared at a time when the practice of surgery was at a low ebb. Its terrible results were ascribed to poison; both the lead and gunpowder were poisonous. How could such fatality occur if not from poison? But time reforms medical as well as other opinions. Now we have antiseptics of the track and careful covering of the wound to prevent microbial invasion. How far this may be carried is yet unknown.

I only allude to the marvels that are detailed by Drs. Parkes and Senn. In experiments by the former on dogs, one fact is to be specially noted: the frequency of the existence of entozoa and their migration through the wound. One of the greatest triumphs of surgery is the marvelous utility of the arm after resection of the elbow-joint. There is a possibility of a similar result in the ankle. Should we not then regulate our treatment with this end in view?

The microbial discoveries of Pasteur, Koch, and their disciples have placed all our therapeutics on a new basis. The subject is too trite to detain you in discussing it. No one knows, when a new discovery is made, how far it will reach. No one can measure the possible triumphs of surgery. The surgical atmosphere is now antiseptic. Lister must take his place beside Jenner. We do not mean carbolic acid and the spray when we speak of Listerism. There is already a wide range of material to choose from. At present the records of the triumphs of antiseptic surgery flow from every hospital.

Who has not dreaded the care of a compound fracture of the thigh? Dr. Hahn, of Berlin, boldly incises the soft parts and exposes the surface of the tibia under a stream of mercuric solution. In all these cases, merely the quiet necessary to physiological repair, with its antiseptic covering, comprises the after-treatment.

The great achievement of the day, however, is, by common consent, the marvellous growth of laparotomy. Through what a valley of death have the wonderful results been obtained! How long a time it took to learn that, after all, it was not peritonitis we had chiefly to fear! It is but fourteen years since Keith electrified the whole surgical world with the report of ten consecutive cases and but one death; but the loss of the tenth case struck the key-note. The peritoneum must henceforth be clean. From this time the death-rate has diminished in the hands of every operator, and the established basis of antiseptics is cleanliness. According to Mr. Tait, even the exudates from peritonitis must be removed, and for this purpose he washes out the cavity with water from the city tap, which contains "thirty-six different kinds of beasts." "You reject antiseptic medication," said I to Mr. Tait, who replied: "Yes, it is all rubbish; there is but one antiseptic—soap and

water." Again it is cleanliness. I will leave out of consideration the statistics that Mr. Tait has given. They transcend those of all who have undertaken to follow in his footsteps, so as to lead one to believe that there are still some problems unexplained. Mr. Tait's results are to be regarded as unique, and surgeons are not likely to omit proper antiseptic precautions. When to expose a joint to the atmosphere nowadays, we follow the nests of bacilli into the joints with the sharp spoon, and, filling all the nooks with an antiseptic solution, close the capsule with the assurance of freedom from any suppurative inflammation. This is certainly one of the most extraordinary triumphs of antiseptics. An important step in advance has been made in the treatment of carious wounds, by the use of a solution of hydrochloric acid, 1 to 20. Neither must I fail to speak of one of the stages in the progress of research which is marked by the attempt to obtain sterilized air. It is difficult at the present moment to define the possibilities of modern surgery. If nephritis and pyelitis, with organic disease in one kidney, is bearing the patient down, the surgeon takes it away. If disease obstructs the bowels, he cuts it out and joins the healthy ends he cut. If the lungs are the seat of abscess, he punctures and drains them. If the brain has an abscess pressing on it, he punctures, drains and renders the wound aseptic. If the physician fails to rectify the abnormal chemistry of the enlarged spleen, the surgeon removes it. It seems incredible that surgeons could have been at any time united in a guild with barbers. The connection in England was severed in 1742. The surgeon stood far below the doctor in rank, and at one time was not allowed to make a surgical operation without the physician's consent. But at present it seems as if the future of the profession must be largely surgical.

MÉDICINE.

The Technique of Intestinal Injections.

Quincke is quoted by the *Deutsche Medicinische Wochenschrift*, per *Med. News*, of April 5th, 1888, in his description of methods of intestinal injections which he had recently found useful. In place of the hard tip which is ordinarily used on enema syringes, he substitutes a soft flexible nozzle about eight to eleven inches long, and of convenient calibre. The tip is slightly harder than the rest, and

has two lateral openings; the external end is dilated somewhat, the whole resembling an œsophageal tube. It must be perfectly smooth, and of the best rubber. The insertion of such a tube is far less painful than the use of the ordinary tip. It may be ordinarily inserted two or three inches, but when necessary may be passed four or six inches without injury. This tube may be easily cleansed, soap and water and carbolic acid sufficing to disinfect it thoroughly. An injection of oil may be given by filling the dilated extremity with oil, and then attaching the irrigator tube; the water from the irrigator will force the oil before it into the bowel. In obstinate tympanites the tube may be allowed to be in the bowel for an hour or more, securing the free exit of gas. Quincke secures the retention of a considerable quantity of water high in the bowel by a very ingenious device which consists in attaching to any convenient portion of the tube a collapsed rubber balloon two inches in diameter when inflated. This balloon may be filled with water by its own small separate tube. When introduced to the desired height, the nozzle aperture is free above it. The balloon is then filled with water, occluding the bowel; the desired injection is then introduced beyond it, and as much fluid as desired is thrown in at the desired level.

Chloroform Narcosis and its Treatment.

The *Medical Press* of April 4th, 1888, writes as follows:—

It is doubtless a highly expedient thing for a medical practitioner to undertake, unaided in a private case, the administration of the anæsthetic and the operation, whatever it may be, as well. Everything may prove in the end to be satisfactory, but, on the other hand, it is impossible to foresee accidents, and the slightest outward occurrence, while, perhaps, in itself unavoidable, may precipitate in catastrophe, and lead to lasting regrets, and be productive of other consequences, in themselves scarcely less pleasant. When, however, the surgeon finds himself in the presence of a difficulty under these circumstances, and in peril of losing his patient from the effects of the chloroform, it will mainly depend upon his coolness and power of resource, whether his efforts to bring back the patient to life will be successful or not. In illustration of this fact we may mention a case which

has recently been brought under our notice: A medical practitioner was asked to circumcise a child, eighteen months old. Being an experienced administrator of anæsthetics, he undertook to act the dual part of chloroformist and operator. He put the infant under chloroform, and then handed the lint to the nurse, to hold under his superintendence. Everything seemed to be satisfactory, but as soon as he had removed the necessary portion of prepuce, he was astonished to find that the wound did not bleed. Quickly turning his attention to the child, he discovered it to be pulseless, and not breathing. He put in practice at once all the ordinary methods of bringing the patient to life, but without avail; and, at this time, the father of the child, who was in the room, seeing the condition of affairs, added to the difficulty of the situation by rushing madly up and down, lamenting his loss. The surgeon, having directed the parent to go downstairs, set to work anew, by getting the nurse to draw out the patient's tongue as far as possible, then with his fingers grasping the nostrils, he blew with all his force into the patient's mouth and fully inflated the lungs. This having been done, he compressed the chest, and then inflated again. This process was carried on for some moments, and suddenly the child gave an involuntary gasp. In the course of time, the process being continued, the child began to breathe of itself, and as soon as respiration was properly established, the surgeon completed the operation in the usual way. Such a near escape from what would have been a terrible misfortune, deserves being recorded, and especially on account of the adoption of the means by which the successful result was mainly brought about.

Treatment of Sleeplessness.

A. Symons Eccles, M.B., in *Practitioner for March* says: 1. *Hot Bath*, taken just before settling quietly for the night, is most valuable in producing a dreamless sleep, though this does not usually last more than four hours, and is sometimes followed by a period of great wakefulness, relieved only by a short morning doze. Method of giving the bath most important. Bath room should be at temperature of 65°, and this to be raised during bath to 70°. Patient to be at once stripped, and then the stooped head and face rapidly doused with water at 100° to dilate brain vessels; next whole body, except head and face, to be

immersed in bath at 98°, and this temperature rapidly raised to 105°—110°. In about eight to fifteen minutes, when the at first accelerated pulse has fallen to a slow, full, steady and compressible beat, the patient must be slowly raised, closely wrapped in warm blankets (a loose pyjama suit is a good contrivance), and conducted to the bedroom without any haste and at as small personal effort as possible. On reaching the bedroom he will be dry. Let him then at once don his night-clothes and immediately lie down with his head well raised, a hot bottle to the feet, and the body well covered with bedclothes. The bath probably acts by reducing the supply of blood to the whole of the brain, thus decreasing the functional activity equally throughout, and so placing it in the most favorable condition for complete functional rest, to the exclusion of the practical activity of certain centres which would induce dreaming. It has proved most useful for the relief of disturbed sleep in persons who have either ceased to be influenced by ordinary hypnotics, or in whose cases their use is contra-indicated. The bath itself, however, is contra-indicated in extreme anæmia, emaciation, aortic valvular disease, and atheroma.

2. *Massage at bedtime*.—Valuable in organic cardiac mischief, and in the very large number of cases in which functional weakness of the heart and circulation generally is a feature of the nervous debilitated constitution. Two cases of aortic regurgitation mentioned, in which permanent benefit resulted, and one of aortic aneurism where the improvement was only temporary. On conclusion of the kneading the patient must at once compose himself to sleep. Its performance must be rapid, commencing with the abdomen and passing to the back, arms, and legs, with a little exposure of the parts to the outer air as possible, so that a layer of warm air may be maintained between the closely-covered limbs and the bedclothes. The manipulations should be directed not so much to the evacuation of the lymphatic and venous vessels of the parts dealt with, as to the rapid and sufficient stimulation of the sensory nerves with the dilatation of the arteries over as large an area as possible. This kneading no doubt acts in the same way as tapping the abdominal parietes of a frog, which Goltz showed greatly dilated the abdominal vessels and distended them with blood, whilst it reduced frequency of the pulse.

3. *Warm Abdominal Compress.*—Take two pieces of twilled calico, half a yard wide and four yards long; roll these up lightly and raise them to a great heat in a closed earthenware vessel in a hot oven. Immerse as much of one as is necessary to cover the abdomen in water, and apply closely to the abdomen, then rapidly and firmly roll the rest of the bandage round the abdomen and loins; take the other hot bandage out of the earthen vessel and wrap it firmly round the first. In this way heat and moisture are kept applied to the abdominal walls, keeping up the free circulation of blood and soothing the nervous system. Schuller put a warm compress on the belly of a rabbit, and having removed the cranial walls, he noticed that an immediate and long-continued contraction of the meningeal vessels, with slowing of the cerebral movements, resulted.

4. *The Wet Pack.*—This is most useful in those cases of erethetic neurasthenia resulting from prolonged over-work, mental distress, morphine habit, chloral drinking, and chronic bhāng poisoning. Any immediate beneficial results cannot be expected in these cases. The mechanical stimulus of massage temporarily excites rather than soothes the ill-balanced nervous system. Drugs are contraindicated and moral suasion is useless.

Should the patient's surface temperature be subnormal (*i. e.*, foot under 90° and palm less than 95°) moderately firm friction of the limbs and trunk should be employed to raise the superficial warmth. The bladder should be evacuated. The patient should leave the pack as soon as the previously retarded circulation begins to be accelerated. The night clothing should be well warmed and put on as quickly as possible.

With all four the recumbent position must be maintained in a quiet, cool, well-ventilated room, the diet must be carefully modified, and daily massage performed.

THERAPEUTICS.

Milk Jelly.

The *American Druggist* for April, 1888, gives the following directions for preparing milk food. As a variation in milk diet, the following is recommended by Professor Liebreich:—

Heat one quart of milk with one pound of sugar, and when the sugar is dissolved continue the heat, at a boiling temperature, for about ten

minutes. Now cool it well, and then add, *slowly* stirring, a solution of one ounce of gelatine in a cupful of water. Next add the juice of three or four lemons and three wineglassfuls of wine, brandy, or other liquor. Set the glasses containing the mixture in a cold place, so that the contents may gelatinize. It is necessary to have the milk quite cold before the other ingredients are added, as it would otherwise curdle.

Ipecacuanha Spray.

The success attending the use of a certain nostrum as a spray remedy for chronic bronchitis and other diseases of the throat and respiratory organs has led to attempts to make out its composition. Although some uncertainty was at first produced by conflicting statements as to its physical properties, which favored the suspicion that it was not always uniform in its composition, Dr. Murrell states (*Med. Press and Circ.*, April 21, p. 324) that it was found that if ipecacuanha wine of full strength, or diluted with an equal quantity of water, or an alcoholic preparation of the same strength, be applied by means of a small steam vaporizer or the ordinary hand-ball spray apparatus, it is capable of affording relief to congested and irritated bronchial mucous membranes. Dr. Murrell describes some cases where this ipecacuanha spray was used with great benefit in bronchial catarrh, chronic bronchitis, winter cough, fibroid phthisis and congestion of the vocal cords. The best results were obtained by using the spray for ten minutes three or four times a day; the spray should always be warm and the patient should not go out for some minutes after the inhalation.

Cocaine in Tracheotomy.

Lennox Browne writes in the *British Medical Journal* of April 7, 1888, as follows on this point:—“Since the introduction of cocaine, neither I nor my colleagues at the Central London Throat and Ear Hospital have employed chloroform for performing tracheotomy, but have in substitution injected five minims of a ten per cent. solution of cocaine on each side of the immediate region at which the trachea is to be opened. Ten to twelve minutes have been allowed to elapse before commencing an operation, and in the majority of instances pain has not been felt even from the first

incision through the skin. Local anæsthesia has been maintained sufficiently long to allow of a careful and leisurely performance of the operation, without, however, encouraging that undue tediousness against which Mr. Christopher Heath has recently spoken so opportunely as a besetting fault of modern surgeons who operate under chloroform. My experience with cocaine in tracheotomy would be represented by about forty cases; we have had twenty in the hospital and in my private practice during the last year. I have witnessed its good effect especially in the last fortnight, during which time I have had occasion to perform the operation four times, all these cases being on account of cancer, and occurring in patients aged seventy-five, fifty-eight, seventy-seven, and fifty-four respectively. Beyond the advantages of cocaine as a local anæsthetic, this remedy so applied has the effect of depriving the part of blood, and thereby diminishing hæmorrhage during the operation, whereas with chloroform and ether the contrary effect is often produced. It also quiets the breathing and steadies the larynx in cases in which respiration is seriously hurried. In only one case have I seen any toxic action, and that was at once remedied, when the trachea was opened and a full flow of air admitted into the lungs.

Asphyxiated by Gas.

A few weeks ago, a young man stopping over night at the Franklin Hotel, Hagerstown, Md., was overcome by gas escaping from the burner, which he had failed to turn off properly. He was found about eight o'clock in the morning lying on floor of his bedroom, unconscious, and as cold as in death. Dr. Mason and myself were called in haste. The doctor had already given the patient a hypodermic injection of whiskey, and was about ordering rubber bags and bottles of hot water when I arrived. We immediately proceeded to take advantage of every known remedy and appliance to restore consciousness and whatever vitality remained. We had, however, little hope of his restoration. The hypodermic injections of whiskey were continued, and nitrate of amyl was given by inhalation. We also employed friction, massage, the hot bath, etc. Dr. Mason was compelled to absent himself on account of patients requiring his attention. He left the case entirely in my hands. Up to this time we agreed that there had been no

improvement, and death seemed to be inevitable. However, I stayed with him three long hours, with three able-bodied assistants who kept up a constant friction and manipulation in addition to the hot bath. I continued the hypodermic injections of whiskey, and added to the treatment sulphuric ether and tincture of digitalis. After having given by the skin over one fluid ounce of whiskey and brandy, six drachms of sulphuric ether, and three drachms of tincture of digitalis, at eleven o'clock, our patient began to show marked signs of returning vitality. In an hour more he was restored to perfect consciousness. His lungs had become so filled with blood that expectoration was very copious for some days. He made a good recovery, however, and now enjoys his usual health.

In conclusion, I would say that I believe all that had been done for his resuscitation would have been useless had the digitalis been omitted. After each hypodermic injection of half a drachm of the tincture the improvement in the contractions of the heart was quite marked. Up to thirty minutes before the young man opened his eyes, I kept increasing the dose to 60 *m*. This began to produce wonderful results in twenty minutes' time, and in thirty minutes he looked around the room.

This is the second case I have had. The first case was unconscious eight or ten hours. He also made a good recovery.—*By N. B. Shade, in The Medical Bulletin.*

Terebene and Eucalyptus for Winter Cough, Etc.

A medical friend of ours informs us that under very unfavorable climatic conditions, and in cases of comparatively long standing, where neither pinol nor pure terebene *per se* caused any distinct improvement, he has found that the following quickly cures, and, in fact, leaves little or nothing to be desired, if systematically persevered with:—
℞. Terebena pura, ʒijss.; ol. eucalypt. glob., ʒij.; syr. tolut., ad ʒiv. Misc. One teaspoonful every two or three hours. *Shake the bottle well before using.*

Treatment of Puerperal Sepsis with Salicylate of Sodium and Alcoholics.

Von Jaksch, of Gratz, in a comprehensive article in the *Wiener Med. Presse*, No. 1, 1888, speaks in the most positive terms of the value in puerperal sepsis of salicylate of soda in combination with alcoholics. His opinions are based upon fifty

cases treated in the wards of Nothnagel, in Vienna, under von Jaksch's personal supervision. He began the administration of the drug by giving seven and a half grains of salicylate of sodium hourly until the temperature fell to normal, a result generally obtained in fifteen to twenty hours. Symptoms of intoxication were rarely observed; when they appeared in force the dose was reduced one-half. He considers symptoms of intoxication no reason for abandoning the treatment, and after four or five hours he was generally able to resume the original doses. In conjunction with this treatment he employs alcoholics in full doses, cognac, sherry, and any form of good wine being freely given, with the best possible diet. In the event of heart failure becoming imminent, hypodermic injections of camphorated oil and other cardiac stimulants were given. If five or six doses of seven and a half grains of the salicylate produce no effect, von Jaksch does not hesitate to give fifteen grains hourly, and considers the administration of four and a half to five drachms of sodium salicylate in twenty-four hours fully indicated in severe conditions. The only ill effect he has seen follow this treatment is mild delirium.

Von Jaksch is not prepared to assign to sodium salicylate a specific action upon puerperal sepsis, but he desires to call the attention of those who treat large numbers of puerperal women to its use, and he advises, in cases in which a moderate rise of temperature occurs *post-partum*, that the drug be given promptly, sixty to seventy five grains daily, and if severer symptoms follow the full doses, he would administer the remedy, in doses of from forty-five to sixty grains daily, to pregnant women just before labor, when the surroundings are very unfavorable and non-hygienic.

German Pomade for Strengthening the Hair.

The following is said to have found favor in Germany:—Take eight ounces of purified marrow, two ounces of oil of sweet almonds, melt in a porcelain vessel in a water bath; add half-an-ounce fresh bay leaves, one ounce of orange leaves, one ounce of bitter almonds, half-an-ounce of nutmegs, half-an-ounce of cloves, and one drachm of vanilla, all divided in small shreds. Cover the vessel, and let the whole digest for twenty-four hours with gentle heat; strain, press while warm through linen, and stir it till cold.

The Chemical Incompatibility of Antiseptic Agents.

BY ROBERT DONALD, M.D., PHYSICIAN TO THE GENERAL LYING-IN AND TO THE SAMARITAN FREE HOSPITALS.

(From *The British Medical Journal*.)

The necessity of employing antiseptic agents in solutions of definite strength will be, I presume, on all hands conceded; for, if the solution be too attenuated, the object in view will fail in its accomplishment, and, if too concentrated, considerable damage will in many cases be wrought, not only locally on the tissues to which the application is made, but also on the body generally as the result of absorption. The borderland between safety and success is, in many instances, a very narrow one. The possibility of reducing the strength of the solution, or of altering its nature through the chemical incompatibility of the materials employed, has hitherto received but little attention. The important practical bearing which they may exert on their efficiency as antiseptics must prove an apology for drawing attention to the matter.

By way of example, I have selected five of the more important antiseptic agents in general use, and, for ready reference as to the incompatibilities of each, the results of the experiments are presented in tabular form, showing the action not only of these agents on one another, but also of certain lubricants with which they are frequently combined and brought into contact, and of soap with which they are apt to be contaminated in the process of washing and disinfecting the hands and instruments.

In view of the practical utility of these observations, the experiments were made, not with concentrated materials, but with solutions of the strengths usually employed in practice, and were carried out at temperatures not exceeding that of the body.

	1. Sublimato.	2. Carbolic.	3. Iodide.	4. Salicylic.	5. Condy.	6. Olive Oil.	7. Vasoline.	8. Glycerine.	9. Soap.
1. Corrosive Sublimato Solution (Perchloride of Mercury).....	—	—	1	—	—	—	—	—	—
2. Carbolic Solution (Phenol).....	—	—	3	4	5	—	—	—	—
3. Iodine Solution (Iodine and Iodide of Potassium).....	1	3	—	—	—	—	—	—	6
4. Salicylic Solution (Salicylic Acid).....	—	—	—	7	—	—	—	—	8
5. Condy's Fluid (Permanganate of Potassium).....	4	7	7	9	10	11	—	—	—

The following incompatibilities were observed:

1. *Corrosive Sublimato and Iodine*.—No precipitate of mercuric iodide is at any stage of the ad-

mixture formed. A small addition of sublimate solution fixes the iodine, as may be seen by the immediate bleaching of the iodine solution, and confirmed by the subsequent addition of starch paste, which produces no blue coloration. One part by volume of sublimate solution (1 in 1,000) is just sufficient to fix the whole of the free iodine in four parts by volume of iodine solution (tr. iod. B.P. 5j in Oj.) N.B.—This forms a rough and ready test for the strength of sublimate solutions.

2. *Corrosive Sublimate and Soap*.—An insoluble soap is produced even when a neutral soap solution is used. This is of special importance in consideration of the small admixture with soap which is required to throw down the whole of the mercury from solutions of the strength usually employed.

3. *Carbolic and Iodine*.—An exceedingly small admixture with phenol is sufficient to fix the whole of the free iodine as in (1). One part by volume of carbolic solution (1 in 20) removes the whole of the free iodine from 2,000 parts by volume of iodine solution of the strength indicated above.

4. *Carbolic and Condy*.—This is perhaps the most generally recognised of these incompatibilities. Admixture with phenol immediately turns permanganate brown.

5. *Carbolic and Olive Oil*.—This is of importance and of special interest when taken in conjunction with the researches of Koch, of Berlin, who has shown that bacillus spores are capable of living and developing after having been immersed in carbolised oil (1 in 20) for four months. The oil appears to enter into some combination with and to fix the phenol. If a drop of tr. ferri perchlor. B. P. be shaken up in a test tube with carbolised oil (1 in 20) no change is found to have been produced in the iron as it gravitates to the bottom. Moreover, if carbolised oil be shaken up with a few drops of water, the water allowed to separate out at the bottom of the tube and a drop of iron solution conveyed into it, the characteristic purple coloration with phenol is not produced unless the shaking has been very prolonged and energetic, and then only to a slight degree. By strongly heating the carbolised oil phenol is again set free, and the above reaction can then be obtained.

6. *Iodine and Soap*.—No action is produced by neutral solution, but ordinary soap, which contains an excess of alkali, once removes the free iodine.

7. *Salicylic Acid and Condy*.—A very dilute

salicylic acid solution (1 in 800) slowly removes the color from permanganate.

8. *Salicylic Acid and Soap*.—A drop of dilute salicylic acid solution gives a white precipitate even when a neutral soap solution is employed.

9. *Condy and Olive Oil*.—When permanganate solution is shaken up with olive oil its violet color is changed to brown.

10. *Condy and Glycerine*.—When permanganate solution is added to glycerine its color slowly changes.

11. *Condy and Soap*.—The incompatibility is also generally recognised. Soap, even when a neutral solution is employed, readily turns permanganate brown.

I do not pretend to any precise knowledge of the bodies produced, some of which may, for all I know, possess powerful antiseptic properties, but until this point is settled by direct observation, when chemical incompatibility exists, the antiseptic properties of the original solution must be regarded as weakened, if not wholly destroyed.

The moral conveyed by the above experiments is obvious; avoid as far as possible the admixture of antiseptic agents and their contamination with lubricants and with soap when incompatibility exists. For instance, in employing corrosive sublimate it is advisable to use the same solution for disinfecting the hands (carefully avoiding contamination with soap) and for cleansing instruments* as for irrigating the parts, to employ a mercurialised lubricant and to use aëmbroth dressings. If for any reason it becomes requisite to substitute one antiseptic agent for another, a second should be chosen which is not incompatible with the first, and the same precautions should be observed throughout the series.

The above observations deal with one phase only of the subject. I am content to leave to more able hands the elaboration of further details. The second question—the chemical nature of the bodies produced—is for the chemist to answer; the third point—the antiseptic value of these bodies—still remains for the germiculturist to determine. When these points have been settled and acted upon, less scepticism as to the value of antiseptic agents

* Here, again, a caution is requisite, for copper and steel, unless nickel plated, are apt to decompose the solution and to cause precipitation of the mercury in a free state.

may be looked for. The fault lies not so much with the antiseptics themselves as with the unscientific method in which they are often employed.

Increase of Baldness.

Prof. T. Wesley Mills criticises the theory (*Popular Science Monthly*) of Messrs Eaton and Govinlock, that the chief cause of baldness is constriction of the blood-vessels of the head by tight hats, and gives it only a partial acceptance. He considers that baldness is one more of the many warnings of our day, one of nature's protests against the irregular and excessive activity maintained in this restless age.

Terpin Hydrate.

In a communication on terebinthines to the *Lancet*, March 10, 1888, Dr. Prosser James says that terpin hydrate has only a slight taste, is rather insoluble, has no odor, and is solid. It may be seen as small needles when it spontaneously crystallizes from a mixture of turpentine and water, or may be obtained in large rhombic crystals by allowing alcohol (three parts), turpentine (four), and nitric acid (one) to stand in shallow dishes three or four days. It is dissolved in only small proportion by cold water or turpentine, but is taken up more readily by hot water, alcohol and ether. For this reason it is best given in pills or wafer paper. For small doses pills containing two grains each are convenient, and one can be taken every three or four hours. For larger doses, which should not be repeated so frequently, wafer paper is better. An emulsion may also be made, but this is not an agreeable method. The hydrate may, however, be dissolved in glycerine, and after solution an equal quantity of some syrup may be added. It is well to begin first with small doses, as these are sufficient to act upon the bronchial mucous membrane and also to affect the kidneys. It will be found useful in restraining the cough and secretion of bronchitis, and in stimulating the membrane to more healthy action, perhaps also disinfecting the sputa. Germain See has also found that full doses restrain the copious sputa of some cases of phthisis, and he met with no gastric irritation after long continuance of the drug; but others have not been equally fortunate. In some instances small doses seem to increase bronchial secretion. It has also been employed successfully in hæmoptysis.

NEUROLOGY.

Notes on the Principles of Craniometry.

Dr. Frederick Petersen read a paper on the above subject at a recent meeting of the New York Neurological Society. After a review of craniometric nomenclature, the reader stated that, while individual convulsions exerted no specific influence upon the bones of the head, the shape of the skull was modified in correspondence with the gross divisions of the brain beneath it. The left temporal bone was said to be depressed in congenital aphasia. In infantile spastic hemiplegia there was flattening of the side of the skull opposite the paralyzed part. Cerebral localization had been concerned mainly with motor and sensory functions. Ideational localization had yet to be developed. In his own opinion, the temporo-sphenoidal lobes, and perhaps the occipital, contained cortical centres for depressing emotions. Musical ideas and auditory memories had their origin in the temporal sphenoidal lobes. Benedikt had reduced craniometry to a science, showing that the skull was built up of crystallographic principles. The measurements taken should be sufficient to reconstruct the skull. Triangulation of the skull should be required in the asylums in the case of every patient, and in prisons in the case of every criminal. We are behind European countries in this matter. Even in Italy, fourteen measurements are required for asylum records. The reader thought that eleven measurements at least should be made: 1. The circumference of the skull. 2. The naso-occipital arc. 3. The naso-bregmatic arc. 4. The bregmatic-lambdoid. 5. The binauricular. 6. The antero-posterior diameter, taken from the glabella to the maximal occipital point. 7. The greatest transverse diameter. 8. The binauricular diameter. 9. The two-auricular-bregmatic radii. 10. The facial length. 11. The greatest height of the skull. Only a pair of calipers, a tape-measure, and a strip of lead two feet long were required. For more detailed measurements other instruments were necessary. Benedikt's calipers were recommended. The pathological and forensic importance of such measurements was shown by the fact that minimal and maximal dimensions were more common among the insane and criminal classes than among other people. The bregmatic-lambdoid arc was

said to be shortened in epilepsy. The reader referred to a hundred cases of his own observed at the Hudson River State Hospital, at Poughkeepsie, in which asymmetry had been observed.

Progressive Muscular Atrophy with Anæsthesia.

Dr. J. A. Booth reported the case of a man, forty-two years of age, a shoemaker by trade, who was still under observation. There was no family history of nervous disorders, nor any history of alcoholism or syphilis in the case. The patient had been married eighteen years, and had had two children; one, a girl of five years, had never walked. The affection had commenced in October, 1878, with general weakness and weakness in the arms and hands. In January, 1879, the patient's voice had commenced to be husky. Six months later he complained of a feeling of cold and numbness in the left shoulder and side of the neck, with subsequent decrease in size. The atrophy, commencing in the deltoid, had spread to other muscles of the trunk and other extremities. At the present time the patient weighed 155 pounds. There was marked sinking in of both shoulders, also weakness of the upper extremities, with marked atrophy of the interossei. There were scars and abrasions about the hands and a scar on the neck. The patient stated that he did not know when these injuries had been received, that he had not felt them. There was no ataxia of the gait or upon standing. The voice was harsh, and the left side of the palate was paretic, the uvula being drawn to the right. There were marked fibrillary contractions in the atrophied muscles. The patellar reflexes were exaggerated. There was sluggishness of the accommodation, but no change in the visual field and no diplopia. Taste, smell, and hearing were not impaired. It was apparently a case of progressive muscular atrophy with bulbar symptoms. The reader called attention to the sensory impairment as an unusual complication, and suggested, to account for the anæsthesia and analgesia, a lesion in the peduncle or pons on the right side.

Dr. Starr remarked that the anomaly mentioned had been recorded by Ross and by Gowers in their text-books. In cases of this character *post-mortem* examinations had shown abnormal cavities in the cord, due chiefly to the degeneration of gliomatous tumors. Schultze had described cases, also Baumler in her article upon syringomyelia.

The case reported by Dr. Booth was, in the speaker's opinion, a case of this kind. The fact that the senses of touch, pain, and temperature were all abolished would support this view. The sense of touch sometimes escaped in syringomyelia, but not always. The three tracts were found in the formatio reticularis of the medulla and pons, and extended through at least one-fourth of its extent. A lesion affecting them all would involve also the cranial nerves passing through this part. The symptoms reported could be more satisfactorily explained by a lesion in the cord and by considering the case as one of syringomyelia.

DISEASES OF CHILDREN. *Symptoms in C^h* 1881/52.

Summer Diarrhœas of Infancy.

Dr. Victor C. Vaughan, in an article in *Medical News*, of June 9th, discusses this subject and presents his views in the form of propositions, bringing forward evidence to support the same.

I. The factor which is most frequently operative in the summer diarrhœas of children under two years of age is to be found in the food.

He considers the weather as a mediate rather than an immediate cause of disease; heat being operative in two ways, first, a temperature of 60° F., or higher favors development and dissemination of germs in air and food, which are further favored by the conditions found in the child's stomach; secondly, the heat depresses the nerve centres and may give rise to altered gastric and intestinal secretions.

II. The changes whereby baneful substances are formed in the food, either before or after it is taken into the body, are fermentative in character, or, in other words, are due to micro-organisms.

Breast-fed children are undoubtedly the healthiest, and he considers that the prevalence of disease in many children fed upon cows' milk as not so much due to chemical differences of composition as to the perfectly sterile nature of the mother's milk, whereas that of the cow is contaminated with micro-organisms in transit, although primarily free from them. He made experiments upon cows' milk by introducing capillary tubes into the teats; these, upon being kept for some days at temperature of body, showed no change. Market milk, however, when introduced into similar tubes decomposed in a few hours.

Escherich has made similar experiments on

women, but found that although in healthy women the milk was bacteria free; in women with erysipelas, endometritis, parametritis, inflammatory diseases of the breasts, etc., the results were entirely different, the milk of such women speedily becoming sour and decomposing. This he (Vaughan) thinks accounts for cholera-infantum in nursing children, and it further shows that the milk of the mother is not always the best food for the child. He also shows by experiments such as the following that a few germs will speedily contaminate a large quantity of milk:—

"April 27th, 1888.—To a gallon of good milk I added one-half ounce of poisonous milk, placed the whole in a bottle and left it to stand at the ordinary temperature of the room for two days. It was then treated for the ptomaine *tyrotoxin* and thus given to a puppy in which it soon produced severe retching and vomiting. On the other hand, milk which has been sterilized by heat and protected afterwards from micro-organisms of air by a cotton-wool plug in neck of flask, will remain good for months (?). Hopten, from a study of the records of the foundling hospital at Stockholm which have been kept since 1812, as well as from his own experience in the same place, concludes that the disease is highly contagious." This is because children in the same ward, and often those attended by one nurse, were affected. Vaughan, however, believes this condition of affairs to be due to the children in the same ward or attended by the same nurse, being fed with the same food. But as it may be possible for the germs from dried stools to be disseminated, he recommends disinfection of stools and urine. Taube and Escherich hold that the stomach of the young child is only a receptacle for food, the digestion being carried on in the intestines, and if this be true the stomach becomes a culture chamber for the most effective development of micro-organisms whenever they may be introduced.

Experimenters have shown that the mucous membrane of the small intestines absorb solid substances more rapidly than the stomach, (1) that the intestinal mucous membrane will absorb unchanged casein; (2) that the proteolytic activity of the pancreatic juice is relatively well developed in the newly born; (3) that the milk sugar is split up by a ferment in the small intestine. We therefore see that the digestion of milk is almost entirely performed in the intestine, and clinical experience

confirms this, as in adults suffering from intestinal indigestion, milk invariably aggravates the trouble.

III. The micro-organisms which produce the catarrhal mucous diarrhoeas of infancy in summer may be, and probably are, only putrefactive in character, but those which cause the choleraform, or serous diarrhoea, true cholera-infantum, are more than putrefactive; they are pathogenic; they produce a definite chemical poison, the absorption of which is followed by the symptoms of the disease.

As the results of his studies, clinically and experimentally, he considers that all diarrhoeas are bacterial in origin, but not all due to the same bacterium. In this connection the difference between the poison of serous or choleraform diarrhoea which acts immediately upon the nervous system, most probably having its chief effect upon the sympathetic nervous system and that of the catarrhal diarrhoea which acts primarily as an irritant to the intestine, is particularly noticeable.

IV. The bacteria which produce these diseases prove harmful by splitting up complex molecules and forming chemical poisons.

The answer to the question, "How do germs cause disease?" lies in the discovery of ptomaines, and in the ptomaine *tyrotoxin* (discovered by the author) we undoubtedly have the poison of cholera-infantum. Although the germ producing this poison has not been identified, yet it is known that it does not develop below 60° F., and is an anaerobic. The symptoms produced by this poison are very similar, if not identical, with those of cholera-infantum. Without going into elaborate descriptions of experiments on the effects produced by tyrotoxin which have been carefully investigated by a large number of observers, the following are the condensed reasons for believing it to be the exciting cause in at least some instances of cholera-infantum:—

(a.) This ptomaine results from the putrefaction or bacterial fermentation [it does not occur in all milk fermentations, as the lactic acid fermentation in the ordinary souring of milk, but as the result of its own bacterium].

(b.) Tyrotoxin has been found in the milk given to a child immediately before the appearance of the symptoms of choleraform diarrhoea.

(c.) The symptoms of the disease increase if the administration of milk is continued, and abate when the milk is withdrawn.

(d) The symptoms induced by the poison and those observed in the disease are identical.

(e.) The *post mortem* appearances are identical in the two cases.

These facts are supported by abundance of clinical and experimental evidence.

V. *The most efficient preventive treatment of the summer diarrhœas will consist in giving more attention to the food, methods of feeding, and to the sanitary surroundings of children during the first two years of their lives.*

The dangers to children fed upon cows' milk, as compared with breast milk, apart from its greater difficulty of digestion, are principally two: in the first place the supply is not easily exhausted; in the second, overloading the stomach, the milk being often poured in *ad nauseam*. This constant overloading of the child's stomach not only interferes with, but disturbs the digestive apparatus.

A great many chemists have shown the differences between mothers' and cows' milk, but the great lesson to be learned is the much easier digestibility of the former; this may, to a certain extent, be remedied by predigesting cows' milk, but it is objectionable to fully carry out this process because if the child be fed wholly on predigested food, there will come a speedy abeyance or disorder of physiological functions in those organs concerned with digestion, and besides Brieger has shown that the artificial digestion of proteids is accompanied with the formation of a poisonous base called by him, peptotoxin. If this substance be formed in normal digestion it must be removed by the liver.

The author agrees with Dr. Smith that dextrin is the best form in which to add a carbohydrate to cows' milk.

VI. *In the curative treatment of the summer diarrhœas of infancy, the destruction of the bacteria which are causing the abnormal fermentation, is a necessity.*

The surest method of destroying any plant or animal is to withdraw its food, and if milk in any form be withheld from the child the formation of tyrotoxin will cease, as the bacteria do not form the poison when fed on meat juices, albumen, etc. Thus, Brieger has shown that the typhus bacillus, although producing tyrotoxine in beef-tea solution, does not in peptone solution, and the author has shown the same to be the case for the

tyrotoxin ferment, as the poison is produced in milk but not in beef tea or solution of egg albumen. Therefore, in our treatment we should avoid any thing that will nourish the bacteria. "The prompt and complete withdrawal of every kind of milk, even that of the mother, in the treatment of the summer diarrhœas of infancy, has been advocated for many years by eminent clinical teachers, and now the chemist and bacteriologist find that this recommendation is a good one, and have given a scientific explanation of it."

Epstein stops the use of milk, washes out the stomach, sometimes employing an antiseptic wash, gives solutions of albumen as food and germicides as medicines. Holt and others cleanse alimentary canal with a free dose of castor oil and sometimes wash out the large intestine. As regards germicides to protect the milk, the author finds that corrosive sublimate strength of 1-24000 pts. milk is sufficient, but as this is too much for an infant it would perhaps be better to use sodium salicylate, strength 0.5%.

The Administration of Medicine to Children.

Jacobi writes as follows on this subject, in the Archives of Pediatrics for May, 1888: In the administration of medicine excitement on the part of the patient must be avoided; the nervous system of infants and children loses its equilibrium very easily. Fear, pain, screaming, and self-defence lead to disturbances of circulation and waste of strength. Preparations for local treatment or the administration of a drug must be made out of sight, and the latter ought not to have an unnecessarily offensive taste. The absence of proper attention to this requirement has been one of the principal commutations of "homœopathy," whatever that may have been, the last twenty-five years. Still, the final termination of the case and the welfare of the patient are the main objects in view, and the choice between a badly-tasting medicine and a fine looking funera ought not to be difficult. In every case the digestive organs must be treated with proper respect; inanition is easily produced, and vomiting and diarrhœa must be avoided. The most correct indications and most appropriate medicines fail when they disturb digestion; it is useless to lose the patient while his disease is being cured.

The administration of a medicament is not always easily accomplished. Indeed, it is a difficult

task sometimes, but one in which the tact or clumsiness of the attendants has ample opportunities to become manifest. For "when two do the same thing, it is by no means the same thing." Always teach a nurse that a child cannot swallow so long as the spoon is between the teeth; that it is advisable to depress the tongue a brief moment, and withdraw the spoon at once, and that now and then a momentary compression of the nose is a good adjuvant. That it is necessary to improve the taste as much as possible need not be repeated. Syrup will turn sour in warm weather, glycerine and saccharin keep; the taste of quinine is corrected by coffee (infusion or syrup), chocolate, and "elixir

simplex," a teaspoonful of which, when mixed each time before use, suffices to disguise one decigramme—one and a half grains—of sulphate of quinia. Powders must be thoroughly moistened; unless they be so, the powder adhering to the fauces is apt to produce vomiting. Capsules and wafers are out of the question, because of their sizes; pills, when gelatine-coated, or otherwise pleasant and small, are taken by many. The rectum and nose can be utilized for the purpose of administering medicines in cases of trismus, cicatricial constriction, or obstreperousness. Both of these accessories it may become necessary to resort to for weeks in succession.

STATE MEDICINE

Anthrax.

The recurrence of anthrax in the Guelph district at an earlier period than usual this year, again brings this disease into prominent notice.

In the Annual Report of the Privy Council's Agricultural Department for 1887, anthrax returns were published for the first time and they showed the disease much more prevalent in Britain than was before supposed. Formerly supposed by many to develop especially under certain atmospheric conditions, the returns show that this idea is not borne out by facts since the quarterly returns show 56, 58, 61, and 61 outbreaks respectively. Another popular notion was that it was confined to certain low-lying districts, more particularly the fens of Lincoln, etc.; but the returns for 1887 show it to have been more prevalent in some other countries. The statistics do not confirm popular notions regarding the influence of soil and climate upon the development of the disease.

During 1887, 57 counties reported *re* anthrax: 38 in England, 1 in Wales, and 12 in Scotland. Of 236 outbreaks reported, 213 occurred in England, 1 in Wales, and 22 in Scotland; and of 636 animals affected, 581 were in England, 6 in Wales, and 49 in Scotland. Only 43 animals recovered, while 515 died, 61 were slaughtered, and 17 remained alive at end of year.

Anthrax is not, like pleuro-pneumonia, limited to one species of animals, but may be seen in all the animals of the farm, including the horse, and may be communicated to them by the human subject.

It would appear that carnivora are almost exempt. The animals attacked were 451 cattle, 37 sheep, and 184 pigs. The greater number of cattle attacked indicates a much greater susceptibility on their part to the virus of this malady than is the case with horses and swine. When horses or swine have become affected it is usually after some cattle or sheep have died from the disease, and accidental inoculation or contamination of food or water with the blood of diseased animals are considered the usual means of communication to the horse, while the consumption of the flesh, blood, or offal of the affected cattle or sheep, is the common mode of its transmission to the pig. As illustrative of the crude ideas which are held in districts where the disease is rare, regarding its nature, the following outbreak near Chelmsford at end of January, may be described:—"As frequently happens in such cases, the disease was first discovered by the death of an animal which had apparently been well only a few hours before. The whole of the cattle on the farm were then bled and some medicine administered; but these measures coupled with the post-mortem examination and exposure of unburied carcasses, only spread the infection more rapidly, and death after death occurred in quick succession, until the owners fearing they would lose the whole herd, slaughtered seventeen healthy cattle and removed six others to another farm at some distance, leaving only three lean cows on the premises where the outbreak took place. Of the six cows removed to the other farm, five died.

There was no history of any previous outbreak, and the farmers were quite sure that they had never seen this disease amongst their cattle before.

In connection with the outbreak, the veterinary surgeon who examined some of the carcasses, and also the two men who cut up those sent to the knacker's yard, became infected and suffered severely; in fact, for some weeks the recovery of the surgeon seemed doubtful, and the final result was the loss of one hand.

The public, generally, do not seem aware of the danger of infection, since in five instances, at least, the inspectors discovered the disease through carcasses found in the slaughter-house being dressed for human food. Excision of inoculated parts on the hands and arms of two other surgeons at their request, prevented more serious, and probably fatal consequences.

Small-pox.

The present has become an anxious time for those whose special work imposes upon them the duty of preventing the introduction of contagious diseases. Small-pox, which in 1885 was epidemic in Quebec Province, notably in Montreal, has for some time been showing its presence in various quarters, notably in New York, Philadelphia and San Francisco. The April Bulletin of the North Carolina Board of Health, states that small-pox appeared in Goldboro, being imported from New York by an immigrant. The case came from Glasgow, on steamship *Circassia*, on which a fatal case occurred. The ship was quarantined at New York only nine hours. In April a case was introduced into Grenville Co., Ontario, by a horse-dealer from New York; and, reported May 15th, by the Quebec Provincial Board, a case is stated to have occurred in Quebec city, in a female, who states that she had a visit from a brother from the States. When it is stated that Philadelphia had had some 75 cases during the past three months, and New York at least as many more, it having also appeared in Syracuse and elsewhere, it is apparent that we, in Ontario, must prepare ourselves for outbreaks of this disease. Local Boards are therefore reminded of their duties and powers under the Public Health and Vaccination Acts, and they will do well to at once institute, as in 1885, the public system of vaccination. A case is just reported from Buffalo.

MUNICIPAL HYGIENE

Isolation Hospitals.

Lindsay and *Ops* township have arranged for the establishment of an Isolation Diseases Hospital, for treatment of diphtheria, etc. The town agrees to pay two-thirds and the township one-third of the expense of fitting up, etc., each to be responsible for care of its own patients.

Whitby, after a year of attempts to stamp out diphtheria, has concluded that an isolation hospital will be necessary, and are arranging for the use of the old town-hall, and fitting it up for this purpose.

Guelph has a small isolation hospital.

Galt is preparing plans for a hospital, in connection with which, it is hoped to have contagious diseases wards.

Obstruction of the Ottawa.

Some important testimony was extracted at the examination of the witnesses by the Senate committee on the pollution and obstruction of the Ottawa River last month. It was essentially the oldest inhabitants' day, and comparisons made between the state of the river in the early days and now were very odious to the present time. Two valuable facts were ascertained, namely, that one mill owner on the river, Mr. W. C. Edwards, of Rockland, got rid of all his sawdust by a furnace specially constructed for the purpose, and the other was that there was nothing to prevent Chaudiere mill owners, who are the greatest offenders in this respect, from doing likewise. The cost of such a method of getting rid of it was not at all prohibitory. Nearly all the witnesses testified to the poisoning of fish by the rotting sawdust. Mr. Wm. P. Lett, city clerk, said that when the fish were plentiful in the river fish food formed quite an item in the bill of fare of the people along the banks. He made an estimate that if fish were allowed to multiply in the natural way, the fish product of Ottawa River would be worth \$100,000 a year. With regard to the obstruction of navigation, it was shown that all the bays between the city and Rockland were already almost filled up and that the next process must be the filling up of the channel. In some cases the channels which were not originally of great depth had been filled up. The work of getting rid of the sawdust at the terminus of the Rideau canal was yearly becoming the source of

considerable expense. All the witnesses examined were unanimous in condemning the practice of depositing sawdust in the stream as a dangerous nuisance. The Government and mill owners have finally agreed to have a thorough examination of the river deposits made by Sandford Fleming, with a view to definitely ascertaining what changes have been caused in the river bed.

Brantford has after much deliberation adopted a plan for a system of water-works in which a somewhat modified idea of the drive well system is to be carried out. The plan is to have a pumping well or wells on the large island in the Grand River at Homedale above the city, and a gallery for leading the water, filtering into tiles laid at proper levels, to the pumping well. The large area of soil of the island is thus made the natural filter for the subterranean waters flowing down either from the higher levels, since there is a wide river valley, or for the water of the river as it flows past the upper end of the island. Nature seems to have supplied every facility to Brantford for obtaining a water supply whose purity will, we imagine, be beyond dispute.

Goderich is likewise contemplating a system of water-works, designed by Mr. W. Chipman, C.E., the source of the water being either Lake Huron

or an artesian well. The objection made to the latter seems to be the unusual hardness of the water. If, however, the lake water is used, it will necessitate some extension of the water pipe to a point so far above the town as to remove all danger of contamination. We understand that it has been decided to utilize the artesian well system and increase the supply by having several wells.

Chatham is still in tribulation, looking about amongst the several possible sources of water-supply for one at once safe and economical. They have the sluggish Thames with London sewage passing into it, near at hand, Lake Erie some twelve miles away, and another, Chenelle Ecarté of Lake St. Clair, about the same distance. Drive wells also are available, but the constancy of supply from these seems to be a source of doubt. We trust to soon see a satisfactory solution of the problem obtained.

Belleville water-works are in full operation and, so far, with much satisfaction to the citizens.

London sewerage system is still under discussion. A *modus vivendi* has been proposed by London with London West. What the outcome of the negotiations will be time will best determine.

REPORTS OF SOCIETIES.

Annual Meeting of the Ontario Medical Association.

The eighth annual meeting of the Ontario Medical Association was held in Toronto, June 13th and 14th. There was a large attendance of members of the medical profession from all parts of the province.

MORNING SESSION.

In the absence of the President at the commencement of the session, the preliminary exercises were presided over by Dr. Richardson. Dr. Rosebrugh, of Hamilton, the President of the Association, entered the hall shortly after the meeting opened.

Ontario Medical Library Association.—The first practical business disposed of was the hearing of the report of the committee appointed at the last meeting to take all necessary steps towards the establishment of a library of reference under the auspices of the association. This report was read by Dr. Graham, of this city, and after speaking of the preliminary course pursued by the committee,

stated that \$4000 had been subscribed on the principle of a Stock Association. They also secured a grant of \$250 from the Toronto Medical Association, and the use of a room from the Medical Council. They also received about 800 volumes and 7,000 pamphlets from friends of the cause throughout the province. The committee may be compelled to refuse generous offers made by well-wishers in the United States because the duty on books is so oppressive. The adoption of the report was moved by Dr. Shaw, of Hamilton, who also proposed that the Association should make a grant of \$100 towards the library fund.

Several speakers expressed themselves in favor of increasing the grant; the report of the committee, together with a motion placing \$150 at the disposal of the library committee, was carried unanimously.

On motion of Dr. McPhedran, seconded by Dr. Thorburn, a resolution sympathising with Dr. Du-

puis, of Kingston, in the trying ordeal through which he recently passed by the unfortunate death of his son, was adopted. Another resolution, offering the Association's condolence to the family of the late Dr. Brouse, of Brockville, was also carried.

The morning session was brought to a close by Dr. A. M. Rosebrugh, who exhibited a full set of uterine electrolytic instruments.

AFTERNOON SESSION.

The afternoon session was opened by the President, Dr. J. W. Rosebrugh, of Hamilton, in a somewhat lengthy inaugural address. After expressing his thanks to the Association for the high honor conferred upon him, he spent some time in advocating the formation of this Association as a branch of the British Medical, which now contains over 40,000 members. The chief part of the paper was, however, taken up with a medical retrospect of the last thirty-nine years in this province, in which he sketched briefly the characteristics of the then Toronto Professors, and showed that the method of placental expression taught by Dr. Workman was that now spoken of as Crede's. In conclusion the Dr. advocated earnestly the placing of such facilities for scientific study and research at the disposal of our students as shall obviate the present necessity of going far abroad to prosecute post-graduate study.

The guests of the Association were then introduced and took seats on the platform. They were Dr. C. C. Rice, Dr. Wyeth, Dr. Fox, Dr. Corning, New York; Dr. Johnstone, Danville, Ky.; Dr. Gardner, Montreal, and Sir James Grant, Ottawa.

The discussion on surgery was opened by Dr. Grassett, who read a useful paper on "Urethral Discharges," and dealt with the subject under the following sections according to the nature of the discharge. 1st. Catarrhal urethritis being either (a) simple, such as that set up by leucorrhœal discharge, excessive or violent coition, or mechanical irritation, or (b) specific urethritis or gonorrhœa. 2nd. Chronic discharge or gleet. 3rd. Prostatorrhœa and 4th. Spermatorrhœa. Referring to the cause of a specific inflammation of the urethra the reader did not regard it altogether proved to be always due to the presence of gonococci. The almost constant presence of gonococci suggests that they are possessed of causative properties. The pathology of gleet probably depends upon

the fact that the inflammation has spread from the mucous membrane to the submucous tissues causing a thickened and granular condition of both.

The balance of the afternoon was taken up with papers on the following subjects and discussions thereon: "Soft Myoma," by Dr. A. W. Johnstone, of Danville, Kentucky; "Bacteria" and their influence on the blood and tissues, by Dr. Sheard, Toronto; "Empyema," by Dr. Whiteman, Shakespear, and Dr. Holmes, Chatham.

EVENING SESSION.

The President introduced Hon. Charles Drury, Minister of Agriculture, to the Association. The honorable gentleman said that he recognized the great influence exercised by the medical profession on the political thought of the country. He congratulated the profession in Ontario on having such a useful and important organization as the Medical Association, assuring his hearers that meetings such as he addressed cannot but result in good to the people of the province. He was glad of the sympathy extended by the Ontario Government to medical education in the province. He wished the Association all manner of success, taking his seat amid applause.

Dr. McCallum, of London, gave his "Notes of Clinical Interest from the Pathology of 1887," his lecture being well received.

Anatomy Act.—It was moved by Dr. Geikie and seconded by Dr. Roe, "That this Association would regard with great satisfaction the modifying of the Anatomy Act by the Legislature of Ontario as soon as possible, so as to make it more efficient in promoting the advancement of medical and surgical science by securing a more adequate supply of anatomical material; the study of anatomy being the basis of all sound medical education."

Dr. Workman wanted to know why the bodies of criminals were not secured in the interests of science. It was disgraceful that medical students were forced to raid graveyards for bodies.

The resolution was carried.

Malarial Diseases.—Malaria as the cause of disease was treated of in an able paper by Dr. Mullin, of Hamilton. He said that a great many cases are diagnosed as due to malaria, while a proper and painstaking examination would show that the cause of the disease had been something else.

The paper was discussed by Drs. Workman, Geikie and Richardson, all of whom condemned

the practice of making regular quinine bottles of patients.

Dr. C. C. Rice read a paper on "The Surgical Treatment of Diseases of the Throat," exhibiting and explaining the latest instruments used in operations in that department of medical science.

Dr. Palmer, Dr. J. E. Graham, and others took part in the discussion.

SECOND DAY.

The first paper read was one by Dr. Hunt, of Clarksburg, on "Idiopathic Glossitis." He referred to a patient, a farmer, *æet* 35, who having contracted a cold, complained of pain at the root of the tongue and soreness of the throat. The tongue swelled rapidly and deglutition became impossible. The pulse was rapid and feeble. The neighboring glands were swollen. Two deep incisions were made on the dorsum, from which blood flowed freely, but no pus. The swelling increased so rapidly that laryngotomy had to be performed. The patient died the fifth day after the operation. The reader said that so far as he was aware this disease was very rare.

The paper was discussed by Dr. McPhedran, of Toronto, Dr. Brock, of Guelph, and Dr. Metherill, of Freeltown, who advocated the use of ice in the treatment of the disease.

The next paper was read by Dr. C. M. Smith, of Orangeville, on "Fractures of the Humerus." The mode of treatment advocated was illustrated by the introduction to the Association of a young man whom Dr. Smith successfully treated by the aid of the splint.

Ruptured Tubal Fœtation, was the title of a paper by Dr. Gardner, of Montreal. He related the case of a woman, aged 29, in whom an extra-uterine gestation was diagnosed. One attack of pelvic and abdominal pain was partially recovered from, but a recurrence taking place two weeks later, an operation was decided upon. The application of electricity was precluded in this case by the evident hemorrhage and peritonitis. The abdomen was opened and a quantity of blood clot of varying age, and bloody serum removed. A ragged, friable, granular mass—an expansion of the right fallopian tube—was torn away in attempting to raise it to the edge of the wound to apply a ligature. No ligature was applied. The abdomen and pelvic cavity were washed out and drained. Though the patient's condition was alarming at

first, she steadily rallied and made a complete, though tedious, recovery, the tediousness being due to cystitis. On examining the substances that had been removed, a blood-stained fœtus about one inch in length was discovered, as well as ample evidence of chorionic villi. The fœtus had evidently been dead for some time, probably from the date of the first urgent symptoms. The state of things indicated clearly that electricity would have been of no use at any time after the patient called in her doctor.

Dr. Gardner remarked on the difficulty of diagnosis, which probably, however, is not so great as often imagined. The diagnosis having been made, the question of treatment may practically be considered under three heads—fœticide by electricity, abdominal section to remove the fœtation, and expectancy.

Electricity.—The faradic current is to be selected on account of the easiness and simplicity of the application, and the fact that apparatus is almost always to hand. Though opposed by some eminent abdominal surgeons, there is such a mass of evidence in its favor that its position seems unassailable. A successful case has been published by the author (*Canada Medical and Surgical Journal*, August, 1885).

Abdominal Section.—Mr. Lawson Tait, Dr. Imlach, Dr. Johnstone, and others, say that as soon as diagnosis is made we must open the abdomen. Unfortunately, and this is the strong point of the case for the advocates of immediate section, the first symptoms demanding medical aid may be those of the fatal rupture. There is no doubt that extrauterine fœtation is far more common than is generally supposed, and that rupture with hemorrhage often occurs, and is recovered from by absorption of both blood and fœtus. The author's case goes to prove that even after there is every evidence of the death of the fœtus by electricity, symptoms may subsequently arise to render necessary abdominal section. It may be premised that the earlier the stage of pregnancy at which fœticide is effected, the less likely are after symptoms to arise.

Expectancy.—Presuming the case to occur in thoroughly experienced and competent hands, the diagnosis to have been made and the symptoms to be severe, an expectant treatment must be condemned. It will be proper only in doubtful cases with mild symptoms.

Dr. Daniel Clark, of the Toronto Asylum, read an able paper on "Neurasthenia." He drew a distinction between this disease and hypochondria, hysteria and insanity.

ADDRESS BY HON. G. W. ROSS.

At this stage of the proceedings, Hon. G. W. Ross, Minister of Education, was introduced to the Association by the President. He spoke of the good work done by the medical profession in the past in securing for the country excellent sanitary conditions and laws, and also alluded in terms of praise to the high standard required of those aiming at getting the diploma of the Medical Council. He would be willing to render all manner of assistance to the council in effecting further reforms and substantial improvement. (Loud applause.) Young men will find to their cost that Ontario is a country where superficiality is discarded. Thoroughness is especially desired by those acting in the best interests of medical science.

Dr. Bray, of Chatham, then read a paper on "Uterine Hydatids," illustrated by cases in practice.

Dr. Chas. O'Reilly, of the General Hospital, showed an operating table he had invented. The feature of the table is that the head of the patient is hidden from view while the operation is going on.

AFTERNOON SESSION.

On the reassembling of the Association in the afternoon, Dr. Thorburn read his paper entitled, "Life Insurance, and the Relation of the Profession Thereto." The Dr. treated this highly important subject in an exhaustive manner, drawing attention to the position occupied by Life Insurance as one of the chief institutions in the country. For this reason the duty of the medical examiner was to search into every case, without fear or favor, remembering that upon his conscientiousness depends the success of the companies. The examinations were frequently inefficient and unskilfully made. Tuberculosis is a disease which may be hard to detect, and for which thorough search should be made. The best risks, as a rule, are professional men.

Dr. Herod, of Guelph, while supporting the views advanced in the paper, believed that the inadequacy of the fees paid for examinations by the companies was largely responsible for any want of thoroughness on the part of the physicians.

THE COMMITTEE ON CREDENTIALS.

Dr. Britton, Chairman, read the following report, which he said was ready for presentation since the morning: (1) That it appears in the minutes that the Committee of 1887 made a final report, including the names of all candidates whom they esteemed worthy of membership; (2) that the list found in the copy of the constitution and by-laws is a complete collection of the names of members up to the present time; (3) that signing the register and paying the fee do not constitute membership, the constitution having provided for election by voting; (4) that they have compared said list of members with the register of this year, and recommend the following members as eligible for membership: A. H. Chamberlain, Kelvin; H. W. Meldrum, Ayr; W. J. Logie, London South; W. C. Jeffers, Oakwood; S. Scott, Lloydtown; L. Bentley, Toronto; J. Caven, Toronto; J. D. Smith, Tisonburg; D. P. Bogart, Whitby; D. B. Booth, Odessa; W. A. Richardson, Toronto; J. H. McCullough, Owen Sound; H. C. Cunningham, Toronto; Fife Fowler, Kingston; J. R. Shaw, Norway; H. S. Martin, Erin; J. A. Tuck, Belmore; T. D. Meikle, Mount Forest; W. A. Ross, Barrie; J. M. Jackson, London; R. J. Wilson, Toronto; J. Cascaden, Iona; J. W. Sinclair, St. Mary's; W. J. Roe, Georgetown; R. J. Lockhart, Hespeler; C. J. Hastings, Toronto; C. G. Grafton, Toronto; Helen G. Reynolds, Toronto; D. R. Martin, Toronto; L. D. Closson, Toronto; R. A. Leonard, Napanee; J. E. Eakins, Belleville; W. G. Sprague, Belleville; J. G. Anderson, Milgrove; J. H. Parsons, Meaford; W. Lapsley, Woburn; D. G. Ruthven, Wallacetown; A. B. McCallum, Toronto; A. Boyle, Lisle; A. J. Johnson, Toronto; W. Ogden, Toronto; J. Olmstead, Hamilton; J. B. McArthur, London; — Gillespie, West Toronto Junction; W. B. Thistle, Toronto; J. W. Peaker, Toronto; A. G. Machell, Owen Sound; J. J. Brown, Owen Sound; H. S. Clarke, Lucan; W. R. Walters, East Toronto; G. Schmidt, New Hamburg; J. Harvey, Orangeville; Sir James Grant, Ottawa; C. Cuthbertson, Toronto; H. E. Drummond, Pontypool; H. W. Aikens, Toronto; R. L. Stewart, Bolton; W. B. Lindsay, Strathroy; — Stacey, Acton; — Grant, Beaverton; — Young, Toronto; G. A. Barclay, Parkhill; D. J. Grant, Gravenhurst; — Loughead, Petrolea.

The Committee stated that its sphere was con-

fined to passing on the character of those asking for membership, and not to making enquiry into the status and professional conduct of those already members. Report concluded :

"That rules of order 6 and 7 had not heretofore been strictly observed ; the mode of admission of members has, therefore, been informal, irregular, embarrassing to the Committee and, if persisted in, may allow of the introduction of persons unworthy of a place in this Association."

It was moved by Drs. Powell and Miller : "That the Committee on Ethics be requested to consider the names of those who have this year signed the register and tendered their fees, and who, having at some time in the past been admitted to membership, have not now been passed upon by the Committee on Credentials ; also that the report of the Committee be made to this Association at half-past four this afternoon." Carried.

GENERAL NOTES

The Spanish Medical Congress is to be held in Barcelona in September. Amongst the many important subjects to be discussed are, "The present state of Leprosy in Spain, and how to prevent it from spreading" ; and the "Etiology and Prophylaxis of Cholera and Yellow Fever."

During the past winter session there were the following number of students at German Universities :—Vienna had 2,287, Munich 1,369, Berlin 1,516, Leipzig 794.

A Board has been appointed in Pennsylvania by the Governor to select sites and erect State Hospitals for injured persons within the bituminous and semi-bituminous regions of Pennsylvania.

The following from the death statistics shows the necessity for municipal sanitary work in Montreal :—Of the total, 5,286, 488 died from diphtheria, 101 from typhoid, 744 from diarrhoeal diseases, and 470 from consumption.

Salkowski states that chloroform, 1 to 200 of water, is an anti-ferment, preserving urine and preventing alcoholic, lactic acid and other fermentations, but does not affect the action of the enzymes or unorganized ferments.

Yellow fever and small-pox prevail in Havana, Cuba, while the United States Marine Hospital service was telegraphed, May 6th, that a British steam yacht, *Lancashire*, had sailed for New York, probably, with several cases of suspicious diarrhoea.

M. Durand Claye, the great hydraulic and sanitary engineer of Paris, France, is dead. To him is due the immense work of utilizing sewage on the sands of Genevilliers, where hundreds of acres are now made fertile with the sewage of Paris.

Sulphonal — diethyl-sulphondimethylmethan $(CH_3)_2=C=(C_2H_5SO_2)_2$ is the latest hypnotic. It is popularly prescribed by causing the patient to fix his attention on the spelling of it, till fagged out he falls asleep, dreaming of Baumann, of Freiburg, the discoverer.

Prof. Bayley Balfour has just delivered his inaugural address as the newly appointed lecturer in the Botany Department of Edinburgh University. This is but another evidence of the persistency of type, the Balfour family having been botanists and scientists for several generations.

Lord Selborne is to be chairman of a Royal Commission on University Education in London. Much dissatisfaction exists at the insufficiency of a teaching staff in connection with the University of London. It is time London had a creditable University ; but such institutions grow, and are not made.

It is calculated that 30 per cent. or 7,000 out of 22,000 blind persons in Britain have become so through neglected purulent ophthalmia in infancy. This but lends force to what was said editorially in MEDICAL SCIENCE in the April issue on the importance of general practitioners paying more attention to eye diseases.

Sanitarians will learn with deep regret of the death of Prof. de Chaumont, Parkes' successor as Professor of Hygiene at the Royal Army School, Netley. His scientific attainments especially fitted him to be a teacher. He was frequently employed by the Local Government Board to carry on sanitary enquiries. He had great social accomplishments ; agreeable, courteous and considerate, he was universally beloved. He died of heart failure.

Dr. Alfred Carpenter before the Parliamentary Bills Committee in commenting upon the returns in cities where notification of disease had been carried on, stated, "That where dual notification of disease had been in existence for a certain number of years, there had been a decided decrease in the amount of zymotic disease; that the death rate had gone down, and that as a result of these facts the system should be made compulsory over the whole country."

The Montreal Health Department is an important body, judging by the estimates submitted by Dr. Laberge, the Medical Health Officer for 1888:

Salaries.....	\$16,632 00
Scavenging contract.....	44,387 08
Carbonization of night soil.....	8,623 64
Vaccination.....	1,200 00
Vaccine.....	300 00
Uniforms.....	550 00
Disinfectants.....	700 00
Maintenance of baths.....	500 00
Reports of births.....	400 00
Sheltering home.....	150 00
Horse keep and vehicle hire.....	1,250 00
Contingencies.....	400 00
Maintenance of Hospital.....	1,500 00
Collecting dead animals.....	500 00
Food inspection.....	800 00
Sanitary Architect's salary.....	800 00

Total.....\$77,592 72

Last year the expenditure was \$75,454.

Dr. J. B. Russell, Medical Health Officer, Glasgow, has just issued a report on the outbreak of scarlatina at Garnet Hill. Of ninety-five cases in all, he found that all had obtained milk from one dairy. All had occurred after March 15th. It appears that the son of the farmer who brought the milk to the city was seized with first symptoms on March 23rd, and the byreman on the 24th was seized with sore throat. Did they get it from the cows was the question? Two cows were found with sore teats; one a miserable beast, the other in good condition. The law preventing inoculation experiments limited the range of enquiry; but Dr. Russell states that a calf fed with the milk was almost at once seized with a highly febrile illness, which nearly killed it, it slowly recovering with loss of hair and copious casting of skin.

We take pleasure in calling the attention of Medical Health officers, and of all our other readers interested in sanitary matters, to the notice of

the Sanitary Convention which is to be held in Lindsay in August. The following is a copy of the preliminary announcement:—

"Dear Dr.,—The invitation of the Mayor and Council of the town of Lindsay having been accepted at the Toronto meeting of the Association of Executive Health Officers, it has been decided that a Sanitary Convention will be held in Lindsay on Tuesday, Wednesday, and Thursday, 14th, 15th and 16th of August, 1888. Will you kindly inform me at earliest convenience if you will be present and the subject of the paper you will present for insertion in preliminary programme, which will be shortly issued. I have every hope of a largely attended and very successful meeting. Arrangements have been made with the Canadian Pacific and Grand Trunk Railways by which parties signifying a desire to attend will be provided with certificates at a fare-and-a-third upon making application to P. PALMÉR BURROWS, Pres. Executive Association Health Officers. Passes to Sturgeon Point Hotel will be presented to delegates. Morning and evening boats connect with Lindsay. A citizens' excursion to Sturgeon Point and banquet to those attending convention will also be arranged. Sturgeon Point is already a favorite summer resort for tourists and health seekers. It is situated on Sturgeon Lake, twelve miles from Lindsay. Good fishing in the vicinity and excellent accommodation at the hotel."

Dr. Ralph Stockman, of the Materia Medica Department, now of Edinburgh, has been appointed Research Scholar of the British Medical Association. He has laid out several important lines along which to continue research. He has studied in the laboratories of Schmedeberg and Hoppe-Seyler.

The following is *apropos* of the recent outbreak of small-pox in London:—

To vaccinate or not? That is the question,
Whether 'tis better for a man to suffer
The painful pangs and lasting marks of small-pox,
Or to bare arms before the surgeon's lance,
And, by being vaccinated, end them? Yes,
To feel the tiny point, and say we end
The chance of many a thousand scars,
That flesh is heir to, 'tis a communication
Devoutly to be wished. Ah! soft you no,
The vaccination! Sir, upon your rounds,
Be my poor arms remembered.

—Punch.