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# *Original Contributions.*

## TREATMENT OF MORPHINISM.*


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THE first thing in the treatment must be to secure the control of the patient. His own volition must be subservient to that of the physician. He cannot reason or direct as to the plan of treatment. Failure always follows self-treatment. Removal from home is most essential to secure this control. As in other neuroses, particularly insanity, hysteria, and forms of neurasthenia, control and contact with strangers are far more effectual. This helps to break up the morbid trend of reasoning and associations, which cannot be done at home and with relatives.

Private and special asylums, if properly managed, have superior advantages which cannot be obtained elsewhere. In such places the stimulating firmness of a stranger, if coming with tact, does much to rouse up a weakened will. The surroundings, with the central purpose of removing the morphia, will encourage personal effort on the part of the patient. This idea should be made dominant at the beginning, and no surroundings or other conditions should be recognized as influencing it in any way.

The tendency of each case is to exaggerate the importance of conditions and surroundings in the treatment; also to consider the process of withdrawal and final cure dependent on some insignifi-

*Abstract of a lecture delivered before the class at the New York School of Clinical Medicine, March 18th, 1901.

cant circumstances or conditions. This idea is to be antagonized and overcome by the efforts of the physician and attendant.

If the patient's mind can be concentrated so as to have full faith in some of the means used, this is additional help. This follows after a few days' treatment in most cases, and is often the basis of success. If the mind is unsteady and unable to retain confidence in the measures used, the physician must be resourceful enough to supply this deficiency and retain the confidence of the patient.

In some cases the morphinists are continuously casting about for some new means and measures superior to those used. No plan of treatment, however enthusiastically begun, is ever continued long. The mind seems to be continuously occupied in finding new and better methods. If the patient is a physician, the difficulty is increased, and the treatment is more uncertain. If he can be persuaded to trust implicitly to the physician and attendant, having no concern as to the means and methods of treatment, the recovery is far more certain.

The persons who are unable to repose confidence in any means or measures for their treatment, except for a brief time, and who are suspicious and egotistical, determined to trust their own judgment, and insist upon deciding questions of treatment, are very largely of the incurable class. This exaltation and delusional state is insanity, and not infrequently the first stage of general paresis. Such cases dread control, and are averse to following the uniform line of conduct planned by the physician. They insist on freedom to go and come and implicit trust in their promises to carry out the treatment. Such cases need, first of all, sharp restraint, with full control of the surroundings, and absolute conformity to all rules and regulations. Without this, successful treatment is always difficult.

To those who have this confidence in the means employed and show a disposition to trust implicitly to the physician and attendant, restraint of this kind is not necessary. Where they seem willing to bear pain and discomfort, and to make an effort to help themselves, recovery is rapid. The question of restraint is dependent largely on the condition of the individual. In some instances it is stimulating and helpful; in others, irritating and depressing. In all cases, a measure of espionage and control is absolutely necessary. This cannot be determined clearly at the beginning of the treatment, but will be ascertained from personal observation and study of the case. In some instances, the surroundings of an institution, and the fact of being at an asylum is a restraining power fully recognized; in others, the opposite condition obtains. To many, the personality and control of a physician or attendant is sufficiently stimulating, and persons are able to recover without further restraint.

Surveillance should be continued for a long time after active treatment, and the patient's condition and surroundings should be a special subject of inquiry for the purpose of avoiding temptation and causes which favor relapse. Thus, the business or professional man should not go back at once to his old life and surroundings and subject himself to all the strains and drains which brought on his former addiction and excess. The effort of the physician should be to impress on the patient's mind the need of a radical change in his life and living. This should be done at the beginning of the treatment.

The profound neurasthenia associated with mental enfeeblement and moral palsies are conditions present in all cases. These facts should be considered in the treatment. The withdrawal of the drug removes an active cause, and is only a preliminary in the treatment. In many cases it simply unmasks conditions not suspected before, and in all instances it enables the physician to lay down some successful plan of treatment for the future restoration of the victim. In the removal of the morphia, three methods have warm advocates:

First, the immediate and entire withdrawal.

Second, the rapid reduction extending over two or three days.

Third, the gradual reduction lasting two or three weeks.

The first method of immediate withdrawal has many advocates abroad. Levenstein practised this method with success, and urged it as the most rational method of cure. The cases were shut up in an asylum and the morphia withdrawn at once. Bromides, hot baths, and hot soups were given freely. After the third day the withdrawal symptoms relaxed, and in a week the patient was quiet and comfortable. This method has been opposed and pronounced inhuman. Practically it is used in station houses and jails where persons arrested for crime, who are morphinists, are forced to abandon the drug. Such periods of withdrawal symptoms are often not recognized as such, but are ascribed to some other condition. From this cause many persons confined in jails have periods of acute illness from which they recover.

It is exceedingly doubtful if the collapse from sudden withdrawal ever ends in death, although the effect upon the patient's mind and body is often very severe. In large cities, physicians to the station houses find laudanum and morphia the most excellent remedies, particularly in the sudden collapse indicating the strong probability of morphinism. In private practice, this method is impracticable, although it has been tried with the consent of the patient. It requires careful surroundings and excellent attendants as well as close medical watching.

The rapid reduction covering two or three days or a longer period is very feasible and successful in many cases. It requires

special surroundings, with trained help, and careful medication. The usual method is to reduce the quantity of morphia taken in one or two days, no matter how large, to four or five grains daily. This can be done without much suffering, showing that the enormous doses used have not had their proportional effects. No doubt a large quantity of the morphia is unabsorbed, and remains in the system with the possibility of suddenly developing profound narcotism and death. Thus, a person using twenty grains daily will die suddenly from no observable cause. The morphia in this quantity has been taken for a long time without unusual symptoms or premonitions of death. Suddenly its cumulative action concentrates on the nerve centres, and death follows. Its possibility is always present even when small doses are used, and then in most cases death is attributed to other causes.

The morphia can be removed easily if the doses are divided and given at short intervals down to a small amount. Thus, a patient taking fifteen or twenty grains a day may not notice the withdrawal down to five or six grains. It is essential in this rapid reduction to clear out the alimentary canal with salines or copious draughts of hot water. Sometimes a calomel cathartic is very good. Soda preparations are very useful even when relaxation of the bowels takes place. An interval of twenty-four or forty-eight hours should elapse after the first withdrawal before another reduction is made. The amount should be determined by the condition of the patient. Usually one or two grains can be withheld, and if the remainder is given at night, the withdrawal symptoms are less severe. Placeboes may be given if the mind is morbidly sensitive, but they should be nothing more than bitter tonics.

In this rapid withdrawal stage it should be the study of the physician not to use other narcotics as substitutes too early in the treatment. If, while giving four grains of morphia a day cannabis indica, or any of the bromides are given, the effects will be uncertain, both of the morphia and the substitute. The fact should be remembered that in opium addictions, narcotics neutralize each other's effects rather than intensify them. Thus, morphia and hyoscyamus given together are antagonistic. Either of these drugs alone would have a more decisive action than when combined. The bromides also work in the same way. Larger doses are required to produce bromism when morphia is used at the same time, and its cumulative action is more severe and long-continued. The same is noticeable in other drugs. Practically it is found better to abandon the morphia before the substitutes are used.

Narcotics may be taken in the morning where the morphia has been taken the night before, and it is customary in this rapid with-

drawal to give the morphia at night, and to use the substitute during the day. Tinctures of other drugs should not be used at this time because of the danger of alcoholic narcotism. Certain persons are very susceptible to the paralyzing action of alcohol at this period.

Some of the remarkable cases reported of the painless withdrawal of morphia have been effected by simply substituting some tinctures for the morphia. In the same manner, the withdrawal of the morphia and the substitution of codeia and other alkaloids or laudanum or other preparations of opium, is simply the transferring from one addiction to another. Many of the specific preparations contain some form of opium, the substitution of which for morphia is simply a change in the form of the drug. To abandon morphia, and to depend upon alcohol in its various forms is not curative in any sense. The rule should be that no alcohol should be used in the withdrawal stage.

The acuteness of the insomnia, depression and neuralgia which follow the rapid removal of morphia, should be treated by baths, hot and cold water applications, with massage. When the morphia is entirely withdrawn, many drugs may be used to lessen the acuteness of the symptoms, prominent among which are valerian, asafœtida, hyoscyamin, cannabis indica, and the coal-tar derivatives. As a rule they should be given in large doses, frequently repeated until several doses are taken; then abandoned. No one drug should be given more than two or three days at a time unless its effects are so marked as to demand its continuance. The vegetable narcotics seem to be valuable in many cases, but do not all act alike. In some cases they are very powerful; in others they are of no value. The phosphate of soda is a valuable remedy, and can be used continuously during this period.

The rapid withdrawal stage should not last more than six or ten days. In some instances a much shorter time is practicable. The reduction of the morphia to four or five grains the first day and the third day after its still further reduction to three grains taken at night, will be found most practicable. Then, if possible, substitute deodorized tincture of opium, in proportionate quantities, the fourth night. The sixth night this can be reduced still further, and then the morphia can be abandoned on the eighth or ninth day. After this time narcotics which have been found effective are to be given at night. These can be abandoned after one or two weeks without special suffering. Strychnia, quinine, and other active tonics are very valuable at this period. Faradism, massage, and confinement in bed, all act with good effect.

This method of rapid withdrawal will tax the therapeutic resources and skill of the physician to the utmost. Each case will vary widely in both physical and psychical symptoms. In one

instance, applications of water in the form of baths, hot applications, or spongings of the body will do well. In another, feeding, confinement in bed and personal attention by attendants will be sufficient. In a third case, exercise, mental diversions and frequent change will lessen the intensity of the symptoms. In others, drug restraint and narcotics are demanded imperatively. The same diversity of symptoms will appear after the morphia is withdrawn, and the same skill will be requisite to adapt the special means to the end required.

In the third method of treatment, the gradual reduction, extending over a period of several weeks, much the same course will be pursued, only less rapidly. The morphia should be reduced to four or five grains the first few days of treatment. Then a slow withdrawal daily or weekly should follow. Where the needle has been used, the difficulties will be increased because of the fascination which follows from the effects of drugs taken in this way. The rule is that the needle should be abandoned as soon as possible and the drug be taken by the mouth.

I have found solid opium to be better borne by the stomach than morphia. This, with the deodorized tincture, can be given in decreasing doses with good effect. This form of opium can be given concealed in bitter tonics, and where the stomach will tolerate it, it is valuable as a substitute, and can be reduced in strength without being recognized by the patient. In many cases it is practicable to abandon the morphia for this form of drug as soon as possible, and then to slowly or rapidly take this away. Opium in the gum or powder is often more efficacious as a substitute for morphia. The narcotism from opium in gum or powder is more prolonged or agreeable by the absence of stimulation, and the withdrawal symptoms have less of the mental and hysteric element. It is found to be less difficult to withdraw opium in the powder than morphia, and that in many cases the bad symptoms are less prominent in the withdrawal period.

Where the reduction is likely to extend over several weeks, owing to the hypersensitiveness of the patient and his disinclination to bear pain and discomfort, great attention should be given to the diet and regular habits of living, and also avoidance of all extremes of exercise, nervous excitement, overeating, and excesses of every kind. It is important to increase the vigor and strength of the patient in every possible way. It is found that with increasing vigor the neuralgias disappear. Often iron and phosphorus tonics are very valuable. The salines in some form are indispensable. The flushing of the alimentary canal is equally important by cathartics. Narcotics, as before remarked, are of little value except in the very last stages, when the opium is finally withdrawn. A gradual system of developing the vigor and

healthy functional activity of the body and at the same time slowly removing the morphia, is the plan to be pursued.

In some instances the morphia has been reduced in infinitesimal fractions of a grain daily, on the supposition that nature would accommodate itself to this slow withdrawal. Others substitute some mild narcotic during the withdrawal process. This in the author's experience has been very unsatisfactory. The exact plan and method of withdrawal must vary with the patient and the physician. Sometimes the surroundings have much influence. If in an institution where these can be controlled, mathematical exactness in the conditions may be followed out. The preferable plan is to drop the morphia in quarter or half-grain doses at intervals of ten days or two weeks, and to accustom the system to adapt itself to the reduced doses by continuing daily a fixed amount. In one case half a grain was taken away every two weeks until only half a grain was used daily. The intervals after the first few days were passed without much suffering. At the last the half grain was removed and bromides substituted for it. The second day hyoscyamin and trional were used with good effect. In a week or so the patient was able to do without any narcotic.

After the morphia is withdrawn, the severity of the irritation and delirium is sometimes best relieved after the second day by return to the drug again in some concealed form for one or two doses. An example of this was that of a morphinist who, after the final withdrawal, was intensely melancholic and delusional. This condition increased until, on the evening of the second day, a dose of morphia concealed was given. The relief and sleep which followed lasted twenty-four hours, after which substitutes were able to produce a degree of comfort, and the restoration was rapid and uneventful.

This course is not always followed by the same results. The patient will demand the same drug, not knowing what it is, and the skill of the physician will be taxed to find a substitute which will be satisfactory. Manias following the withdrawal of morphia can be broken up in this way, and also phobias, but great skill is necessary to prevent their recurrence. In one case of destructive mania from the withdrawal of morphia, the drug was given, again breaking up the mania; then this drug was substituted by forced cold and hot showers, which prevented the return of the mental disturbances, and final recovery ensued. After the crisis is past, the former substitutes may be given with excellent effects. If the patient's mind retains consciousness of the conditions which have existed, this treatment is followed by renewed confidence and faith of recovery.

Insomnia should not be treated by hypnotics with any degree

of regularity. The danger of another addiction is so great that it is unwise to use any one of the hypnotics except for a brief time. Tobacco should be stopped early in the withdrawal treatment. It always seriously complicates the progress of the case. After the withdrawal symptoms are passed its resumption is very commonly followed by relapse. Beef tea and beef extracts are unsatisfactory, and in most cases are nerve stimulants of decided inferiority, and seriously complicate the progress of the case. Fruit juices and grain products, with milk, are the best nutrients which can be given. Often an abdominal bandage, wet either in cold or hot water, has soothing effect on the sympathetic nerves of the abdomen, checking diarrhea and gastric trouble. Cold water applications to the spine in the form of ice-bags are very serviceable.

The methods of treatment which have become popular both in this country and abroad are one of slow, gradual withdrawal of the drug; the other, that of rapid abandonment within three or four days. The method of treatment which has been found most practical by the author is that of gradual reduction, going from stage to stage—now slow, then rapid—being governed by the condition of the case, the history and present conditions. It may be divided into three stages:

First, the preparatory stage, in which an effort is made to ascertain the smallest amount of morphia which can be taken without discomfort to the patient. This sometimes requires an extended observation of a week or more. Many patients use far more morphia than they imagine, being careless and inaccurate as to the time and quantity taken. Others intentionally deceive themselves and others, boasting that they only take a certain amount, when in reality this is only a minimum. Having secured the proper surroundings and control of the case, the patient's statement of the amount he is taking is accepted, and he is given a like amount for the purpose of testing his accuracy. If this is found to produce marked narcosis, it is evident that it is more than is essential for comfort. If he is restless and uneasy, it is less than his usual dose.

These conditions will vary largely the first two or three days. The fact of coming under treatment in strange surroundings and under new conditions produces a psychical element which will derange the nervous system, requiring more than the accustomed dose of morphia at first. After the patient has acquired a degree of confidence, and become used to the surroundings, an approximate average state can be attained. If it is found that he is comfortable on eight or ten grains a day, this is assumed to be the average quantity necessary to produce reasonable sedation.

Having ascertained the character of the case, the next question

is the gradual or rapid withdrawal of the drug. If the addiction is an acquired one in a person previously well and free from neurotic strain and organic disease, and the time of addiction is limited to two or three years, and associated with the use of spirits, a rapid withdrawal is the most practicable. The conditions present are always neurasthenia and anemia, and various functional disturbances which are made worse by concealment and the narcotism of morphia.

Having found the amount of morphia the person takes, and corrected in a measure the digestive disturbances which exist, the second stage of treatment begins. The first step will be to abandon the morning dose of morphia and to concentrate the amount given from noon to six in the afternoon, rarely giving any after six or seven o'clock in the evening, the object being to get the narcotic effect during the night, also to break up the plan of the previous use. Where it had been taken in small doses at short intervals, larger doses are given at longer intervals. If the absence of morphia in the early morning causes suffering, baths are given. Stimulating foods and hot milk or acid drinks if the stomach will bear them. If the discomfort is severe, opium pills of half a grain or one grain may be given. When the system is accustomed to this change the morphia may be reduced one-half the usual dose at once. If ten grains are taken daily, five grains will suffice. If given by the needle, the diminished amount is seldom recognized. If by the stomach, the effects are more apparent.

Later, according to the condition of the patient, a still further diminution is made, and if the suffering is marked a preparation of cinchona bark, usually the infusion, in drachm doses, combined with ten drops of deodorized tincture of opium, is given. Most cases bear reduction without any particular discomfort down to one or two grains. Then increasing doses of tincture of opium with bark becomes a good substitute, and the morphia can be withdrawn at once. If the needle addiction is present, the use of the needle must be kept up with regularity, occasionally substituting one or two grains of dionin in place of the morphia.

When opium is not borne well by the stomach, pills of lupulin, black haw, valerian, cannabis indica, and hyoscyamus may be alternated until some one is found having narcotid properties sufficient to lessen the extreme irritation. Baths are to be given every day during the reduction period, and phosphate of soda in small doses should be given two or three times a day. In from ten to twenty days the morphia can be entirely abandoned.

Then comes the third stage of treatment for the withdrawal symptoms. The effort here will be to diminish their intensity, particularly that of insomnia and restlessness. Prolonged hot

air baths, either in a tub or from a shower, or from packs, are very useful, and very satisfactory in many cases. Nitrate of strychnia is in some cases of great service, particularly where the needle is used. Beginning at the one-thirtieth of a grain, the amount may be increased up to one-tenth of a grain given three or four times a day. If it produces excitement, both muscular and mental, it should be discontinued. Phosphoric acid with nux vomica are remedies whose effects are very pronounced. Extract of horse nettle, given in fifteen or twenty-drop doses, has been found very efficacious in removing the restlessness and encouraging sleep during this stage. Care should be taken of the diet. Small quantities of food should be taken at short intervals rather than full meals at stated hours. If the bowels become troublesome in the dysenteric discharges, increased doses of cinchona with capsicum will be useful. Tea and coffee during this period have been in some instances medicinal in calming the restlessness and allaying the discomforts. In others, they are both stimulating and irritating. Cocoa seems preferable, and should be used often very hot. Electricity has been found useful in some cases; in others ar irritant. The Faradic current seems most adapted, and is often followed by decided rest and relief from discomfort. Electrical baths are very highly valued by some authorities, but it is probable that their value depends upon the peculiarities of the case. Experience indicates that they are not always practical, and cannot be used as a general remedy

The withdrawal period may last from four to ten days, sometimes longer. When it has passed away, the patient recovers in a large measure, and only suffers from general weakness and depression of spirits. Care should be taken by this time not to use any drugs that are known to the patient, particularly those that are likely to produce pleasing effects, and be taken afterwards for their quieting effects. The muscular delirium, or intense desire to use the muscles of the legs in walking, is overcome by massage and vibratory machines that shake and push the muscles by force. A few minutes of this exercise seems to expend the muscular energy and to take away this uneasy feeling. This peculiar delirium cannot be overcome by exercise in the open air without danger of reaction. In one case, walks of ten or twelve miles a day for a time resulted in extreme prostration and relapse. In another case excessive exercise in a gymnasium was followed by the same result. Limited indulgence in this desire is helpful, with massage and hot and cold baths daily. Warm baths at night, if not too stimulating, followed by rubbing, seem to be more sedative than in the early stages of treatment.

Mild exercise in the open air is often of great value, the difficulty being that the person is liable to over-exert himself and suffer

from muscular fatigue. Short rides and walks are of more advantage, the intervals being passed in a reclining position on a couch. In most cases, to remove the clothes in the middle of the day, darken the windows, and go to bed with all the conditions favorable for sleep, is a most excellent measure. After a short time, lengthening periods of sleep will follow. During the withdrawal period the patient should see very little company, do no business, and have no strain on the mind if it can possibly be avoided. In some cases, particularly in those who are over-fed and inclined to corpulency, a Turkish bath with mild rubbing every day, either in the forenoon or early in the evening, will be found very advantageous. In a thin, spare person, with acute sensitiveness and hyperesthesia of the skin, showers and hand-massage are of great value. In the absence of these measures, sponging with warm salt water or with water containing four ounces of vinegar to the gallon, is very soothing. For the various anesthetic and hyperesthetic conditions, also for the local neuralgias, hot and cold applications are very useful.

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## ADRENALIN, THE NEW HEMOSTATIC.

BY MURRAY McFARLANE, M.D.,

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W. H. Bates, of New York, by his introduction to the profession of suprarenal extract, conferred an untold benefit to workers in the special field of the eye, nose and throat. This most powerful astringent and hemostatic, by preserving a clear field for operation, greatly facilitates the technique by rendering the parts practically bloodless.

In hay fever and certain diseases of the heart the extract also proved of great value.

The chief drawback to its use was that, being a pulverized animal extract, it was liable to decomposition, with the possibility of septic infection following its use, while in the form of the powdered gland it frequently caused great irritation.

In the efforts to get satisfactory solutions of the gland extract, the profession have been greatly indebted to H. L. Swann, T. P. Berens, T. R. Chambers, Robt. C. Myles, of New York, F. E. Hopkins, Springfield, Mass., T. M. Hardie, Chicago, and Lucien Howe, of Buffalo, who all did conscientious work in this direction; but it remained for Dr. Jokichi Takamine, a Japanese chemist, associated with Parke, Davis & Co., to successfully solve the

problem by isolating from the suprarenal gland the active principle, causing the physiological action so useful clinically.

To it the name Adrenalin has been given. It is a white crystalline substance with the general chemical behavior of a base. It is sparingly soluble in water (1-600). It dissolves readily in dilute acids, forming various salts, solutions of which exhibit all the chemical and physiological action of the active principle of the suprarenal gland.

In a number of investigations by the writer as to the utility of adrenalin, a solution of the chloride was made use of in various strengths from 1-1000 to 1-10000, formed by the addition of one part of the active principle to varying quantities of normal saline solution sterilized by boiling for two minutes.

In fifty cases of conjunctival injection, from causes varying in nature from the simple congestion of eyestrain to the worst forms of conjunctivitis, a single drop of adrenalin solution 1-5000 almost immediately causes a blanching of the membrane beginning in about ten seconds and reaching a maximum in from five to ten minutes, the effect lasting from one-half to one hour, according to the nature of the case.

This blanching may be obtained in from thirty seconds to two minutes by even so dilute a solution as 1-10000. In addition to this effect there is a widening of the palpebral fissure, the eye appearing larger than its fellow, due to the retraction of the tissues.

For practical purposes a 1-2000 solution was found to give the best results in operative work upon the eye, causing no irritation that could be noted upon close observation.

A two per cent. solution of cocaine was used ten minutes prior to the instillation of the adrenalin, in order to prevent interference of absorption of the anesthetic, which seems to occur to a slight extent if the order of instillation is reversed, thus insuring a painless and practically bloodless result.

In two strabismus operations and in advancement of the internal rectus muscle, two drops of a 1-2000 solution rendered the various procedures bloodless ten minutes after being dropped into the conjunctival sac, a deep as well as superficial hemostatic action resulting.

In an operation at St. Michael's Hospital for the removal of an eye, assisted by Drs. McKeown, McKenna, and Silverthorn, not more than ten drops of blood were lost, after three minims of a 1-2000 solution of adrenalin chloride had been dropped into the eye, ten minutes before the administration of the chloroform. The effect of the hemostatic seemed to extend to the deep as well as to the superficial tissues, scarcely any hemorrhage resulting when the optic nerve was severed, thus proving the rapid absorption of the active principle.

In diseases of the eye, where a tendency to iritis or choroidal disease exists and astringents are contra-indicated, and in corneal ulcerations, adrenalin should not be used. But wherever an operation is required it will be found invaluable. It is in operations on the throat, nose and ear that the specific action of the suprarenal gland gives the most brilliant results, the tendency to hemorrhage frequently controlled with difficulty being one of the drawbacks of surgical measures directed to these organs. For a number of years the writer has used with great satisfaction various solutions of the suprarenal extract in the removal of septal cartilaginous outgrowths, septal deviations, and hypertrophies of the turbinates, the only drawback being the difficulty of preparing fresh solutions and the danger of irritation, which so frequently existed.

These objections, however, have been overcome, adrenalin giving better results without any of the concomitant disadvantages. To obtain the best results a 1-2000 solution is applied to the parts by means of a cotton carrier after cocaine anesthesia has been established.

In this manner a number of large cartilaginous growths were removed with scarcely any hemorrhage. In addition to the hemostatic action the contractile power of the drug upon the turbinate tissues greatly enlarges the field of vision for exploratory and operative measures.

For the removal of adenoid vegetations the vault of the pharynx is sprayed by a 1-5000 solution of adrenalin chloride, the results being all that could be desired. Except in the case of very young children, the writer never uses general anesthesia, thus obviating one of the great dangers attending operations of this nature, eucaine B three per cent. being applied locally. In those cases where the patient is over twelve years of age, cocaine two per cent. is preferred, insuring a nearly bloodless and almost painless result.

In hay fever, the treatment of which has been so unsatisfactory, good results have been obtained by the writer by the use of a spray of suprarenal extract, together with the internal administration of pil. antineuralgic (Brown-Sequard) half strength, one pill night and morning and the salicylate of soda five grains and potassium bicarbonate twenty grains in peppermint water, three times daily, insuring a greater comfort to the patient than any other treatment ever tried by him. Adrenalin being less irritating than the old suprarenal extract, good results are to be expected from its use during the coming summer in this most troublesome affection.

In tonsillotomies the gland is to be painted by a 1-1000 solution, which renders the operation almost bloodless; in cautery

operations the gland melts away like cheese, no hemorrhage interfering with the heating of the point of the instrument, a fact greatly to be appreciated. As to the possible drawbacks to the use of preparations of the suprarenal gland, a certain amount of controversy has existed as to the greater danger of secondary hemorrhage after its use, various views being held. In the writer's opinion the great law of action and reaction holds good, and a slightly greater tendency to after-hemorrhage exists, but is not in any sense dangerous and can be controlled with universal success if the cut surfaces are swabbed with a mixture of equal parts of glycerine, alcohol, and rose water.

Another point is to limit the action of the drug by being careful to apply it only to the parts to be operated on.

Microscopic examinations of sections taken from cut surfaces one hour after operation show a more relaxed and open condition of the blood vessels where the hemostatic has been used, but if the above directions are followed there will be no trouble from secondary bleeding, which in the vast majority of cases is never seen or only amounts to a capillary oozing.

In a few cases where suprarenal liquid was used in spray form, a pain behind the eyes was noted where it had been used too freely, as well as severe sneezing, but adrenalin in normal saline solution has been found to be almost without irritating qualities; in fact, after the slight preliminary shock of application, a slight anesthetic action seems to result.

No constitutional disturbance has been noted after its use, the slight increase in the pulse rate being traceable to the nervousness of the patient as well as to the accompanying cocaine, the drugs being used together in the majority of the writer's cases.

The investigation as to the internal action of adrenalin has been left to the workers in the field of general medicine.

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**Prognosis in the Heart Diseases of Children.**—It has impressed me, as it must have impressed every physician who has had the opportunity to see sick children, that when they suffer from disease of the heart the prognosis should generally be more hopeful than when adults suffer with heart disease. This is partly because they are more elastic than adults, whose tissues are stiffer and can almost be said to be brittle, and most of all, perhaps, because children who have not attained their full growth have the opportunity for repair during growth. Injury, or any distortion of the heart that is caused by disease, may be effaced as the organ increases in size, for the usual tendency of nature is toward the production of an ordinary type.—Dr. A. V. Meigs, in *Journal American Medical Association.*

# Selected Articles.

## TECHNIQUE OF X-RAY WORK.*

BY MIHRAN K. KASSABIAN, M.D.,
Skiagrapher to Medico-Chirurgical College and Hospital, Philadelphia, Pa.

MR. PRESIDENT AND GENTLEMEN,—I feel highly honored in being permitted to read a paper at this first regular meeting of the Roentgen-Ray Society of America, many of whose members have attained world-wide celebrity as specialists in one department of science or another, and in assuming the responsibility of the task I have undertaken, I would have it clearly understood that I am fully conscious of the smallness of my own claims to be heard on a subject so important to the public generally, and to medical practitioners in particular, as x-ray photography has already proved itself to be in the past, and is likely to become in the future. Nor would I have undertaken the task, had I not felt some assurance that the lessons I have learned during a practical experience of eight years in photography, and of several more in skiagraphic work in hospital and United States Government service in 1898, may prove serviceable to others also.

Since Prof. Roentgen's famous discovery, I have made more than eight hundred x-ray negatives, and 3,000 fluoroscopic examinations, some of which, I need hardly say, were failures, but not altogether valueless on that account. In fact, failures in scientific investigations are often the greatest and most efficacious teachers. For a knowledge of what to avoid is frequently of the utmsot importance, especially in work of that character.

In treating the subject of my paper, I shall feel myself under constraint occasionally to enter upon domains of science where, undoubtedly, many gentlemen present are far more at home than myself. But I trust these little trespasses will be overlooked, and their occurrence viewed as entirely unavoidable.

*Need of Experience in Photography.*—At the outset I would impress on the x-ray worker the importance of a thorough knowledge of photography, since without that he can hardly hope to

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succeed in obtaining a satisfactory negative. Moreover, it is very important that he accustom himself to developing his own plates, since if he sends them to a photographer for development, the latter will be liable to under-develop or over-develop them. Owing to his ignorance of the case, he does not know exactly what he is aiming at; and besides this the operator does not gain experience as to the time of exposure. And again the patient might be from a distance, so that a quick diagnosis would be of the utmost importance. Few surgeons and physicians can either see or understand anything in an under-exposed or under-developed negative; and even when the negative is good it requires an experienced eye to take in and appreciate all its details. Hence clearness in the negative is essential to the practical usefulness of skiagraphy in surgery and medicine. And what the negative is, the resulting print must also be.

*Fluoroscope versus Skiagraph.*—There are two methods of examining a case with the x-rays, both of which are important and useful, yes, necessary, since they confirm each other; namely, fluoroscopic and skiagraphic.

It may be noted that there are great diversities of opinion among x-ray workers regarding the relative values of these two methods. As a matter of fact, however, they both have advantages and disadvantages, which I will endeavor to set forth in detail as results of my own personal experience and observation.

1. The fluoroscopic examination is merely temporary, while the view is limited to few individuals. On the other hand, the skiagraph is a permanent record, visible to everybody, and moreover, capable of use in legal cases, the lecture-room, clinics, etc.

2. Fluoroscopy, however, is easy, quick, and affords ready facilities for comparison with the normal corresponding part. In these respects it has an advantage over the skiagraph, which requires considerable time to effect, and is more tedious.

3. Fluoroscopy also has an advantage when the heart, joints, and respiratory movements are concerned, as it offers better opportunities for studying them, and from different directions, when necessary. The skiagraph shows a blurred effect in the case of moving organs.

4. Fluoroscopy is at a disadvantage when the pelvis, kidney, spine and deeper tissues are to be examined; but the skiagraph shows them plainly.

5. A fluoroscopic examination, again, fails to reveal small foreign bodies in the bony part—as shot in the eye, for instance—but the photo-plate differentiates by relative density, and therefore shows them distinctly.

6. The fluoroscopic examination shows only indistinctly incipient changes in the bony part (as callus, exudation, floating car-

tilege in the joints); whereas the skiagraph shows them clearly by differentiation (provided the vacuum is suitable).

7. In an impacted fracture, also, as there is no displacement or separation, the relative density is unaltered; fluoroscopy is of little service, but the skiagraph shows it clearly even through the splint, or plaster-of-Paris, if any is present.

And now, to revert again to the negative, I would direct special attention to a few points of vital importance to success in the effort to secure that clearness of detail which alone determines its practical usefulness.

*Vacuum.*—It being presumed that the general condition of the x-ray apparatus in use is satisfactory, the operator must see to it that the degree of vacuum he is working with is suitable to the case he has in hand. For fluoroscopic purposes a high degree is usually necessary.

*Preliminary Fluoroscopy.*—All being in readiness, he should first make a fluoroscopic examination of the body or part affected, between which and the focus tube a black screen has been interposed to exclude the surrounding light. This examination must be thorough, since on it depends in great part the success or failure of the subsequent work.

As a case in point, let us take a joint. View it from different directions, and, moving it, compare carefully with the normal corresponding part.

*Plate.*—This over, take your plate, and put it into the usual envelope of black paper, making sure that the gelatine side is upward, *i.e.*, toward the smooth side of the envelope. Use a piece of blotting paper or silk to prevent its getting wet from perspiration of the part pressing on it.

*Position of Patient.*—The patient must be placed in such a way as to secure comfort, so that there may be no undue tendency to movement of the part affected during exposure. This part, divested of clothing, must be covered with an oiled silk cloth without wrinkles, and brought as near to the plate as possible, an aluminum sheet being interposed and connected with the earth.

In case of foreign bodies in the eye, put the patient in a chair, and use a head-rest, which I find more convenient, and produces less tendency to disturbance of the part either by its own movement, or by ordinary respiration, than if he were reclining.

*Position of Crooke's Tube.*—The arrangement just spoken of has presumably been made with due regard to the position of the Crooke's tube.

Now it is positively known that the x-rays are both divergent and rectilinear, wherefore even slight carelessness on the part of the operator may cause much distortion and disproportion, or overlapping of bones in the plate. Hence the part to be examined

must be placed in the centre of the plate; and the platinum disc of the focus tube must be directed to this centre, perpendicularly to the centre of the hemisphere of x-rays generated.

*Distance of Tube.*—Put the tube as far as possible from the part within a limit of four feet; and remember that the farther the tube, the longer is the time of exposure required, which is somewhat of a disadvantage, but this disadvantage is more than counterbalanced by the increased sharpness of the shadows obtained.

*Time of Exposure.*—As we have just seen, the time of exposure depends on the distance of the tube, but this is only one of several determining causes to be considered. It depends also on the degree of vacuum, and on the resistance met with—as, for instance, the thickness or density of the part to be examined; the presence of splint, plaster-of-Paris, etc.

*Dark Room.*—Assuming then that due care and attention have been given to these details, the next step is to remove the plate to the dark room, which should be located as near as possible to the x-ray room. And there I propose, with your permission, to leave it for a time, while I offer a few remarks on the very important subject of light (solar, white) and photo-chemistry. In doing this I will endeavor to be very concise, and to confine myself to such matters as bear directly on the technique of x-ray work, and are necessary to a clear understanding of the operations it involves.

*Importance of a Knowledge of Photo-Chemistry.*—At the close of the nineteenth century, we no longer believe in empiric formulæ, nor do we place a blind, unreasoning faith in the scientific teachings of our ancestors, however eminent they may have been in their day and generation. As physicians, we must know the chemical and physiological action of the remedies we employ or advise. When we prescribe or administer a drug, we must have a clear notion of its most probable effects on the economy and different organs of the body.

Many photographers, undoubtedly, take and develop pictures by a merely mechanical process, with little or no knowledge of the scientific principles on which their art is founded, and by which alone it can be advanced and perpetuated. To such a one, any irregularity in results presents almost insuperable difficulties,—which might easily, or at least more certainly and readily, be overcome by a knowledge of what is taking place among the chemicals he uses.

In a word, a knowledge of photo-chemistry, or the want of it, makes all the difference between the master of his art, who makes his processes the slave of his wishes, and the mere mechanical operator, who is the slave of formulæ.

*Light.*—A knowledge of the nature of light is not of less importance than chemical action to ensure success either in photography or skiagraphy.

In the case of a photograph, the reflection of light from the different objects falls over the sensitive plate in a reversed position; whereas in the skiagraph the shadows fall directly on the plate. We do not know the exact relationship of the so-called x-rays, notwithstanding the many theories which have been broached, but we do not know that their action on the photographic sensitive plate is the same.

*Action of Light.*—A ray of white light has two modes of action, (1) photo-physical, and (2), photo-chemical or actinic.

The first calls for merely a passing notice, since it is of little importance in photography. The effects of its chemical action, however, are apparent at every stage of progress in the photographic art; and therefore the cause of such action and the precise mode of its operation should be diligently sought for.

"In many cases the cause of chemical action may be found in the physical explanation of the nature of light, or radiant energy, the undulations of which it is supposed to consist, exerting their energy in bringing about chemical action, or decomposition."

For our present purpose we may assume this undulating theory, with the chemical theory that bodies are composed of molecules, which are not only themselves in a continual state of oscillatory movement, but whose constituent atoms are also subject to an inter-molecular motion of a similar kind. The principle here involved is that of the superposition of small impulses.

Such impulses, repeated at regular and suitable intervals, may produce a considerable effect by creating a new molecular and atomic movement in substances, resulting in chemical changes.

In fact, when light is absorbed by a body, whether wholly or partially, it must have done work of some kind. In general, perhaps, a rise of temperature results, but in special cases the effects upon the atoms and molecules may cause them to enter into fresh combinations.

*Oxidation and Reduction of Light.*—We know from observed cases that the chemical action of light may be that of oxidation or reduction; or it may produce decomposition or photo-dissociation.

The haloid salts of silver are those upon which the action of light is the most important, but it is not yet determined whether this action is one of reduction, or oxidation, or what it is.

*Chemistry of Developing Process.*—We now proceed to the developing process, in which manipulative skill born of long practice and an intimate knowledge of chemical principles will both be found of service.

It is only in exceptional cases that photo-chemical action of light produces on the sensitive film any visible alteration. The image "photographed" on it is usually invisible, or latent. The light having done its work, means have to be found by which the

change in the photo-sensitive plate may be made visible. This process is called "developing," and the agents used in the operation "developers." The action of the developers is in the main chemical, and their varieties are legion, but the chief ones are acid and alkaline.

In alkaline development the image grows by continual reduction of the silver haloid downward, as may be seen by the image only becoming visible towards the end of the operation; consequently, when the silver is removed by acids, a sunken cast of the image is left in the gelatine.

The use of potassium bromide as a "restrainer" probably rests upon the formation of a double salt between it and the silver bromide, this double salt being less reducible than the silver haloids alone.

The "accelerator" is sodium carbonate, or caustic soda, which act by opening the pores to let the reducing agent into the gelatine.

*Developers.*—I will now explain briefly the various actions and modes of action of the chief agents used in development, although the doing so may involve some little repetition.

The "developers," as has already been explained, are those reagents which bring out the invisible image by reducing the oxidized haloid silver salts. The alkaline developers play a very important part indeed, owing to the diversity of their modes of action.

*Reducers.*—(1) Some of them are reducers, or density givers, as pyro, metol and hydrochinon.

| No. 1. | | | Metric. |
|---|---|---|---|
| Metol | ½ ounce | = | 15.50 c.c. |
| Hydrochinon | ⅜ " | = | 11.65 " |
| Sodium Sulphite (crystal) | 7½ " | = | 233.00 " |
| Distilled Water | 120 " | = | 3600.00 " |
| No 2. | | | |
| Sodium Carbonate (crystal) | 4 " | = | 15.50 " |
| Distilled Water | 30 " | = | 900.00 " |

For developing, take four parts of No. 1 and do not add No. 1 in full proportion, viz., one part. But begin with small amount; if necessary, dilute for summer season on large plates, renew the No. 1, if necessary. *Vide* "Modus Operandi of Developing." 10 per cent. bromide potash.

*Accelerators.*—(2) Others are accelerators, which act by opening the pores of the gelatine, thus setting the reducer in action, with an energy proportional, within certain limits, to the amount of acceleration, as ammonia, sodium carbonate, or caustic soda.

*Restrainers.*—(3) Others, again, act as restrainers, as potassium bromide, which retards the action of the reducing agent.

*Preservatives.*—And (4) some act as preservatives, as sulphite of soda, or citric or other acid.

*Practical Hints.*—If the operator will observe and carry out the following general rules of procedure, he will seldom fail to attain the end he is aiming at.

1. To increase the rate of development, use a concentrated developer; increase the proportion of the accelerator, reduce the proportion of the restrainer, and increase the temperature.

2. To retard development, dilute the developer, reduce the proportion of the accelerator, and increase the proportion of the restrainer.

3. To increase (contrast); reduce the proportion of the accelerator and increase that of the density giver and restrainer; increase hydrochinon.

4. To reduce (contrast); reduce the proportion of density giver and restrainer; increase that of the accelerator, and dilute the developer.

*Modus Operandi of Development.*—We now come to the detailed process, or *modus operandi* of development, which, of course, is conducted in a room from which all white light has been carefully excluded. A small red light may be used to enable the operator to see what he is doing.

Arrange your developers and accessories in separate bottles, marked 1, 2, 3, etc. Then take tray and measure number 1, (metol) (reducer) into one graduate, and number 2 (accelerator) into another. Then take your plate from the envelope, handling it carefully, and being cautious not to bring it too near the red light. Dust it, and put it into the tray, gelatine side upward, over a plate-lifter. In the case of a large sized plate, it is better to moisten with distilled water, or old developer, to avoid air bubbles, and prevent the patches which may be produced by the strong developer; but for 8 x 10, or 11 x 14 size, this precaution is not necessary. It is advisable to use first the old developer, then pour it out, and use the new one, if necessary. Pour number one developer from the graduate glass into the centre of the plate, and rock the tray.

Do not keep too far away from the red light at the beginning, or you will not be able to see whether the developer is being evenly distributed, or is leaving patches. When you notice that it is even, move to a distance of two or three feet from the light, and watch the plate. The time that elapses between the beginning of the development and the appearance of the picture cannot be definitely fixed, but it is usually ten, twenty, or thirty seconds, according to circumstances. You notice first the exposed part of the plate, that is, the part that has not been interposed between the tube and any matter, grows darker and darker; then the muscles,

or other easily penetrable parts, begin to appear in the picture. If it seems to be slow, use a little alkaline by bringing the solution to the corner of the tray and pouring in the alkali (No. II), mix well before rocking the tray. If the picture appears suddenly, use two drops of potassium bromide, 10 per cent., as a restrainer. Do not examine the plate very often by transmitting light, as it may cause fogginess.

The duration of development depends on several circumstances, as, for instance, the season, or the temperature of the solution or of the room. Development is more rapid in summer than in winter. It is affected also by the part of the body taken, since the thicker and deeper tissue continues until the negative is entirely dark, and opaque in transmitted light, in which case it may be advisable to wash the negative, and renew the developing process.

*Fixing.*—After the developer has done its work, there still remains a portion of unaltered sensitive salt, which must all be removed before the plate is brought into the light. This process is called "fixing," and is effected generally by the use of "Hypo," but sometimes it is advisable to employ "acid fixing." In order to prevent any after-staining or yellow color, it is better to leave the plate in the solution five or ten minutes after it has been apparently fixed. The fixing is followed by washing the plate in running water to remove whatever chemicals may be still adhering to the gelatine film. This final process, like all the previous ones, must be thorough. I find it of assistance while washing to rub the plate gently with absorbent cotton. The patience of the x-ray worker, especially, is sorely tried during this final operation, as he is naturally anxious to learn whatever secrets the plate may have to disclose. The water, however, must be allowed sufficient time to remove the last vestiges of the persistent Hypo from the film. But in this, as in all mundane things, the end comes at last, as we assume it to have now come in the case of our negative.

*Faults in the Negative Causes of Non-Success in Plate.*—Whenever faults, as often happens, are found in the negative after development and fixing, they are generally due to one or another, or a combination of the several causes enumerated by Mr. Cramer, the manufacturer of photo and x-ray plates, whose long experience in, and thorough knowledge of, photographic work, enables him to speak authoritatively and exhaustively upon the subject. What he says has immediate reference to photographic plates, but with very slight and self-suggestive changes, his remarks are equally applicable to x-ray negatives. These faults with their causes are:

1. Foggy negatives, over exposure, white light entering envelope, too much light during development. Fog may also be caused by decomposed developer; introduction of hypo or nitrate of silver into the developing solution; developer too warm or containing too much carbonate of soda, or potassium, or bromide.

2. Weak negative with clear shadows: Under development.

3. Too strong with clear shadows: Under exposure.

4. Weak negative, with plenty of detail in the shadows: Over exposure, or too weak developer.

5. Too much intensity: Developer excessively strong, or too warm.

6. Fine transparent lines: Using too stiff a brush in dusting off the plate.

7. Round, transparent spots: Air bubbles in developer.

8. Transparent spots of irregular shape: Caused by dust. Keep the camera and tablet free from dust, and brush off the plate carefully before placing in the holder (envelope).

9. Yellow colored negative: Decomposed pyro solution; insufficient or decomposed sulphite of sodium in developer.

10. Yellow or brown stains, iridescence of surface: Caused by using the developer warmer or stronger in alkali than the plate will stand; also by plain hypo solution which, by continued use, has assumed a darker color; or by insufficient fixing. The stain may be removed by applying the reducing solution and the iridescent surface can be wiped off with a tuft of cotton while the negative is wet.

11. Mottled appearance of negative: Precipitation from the fixing bath containing alum, if the solution is old or turbid.

12. Crystallization on the negative and fading of image: Imperfect elimination of the hypo.

*Faults Rectified by* (1) *Reduction.*—The remedies for several of the foregoing faults are given in their respective places, the omissions I will endeavor to supply here. The density or darkness due to over-exposure or over-development may be rectified by using potassium ferrocyanide with the hypo.

*Or* (2) *Intensification.*—On the other hand, when the negative is weak, that is, wanting in density due to insufficient deposit of silver caused by under-exposure, or under-development, it requires intensifying or strengthening. The favorite intensifier is mercuric chloride. On covering the wet negative with a solution of this compound, the silver deposit is bleached, the mercuric chloride being reduced to white mercurous. After washing off the excess of the intensifier, the plate may be treated with a dilute solution of ammonia, which gives black mercurous ammonium chloride, thus adding greatly to the density of the negative.

*Interpretation.*—The plate is finally dried, and brought into the light. It remains now to interpret it. And the power to do this unerringly results from long experience, aided by such anatomical knowledge as enables the operator to detect at once any abnormal appearance in the part or parts of the body depicted. His further special knowledge may enable him also to comprehend its

full significance. The totality of this combined knowledge and experience determines and establishes his position as an x-ray worker. Neither the experienced photographer nor the skilled surgeon or physician can see what he sees in the plate, and what he sees he can show and explain to others by his acquired powers of interpretation. Do not be prompt in diagnosis, study the plate carefully.

*Preparation of Materials.*—Before closing, I would offer a few practical suggestions which may prove serviceable to the inexperienced worker, however superfluous others may think them. In the first place, it is important to remember that the greatest care in the preparation of chemicals and solutions is needed.

Use either distilled water or ice-water to avoid impurities, such as carbonates, etc. It is advisable to use the formulæ of the manufacturer of your plate.

Chemicals must be C. P., such as are prepared for photographic use, and you should know their relative strength

Bottles must be labelled, and colored bottles light-proof, and well corked always. Filter your solutions. Remember in this connection also that cleanliness is paramount.

*Selection of Plates.*—I generally use plates manufactured expressly for x-ray purposes. I have tried Eastman's Bromide papers and films, but they do not give satisfactory results. It is advisable to use always the same plate and solutions, when once you are satisfied.

The large skiagraphs (of tubercle lungs, 14 x 16) which are on exhibition here with the Roentgen Society are made on Carbut's x-ray plates, as are also some of the small ones. But I am now using Cramer's special x-ray plates. They are reliable, and give richer details.

*Printing.*—As to the printing, that is quite a simple process, and involves nothing the skiagrapher can claim as special. Moreover, since the negative shows more details than the print contains, the latter's value consists chiefly in its greater convenience for handling and for exhibition and class purposes. This being the case, any enlargement on the processes, beyond that enough details should be printed to show the part affected, and that a light print is better than a dark one, would be quite beyond the scope of a paper that is discussing the "technique of x-ray work." And I feel that I have already trespassed too much upon your valuable time. But before concluding, I would like to dwell for a moment on the present conditions and the future possibilities of skiagraphy not with any view to marking their limits, or suggesting their nature, but rather to draw attention to their vastness and their supreme importance to science and humanity. The imagination may be aided to comprehend somewhat of their significance by

comparing "small things with great." The "Fathers of Photography," Daguerre and Niepce, Fox and Talbot, in the early days of their great discovery, might have had some dim fore-knowledge of its susceptible development, but their wildest imaginings must have fallen far short of the actual realities a few brief years were destined to divulge.

Its beginnings were limited to portraiture and pictorial representations generally, but the improvements which year by year have been added to its capabilities in this direction, have resulted also in a far wider field of action and usefulness. The naturalist, the physiologist, the archeologist, and even the philologist, are to-day employing it extensively as a most useful auxiliary to their studies; while its records and revelations in bacteriology and astronomy are simply invaluable. And the limit of its usefulness is by no means reached.

These are facts worthy the attention of the skiagrapher of to-day, as they may enable him, however vaguely and narrowly, to discern the scope and range of the work he is engaged in. What nobler inducement could be offered to put forth all the care, zeal and intelligence of which he is capable, than x-ray work affords? For skiagraphy is, indeed, the crown and glory of photographic and electric efforts. Therefore, let us strive earnestly, faithfully, diligently and with singleness of purpose, so that, be the visible and tangible results what they may be to us personally, generations of men yet unborn may in time arise to bless our labors, and proclaim their and the world's indebtedness to the early pioneers in x-ray work.

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## CLINICAL STUDIES OF A NEW ANALGESIC.

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THERE are few drugs which have been so great a blessing to humanity as opium and its derivatives, none of which have so wide a range of therapeutic indications. In the progressive age in which we live, however, there has been a constant striving towards obtaining more perfect weapons with which to combat disease, and hence it is not surprising that an attempt should have been made in late years to discover a preparation which, while retaining the therapeutic properties of morphine, would be as free as possible from its unpleasant and injurious effects. Judging from my experience, I feel justified in stating that the diacetic acid ester of

morphine, known as heroin, represents an important advance in this direction. Although somewhat inferior to morphine in its narcotic effects, it is a much safer and equally efficient remedy in the majority of diseases in which the former is employed. Unlike the opium preparations, it does not dry up the secretions, and therefore has a much slighter tendency to produce constipation, and also is very much less liable to cause gastric disturbance, headache, and protracted lassitude.

In a former article on heroin I discussed particularly its use as a sedative in respiratory affections. In the present communication I desire to call attention to some of its additional indications, and without entering into any extensive comments, I have subjoined a few cases which will speak for themselves.

Case 1. Mr. J. W., aged 34, unmarried, has been in good health with the exception of cardiac weakness caused by a long and intense attack of pericarditis due to rheumatism four years ago. He has a bad habit of eating, sometimes masticating his food slowly, at other times swallowing it so rapidly as to cause indigestion and pain in the stomach. During my period of treatment he has suffered from twenty-one of these attacks, occupying a space of eighteen months. Treatment of these attacks at first consisted of morphine sulphate in pill form or hypodermically; at other times with addition of atropine. This treatment sufficed; it relieved the pain almost immediately, but would leave him in a condition of exhaustion, occasionally amounting to collapse; and the consequent indescribable wretchedness compelled him to remain away from business the next day in order to rest. A few weeks ago I was summoned to his house, and found him in one of his gastric spells, as he called them. He begged me not to give him any opium owing to its bad effects. I assured him that I would try another remedy, and prescribed heroin, 1-8 grain, to be repeated in an hour if the pain still remained. The effect was magical; in fifteen minutes he was feeling very comfortable, and the next day did not suffer from his usual weakness. About ten days ago I again saw him in one of his attacks, and administered two tablets, each consisting of heroin 1-24 grain; the pain ceased in fifteen minutes, with no exhaustion on the day following. Two days ago he had a recurrence, which was relieved in the same way. I might remark about this case that relief was obtained as quickly from this drug, and more satisfactorily, than from the administration of morphine. He complained of intense thirst when taking morphine; with heroin this was not noticed.

Case 2. Mrs. C. C., aged 26, has had asthma since childhood. The attacks were spasmodic in character, and generally worse when she was menstruating, at which time her condition was pitiable. They came on about once or twice a month, lasted about three

days, the first day being the worst. Her treatment had consisted of iodide of potash, iron, the hypophosphites, tonics, opium and its alkaloids, belladonna, smoking stramonium cigarettes, oxygen inhalations, and many more "sure cures." I saw her on December 1st in one of her attacks, and prescribed heroin, 1-12 grain, every two hours. When she had taken the third dose her breathing became natural, and she felt easy; the next day she had no attack. On December 23rd I saw her again. She was having a violent paroxysm this time; her menstrual flow had appeared a few days before. I immediately repeated the above treatment, and had the satisfaction of hearing her express her delight, about two hours after taking the heroin, that at last life was worth living. On January 23rd, when she again menstruated, she had a slight attack, which subsided as soon as she had taken one twenty-fourth of a grain of heroin. She has had no recurrence since.

Case 3. Albert W., laborer, aged 39; family history good; anemic. His trouble began with a chill of twenty minutes' duration, followed by high fever and pain in the right side. Expectoration bloody. After a physical examination I diagnosed croupous pneumonia. Treatment consisted of hot poultices, with oleum terebinthinæ applied to the painful side, with a hypodermic injection of heroin hydrochloride, 1-12 grain, every four hours. Phenacetin, 5 grains, every four hours, was given during his entire sickness. For his cough, ammonium carbonate, 3 grains, every three hours, was administered in white pine syrup. When the temperature was very high, cold sponging was employed. Patient was convalescent in fifteen days.

Case 4. Wallace P., aged 6; catarrhal pneumonia. The treatment consisted of hot mush poultices with lard next to the body; heroin, 1-20 grain, every six hours; for the fever, quinine, 3 grains, every four hours; also ammonium chloride, 3 grains; tinct. aconiti rd. 1-2 drop, in syrup pruni virg. every three hours. Convalescent on the tenth day.

Case 5. A. B., aged 63, frail habit, hard drinker. History: Patient had had chronic intermittent fever, and had undergone a severe surgical operation. Diagnosis: Croupous pneumonia, attacking his left lung violently and suddenly. Imperfect reaction. Treatment: Flaxseed and turpentine poultices. On the third day the wet pack; quinine sulphate, 5 grains, every four hours. As the patient was getting worse on the fourth day, the following was given: Chloride of ammonium, 5 grains; tinct. aconiti rd. gtt. 2; heroin hydrochloride, 1-12 grain; aquæ, q.s., every two hours. On the fifth day he responded well to treatment and took nourishment of milk and whisky without trouble. Expectoration abundant and easy. Distress and pain intense when temperature reaches 102.4 degrees, but is relieved by phenacetin,

5 grains. Seventh day, the case seemed to be doing nicely. On the eighth day the patient's temperature went to 106 degrees. Cold sponging was resorted to, which reduced it to 101 degrees. Cough was troublesome, and there was some cardiac depression; whereupon I ordered caffeine, 2 grains, heroin hydrochloride, 1-16 grain, every four hours. The patient reacted promptly, and was convalescent on the sixteenth day.

CASE 6. Mrs. D., aged 37, mother of five children. Surroundings filthy. She had been sick for four days before I saw her. Diagnosis: pleuro-pneumonia. Respiration rapid and jerky; pulse 120, weak; temperature 103. Treatment: Flaxseed poultices, and chloride of ammonium, 4 grains, tinct. digitalis, 5 drops; heroin hydrochloride, 1-20 grain in sufficient water every two hours. Phenacetin, 5 grains, every four hours. Patient stated her menses had returned after being absent two months. The fourth day the patient was resting comfortably; pulse 100; temperature, a.m., 100.2; p.m., 101 degrees. Cough troubled her somewhat. She was restless at night, and I gave her a hypodermic of heroin hydrochloride, 1-24 grain. The next morning she was comfortable. Convalescent on the twelfth day.

CASE 7. Jos. S., Italian, aged 25, was sick for five days before I saw him. He had chill, fever, pain in the left side, cough, etc. Diagnosis: Lobar pneumonia. During the next night he had mild, muttering delirium. After the third day his delirium became suddenly violent. He got out of his bed, ran to the window and would have thrown himself out if his relatives had not restrained him, and carried him back by force to bed. His temperature went up to 105 degrees, and cyanosis developed. Examination of the patient showed a marked frictional pericardial sound, which had not previously existed. I prescribed spirit. vini gallici, 1-2 ounce, every half hour, day and night. Two days following the patient was much improved; cyanosis had lessened, and the delirium was much better. The pulse was now 145, easily compressible, and not very weak; temperature 104 degrees. I prescribed heroin, 1-12 grain, every four hours, with the above treatment, brandy being given every hour, day and night, until cyanosis had disappeared. On the ninth day there was a fall of temperature to 100 degrees; pulse 110; no cyanosis. Heroin was continued in the same doses, every six hours. Patient convalescent in twenty days.

CASE 8. Miss D., aged 36, good family history, was the mistress of a medical student, who performed an abortion on her at four and one-half months' gestation. He had given her ergot, opium, brandy, and chloral, but without effect. When I saw her on the sixth day her temperature was 105.4 degrees; she was delirious; pulse very rapid; abdomen distended, and extremely pain-

ful; a most offensive vaginal discharge. Examination digitally revealed as follows: Uterus very soft, and the edge of the placenta could be felt protruding from the os. I prescribed ext. ergotæ fl. 1-2 drachm; chloral hydrate, 1-2 drachm; and requested that the attending physician meet me there in four hours. Upon my return I met Dr. T., who was a young graduate of only three months' standing. He was afraid to do anything with the case. I requested him to administer the anesthetic, and when the patient was completely under the influence I rapidly dilated the os, seized the putrefying placenta, and extracted it. An intrauterine injection of corrosive sublimate solution was given. The patient was then cleansed, put to bed, and given a hypodermic injection of heroin hydrochloride, one-tenth of a grain. In an hour I gave her another one-tenth of a grain. The temperature fell rapidly, and she was feeling much easier in a few hours. The improvement continued, and the patient went on to a speedy recovery.

Case 9. Mrs. D., aged 19, was three and one-half months pregnant. She had pains in her back and a bloody discharge from the vagina. I gave her ten drops of ergot and digitalis to control the hemorrhage, and ordered the patient to bed; but her pains and hemorrhage became worse. On the second day she became feverish, and the pains becoming so intense, I gave her a hypodermic of one-sixth grain of heroin hydrochloride, which controlled them. The membranes had ruptured, but the os hardly admitted the finger. I sent for assistance to administer an anesthetic. I inserted my finger with considerable trouble into the os, which I succeeded in dilating, and in fifteen minutes was able to pass my index and middle fingers into the womb, seizing and removing a fetus and an adherent placenta. Asepsis was observed as in the previous case. I gave her a hypodermic injection of one-twelfth of a grain of heroin hydrochloride. In four hours the patient was resting comfortably, the pain was gone, the fever diminished, and she went on to a rapid recovery.

Case 10. Mrs. P., aged 20, primipara, seven months pregnant, on going out of the door fell upon her abdomen. Expulsive pains and uterine hemorrhages followed. Arriving about one hour after the accident I found the bed and clothing saturated, the membrane (amniotic) distended and protruding through the os uteri, which was dilated to about the size of a walnut. I gave her a hypodermic injection of one-sixth of a grain of heroin hydrochloride, and made cold applications to the abdomen. In about an hour I repeated the injection. The pain and hemorrhage then soon ceased, and the patient slept for several hours. Three days later she was up and at work. I delivered her at term of a healthy girl baby.

Case 11. Mrs. P., aged 26, mother of two children; six months

pregnant. Two weeks previous to my visit she met with an accident and had slight abdominal pains, which lasted about a few hours. When I saw her I found that the pains had begun about three hours before, and recurred every seven or eight minutes. There was no hemorrhage or perceptible dilatation of the os. I gave one-sixteenth grain of heroin hydrochloride hypodermically; and as the pains did not cease in an hour, I repeated the dose. In half an hour she was sleeping quietly. She stayed in bed for three days, and then resumed her domestic duties. I confined her about two weeks ago of a healthy, strapping boy. She is doing well.

CASE 12. Johnny R., aged 4, convulsions from worms. I gave one-sixteenth of a grain of heroin hydrochloride, applying at the same time cold appliances to the head and hot mustard foot-bath. During forty-five minutes the child had two more convulsions. At the expiration of this time I gave one-sixteenth of a grain of heroin hydrochloride again, and the child went to sleep for five hours. I then prescribed a powder of calomel, santonin, and soda, every two hours, until four had been taken; and the next morning ol. ricini 1-2 ounce; ol. terebinthinæ, 25 drops. During the following day the child passed a number or worms and made a good recovery.

As an anti-spasmodic, I know of no remedy that equals heroin used in the manner described.

## PURE STRONTIUM SALTS.

BY F. S. MASON, M.P.S.(G.B.).

THE precise investigations of Dr. Laborde, communicated to the French Academy of Medicine and the Society of Biology, prove that pure Strontium salts (Paraf-Javal), far from being harmful, have on the contrary a favorable influence on the phenomena of nutrition.

Laborde found that much of the good which was produced when the strontium preparations were administered, was due to the antiseptic influence exerted on the kidneys and bowels during their elimination. His experiments demonstrated that dogs and other animals grew fat, and that their general health improved, where Paraf-Javal's pure Strontium salts (which are free from toxic Barium) were regularly mixed with their food. Where potassium or sodium salts were fed to the same animals, this effect was entirely wanting; on the other hand, it was soon apparent under such circumstances, that the hair became rough, loss in weight was promptly noted, and sooner or later death resulted.

This bears out the statement of Shoemaker, that "Potassium is a cardiac poison, a muscle and nerve paralyzer (through its influence upon protoplasm), and destructive to the ozonizing function of the red blood corpuscles."

Dr. Leon L. Soloman, in the *American Therapist* of November, 1898, cleverly sums up the advantages of the Strontium salts over the salts of other bases as follows:

(*a*) "The element, strontium, seems to be not only non-irritating, but actually possessed of a sedative property, which is manifested to a greater or lesser degree throughout all of the preparations of strontium.

(*b*) It forms chemical union with radicals, to produce preparations identical with those of potassium and sodium.

(*c*) On account chiefly of their sedative properties, the various salts of strontium may be profitably employed to take the place of the corresponding salts of either potassium or sodium."

Professors Germain See and Fere have shown the absolute innocuousness and remarkable action of strontium salts, the purity of which they considered to be an absolute *sine qua non* for therapeutic efficiency, and, for their own tests, made exclusive use of the strontium salts made by the Paraf-Javal process.

Clinical proof of the advantages of the strontium lactate, bromide, iodide, and salicylate (over similar ammonium, potassium, and sodium salts) is abundant.

Drs. Constantin Paul and Dujardin-Beaumetz found that bromide of strontium (Paraf-Javal) possessed the indisputable advantage of being better borne by the stomach than the other alkaline bromides.

Professor Germain See says: "It never produces any disastrous effect on the stomach even in large doses. Of thirty-two patients suffering from gastric dilatation, all improved and some were altogether cured. It prevents the acetic and lactic fermentations and the formation of the gases of decomposition, relieves nervo-gastric irritation, and controls morbid gastro-intestinal fermentation without causing depression." (Academie de Medecine, October, 1891.)

The indications are those of bromide of potassium, in such nervous affections as epilepsy, hysteria, asthma, chorea, paralysis with involuntary agitation, and dyspepsia in its various forms.

Strontium iodide (Paraf-Javal), by increasing intravascular pressure, relieves the nervous irritation of the heart, and thus strengthens its contractions without adding to their number, while as compared with the potassium salt, it is less violent and abrupt in its effects.

The iodide is indicated in vascular affections relating to lesions of the myocardium and intracardiac orifices, asthma, angina pectoris, scrofulous manifestations, eczema, and syphilis.

Lactate of strontium (Paraf-Javal) exercises a favorable influence on the gastro-intestinal functions, hence it is indicated in conditions of depraved nutrition, diabetes and albuminuria.

Dr. Constantin Paul employed it with advantage in visceral congestion (in which it gave better results than lithia) and in Bright's disease, and his observations have been confirmed by others, showing that lactate of strontium (Paraf-Javal) is indicated in parenchymatous, rheumatismal, and epithelial nephritis; in the nephritis of gouty and scrofulous patients, and in the albuminuria of pregnant or recently delivered women. Dr. Bucquoy found that the amount of albumen in the urine was reduced one-half within twenty-four hours after the beginning of treatment.

The essential point in preferring strontium bromide, iodide, lactate, etc., being their absolute purity, those prepared by the Paraf-Javal process only should be used.

These are exempt from even traces of toxic Barium salts, and if tested with a saturated solution of strontium chromate, their solutions do not give even the slightest cloudiness, whereas the impurity of the commercial salts is betrayed by this reagent. Strontium bromide, iodide, lactate, and salicylate are prescribed in the same doses as the potassium, sodium, or ammonium salts, but act more promptly, and in many cases even smaller doses give good results.

The best forms to prescribe are the

Standard Solution of Bromide (Paraf-Javal) 60 grains to oz.
" " " Lactate " 60 " "
" " " Iodide " 30 " "
Compressed Tablets of Salicylate (Paraf-Javal) 5 grains each.

The solutions are permanent and palatable, and stocked by leading pharmacists.

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## NOTE ON THE EXAMINATION OF MILK FOR TUBERCLE BACILLI.

BY E. W. HAMMOND, D.V.S.,
Bacteriologist, City Dairy Company, Limited, Toronto.

After having tried various methods for the detection of tubercle bacilli in suspected milks, I can recommend the following as being that which in my hands has given me most satisfactory results.

The milk to be examined should be collected fresh in sterilized bottles, preferably those holding about eight ounces, and these bottles should be closed, not by cork, but by a tampon of (non-absorbent) cotton-wool. Such milk can be examined immediately,

or if it be kept for a time, 2 1-2 per cent. glacial carbolic acid should be added as a preservative, and the bottle be put away in a cool, dark cupboard.

In either case, whether employing the fresh or the carbolized milk, an equal quantity of water is added to the milk, which is then shaken briskly, and samples are taken and centrifugalized. My usual procedure is to take another bottle of the same size and divide the milk between the two, adding to each the equal amount of water.

It is difficult to make any statement as to how soon centrifugalization should occur, different workers employing different forms, which rotate at very various speeds. Using an electrical centrifuge, I generally leave the tubes of milk for at least half an hour.

After centrifugalization, the sediment is removed with a fine pipette, and a drop of this is placed on a clean cover-glass, formed into a film, dried, and then stained by the ordinary method (carbol fuchsin, followed by Gabbet's blue). To obtain good results I have found that the method of floating the cover-slip "butter-side down" on the surface of heated carbolic fuchsin in a water-glass is far preferable to the method of pouring the fuchsin on to the surface of the cover-slip and then boiling over a flame.

I may add, that after this dilution of the milk with an equal quantity of water, so little fat material comes down in the sediment that it is unnecessary to use ether or other reagent to dissolve off the fat. Where the cream and surface layers after centrifugalization are examined for the bacilli it is necessary to dissolve off the fats. Using this method, it is my experience that it is a simpler and surer method to examine the sediment.

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## ANTISEPSIS OF THE MOUTH.

BY C. ROESE.

A LARGE number of mouth washes were tested on subjects who, during the forty-eight hours of the tests, neither ate, drank, hawked, coughed nor talked for any length of time. Each substance was tested at least eight times, some twenty-four. Roese found that tepid physiologic salt solution has considerable bactericidal effect, and recommends it to the sick and poor as an inexpensive and effective antiseptic for rinsing the mouth. Cold substances induce a venous congestion which favors the development of bacteria. He found that the number of bacteria was very much diminished by a meal; the broader the face and consequently the more vigorous the muscles of mastication, the greater the number of bacteria dislodged and carried down into the stom-

ach with the food. Continuous talking also diminished the number of bacteria, and certain articles of food, gooseberries, peaches, cider, have a considerable bactericidal effect. Miller's mouth-wash is the most effective—with the exception of odol—but it must be fresh; otherwise it proves a good culture-medium. Formula: acid. benzoic, 3.0; tint. ratanhæ, 15.0; alcohol, 100.0; and ol. menth. pip, 0.75. One teaspoonful in a wineglass of water for rinsing the mouth. Roese mentions that he cures an inflamed gum by dipping his tooth-brush in 60 per cent. alcohol, and thinks that alcohol will yet assume a more prominent place in antisepsis on account of the great dilatation of the small terminal arteries and capillaries which it induces. (Compare with Buchner, *Journal*, p. 1096.) The tabulated tests show that odol, in either 5 or 10 per cent. solution, is superior to all other substances which are not directly injurious for either teeth or gums, on account of its strong bactericidal properties, its harmlessness and its pleasant taste. It is a brown oily substance with great surface attraction, and spreads out evenly over the lining of the mouth, where it breaks up evenly into salicylic acid and phenol, the same as salol in the intestines. It is, therefore, closely allied to salol and yet is physically entirely different.—*Jour. of Amer. Med. Assn.*

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## LOCAL ANESTHESIA IN HEMORRHOIDAL OPERATIONS AND ALL VARIETIES OF MINOR SURGICAL WORK.

BY O. W. GREEN, M.D., CHICAGO, ILL.

SINCE there are so many people suffering more or less with hemorrhoids, and since orificial operations along that line have been performed only under general anesthesia, we desire to call attention to the fact that we have formulated a method by which hemorrhoidal operations are painlessly performed without the aid of general anesthesia. The operations are rendered painless by using the local anesthetic "Acestoria."

Our method of operating on hemorrhoidal tumors is as follows: First, the patient is instructed to take a cathartic the night before the operation, and an enema in the morning. With a saturated solution of boracic acid thoroughly cleanse the rectum, using a syringe or otherwise, and then immediately inject every tumor in sight with "Acestoria" until each tumor is not sensitive to the prick of the needle. Sometimes it is best to use the bivalve speculum before, sometimes after injection, and sometimes not at all. It depends upon the condition and location of the piles.

With hemorrhoidal forceps, or Pean's artery forceps, pick up each tumor at its centre, and turn it out.

We generally use the clamp method when possible. Use Kelsey's or Pratt's clamp. After turning the tumors slightly outward with the forceps which were left hanging to them, each by turn is clamped at its base.

Then with a straight needle put in two or more stitches, as may be needed, back of clamp.

Remove clamp and cut tumor with straight scissors through the white line made by the middle blade of the clamp. There will be no hemorrhage if this line is followed. The stitches are now tied. Each tumor is thus treated. Then with hydrozone and hot water, one part of the former to five of the latter, syringe or spray the field of operation thoroughly.

The object of using hydrozone is twofold: It is the safest and best germicide and hemostatic we have yet used, and we have tried many. Not being a poison, and depending upon the oxygen it contains for its action, renders it safe under all circumstances, both externally and internally.

As a dressing we have several times used nothing, simply cleansing with hot water and hydrozone.

An ideal dressing is ordinary sterilized gauze moistened with glycozone. Glycozone is anhydrous glycerine saturated with ozone, a powerful germicide and promoter of healthy granulation.

To prevent pain usually caused by the prick of the hypodermic needle, touch the point chosen for insertion with a glass-pointed rod, dipped in 95 per cent. carbolic acid.

To anesthetize the ear and stop earache, incline the patient's head to one side and drop into the ear about five drops of "Acestoria" or sufficient to fill the external meatus.

Use "Acestoria" hypodermically in all cases where incisions or excisions are to be made, such as operations on ingrowing toenails, removal of splinters from the flesh, opening boils, abscesses, carbuncle, etc.—*The Medical Times and Register.*

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## SACCHAROMYCES CEREVISIÆ IN FURUNCULOSIS.

BY PH. CHAPELLE, M.D.
Ancien Interne des Hopitaux de Paris.

Yeast (saccharomyces cerevisiæ) has long been recognized of therapeutical value in the treatment of furunculosis and certain skin diseases. The principal obstacle in the way of this treatment becoming universal, has been the difficulty experienced in obtaining the yeast fresh and in preserving it free from secondary

changes, which take place with great rapidity and render its distribution almost impossible; indeed, in hot weather, these changes take place from one day to another.

In order to place at the disposal of patients an accurately dosed medicament, not liable to undergo change, a pure desiccated yeast, which occupies but a small volume, and is possessed of the same therapeutical activity as the best fresh yeast, is the best form of administering it.

This is obtainable as Cerevisine in the granulated form, which facilitates its administration and is more reliable than fresh yeast in its effect.

The activity of Cerevisine has been established by numerous clinical observations and, from a chemical point of view, it has been ascertained that in presence of sugary liquids, it gives rise to alcoholic fermentation with the gradual production of carbonic acid gas. These observations show clearly that the desiccation of yeast in no wise impairs its properties. Moreover, it never gives rise, like fresh yeast, to a sensation of heaviness on the stomach or acid regurgitations, so that it may safely be given to dyspeptics.

Cerevisine disintegrates rapidly in water and succeeds admirably in the treatment of furuncles and boils, which promptly subside and disappear under its influence. In cases of acne, urticaria, psoriasis, herpes and eczema, its exhibition has also been followed by excellent results, this effect being associated with a corresponding improvement in the general health.

The dose of Cerevisine is from two to three teaspoonfuls daily before meals. This should be rubbed down with a little water or beer sweetened with sugar.

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**Montreal Hospital.**—The Montreal Medico-Chirurgical Society has given up its determination to fight for the admission of general practitioners to the private wards of the General and Royal Victoria Hospitals. As the matter now stands, only the staff of doctors connected with the hospitals can be called to attend private patients.

**Mumps in Pneumonia; Boroglyceride.**—Charles W. Dulles treated a case of mumps by the application of a fairly thick compress of surgical gauze saturated with boroglyceride, and covered with a layer of paraffin paper and just enough bandage to keep it in place. Relief of pain and the subsidence of swelling promptly followed the application. The author uses boroglyceride in a variety of inflammatory swellings, and since its use has not had to apply a knife to boil or carbuncle.—*Boston Medical and Surgical Journal.*

# Proceedings of Societies.

## AMERICAN CONGRESS OF TUBERCULOSIS.

It is announced that the second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, in the city of New York, on the 15th and 16th days of May, 1901, in joint session with the Medico-Legal Society of New York. That a dinner will be given to the members and guests. It is proposed to open a museum of Pathology, Bacteriology, and Public Health, with an exposition of electrical and other instruments; with the use of the power furnished at the building, which it is intended to be made most complete, educating and attractive; of all appliances used in any way in arrest or treatment of the disease.

The leading manufacturers have enlisted already, many of them, and the display will be on an extensive scale. The objects of the Congress will be to exchange the information and experience gained throughout the world, as to forces and methods most available for the extermination of consumption, which at the present moment is a disease, the most destructive of human life of any that now afflicts humanity.

The medical profession of all countries will be invited to contribute papers to be read before this Congress, in their behalf, by a committee selected for that purpose, in case of the inability of the author to attend, and to enable those who could not hope or expect to be present to participate in the work and usefulness of the body. As the questions to be discussed involve remedial legislation, legislators, lawyers, judges, and all publicists, who take an interest in the subject, are also invited, both to enroll and contribute papers.

The papers should be forwarded to the Secretary at once, and the title of the papers forthwith, to facilitate classification, as the time is short. The enrolling fee will be three dollars, entitling the member to the Bulletin of the Transactions free.

The complete list of officers and committees will be announced as early as possible. The preliminary announcement is now made to obtain the names of those who will co-operate in the Congress, and an early classification of the subjects and titles.

The Governors of the American States and territories, and of

the Dominion of Canada, have been invited to send three or more delegates from each state or province.

The Presidents of the South and Central American Republics have been invited to send delegates, and to take an active part in the work of the Congress, and the Ministers of these Republics at Washington, to designate representatives from their respective countries, and also to furnish information as to the progress of the disease, and what action in the way of preventive legislation or medicine, has been taken to avert it.

The Congress has taken the entire, large, lower floor of the Grand Central Palace for the occasion, with a space for exhibitors of nearly 200 by 200 feet, with committee rooms on the other floors, and the exhibition of electrical and surgical instruments, and the clinical work relating to the disease, will be illustrated by a display we hope may excel any before made in this country.

Contributions from Boards of Health, Hospitals, and the collections of the Government, will be allowed to be shown in the Museum that is hoped to be large and impressive.

Sir James A. Grant will make an opening address at the American Congress of Tuberculosis. He has been elected one of the Vice-Presidents of that Congress for the Dominion of Canada, *vice* Charles Denison, of Colo ado, resigned.

Dr. Wm. L. Bullard, of Columbus, Georgia, has been elected a Vice-President of the American Congress of Tuberculosis, for Georgia, to be held at the Grand Central Palace, New York City. His paper is entitled, "The Treatment of Consumption."

Dr. C. F. Ulrich, of Wheeling, West Virginia, has been elected a Vice-President of the American Congress of Tuberculosis, for West Virginia. His paper before that body is entitled, "Suggestions for the Prevention of Tuberculosis from a Personal Observation."

Prof. Dr Nils R. Finsen, of Copenhagen, a high authority, has forwarded a paper on "Photo-Therapy of Lupus Vulgaris."

Prof. W. A. Hackett, of the Detroit College of Medicine and Surgery, enrolls and contributes a paper on "Lupus."

Dr. Louis H. Debayle, who has been designated by the Nicaraguan Minister as a delegate from Nicaragua, contributes a paper entitled, "The Evolution of Tuberculosis in Tropical Countries."

Dr. John A. Robinson, of Chicago, the Secretary of the Illinois Society for the Prevention of Tuberculosis, has been appointed a delegate to the Congress, by the State Medical Society of Illinois. His paper is entitled, "On the Need of a National Interstate Society for the Prevention and Cure of Tuberculosis."

E. J. Barrick, M.D, President of the Toronto Association for the Prevention and Treatment of Consumption, and other forms of Tuberculosis, one of the leading factors in the Canadian Con-

ference, and a member of the Executive Council of the Canadian Association for the Prevention of Tuberculosis, will take part in the Congress and its discussion. He will undoubtedly be chosen a Vice-President from the Province of Ontario. His paper is, "Practical Solution of the Question of Dealing with the Consumptive Poor."

Ex-Coroner Ellinger, of New York, the Corresponding Secretary of the Medico-Legal Society, has enrolled. His paper is entitled, "Hygiene in Bible and Talmud, and Sanitation in Post-Rabinical Times."

Dr. U. O. B. Wingate, the Secretary and Executive Officer of the Wisconsin State Board of Health, of Milwaukee, contributes a paper entitled, "Etiological Factors of Tuberculosis, other than Bacillus Tuberculosis."

Dr. Cressy L. Wilbur, head of the Department of Vital Statistics of the State of Michigan, contributes a paper entitled, "Recent Statistics of Tuberculosis in Michigan."

Prof. Shrotter, of Vienna, Austria, has sent his paper already, entitled, "Contribution to the Curing of Tuberculosis in Sanatoria."

Dr. T. D. Crothers, of Hartford, Conn., Vice-President of the Medico-Legal Society, and Vice-President for Connecticut, of the American Congress of Tuberculosis, will contribute a paper entitled, "Tuberculosis as a Poison Disease."

Dr. Edwin F. Bowers, of New York, contributes a paper entitled, "Bioplasm in Tuberculosis."

P. M. Dunlop, M.D., of Battle Creek, Michigan, sends a paper, "Vapor Massage in the Prevention and Cure of Tuberculosis."

Dr. Augustus C. Bernays, of St. Louis, Mo., sends a paper, "The Results of Treatment of Tuberculosis by Surgical Extirpation."

Dr. A. E. Aronstam, of Detroit, Michigan, contributes a paper entitled, "A Plea for Stricter Attention to Tuberculosis."

Dr. Albert Strauss, of San Francisco, California, has enrolled; his paper is, "The Heart of Pulmonary Tuberculosis."

Dr. Robert Sangrovauni, of New York, has contributed a paper entitled, "Anemia and Tuberculosis."

Dr. W. Bayard, of St. John, New Brunswick, has been elected a Vice-President of the Congress from that Province, and will take an active part in its work.

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How will yow hab yer fish? A raw food society has been formed in Chicago. One of this society's ideas is, "That children reared on uncooked foods will become giants physically and intellectually."

## A PSALM OF LIFE.

WRITTEN NOT BY LONGFELLOW, BUT BY ONE OF THE FELLOWS BEING MADE OVER INTO A LONGERFELLOW.

THOSE who have visited the gymnasium of the Toronto Orthopedic Hospital and observed the extent to which suspension by the head and gymnastic training are made use of in the treatment of spinal deformities, will appreciate the following effusion by a young woman who writes from experience:

Tell me not in mournful numbers
  Life is all gymnasium work,
That the girl's depraved who wishes
  Hanging by the neck to shirk.

Life is dual! Life is complex!
  And the body's not the whole.
"Thou'rt diseased! thy spine is crooked,"
  Was not spoken of the soul.

Yet not joy nor even sorrow
  Seems our destined end or way,
But to stretch; that each to-morrow
  Find us longer than to-day.

Class is short, the hour is fleeting,
  And our feet in reindeer shoes
Still in Swedish step are beating
  On the floor their wild tattoos.

Climb the ladder-wall like squirrels,
  Take knee-bending as a treat,
Cross the bar, unlike the poet,
  Swinging gracefully your feet.

Trust no chain unless well fastened,
  Let your body hang like lead,
Swing, swing from your own steel cross-bar,
  Aches within and hooks o'erhead.

Spines of straight men all remind us
  We must make our spines as straight,
And departing leave behind us
  Photos of our improved state—

Photos that perhaps some other
  Half-fledged acrobat may see,
Who will take her best position
  Henceforth with new energy.

Let us then be up and hanging
  With a neck for any rope,
Don your head-piece and your bloomers,
  Learn to hang till told to drop.

# The Canadian Journal of Medicine and Surgery

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*Clinical Medicine*—ALEXANDER MCPHEDRAN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

*Mental Diseases*—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

*Public Health and Hygiene*—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

*Physiology*—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

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

*Pathology*—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Outdoor Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

*Ophthalmology and Otology*—J. M. MACCALLUM, M.D. Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

*Laryngology and Rhinology*—J. D. THORBURN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the fifteenth of the month previous to publication.

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

VOL. IX. TORONTO, MAY, 1901. NO. 5.


# *Editorials.*

## TREATMENT OF PUERPERAL ECLAMPSIA.

THE mortality from puerperal eclampsia in Ontario for 1899, being 66, it will be profitable to consider the treatment of this alarming complication of the puerperal condition

As in many other disorders, prevention is better than cure, and an obstetrician would do well to examine the urine of his prospective patient betimes, instituting proper dietetic and medicinal treatment should there be any evidence of albuminuria. Unfor-

tunately the opportunity may not occur until eclampsia declares itself. What then should be done? Professor Gaulard, of the obstetrical clinic of Lille (France), says that practitioners are divided in opinion on this question, some favoring a speedy emptying of the womb and others relying on a purely medical treatment. If the patient is in a perilous condition, and he fears that she may die before labor is complete, Gaulard empties the womb. In some cases Steinbrenner's method of dilating the os uteri may be tried, that is to say, a sponge tent is introduced through the os uteri of the patient, and warm water is injected every quarter of an hour into the vagina to cause rapid swelling of the sponge. In Steinbrenner's first case (A.D. 1845), after the os uteri of the eclamptic patient had been dilated to the size of a silver dollar by this method, further dilatation was accomplished by the accoucheur's hand, and the child was delivered by version. In vertex presentations, dilatation of the os uteri by the use of Barton's bag is difficult. When the os uteri is closed and the cervix is long, dilatation is difficult. In such a case, immediate action being necessary to save the patient's life, Gaulard incised the two commissures of the cervix uteri down to the vaginal insertions. The cervix being then drawn down by a vulsellum forceps, he began digital dilatation of the os uteri, and terminated labor by version in forty-five minutes. The fetus was dead, and appeared mortified. Three or four convulsions appeared after delivery. A few points of suture were placed in the severed cervix, and union by the first intention ensued. The patient recovered, and left the hospital in a satisfactory condition, except that her urine still contained albumen (2 grammes to a litre of urine). In a second case the patient, who was in labor when admitted, presented marked signs of albuminuria, but did not have convulsions until the dilatation of the os was complete. The attendant ruptured the membranes, and the child was born living in half an hour. Ten convulsions occurred after delivery, but the patient recovered, and was ultimately discharged in good condition, with no trace of albumen in the urine. In a third case (primipara at the seventh month) there was no sign of labor on admission. The patient was in a state of profound coma, for which leeches had been applied to the mastoid processes. Venesection and the rectal administration of chloral were tried after admission, in spite of which a few eclamptic seizures occurred, there being no sign of labor. Gaulard did

not undertake to bring on premature labor, because the patient's condition did not appear to be dangerous. He therefore relied on medical treatment (not specified), and the convulsions passed off in two or three days. Labor began spontaneously, and the patient was delivered of a fetus, which was already somewhat mortified. This patient recovered completely, and had no trace of albumen in her urine on leaving the hospital. Gaulard makes the observation that the first of these patients had a pre-existing nephritis as the outcome of scarlatina caught at the age of ten years. The third patient had had measles, but not scarlatina. In his opinion, therefore, a prior nephritic lesion is causative in the evolution of eclampsia.

Gaulard recognizes the large infantile mortality in cases of eclampsia, viz., 80 per cent. in cases where no intervention is practised; 20 per cent. where artificial labor is induced (Fieux). He is opposed to Cæsarian section, without having obtained the mother's consent, or even to symphysiotomy, the mortality from which, perhaps, is yet rather high. He prefers embryotomy, evidently considering the life and health of the mother of greater importance than that of the child. At the Burnside Lying-In Hospital, Toronto, if it is thought proper to induce premature labor in a case of eclampsia, a soft catheter is passed through the cervix uteri, and sterilized glycerin is injected into the womb. Labor comes on generally in twenty-four hours. The treatment of the eclamptic condition is largely medicinal. The patient is purged freely, one ounce of magnesium sulphate being given at first, followed by drachm doses of the same, until free catharsis is developed. Or purgation is kept up by the use of compound jalap powder. Chloral per rectum has been found useful. Morphine is given hypodermically in doses of gr. 1-4 every half hour till convulsions cease. As convulsive seizures have been noted in patients after delivery, more importance is attached to medicinal measures than to the induction of premature labor. In addition to cathartics, large draughts of water are given to the patient. The saline solution (0.7 per cent.) is also employed subcutaneously. A small incision is made with a tenotome through the skin of the abdomen, and the warm saline solution is allowed to flow into the subcutaneous tissues through a canula attached to an enema-bag. Milk diet is employed. In asthenic cases veratrum viride has been used with advantage. J. J. C.

## THE MEDICAL COUNCIL IN CANADA.

It would be superfluous to repeat what has already been set forth at length in the medical and secular press respecting Dr. Roddick's bill, except to state, in general terms, that it provides for the establishment of a central Medical Council in Canada, whose license would confer the right to practise medicine in the Dominion, and also in the United Kingdom, together with entry to medical service in the Imperial army and navy. A measure of reform in the right direction, one would suppose that it would be received with general acclaim. We think, however, that the Quebec Universities, viz., McGill, Laval, and Bishop's, will oppose it for a reason similar to that which actuated them in opposing interprovincial registration eight years ago. Had interprovincial registration been carried, a Provincial Medical Council, with power to license, would have been established in Quebec, and from that time forward the medical diplomas of the Quebec Universities would no longer confer the right to practise medicine in Quebec. A similar, though less strenuous, objection would be raised by these same universities to a license-granting central Medical Council. It seems clear also, that such a Council would soon ring the deathknell of Provincial Medical Councils and their strictly limited medical licenses. Opposition to Dr. Roddick's bill would therefore come also from the Provincial Medical Councils. Looked at from the standpoint of the greatest good to the greatest number, the medical electorate of Canada might settle the question, irrespective of the views of this, that or the other university or corporation. The simplest way of voting on this question would be for every doctor in Canada to send a postal card to his representative in the House of Commons, indicating his preference for or against Dr. Roddick's bill.

Another solution, complemental perhaps, is offered. The Medical Act (1858) Extension Bill, now before the British House of Commons, is described as one to extend the provisions of the Medical Act (1858), and consists of a single operative clause, which would add to Schedule A of the Act of 1858, after paragraph 11, the following:

"Doctor, or Bachelor, or Licentiate of Medicine, or Master in Surgery of any university or medical school in the Empire, at

which the curriculum of studies and the examinations required to be passed by the undergraduates shall be accepted and recognized by the General Medical Council, as equal in all respects to the requirements from students and candidates for degrees in the institutions shown in paragraphs one to eleven of Schedule A."

By such an enactment licentiates of any medical school in Canada, as well as medical graduates of the universities of the Dominion, would be admitted to the British Register, and thereby entitled to practise as civil surgeons in any part of the United Kingdom, as well as to act as surgeons in the public service.

A great concession, certainly; and should Dr. Roddick's bill carry, a mutual interchange of the privileges inherent in medical licenses could be established between the mother-land and Canada. In the other event, holders of Provincial licenses in Canada could not expect to obtain the privileges of British registration, without examination, as long as a corresponding status in a Canadian Province is refused to the holder of a British medical qualification. What the outcome of complemental British and Canadian medical legislation may be is somewhat puzzling. Speaking generally, we think that if Canadians want British qualifications, they should win them by examination. If they feel that they suffer a privation in not possessing British registration, then they should support Dr. Roddick's bill, and, by inference, reciprocity in medical legislation with Britain.

Judging by the tendencies of State medical legislation in the United States, there is not much likelihood that inter-state medical legislation will be established in that country. Membership in the American Medical Association does not carry with it the right to practise in any State of the Union. New York physicians are not allowed to practise in New Jersey, unless licensed in the latter State. A similar condition of affairs exists in the Canadian Confederation, and similar restrictions confine practitioners to their respective Provinces. It is quite likely, therefore, that the minor measure of relief sought for in Dr. Roddick's bill will not be obtained, and that physicians practising near the contiguous borders of adjoining Provinces will have to be extremely careful not to be caught poaching, and they may not solace themselves with the reflection that, if they tire of Canada, they can try the United Kingdom.

J. J. C.

## A HIGHER MEDICAL STANDARD.

THE action of the medical department of McGill University in making the matriculation examinations doubly difficult has been a subject of comment and almost universal commendation on the part of Canadian physicians. Soon, we hope, our other medical colleges throughout the length and breadth of the land, in the United States and Canada, may follow the good example set them by old McGill.

To reiterate the statement, "the medical profession is overcrowded," is simply to make our small world weary by a vain repetition; to say that too many young men are forsaking the plough for the scalpel is a remark as current as "greater than has been;" to say that even a five years' quick march through a medical school is a sufficient and broad enough education for the man who holds life's threshold in his hands, and whose skill and knowledge is all that stand between one and death, is almost an absurdity. Some one has said that it takes five generations to produce an English beauty; but to prolong or save the life of that lady often a young man is taken off his farm, and, magician-like, swallowed by a medical college, and speedily returned to the gaping public, a doctor. A nice little trick, well done, and at the doctor's entrance to the ranks of the profession, every other physician must crowd up to make room for him, and another chance looms up to repeat the trite phrase which McGill, hurrah for her, is going to help make obsolete, "the profession is overcrowded."

We do not wish to make sweeping statements, nor despise any man's lack of opportunity to obtain a good education in early life, and so the question obtrudes itself, "How will the new *regime* of harder examinations and perhaps, ere long, a six years' medical course, affect the poor man, who has brains, and who may prove an ornament to his class and an honor to his profession? Will he be able to afford the time and expend the necessary money during that period? We think the really clever and determined student will do just as his predecessors have done from time immemorial—surmount every obstacle.

The still further lengthening of the term of study, which we hope for, and the making of the matriculation examinations more difficult, will be good and wholesome for us all. Student (with his

shingle out many a long day ago bearing the legend, "Physician and Surgeon"), who has found that the book can never close over if he keeps abreast with the privileges of study in the field of research and invention; student, with aching brow dreaming of a to-morrow; poor dunce of a student, and his dwarf of a brother, "smart Alec," who knows it all—let us one and all take our measure:

> "And fear not lest Existence closing your
> Account, and mine, should know the like no more;
> The Eternal Sáki from that Bowl has pour'd
> Millions of Bubbles like us, and will pour."

W. A. Y.

## YELLOW FEVER AND STEGAMINA.

It has been determined by a board appointed by the Surgeon-General of the United States army for the purpose of pursuing scientific investigations with reference to the acute infectious disease prevalent in Cuba, that the Culex fasciatus mosquito (Genus Stegamina) serves as an intermediate host for the parasite of yellow fever, and that the latter disease is only propagated through the bite of this insect. (*Vide* Additional Note upon "The Etiology of Yellow Fever," read before the Pan-American Medical Congress in Havana, and published in the *Journal of the American Medical Association*, February 16th, 1901.)

It is stated by the Commission that yellow fever is transmitted to the non-immune individual by means of the bite of a mosquito that has previously fed on the blood of those sick with the disease, and it appears necessary that an interval of about twelve days must elapse before the mosquito is capable of conveying the infection. The period of incubation is said to be from forty-one hours to five days and seventeen hours. Experimental yellow fever was also produced by the subcutaneous injection of blood taken from a patient during the first and second days of the disease.

While the mode of infection is thus established, the specific cause of the disease remains undiscovered, thus disposing of Sanarelli's claim.

It is further stated, that as yellow fever is not conveyed by fomites the disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with yellow fever, is unnecessary. Also that the spread of the disease

must be controlled by measures directed to the destruction of the mosquitoes, and the protection of persons against the bites of these insects.

From this last statement we are led to infer that the identical protective methods, so successfully adopted against the anopheles as a purveyor of malaria, would also apply to the Culex fasciatus in the repression of yellow fever. For many years sulphur fumigation has been employed in outbreaks of yellow fever, and with apparent advantage, although the true reason of its beneficial effects was probably misunderstood. The reason of its success is probably because fumes, sprays, or washes containing sulphur are inimical to the growth and development of mosquitoes. Thus it has been observed in Greece that the spraying of grape-vines with sulphur washes reduces malaria among the inhabitants, probably because sulphur is inimical to mosquitoes. While every effort should be made to prevent the bites of mosquitoes by the use of nets over beds, etc., the burning of sulphur in infected houses, and other localities, assists in accomplishing the same end only in a different fashion. J. J. C.

## EDITORIAL NOTES.

**Treatment of Pneumonia by Anti-Diphtheritic Serum.**—A rather strange application of anti-diphtheritic serum to the treatment of pneumonia has been announced (February 22nd, 1901) by Dr. Talamon, of the Bichat Hospital, Paris. He thinks that the use of anti-diphtheritic serum acting on the cells of the organism has an excito-phagocytic action, which is favorable in the treatment of infectious diseases, more particularly pneumonia. He treated fifty cases of pneumonia at the Bichat Hospital, with seven deaths; *i.e.*, a mortality of 14 per cent., and of these fifty cases, forty-two were undoubtedly alcoholics. The good effects of the treatment were all the more marked in proportion to the early use of the injections of serum. Defervescence began on the second day by lysis and not by crisis.

The technic of the injection is as follows: Twenty cubic centimetres of anti-diphtheritic serum are injected morning and evening until improvement is noted.

A number of queries might be asked. For instance: (1)

Would not non-immunized horse-serum answer just as well? (2) Would not saline injections (strength 0.7), given subcutaneously, answer as well? Whatever replies may be made, it may be taken for granted that Dr. Talamon is not ignorant of the advantages resulting from these latter forms of treatment. The clinical fact remains that he employed a treatment for severe pneumonia which has yielded in his hands a marvellous result, when we consider that "the alcoholic patient with pneumonia rarely escapes death" (Anders).

As the concentrated anti-diphtheritic serums of American manufacturers are employed among us, Canadian physicians may feel disposed to use the same amounts in pneumonia as they are accustomed to employ in cases of diphtheria.

Until the first in order of the queries mentioned above is answered, it would be more prudent, however, to follow the technic of Dr. Talamon, who used Roux's anti-diphtheritic serum.

**Duration of Life in Koch's Bacillus.**—The bacillus of Koch lives from six months to a year in damp places, which are not much exposed to light, and also in rooms facing towards the north, which receive only reflected sunlight. Exposed to strong sunlight, the duration of life in virulent bacilli of Koch is exactly two hours and a half. After an exposure of the bacilli to destructive rays of solar light for that length of time cultures of these bacilli remain inert. The beautiful and ingenious experiments of Strauss on this point are very conclusive and significant. Dr. Pujade says ("La Cure Pratique de la Tuberculose"): "These experiments explain the large mortality from tuberculosis in damp cities such as Lyons, Lille, etc., and the relative rarity of the disease in the sunlit regions of the south of France. They explain why our Pyrenean and Mediterranean health resorts which should have become hot-beds of bacilli prior to the introduction of the night spit-box, the pocket spit-box, and general practices of disinfection, have not only not become noted for the destruction of their population by tuberculosis, but have produced only a very few cases of tuberculosis in the native population. At Amelie-les-Bains the mortality from tuberculosis in the native population has not reached five per cent. of the total mortality, whereas in the cities of the rest of France the mortality from tuberculosis is twenty-five per cent. of the total mortality. What is still more remark-

able is, that I have rarely observed attacks of meningitis or tubercular peritonitis, those scourges of weakly children. The authorities of the greater part of our southern health resorts could, if they wished, publish equally brilliant statistics."

**Danger Rates of Chloroform and Ether.**—The British Medical Association's Anesthetic Committee reported last summer, dealing only with general anesthetics. There were eighteen deaths under chloroform anesthesia, of which three are considered to have been entirely due to the anesthetic, and four to the anesthetic principally and to the patient's condition secondarily, while in the eleven others, either there was doubt as to the relative shares taken by the three elements—the anesthetic, the patient's condition, and the operation—or death was distinctly due to one or both of the two other causes, rather than to the anesthetic. Three deaths are reported as having occurred under ether anesthesia, but none of them was held to be due entirely to that anesthetic. The Committee find that with chloroform the danger rate is 0.582 per cent., and with ether one of 0.065 per cent., thus supporting a generally entertained opinion, that chloroform is the more dangerous of the two drugs.

**Calcium Chloride in Hemorrhagic Variola.**—This drug, which has been much used in cases of hemophilia is favorably noticed by Dr. Roger, of Paris, as useful in cases of hemorrhagic variola, or in cases of variola in which the pustules become hemorrhagic. Having used doses of twelve grammes per diem without injury to the patient, he finds that half that quantity will suffice to produce a hemostatic effect. He prescribes a dose of from 2 1-2 to 3 3-4 grains of calcium chloride every hour, the drug to be prepared in a mixture with syrup aurantii and distilled water. Brandy may be added to the mixture if thought advisable. According to the *British Pharmacopeia,* the dose of calcium chloride is 5 to 15 grains. In hemorrhage, after tooth extraction, Turner (*Treat's International Annual,* 1900) recommends large doses of calcium chloride (gr. 60). Probably, if given every hour, small doses would answer.

**New York Public Baths.**—We find from the *New York Sunday World,* that in the first week and a half of New York's free

baths on Rivington Street, in the heart of the lower east side, 15,000 persons were patrons. Out of 3,000 bathers the first few days, 1,500 were women. Between seven and four are the children's hours. One little fellow, ten years old, solemnly remarked to an attendant that he had never taken a bath in his life before; the only time in his memory when he had been wet all over was from the spray in a leaking fire-hose, and he had fallen into the puddle on the other side. At these baths the city furnishes the soap but not the towels. One of New York's leading citizens remarked: "New York has one public bath properly equipped; it must have more speedily. They are of more importance to the city than Carnegie's libraries." In Buffalo, a fine bath-house is established, and thronged all the time. What about Toronto, Mr. Gage? Surely it isn't "up to us" to be spoken of as the city of Godliness, with the *next* still called for.

**Apocodeine Hydrochlorate as a Remedy for Constipation.**—This remedy has been recently employed successfully in the treatment of occasional and habitual constipation in thirty cases by Professor Combevale of Lille (France). He prefers the hypodermic route, and his formula is as follows:

| | |
|---|---|
| Apocodeine Hydrochlorate ..... | 50 centigr. |
| Distilled Water ..... | 50 grammes. |

The quantity injected is generally two cubic centimetres, and the dose of the drug absorbed would be about two centigrammes (1-3 grain). It increases peristaltic movements and intestinal glandular secretions, and its laxative effect is said to be sure and rapid.

**The Ontario Medical Association.**—The 21st annual meeting of the Ontario Medical Association will be held in this city on the 19th and 20th of next month. Anyone desiring to read a paper will kindly forward the title of the same to the Secretary at once. Papers, or abstracts of the same, must be in the hands of the Committee by May 25th. Fifteen minutes is allowed for the reading of a paper; if too long to be read in this time an abstract may be presented. Dr. H. T. Machell is Chairman Committee on Papers, and Dr. H. C. Parsons, 72 Bloor Street West, is General Secretary.

## PERSONALS

Dr. J. Duncan has removed to No. 45 Bloor Street East.

Dr. Nattrass is once more able to be around after his recent illness.

Dr. Geo. A. Peters is to be commanding officer of the Canadian Mounted Rifles.

Dr. Cattermole, of Cecil Street, intends spending the next four months in New York City.

We are glad that Dr. W. P. Caven is recovering his strength after his attack of appendicitis. Dr. Caven hopes to leave for England soon for a complete rest.

Dr. Ezra H. Stafford has returned to Toronto after his trip with the Labrador sealing fleet. He appears to be in the pink of condition, and says he is going to buckle down to work in earnest.

Dr. Price Brown returned to Toronto about a month ago, after spending the winter in the South. The Doctor has been completely restored to health, and resumed practice at once on his return.

Dr. E. N. Coutts, the present holder of the George Brown Memorial Scholarship, in Toronto University, has just been appointed to the Colonial Fellowship in Bacteriology at University College, Liverpool.

Sir Jas. A. Grant will give an address at the opening of the Congress of Tuberculosis in New York this month. Sir James has been elected Vice-President for the Dominion. Dr. W. Bayard has been elected for New Brunswick.

Dr. Clark Bell, of New York, who has been doing such magnificent work in connection with the Congress of Tuberculosis, which convenes in New York this month, has concluded arrangements for reduced rates of transportation to and from the United States metropolis.

Dr. J. G. Adami, Professor of Pathology at McGill University, Montreal, has been appointed vice-president of the section of Pathology and Bacteriology of the International Congress on Tuberculosis, to be held in London in July, under the patronage of King Edward. Dr. Adami will attend.—*Med. Rec.*

The Eastern office of the Abbott Alkaloidal Co., in New York City, has been removed to 100 William Street. The new quarters are located more conveniently, and are much more commodious, and afford better facility for the handling of the rapidly-increasing business of this office. Eastern patrons of the Abbott Alkaloidal Co. will kindly note this change of address.

# Obituary

## DEATH OF DR. CHARLES W. COVERNTON (1813-1901).

Dr. Charles William Coverton, who died at his residence, 404 Huron Street, Toronto, April 14th, at the age of 88, was well and favorably known in this city and throughout the Province. He was born at Penton Place, Walworth, England, 1813. He graduated as M.D. at the University of St. Andrews, Scotland, in 1835, and became a member of the Royal College of Surgeons, England, during the same year. He came to Canada in 1836, and settled at Vittoria. In 1847, Dr. Mackelcan having removed to Hamilton, Dr. Covernton purchased his property at Simcoe, succeeding to his clientele, retaining at the same time a good deal of his own in the Township of Woodhouse. In 1869, Dr. Covernton was elected the territorial representative of the Core and Thames Division of the Council of the College of Physicians and Surgeons of Ontario. He was Vice-President of the same body, 1870-71, and President from June, 1871, to December of the same year, when he resigned, in consequence of having been appointed to a chair in the Medical Branch of Trinity University. In the spring of 1882 he was appointed a member of the Provincial Board of Health, and was subsequently the Chairman, in succession to Dr. Oldright.

Dr. Covernton married in 1840 Frances Elizabeth, daughter of Hutchins W. Williams, Merrion Square, Dublin, a banker, since deceased. He had nine children, four of whom survive him. Handsome in face and form, courteous in manner, mentally bright, Dr. Covernton produced a most agreeable impression on his professional friends. He was also a very successful practitioner. During his later years, he devoted much time and study to the advancement of hygiene in Ontario, and was deservedly esteemed by his colleagues of the Provincial Board of Health of Ontario. He represented that Board at the Geneva Convention of Hygiene in 1882, at the Berlin International Congress of Hygiene in 1890, and was one of the delegates to London International Congress of Hygiene in 1891.

## DR. J. ARCHER WATSON'S TRAGIC DEATH.

THE medical profession of Toronto were terribly shocked in taking up the evening papers on April 11th, to read of the terrible death of one of Toronto's medical practitioners, in the personality of Dr. J. Archer Watson, who for about fifteen years has practised in this city. The Doctor was riding a spirited horse, and had just crossed the railway tracks west of Toronto Junction. The animal took fright and backed in front of a swiftly moving engine, causing instant death to both rider and horse. We beg to tender our sincerest sympathy to the bereaved family.

## DEATH OF MR. WILLIAM R. WARNER.

WE have received the following formal announcement of Mr. W. R. Warner's death last month:

> "It is with feelings of profound sorrow that we announce the death of our senior, Mr. William R. Warner, which occurred on the morning of Wednesday, April 3rd, 1901. His business career, covering a half century, was not only long, but honorable, and his impulses as a man were kindly and generous. We feel that his loss is not ours only, but will be shared by all who came in contact with him in either trade or social circles.
>
> "WILLIAM R. WARNER & CO.
>
> "Philadelphia, April 4th, 1901."

We wish to extend every sympathy to the firm in so great a loss.

**Deaths Abroad.**—The death of G. A. Nordlund, professor of anatomy at Upsala, is announced, and that of C. J. Rossander, professor of surgery at Stockholm; of O. von Heusinger, professor of legal medicine and pediatrics at Marburg, and of J. Homan, assistant superintendent of the Kiel Institute of Hygiene.

# Correspondence.

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

## SOME PROOFS THAT COMPULSORY VACCINATION IS INEFFECTUAL.

*To the Editor of* THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—In 1853, Lord Lyttleton, in speaking to his bill, said: "It is unnecessary for me to speak of the certainty of vaccination as a preventative of small-pox, that being a point on which the whole medical profession has arrived at a complete unanimity." On the strength of this assertion the bill became law. Let us see if vaccination is so certain a preventative. The writer* of the September article in the JOURNAL states, in Proposition No. 1, that "Vaccination always protects against small-pox in recently vaccinated cases." Will statistics bear this out? In 1775 the King of Prussia gave his sanction for the inoculation of eight healthy orphans with small-pox. The operation was performed by an experienced inoculator, and yet none of the children showed any symptoms. These eight, with four others, were again inoculated, and again with no success. Finally, these twelve and seven others were inoculated, and exposed to small-pox, and yet all escaped contagion. Does not this show that immune persons are not so uncommonly found as some people are led to believe. Might not Jenner have chanced to happen on immune patients? The question is at least open for debate.

Again, in 1891-95, 474 cases of small-pox occurred in children under five years of age in England; 1880-90, 713 cases occurred in the British army in India; 1882-89, 221 cases occurred in the British army in Egypt; 1835-87, 7,505 cases occurred in the German army, all of which cases occurred in healthy vaccinated and revaccinated adults, and in the German army twenty insertions were ordered for each patient.

Concerning the Sheffield epidemic of 1887-88 much debate has taken place. During these years the city paid in cash vaccination bonuses over $1,840.00, and the city was considered one of the most carefully vaccinated cities in England. Yet during the epidemic of thirteen months there were 6,088 cases of small-pox, of which number 5,035, or 83 per cent., were in confessedly vacci-

* "Some Proofs that Small-pox is Prevented by Vaccination," by W. F. Elgin, M.D., Glenolden, Pa., CANADIAN JOURNAL OF MEDICINE AND SURGERY, September, 1900.

nated cases. In Dr. Barry's report to the Local Government Board there is an important underlying fallacy, inasmuch as the census was not taken until the epidemic was far advanced, and a considerable transference had taken place from the unvaccinated to the vaccinated classes. To show how this could affect the census, let us take a simple example. In a village of 100 inhabitants, let there be 90 vaccinated and 10 not vaccinated, and suppose small-pox to appear, and to last a month, and to attack 10 per cent. of each class. Then

Vaccinated, 90; cases, 9; or 10 per cent.
Unvaccinated, 10; cases, 1; or 10 per cent.

Now, during the month, let 8 of the 9 remaining unvaccinated be vaccinated. Then a census at the end of the month would show

Vaccinated, 98; cases, 9; or 9.1 per cent.
Unvaccinated, 2; cases, 1; or 50 per cent.

And on a similar census Dr. Barry founded his report!

The percentage of vaccinations to births during 1892-94 in Leicester was from two to four per cent. Keighley was also poorly vaccinated, while at Warrington over 94 per cent. of the children were vaccinated, and at Sheffield over 80 per cent. were vaccinated, and yet the well vaccinated cities suffered more than those that were not vaccinated so completely.

| Year. | City. | Attack-rate per million. | Death-rate per million. |
|---|---|---|---|
| 1887-88 | Sheffield | 22,590 | 2,171 |
| 1892-93 | Warrington | 12,481 | 1,204 |
| 1892-93 | Leicester | 1,924 | 114 |
| 1893 | Keighley | 2,245 | 218 |

Another quotation from Dr. Barry's report reads: "Of 8,198 persons revaccinated prior to the epidemic . . . . 25 were attacked, . . . . with a death-rate of 0.1 per cent.; while of 56,233 persons who were not revaccinated . . . . none died." According to this, revaccinated persons are more liable to contract small-pox than are those vaccinated in infancy.

Prevaccination times were inoculation times, and it stands to reason that the death-rate among infants inoculated with small-pox would be greater than the death-rate among adults treated in the same manner. Small-pox is not unique in showing a decrease in infant and child mortality with an increase in adult mortality. The Registrar-General's fifty-fourth report shows a similar change in the influenza epidemics of 1847-48 and 1890-91, the only difference being that the adult increase was more marked in the case of influenza. In typhoid and typhus we find a marked decrease in infant mortality between the years 1871 and 1890.

The under five death-rate decreased 36.9 per cent. in small-pox; 46.8 per cent. in typhus; 56.8 per cent. in typhoid. In pre-vaccination times, eighteenth century, of 13,000 cases, Jurin found the death-rate to be 17.5 per cent. From 1746-63, nearly 25 per cent. of the cases treated in the London Small-pox Hospital ended fatally. During the present century, with all its wonderful advancement in medicine and sanitation, the vaccinists would try to have us believe that from 5 to 50 per cent. of the unvaccinated die who may be attacked with small-pox. So much for modern treatment!

A smaller death-rate from small-pox does not naturally follow in places where vaccination has been enforced. Compare, for example, the well revaccinated British army and navy, and poorly vaccinated Ireland, of which the medical commissioners said that a large proportion of the population was "unprotected by vaccination" (second Report, O. O. 3059 to 3075):

| | | | | | |
|---|---|---|---|---|---|
| Army (1864-64)..... | Mean annual death-rate, | | | 58 | per million. |
| Navy (1864-94)..... | " | " | " | 90 | " |
| Ireland (1864-94) ages 15 to 45..... | " | " | " | 65.8 | " |

Again compare Leicester, well known to be poorly vaccinated.

| | | | | |
|---|---|---|---|---|
| Army (1873-94)..... | Small-pox death-rate, | | 37 | per million. |
| Navy (1873-94)..... | " | " | 36.8 | " |
| Leicester (1873-94) ages 15 to 45..... | " | " | 14.4 | " |

In reference to the statements concerning the French army, something may be said. In June, 1883, Sir Lyon Playfair, in the House of Commons, made a statement that 23,000 French soldiers had died of small-pox during the Franco-Prussian war. This being contradicted, Dr. W. B. Carpenter communicated with Earl Granville, then in Paris, and received a reply stating that the French authorities had announced that the deaths from small-pox in the army during the war were not known, as the confusion was too great for registry. Later on, in the *London News* of August, 1883, Dr. Carpenter honorably and publicly showed Sir Lyon Playfair's statement to be untrue, and yet this argument is used on every possible occasion at the present time.

The official report of the French losses during the war states that "144 officers and 10,942 men *died from all diseases.*"

Space does not permit a detailed criticism of all the tables and figures in the September article, but some are too grossly misleading to be passed over.

In the table of London mortality from small-pox the following is stated:

1854-71, average annual death-rate was 388 per million.
1872-82, " " " " 262 "

equality, and enjoy the fullest confidence of their forty or fifty male colleagues.

Before leaving this phase of the subject, why could not these ladies who are so sincerely in earnest about the well-being of their sex, direct their efforts towards establishing a maternity and a gynecological ward in connection with the Western Hospital? This would meet every need that could be provided for in a special hospital, and still leave the female physicians to enjoy the benefits of association with a large general hospital. The Western is centrally situated, the grounds are spacious and beautiful, and there is abundance of room for building purposes. In regard to the success of a hospital exclusively "manned" by women, the masculine mind is rather loath to be very optimistic. There is but a limited sphere in hospital work for the inexperience unavoidable in youth, or to the unsteady hand incident to the disabilities of age. The persistent, arduous work falls on physicians and surgeons in middle life. Apply this law—unalterable as was that of Mede and Persian—to a staff wholly composed of women. Would not the mutability—incident to marriage—the "El-Dorado" of maidenhopes,—or maternity—the acme of feminine potentialities, prove an insuperable barrier to even a reasonable measure of success or efficiency? Under such conditions, would not a Woman's Hospital prove to be a very dangerous experiment?

J. HUNTER.

April 17th, 1901.

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**Chorea Caused by Fright.**—A good deal of doubt has been expressed by different observers upon the alleged production of chorea by fright, chiefly on the ground that fright is very often asserted to have set up the disease in a child when closer investigation shows the cause of the fright to have been very slight. It must, however, be borne in mind that what may seem to a healthy adult to be a small or negligible case for shock or fear may to the child have been a very great cause; or, to express it otherwise, what does not suffice to frighten an adult may produce very real terror in a child. There are, I imagine, few medical men of any experience who would not admit that fright is capable of producing genuine chorea, in the same way as we all know that it may, in certain conditions, set up paralysis agitans, dementia, genuine epilepsy, profound shock, and even death. However we may try to explain the manner in which fright acts, we are constrained to allow that it may result in these nervous disturbances, and more, that it may lead to disease which has a distinct anatomical lesion. —Dr. O. J. Kauffmann, *British Medical Journal.*

# Items of Interest.

**Dr. Henry Jellett,** ex-assistant master of Rotunda Hospital, Dublin, has been appointed editor of the *Medical Press and Circular*, to succeed the late Dr. Archibald Hamilton Jacob.

**Music as a Cure for the Insane.**—Recently music has been introduced "as a method" in the detention hospitals of Chicago. The result is being watched with great interest by nerve specialists.

**Snake-bites,** according to the last annual report of the Indian Government, caused 24,621 deaths in India last year. The mortality from this cause does not seem to diminish in spite of all efforts of the government.

**"American Medicine,"** edited by Dr. George M. Gould, Philadelphia, has made its bow to the public, graceful and stately enough for a presentation at court. Metaphorically we fill our glasses and propose the toast, "Long life to Independent and Professional Medical Journalism."

**Death of the Editor of "Vratch."**—Prof. V. Manassein, who founded the leading Russian medical weekly, *Vratch*, twenty-one years ago, and has been its editor since, died at St. Petersburg, February 26th, of apoplexy. He was in his sixty-first year. He served as professor of therapeutics and internal medicine for twenty-five years, and has published a number of important works. —*Jour. Amer. Med. Assn.*

**The Scotch and Oatmeal.**—The Scotch are the greatest dyspeptics on earth, largely owing to their use of half-cooked oatmeal and soft bread. Next to the Scotch are the Americans, and no single thing has contributed more to American dyspepsia than half-cooked oatmeal mush for breakfast. In rural France, where dyspepsia is practically unknown, hard bread and vegetables, with a moderate amount of meat, comprise the chief items of the bill of fare.—*The Sanitary Home.*

**American Academy of Medicine.**—The twenty-sixth annual meeting of the Society will be held at the Hotel Aberdeen, St. Paul, Minn., on Saturday, June 1, 1901, at eleven a.m.

**Demise of Dr. Youmans.**—Aged sixty-two, "in the zenith of his mental powers," William Jay Youmans, M.D., died at Mount Vernon, N.Y., on April 10th. Until a few months ago he was editor of *The Popular Science Monthly.*

**Russia Bars Women Medical Students.**—As a result of the recent student riots in St. Petersburg all the higher courses for women in the Medical Institute of the University of St. Petersburg have been closed indefinitely by official orders.—*Medical Record.*

**A Permit Necessary to Practise Hypnotism in Hungary.**—The government in Hungary has issued an ordinance forbidding hypnotism to be practised without a special permit from the Sanitary Department. This step has been taken to deprive criminals of the opportunity to plead hypnotic influence as an excuse for wrongdoing.—*Medical Record.*

**Prof. A. Jacobi** celebrated the completion of his fiftieth year as a physician by entertaining his many friends at the Academy of Medicine on the evening of April 5th. He was graduated at the University of Bonn, April 4th, 1851. The celebration of his seventieth birthday by a notable dinner last year is still fresh in the minds of his professional brethren. As an evidence that he has lost none of his youthful enthusiasm he read an elaborate and highly-finished paper on "German Text-books of Half a Century ago."—*Medical Record.*

**A Monument to Pasteur in His Native Place.**—The town of Dôle, in the Jura Department, which is the birthplace of Pasteur, is about to prove that a prophet is not always without honor in his own country. A statue of the great discoverer is to be erected there during this year. The statue, which is from the chisel of M. Antonin Carlès, is in bronze, and stands on a conical pedestal eight metres high. Pasteur is represented as standing in an attitude of meditation. At the base of the monument is a group representing Humanity holding out two children to Pasteur, whilst Science offers him a palm.—*Brit. Med. Jour.*

**A Wind-fall for Queen's University.**—The Ontario Government has granted $22,500 a year for the next five years to Queen's University for the purpose of aiding the corporation of the School of Mining and Agriculture at Kingston in the erection of suitable buildings for the accommodation of the school and the better carrying on of its work.

**Doctors in the English House of Parliament.**—The medical profession has lessened the number of its representatives by two, the number in the last English Parliament being eleven, and now it is represented by nine, viz.: Dr. Robert Ambrose, John Dillon, Sir Walter B. Foster, Dr. Farquharson, Dr. Rutherford Harris, D. MacDonnell, Robert J. Price, Sir John Batty Tuke, Dr. C. K. D. Tanner.

**New York Legislation on Hypnotism.**—A bill has been introduced in the New York Legislature for regulating the practice of hypnotism, mesmerism, suggestive therapeutics, and allied phenomena. License is required from the Board of Regents of the University, and to obtain it a good general education is required, also at least two years in a medical school. Any unauthorized practice, or advertising of ability for such is to be made a misdemeanor, and penalties of fine and imprisonment are provided for by the Act.—*Journal American Medical Association.*

**Queen's Graduates.**—The graduates in Medicine at Queen's are as follows: Ithamæ Bogart, Borwick; Harold Bowie, Kingston; Lambert D. Densmore, Maitland, N.S.; Thos. S. Genge, Holleford; Wm. Grimshaw, Kingston; David B. Lazier, Belleville; John McCulloch, Port Perry; Æneas MacDonald, Ottawa; Angus D. McIntyre, Glencoe; Henry E. Paul, B.A., Newburgh; Carlyle A. Porteous, Kingston; William C. Redmond, Bethel; Edward Richardson, Brockville; E. Ray, Kingston; Daniel T. Smith, Ottawa; F. F. Carr Harris, Kingston; Ernest J. Thompson, Kingston; Wm. G. Tyner, B.A., Kingston; Milton R. Young, B.A., Millsville, N.S. These graduates received the house surgeoncies at the Kingston General Hospitals: W. S. Grimshaw, Kingston; I. G. Bogart, Borwick; H. A. Bowie, Kingston. The medallists are: In Medicine—I. G. Bogart, Borwick. In Surgery—H. A. Bowie, Kingston.

**New University Buildings in the Queen's Park, Toronto.**—We trust that it is not all newspaper talk regarding the Provincial Parliament having decided to erect new buildings in the Queen's Park for the School of Practical Science. We hope that the report is true, and that the work will be proceeded with at once.

**Small-pox and Vaccination.**—Recently a mail-carrier was found in the Melrose Lodging House, on upper Third Avenue, suffering from small-pox. The health board officials promptly removed the patient and vaccinated everyone in the building with the exception of two lodgers, who refused vaccination. About a week afterwards, on January 8th, one of these men was attacked by small-pox, and on the following day the other, while of the many others who were equally exposed to the disease not one has yet contracted it.—*Boston Medical and Surgical Journal.*

**Tags on the Patients.**—The *New York Medical Journal* tells of a practice which the Samaritan Hospital, Chicago, has adopted as a means of identifying former patients. It consists in giving each patient, on leaving the institution, a metal tag, to be constantly worn, bearing the following inscription: "In case of accident telephone this number —— to Samaritan Hospital, Chicago. They will notify my friends, and give you instructions." A record is kept of each case by number, and in this way appropriate remedies can be promptly resorted to in case of sudden illness.

**The Victoria Cross for a Canadian Doctor.**—Word was received three weeks ago that Dr. H. E. Douglas, a graduate of Queen's College, and whose home is now in Kingston, Jamaica, has received the Victoria Cross for bravery in action. Dr. Douglas was attached to the Gordon Highlanders as Surgeon. It was at the battle of Magersfontein that he so distinguished himself. He was with the Black Watch on its death march, and when the fire opened, though slightly wounded, crawled, amid the bullets, to the head of the column. The officers of his regiment were lying about dead or wounded. He dressed the wounds of all within reach, and made his way back in safety. He then rallied the scattered ranks of the Gordons, and led them out of action. He was wounded by a bursting shell, which carried away part of his cheek.

**The Cardiac Result of Tight Lacing.**—The recent investigations of Schott may be fairly quoted as forming a practical proof of the ill effects of tight lacing. Schott has demonstrated that by constricting the abdomen with a belt, dilatation of the heart under exercise was further increased by reason of the addition to the amount of blood flowing into the right ventricle, especially increasing the amount of work to be done by the heart. The teaching of Schott receives support and corroboration from the experimental observations of Roy and Adami, Fry and Krell, upon animals. These investigators have shown that compression of the abdominal veins causes dilatation of the heart by increasing the total output, that is, the work done. The true bearing of all these points has been more clearly demonstrated by means of the X-rays.—*Medical News and Circular.*

**Embalming.**—The embalming of a Mr. Joseph Henry Collymore as reported in the *Star,* in the interval between his death and the inquest, caused some friction between the coroner, Mr. Walter Uden, and the embalmer, Mr. Wood. The coroner very properly condemned any interference with a body waiting an inquest, and the reason assigned for the unwarrantable act was wholly inadequate. Our readers need not to be told that the embalming fluid would not seriously interfere with a chemical analysis of the viscera of the cadaver, for the simple reason that arterial injection would not be likely to contaminate them. But to obviate any possible source of fallacy, the law has wisely decided that there shall be no manner of interference with the body awaiting an inquest, and it commends itself as just, proper, and wise, to all thinking men.—*Medical Press and Circular.*

**Dormiol.**—Dr. B. Tendlau, physician to the Hospital Moabit (Berlin), says that in Prof. Goldschneider's division, dormiol was used in a great majority of cases of insomnia. The causes of the insomnia included alcoholism, acute pain, cachexia, neurasthenia, hysteria, heart disease, and convalescence from the acute infectious diseases. The results were variable. In insomnia due to severe pain small doses of dormiol produced no effect whatsoever; tablespoonful doses of the 10 per cent. solution induced a short sleep, shorter than that induced by similar doses of trional, chloral, or amylene alone; in compensation, however, the after-

effects which follow the use of the latter drugs—headache, nausea, malaise—were always absent. In the milder forms of agrypnia, especially in the insomnia of neurasthenic and hysterical patients, the administration of dormiol was generally followed by a deep sleep lasting several hours. The author thinks that the real indication for the use of dormiol will be found in this last class of cases. The dormiol also proved useful in cases of heart disease, where chloral could not be administered.—*Medical Times.*

**New Application of an Old Remedy.**—Our wise legislators, in their desire to increase the facilities for rapid transit, by constructing an underground road, in which the propelling power of the cars would be electricity, have planned, it would seem, from facts recently brought to light, better than they thought. Since electricity has been substituted for steam on the London underground railways, it is averred that a trip over the road is a pronounced appetizer. Persons who for years have not had a speaking acquaintance with a respectable appetite, insist that they have been entirely cured by taking a ride over the underground road every few days. There is a possible reason for all this in the fact that electricity creates a certain amount of ozone, which, being confined within the tunnel, gives the passengers a bracing air to breathe, so that when they reach their homes the weariness of the day's work has, in a measure, vanished, leaving them with a sound, healthy appetite, ready for a good dinner and wideawake for an evening's social enjoyment. And so our capitalists, in providing for rapid transit, are contributing largely to the longevity and general health of our citizens. Capital linked with science, the one at the command of the other, is rapidly solving the great problems of life for the benefit of humanity.—*Medical Times.*

**How He Got the Place.**—Dr. McTavish, of Edinburgh, was something of a ventriloquist, and it befell that he wanted a lad to assist in the surgery who must necessarily be of strong nerves. He received several applications, and when telling a lad what the duties were, in order to test his nerves he would say, while pointing to a grinning skeleton standing upright in a corner, "Part of your work will be to feed the skeleton there, and while you are here you may as well have a try to do so." A few lads would consent to a trial, and received a basin of hot gruel and a spoon. While they

were pouring the hot mass into the skull the doctor would throw his voice so as to make it appear to proceed from the jaws of the bony customer, and gurgle out: "Gr-r-r-gr-h-gh! That's hot!" This was too much, and, without exception, the lads dropped the basin and bolted. The doctor began to despair of ever getting a suitable helpmate until a small boy came and was given the basin and spoon. After the first spoonful the skeleton appeared to say: "Gr-r-r-uh-r-hr! That's hot!" Shoveling in the scalding gruel as fast as ever, the boy rapped the skull and impatiently retorted: "Well, jist blow on't, ye auld bony!" The doctor sat down on his chair and fairly roared, but when the laugh was over he engaged the lad on the spot.

**Care of Children's Teeth.**—Very few mothers realize the necessity of caring for and properly preserving a child's first set of teeth, so that they shall drop naturally out of the jaw without decay when the time comes. As soon as the child is able to eat solid food the teeth should be taken note of. When the little one is three or four years old there will often be decayed spots in the teeth. These cavities should be treated at once by a dentist, and filled with soft, temporary cement that dentists use for this purpose. This care of the first teeth not only prevents the child's acute suffering from toothache, but it keeps the mouth in a cleanly wholesome condition, which conduces to sound bodily health. The presence in the mouths of little children of decayed teeth is given on trustworthy authority as a frequent cause of disease. Were it not for these reasons it would still be desirable to preserve them to the proper time, for where the teeth are removed too early the jaw does not enlarge further, and when the permanent teeth are cut there is not room for them. Children whose first teeth have been properly cared for have stronger and better teeth when the permanent ones come. At least once in the six months a mother should examine the teeth of her children with an eye to possible defects, and when necessary, see a dentist without delay.—*Pediatrics.*

**Treatment of Some Septic Conditions.**—To Professor Crede belongs the credit of having shown that in metallic silver in the colloid form, we possess an agent which not only destroys pathogenic organisms, but renders their toxins inert and harmless. In

an article recently published in the *Medical Summary,* Dr. Max Staller, Surgeon to Mount Sinai Hospital, Philadelphia, relates his experience with the unguentum Crede, a 15 per cent. preparation of soluble silver, and this report serves well to illustrate the wide range of utility of this remedy in affections of bacterial origin. During the past two years the author has treated 25 cases of erysipelas with unguentum Crede. The ointment was rubbed gently into the inflamed area for twenty or twenty-five minutes, by which time the greater portion had been absorbed. Any case, if seen early, was cured in three to five days. Improvement was noticeable within five to six hours, the skin losing its parchment-like appearance, becoming softer, and the burning sensations also subsiding. A case of cellulitis phlegmonosa of the leg in a patient suffering with nephritis was cured within three days by four applications of unguentum Crede of two drachms each at intervals of five hours. In gonorrhea, at the first threatening symptoms of bubo, two or three inunctions of one-half drachm over the affected area, with rest for twenty-four hours, always aborted pus formation. Remarkably successful results were obtained in mammary abscess from the use of the ointment in connection with the ice-bag. Even when it failed to prevent suppuration, it localized the process and completely relieved the pain and discomfort. An inunction of two drachms, repeated three times at intervals of four hours, usually prevented pus formation if the case was seen early enough. During an epidemic of cerebro-spinal fever the author employed unguentum Crede in seven cases, with only one death, each patient receiving six inunctions, besides the routine treatment. In fifty cases of scarlet fever, some of marked severity, the remedy also exerted a pronounced beneficial effect. A mixture of unguentum Crede, two drachms, to two ounces of ung. aqu. rosæ was rubbed into the body, and in none of these cases was the least trace of albumen observed in the urine.

**The Edinburgh Tradition and Clinical Instuction.**—In an address, entitled "The Edinburgh Tradition and other Topics," Adami (*Montreal Medical Journal,* 1900, vol.. xxix., pp. 559-570) emphasizes the great value of bedside teaching, more especially as carried out in the hospitals in Montreal, and he discusses the question why this method has been practised so long in Montreal, while "elsewhere on the continent until recently clini-

cal instruction and the free entry of students into the wards have been most exceptional?" "The democratic air of the states" is not considered adequate to explain the difference. The fact that many hospitals secondarily became attached to medical schools has been one cause, without doubt, of the opposition to the entrance of students into the wards. In Montreal the founders of the hospital and the earliest members of the staff were likewise the founders of the medical school, and they endeavored to exemplify in the new institutions the traditions of their youth. The Montreal school was developed by men from Edinburgh, and they continued the "Edinburgh tradition," that is, introduced the scheme of teaching in vogue for some time in Edinburgh. The men who founded the Montreal medical institution in 1823, and who became the medical faculty of McGill in 1829, were all Scotch. The Toronto school and the older schools in the United States were founded by English graduates. In London there was no regular instruction in the wards of hospitals until 1808. The Edinburgh school was well developed in 1750, and it was years in advance of London schools in the important matter of bedside instruction. Adami quotes, from an old volume, notes showing that in 1780 there was in Edinburgh a well-developed system of practical clinical instruction. Gregory, Hume, Duncan, and other Edinburgh teachers, at the beginning of the nineteenth century, taught the men who in Montreal inaugurated a system of ward work that has given the McGill school an important standing on this continent. From this school have come men who have carried this tradition with them to other medical schools. This is an excellent illustration of the great influence that methods of instruction may exercise in the development of institutions. The influence of teachers and of methods of teaching go further than merely to the present generation of students. As these scatter they are bound to carry with them the traditions and methods of their teachers. Hence the fundamental importance of guiding prospective medical students to those institutions whose methods and standards must be considered the best from the present point of view.—*Journal of American Medical Association.*

# The Physician's Library.

## BOOK REVIEWS.

*Pulmonary Consumption, Pneumonia and Allied Diseases of the Lungs:* Their Etiology, Pathology and Treatment, with a chapter on Physical Diagnosis. By THOMAS J. MAYS, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic; Visiting Physician to Rush Hospital for Consumption. Illustrated. New York: E. B. Treat & Co., 241-243 West 23rd Street. 1901. Price, $3.00.

This book bears the distinct individuality of a courageous thinker, and though opposed to present day medical ideas on the origin of phthisis, is well worthy of careful study. The author states in the preface that the fundamental concepts of the work may be formulated in the following propositions: (1) That pulmonary phthisis in the large majority of cases is primarily a neurosis, and that the pulmonary disintegration is secondary; (2) that any agent, influence or condition, which undermines the integrity of the nervous system, will engender pulmonary phthisis or some other form of pulmonary disorder; (3) that the only remedies of value in the treatment of pulmonary phthisis are those which appeal to and act through the nervous system; (4) that of special value in the treatment of phthisis is the counter-irritant action of silver nitrate, introduced hypodermically over the vagi in the neck; and (5) that acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorders of the nervous system.

These various propositions are supported with great learning and eloquence. The ninth chapter, which contains extracts from the sanitary laws passed in Naples, Venice and other Italian States, during the eighteenth century, "concerning the disinfection of the rooms in which consumptives died and the clothes which they had worn," is very instructive. The author thinks that if the death-rate from consumption (one-fourth of the whole mortality) was the same in Naples at the time when these laws were abolished, as it was in other cities in which segregation was never practised, the practical value of such measures was entirely negative. Probably had the shrewd Italian legislators of the eighteenth century been as well informed as their successors of the present day, they would have paid scant attention to the clothes and other effects belonging to a consumptive, but would have passed regulations enforcing the use of the spit-cup and the destruction of all tubercular sputa. It is just another proof that sanitary laws interfering with liberty should not be passed until science has said her last word. The book is well printed and is a credit to the publishers. J. J. C.

*Encyclopedia Medica.* Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P. (Edin.) Vol. V. Herpes to Jaws. 536 pp. Edinburgh: William Green & Sons. 1900.

While the contributions to this volume are, generally speaking, good, some of them merit special notice as giving evidence of thorough and careful preparation by the authors. Among these are those on Hysteria, of which there are

three. The general article by Sainton, of Paris, is interesting as presenting the subject from the French point of view. G. F. Still gives a most interesting description of hysteria in children, in whom he finds it much more frequent than is usually supposed. It is a matter of much importance that the condition be early recognized, so that means may be taken to correct the condition by proper education and suitable environment. The Surgical Aspects of Hysteria is written by A. G. Miller. The articles on Insanity, of which there are four, are perhaps even more noteworthy. A review of them is beyond the scope of this notice. J. Milne Bramwell contributes an interesting article on Hypnotism. His claims are not extravagant, nor does he minimize the difficulties met with in judiciously carrying out hypnotic treatment. Indigestion, by A. Lockhart Gillespie, is scarcely to be commended. It attempts in a few pages what has often had devoted to its consideration a whole volume, and that not a small one. It is scarcely correct to say that heartburn is due to excess of acid in stomach contents, as it may occur even when they are subacid if the nerve-endings in the esophagus are irritable. The article on Influenza by Sir J. W. Moore, of Dublin, is an interesting one, and will be found helpful to all physicians, as all have to do with this widely-prevalent disease in its effects. It is treated under four types: the neurotic, neural or rheumatic type · the cardio-pulmonary type ; the gastro-intestinal type, and the febrile ty[illegible] .

Many other articles merit special mention, but space forbids. This volume, like its predecessors, will be found valuable by all, and especially by those whose library facilities are limited. A. M'P.

*Progressive Medicine.* Vol. 1., 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 430 pages, 11 illustrations. Per annum, in four cloth-bound volumes, $10. Philadelphia and New York: Lea Brothers & Co.

It is with some pleasure that we peruse the first volume of "Progressive Medicine" for 1901. For some years now the medical profession have come to look upon this work in its four volumes as being the *sine qua non* of all that is best and most recent in the domain of American medicine. It can be safely said that once a physician has become a purchaser of "Progressive Medicine," he remains so from year to year, so well satisfied has he been in the past with his investment of $10.

Volume I. of the series of 1901 contains the Surgery of the Head, Neck and Chest, Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza, Diseases of Children, Pathology, Laryngology and Rhinology, Otology,

Among the contributors we find such names Drs. Henry B. Baker, of Lansing, Mich. ; J. Chalmers Da Costa, of Philadelphia ; W. B. Boley, of New York ; Wm. T. Belfield, of Rush Medical College ; Alfred Stengel, of Philadelphia ; A. L. Turner, of Edinburgh, and F. A. Packard, of Philadelphia.

We read with a great deal of pleasure the 100 pages or more devoted to the Surgery of the Head, Neck and Chest by Dr. Da Costa. We can safely say that no more advanced material upon this department will be found in any work, especially the forty pages devoted to the chest. Dr. Da Costa contributes a good deal of the space allotted to him to plastic operations about the face.

We commend to all a careful perusal of Dr. Packard's article on Typhoid Fever. This alone is worth the price of the book. The article is more than up-to-date. It contains the most recent views upon diagnosis and treatment, the author having left nothing of any importance untold. In referring to the Widal reaction for typhoid fever, Dr. Packard states that, aside from the question as to the relative merits of the dry and the moist methods of performing the test, there is still considerable difference of opinion in regard to the dilution

which should be employed in making the test, the sources of error, as a rule, he thinks, being too great a dilution, causing an absence of agglutinating reaction in cases of typhoid fever, while too slight a dilution would cause a faulty diagnosis to be made where that disease is not present. The author thinks that the most satisfactory dilution is in the proportion of 1 to 20.

If the other volumes of 'Progressive Medicine' for 1901 are as good as Vol. I. is, no one will regret having ordered the set, if he has not already become a permanent subscriber, W. A. Y.

*Diseases of the Nose and Throat.* By F. De Haviland Hall, M.D., F.R.C.P. (Lond.), President of the Laryngological 'Society of London, Physician to the Westminster Hospital, and Herbert Tilley, M.D., F.R.C.S. (Eng.), Surgeon to the Throat Hospital, Golden Square. Second Edition. London: H. K. Lewis. 1901. Price, 10s. 6d.

The second edition of this work is a vast improvement on the first, for there has been a general recasting and rewriting of the various chapters, as well as a liberal addition of new illustrations. Special attention has been given to the various surgical procedures, and to the diseases of the accessory sinuses. The personal element is now allowed to enter largely into the book; the authors are no longer impersonal. The editorial "we" is quite frequently used. One puts down the book without any suspicion that it was written merely for the self-glorification of the authors, or that it has been padded to please the publisher.

A timely note of warning has been sounded when it is said that no operation should be performed unless adenoids produce some definite symptoms of their presence. To prevent recurrence of polypi it is still recommended to turn down the pedicle with the galvano cautery or caustics. The authors evidently have their doubts of the efficacy of this procedure, for they lay much more stress on removal of decayed bone. They believe that in asthma, permanent cures following intra-nasal treatment are rare, and that most cases give no result at all, an experience which has been our own.

They give no uncertain voice as to antitoxin. The treatment of diphtheria is completely revolutionized by the introduction of antitoxin, say they. Even in a mild case, the injection of at least four thousand units at the first is advised. They regard the greater frequency of post-diphtheritic paralysis as due to the fact that more of the severe cases now survive. J. M. M.

*A Text-Book of Gynecology.* Edited by Charles A. L. Reed, A.M., M.D., President of the American Medical Association, 1900-1901; Gynecologist and Clinical Lecturer on Surgical Diseases of Women at the Cincinnati Hospital; Fellow of the American Association of Obstetricians and Gynecologists; Fellow of the British Gynecological Society; Corresponding Member of the National Academy of Medicine of Peru, etc. Illustrated by R. J. Hopkins. New York: D. Appleton & Co. 1901. Canadian Agents: The G. N. Morang Co., Limited, Toronto.

Among the contributors to this excellent work by our friend Dr. Reed, who in a few weeks from now, as an occupant of the President's chair, will by his executive ability, as well as his reputation as a member of the profession, make the 1901 meeting of the American Medical Association a huge success, we find such men as Drs. F. X. Dercum, of Philadelphia; Murdoch Cameron, of Glasgow, Scotland; Henry C. Coe, of New York; Frank P. Foster, of the *New York Medical Journal*; H. A. Hare, of Philadelphia; M. L. Harris, of the Chicago Policlinic; William Warren Potter, of the *Buffalo Medical Journal*; Wyatt Johnston, of Montreal, and last, but not least, Jas. F. W. Ross, of Toronto.

It can readily be seen, therefore, that with such collaborators as those mentioned, the buyer of "Reed's Gynecology" cannot misspend his money.

The book is divided into about fifty chapters, the first one dealing with such subjects as the General Etiology of Diseases of Women; the General Pathology of the Female Generative Organs; General Therapeutics of Gynecology; Diagnosis, Sepsis and Antisepsis; Hemorrhage and Hemostasis; Anesthesia and Anesthetics; on through to the Pelvic Floor and its Injuries; Displacements of the Uterus; Neoplasm of the Uterus; the Fallopian Tubes and Their Infection; Neoplasm of the Ovaries and Broad Ligaments to the Female Urinary Apparatus and its Disorders. It will therefore be seen that the author has in short space given an immense amount of information, and we feel surprised that he has managed to boil down to such an extent so great a quantity of matter. The book is well illustrated, the half-tones being beautifully executed and exceedingly clear.

The great trouble with the larger number of works on this subject is that they are written too much for gynecologists, and not sufficiently suited for use by general practitioners. Time and again has a general practitioner purchased a book, thinking that it would be adapted for his work, only to find that it was written by a gynecologist for a gynecologist, and to advertise that gynecologist. Dr. Reed's volume, on the other hand, is the reverse, and will be found to be just the thing for the busy physician, enabling him to lay his hand at once upon the knotty point without wading through chapter after chapter of little interest.

*Queen Victoria. Her Life and Reign. A story of Monarchical Institutions in British Countries, and Her Majesty's Imperial Influence.* By J. CASTELL HOPKINS, author of "The Life of Sir John Thompson," "Life and Work of Mr. Gladstone," "The Sword of Islam," etc., etc., with a preface by the Marquis of Dufferin and Ava, K.P., G.C.B., etc., late Governor-General of Canada and Viceroy of India. The Queen Publishers, Toronto and Brantford. 1901. J. L. Nichols & Co., 33 Richmond Street West, Toronto, Ont.

The Queen is dead: Long live the King. It is yet but a few months since the entire world heard with unalloyed grief of the demise of our beloved Queen and Sovereign, Victoria. It came as a shock to all, as it seemed as if we her subjects had begun to look upon such an occurrence as her death as well-nigh impossible, so much did the reign of Queen Victoria enter into and almost become part of the life and existence of those of her subjects who have outlived her. Yes, Queen Victoria is dead. No longer do we sing "God Save the Queen," as another already fills her place, and from the present outlook it would seem as if we shall, for many years to come, be ruled over by a King and his Queen Consort.

For several weeks past there have been various plans suggested whereby the citizens of Toronto might contribute to a lasting memorial to Victoria the Good. Several plans have been suggested, but too many have bordered upon the elaborate, thus robbing the scheme of its main object, the participation of all, both rich and poor. We cannot think of anything which will prolong the memory of so noble and grand a woman, as it should be, as the presence in every household of the land of a copy of "Her Life and Reign."

The name of Castell Hopkins, the author of this volume, has become almost a household word to Torontonians. He introduced himself to the literary world some years ago, and there are few readers who are unacquainted with his books, "The Life of Sir John Thompson," and "The Life and Work of Mr. Gladstone." His "Life and Reign of Queen Victoria" is quite a large and comprehensive volume and may be said to be complete, as it does not, as before, stop at a certain juncture in our late Queen's life, but only closes with her death and includes even a complete account of that wonderful, never-to-be-forgotten pageant, her funeral procession through the city of London and on

to Windsor, where she was quietly laid to rest in the Mausoleum which she herself erected to her beloved Consort, Albert.

We feel sorry that the paper used in this book is so wretched, the half-tone illustrations showing up very poorly in consequence. The type is large and distinct, however, and can be read without in any way tiring the eyesight. The book is worth buying and keeping, as in years to come "The Life and Reign of Queen Victoria" will be often consulted, and indeed, become a reference book, the facts it contains about the life of the noblest woman who has ever occupied in regal splendor the English throne, being well worthy of example the wide world over. W. A. Y.

*The International Medical Annual:* A Year-Book of Treatment and Practitioner's Index. Nineteenth year. New York: E. B. Treat & Co., 241-243 West 23rd Street. Chicago: 199 Clark Street. 1901.

We have much pleasure in drawing the favorable attention of our readers to this valuable production. It is extremely useful for a practitioner who takes an interest in certain special subjects to observe the advances made, the neglect of old favorites and the introduction of new ideas.

In the matter of new treatment the Year-Book is a treasure house of valuable hints, covering the whole range of medicine and surgery. In sanitary science there are articles on arsenic in beer, bacteriology and bacteriological laboratories, biological treatment of sewage, dangers of water-gas, female sanitary inspectors, and lady health visitors, housing of the working classes, malaria and plague, and their preventions, metropolitan water supply, railway carriages as carriers of infection, prevention of tuberculosis, return cases of scarlet fever and diphtheria, summer diarrhea. There are fourteen colored plates, and forty-five wood engravings. J. J. C.

*Oral Sepsis.* By William Hunter, M.D., F.R.C.P. Size 6½ x 9½, 34 pp., gold stamped, cloth binding. London and New York: Cassell & Company. $1.00 net.

This monograph is published in the hope that it may serve to draw additional attention to a source of disease extremely prevalent, and most egregiously overlooked. It is a forceful discussion, with illustrative cases, of the amount of poison absorbed into the system from diseased conditions of the mouth.

The author says: "The continuous influx of pus organisms from diseased teeth and gums must be a source of disturbance to the mucosa, causing catarrh and diminished gastric secretion. The sallow look and languid feelings of which he [the patient] complains, and which he and his doctor agree in referring to his chronic indigestion, are really the expression of this septic absorption."

The course of treatment is clearly indicated, part of which belongs to the physician and part to the dentist.

*Infant-Feeding in Health and Disease.* A modern book on all methods of feeding. For Students, Practitioners and Nurses. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital. Containing 52 illustrations, with 16 charts and tables, mostly original. Price, $1.50 net. Philadelphia, Pa., 1914-16 Cherry Street: F. A. Davis Company, publishers.

This book will be found an exceedingly ready reference book by the active practitioner, and also very serviceable for the student. Some useful tabulations are introduced, and the Doctor has not hesitated in expressing his disapproval of the utility of certain modifications which milk undergoes. He has extensively used the leading text-books now devoted to the Diseases of

Children, and has added a useful diet-list to be used in such diseases as diphtheria, etc. His experience in the clinical diseases of children has been of great assistance in compiling this work. A. J. H.

*Urinary Diagnosis and Treatment.* By JOHN W. WAINWRIGHT, M.D., Member of American Medical Association; of New York State Medical Association; of New York County Medical Association, etc.

This is a well-bound little book of nearly 150 pages, 87 of which are devoted to urinary diagnosis and 30 to treatment. The object of the author to produce a work that "embodies the simplest methods of chemical and microscopical examination, with the latest deduction and theories, concerning the general routine treatment of the conditions found," is a laudable one. The book is well written and contains numerous tables and formulæ, and several excellent plates. While, perhaps, not as exhaustive as might be desired, it yet covers the ground fairly well, and the busy general practitioner, for whom the work is intended, will find here much of value. E. G. W.

*International Clinics.* Vol. III. 1900. Publishers: J. B. Lippincott Company. Canadian Agent: Chas. Roberts, 1524 Ontario Street, Montreal.

In this volume there is rather a good article by Fr. Rubenstein, on Epilepsy, and also an interesting one by Dr. G. L. Walton, of Harvard, on Degeneracy. Vol. IV. contains an instructive account of the value of massage in Raynaud's disease, by Dr. Douglas Graham, and if his observations are to be depended upon, the Profession will look for benefit from this form of treatment in various vaso-motor disturbances. Prof. Roncali has contributed a very readable article on "The Rôle of the Blastomycetes; or, Ferments in the Etiology of Cancer." A partial digest of the "Etiology and Morbid Anatomy of Various Diseases" concludes this volume. F. N. G. S.

*Self-Examination*, consisting of 3,500 questions on medical subjects, with the proper references to standard works in which the correct replies may be found. Third edition, enlarged with questions of the State Examining Boards of New York, Pennsylvania and Illinois. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1901.

This is a convenient little work, containing questions on Anatomy, Physiology, Materia Medica and Therapeutics, Chemistry, Practice of Medicine, Surgery, Obstetrics, Gynecology, Diseases of Children, Diseases of the Eye, Diseases of the Skin, and one page is given to Dental Pathology and Medicine. We think this little work is well adapted for the student's use. He can carry it in his pocket, and practise self-examination during his odd spare moments to great advantage. W. J. W.

*Retinoscopy (or Shadow Test) in the Determination of Refraction at one Meter Distance, with the Plane Mirror.* By JAMES THORINGTON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic. Fourth Edition. Philadelphia: P. Blakiston's Son & Co. 1901. Price, $1.00.

The issue of the fourth edition seems to prove the popularity of this little work. It is primarily intended for college students and post-graduates. Clearly written, profusely illustrated, it presents the subject concisely and practically. The one objection, however, is that retinoscopy is described as done by means of Dr. Thorington's special light chimney. This, in the opinion of the reviewer, decidedly limits the value of the book. J. M. M.

*The Circulation in the Nervous System.* By HERMAN GASSER, M.D. Plattsville, Wisconsin, U.S.: The Journal Publishing Co.

This work consists of ten papers, parts of which have been read before medical societies, and published in *Medical Times* of New York. The subjects treated illustrating the circulation in the nervous system are: 1. Pleasure, Pain and Consciousness. 2. General Principles of Circulation in the Nervous System. 3. The Psychology of Circulation in the Nervous System. 4. Physics of Circulation in Nervous System. 5. Insanity. 6. Feeding the Senses. 7. The Neuron System. 8. The Physician as Psychologist. 9. Does the Brain Think? 10. What is Mind and its Relation to Circulation in the Nervous System?

We have found this a very interesting little volume. It is well thought out and deserves a careful reading by those interested in this kind of work. W.J.W.

## BOOKS RECEIVED.

"A Manual of Practical Hygiene for Students, Physicians and Medical Officers," by Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with twelve plates and one hundred and five engravings. Lea Brothers and Co., Philadelphia and New York. 1901.

## MAGAZINES RECEIVED.

*Scribner's Magazine* for April, in addition to articles of travel, adventure and art, by Walter A. Wyckoff, John Fox, Edwin Lord Weeks and others, contains six short stories, three of them by new writers and three by writers whose work is familiar in this magazine. On its art side this number is also rich and varied. It has a colored cover by Foringer. It contains eight pages of illustrations by Frederic Dorr Steele, reproduced in color in a novel way to illustrate the story of a "Blue Ribbon Horse." The frontispiece, which is a very delicate pen-and-ink drawing by Peixotto, is reproduced with a tint; Edwin Lord Weeks, the traveller and artist, contributes a very elaborate illustrated article on "Two Centres of Moorish Art," which reveals his wonderful skill as a painter of Oriental subjects. Among the other artists are Christy, Yohn, Will H. Low and Henry McCarter. Altogether, both in the beauty and richness of its illustration, and in the variety of its contents, this is a spring number of extraordinary attractiveness.

## LITERARY NOTE.

Messrs. Lea Brothers & Co. have pleasure in announcing for early issue "A Practical Treatise on the Blood and its Diseases," for Practitioners, Laboratory Workers and Students, by James Ewing, M.D., Professor of Pathology in Cornell University Medical College, New York. This will be a handsome octavo volume of about 450 pages, amply illustrated with plates and engravings. In view of the recent rapid advances in the knowledge of the pathology of the blood, and the numerous and practical applications of this knowledge in clinical diagnosis, this book, representing authoritatively, as it does, the most modern discoveries and achievements, will no doubt meet with a warm welcome. The work aims to associate changes in the blood as closely as possible with lesions in the viscera, thus immensely increasing its practical value and rendering it a work for constant daily reference in the routine of every general or special practitioner.