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MARITIME MEDICAL NEWS

A MONTHLY JOURNAL DEVOTED TO
MEDICINE & SURGERY

VOL. XIX.

HALIFAX, NOVA SCOTIA, JULY, 1907.

No. 7

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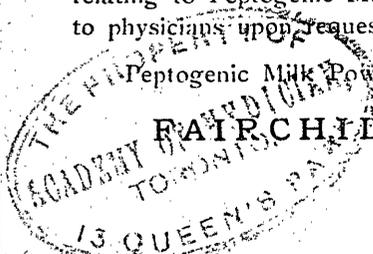
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ADVANCED COURSES are given to graduates and others desiring to pursue special or research work in the Laboratories, and in the Clinical and Pathological Laboratories of the Royal Victoria and Montreal General Hospitals.

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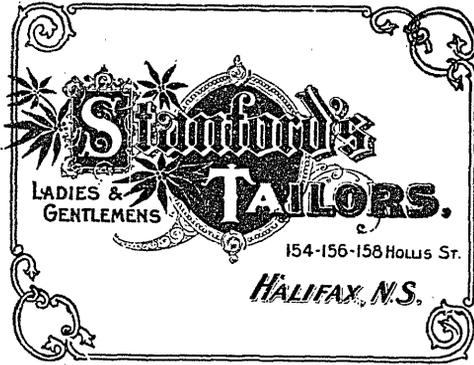
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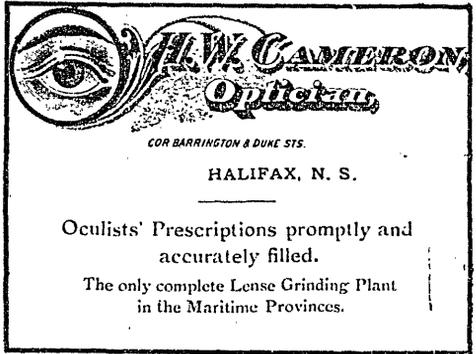
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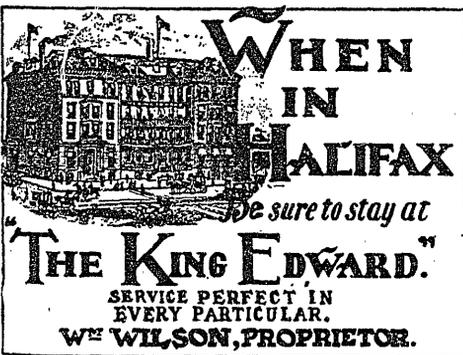
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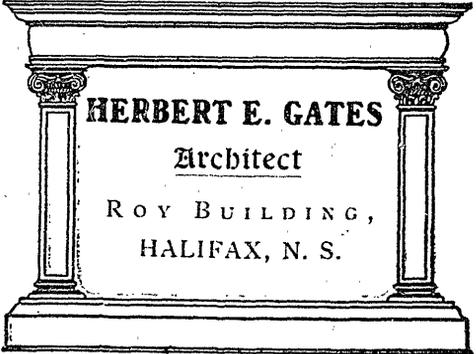
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THE MARITIME MEDICAL NEWS is a monthly magazine devoted to the interests of the medical profession. Communications of general and local professional interest will be gladly received from friends everywhere. Manuscript for publication should be legibly written in ink (or typewritten, if possible) on *one side only* of white paper. All manuscripts and correspondence relative to letter-press should be addressed to The Editors, MARITIME MEDICAL NEWS, P. O. Box 341, Halifax, N. S.

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The illustration shows a large, ornate gate with a central archway. Above the gate is a circular logo containing the letters 'AK'. The gate is flanked by signs listing various ailments: 'HEADACHES' on the left, 'WOMEN'S' on the right, 'NEURALGIAS' on the left, 'ACHES & ILLS' on the right, 'INSOMNIA' on the left, and 'LA GRIPPE' on the right. The gate is set against a background of trees and a bright sun or moon. The entire scene is framed by a decorative border.

THE MARITIME MEDICAL NEWS

VOL. XIX, JULY, 1907, No. 7.

Sterilized Horse Serum in Surgery. Raymond Petit of Paris, in the *Medical Record* of June 22, describes experiments made by injection of isotonic solutions into the peritoneal cavity in animals. He found that there was an afflux of polynuclear white blood cells to the spot of injection, and the resistance of the animal to infection was increased. He applied this fact by using sterilized horse serum as an injection, since this is the substance that produces polynucleosis most easily, and usefully. After its use it was found possible to inject lethal doses of cultures of *Bacterium coli* and *Staphylococcus pyogenes* into the serous cavities with impunity. This afflux takes place not only in the peritoneum, but also in the serous cavities, mucous membranes, and in wounds of all regions. More than a hundred cases in human beings have now been treated by injection of sterilized horse serum. In abdominal surgery of a non-septic character it has been used as a prophylactic, by pouring the serum into the cavity that has been opened, and drainage by gauze saturated with the serum. In septic cases it has been used by packing the cavity with gauze saturated with the serum, and pouring the serum into the cavity through the drain. The character of the pus changed at once; instead of a serous fluid, it became thick and creamy and contained many polynuclears. Suppuration diminished rapidly and granulation began. In gynæcology it was used in puerperal infections, after curetting,

by packing the uterus with gauze saturated with serum, and packing dried serum in a small tampon introduced into the uterus. In phlegmonous infections, and in burns it has been used, and the results have been excellent, healing being rapid. Healing and cicatrization have been obtained, at once and rapid and excellent; and cure has been obtained in desperate diseases. The method is one which aids the tissues in repair by putting them in good condition for defense.

*

A Caution in Nephrectomy. G. M. Edebohls contributes a paper entitled "Exploration and Decapsulation of the Other Kidney before completing Nephrectomy," to the *Journal of the American Medical Association* of June 1. In view of the vital importance of knowledge of the functional capacity of the other kidney and the insufficiency of the other tests, he advocates, as an essential condition before completing a nephrectomy, the exposure and examination of the other kidney through a second lumbar incision. This has been his routine practice for the past ten years. He has operated in all on three patients with but one kidney each; in two of these nephrectomy was not contemplated, but the life of the third was saved by this precaution of making a double operation. The history of the case is given; the left kidney was absent, but there were two ureteral orifices and a portion of the lower end of the left ureter. Be-

sides the advantage of inspection and the possible saving of life, Edebohls sees a third reason for the double operation in the chance it affords by the improvement in the work of the kidney caused by the operation of decapsulation. It invariably, he says, increases the urea output and enables the organ to do its best work, both of these results acting directly to prevent a renal death. He has had no renal death since he has followed his present practice of decapsulation of the remaining kidney.

*

Renal Decapsulation in Eclampsia. This forms the subject of a paper by de Bovis, which appeared in *La Semaine Medicale*, of March 6. He records his own experience in one case, that of Edebohls in three cases and that of other surgeons in two additional cases. Edebohls' patients were all primiparæ. In one the eclampsia preceded labour, in another it appeared eight hours after labour, while in the third it preceded labour and perished after the uterus was emptied. In all his cases double decapsulation was performed, and a successful result obtained in each. Of the cases under treatment of other surgeons, one recovered after decapsulation, but the other succumbed to pulmonary œdema. In the case of the author, a primipara, aged 19, fits appeared four hours after a labour which had lasted six and a half hours. They continued to occur for twenty-four hours, ceased for three hours, and began again. Single decapsulation was performed, and the patient improved slowly. In the author's opinion, the most serious form of eclampsia is that which follows labour. He favours the double decapsulation, and would also do nephrotomy, if the anæmia were severe.

Lumbar Puncture in Eclampsia. This subject is discussed by Pollak and Theis in a recent issue of *Centralblatt fur Gynækologie*. Theis came to the conclusion that in only very few instances can an apparently favorable effect be noticed. It seems that the puncture shortens the comatose state, but on the other hand it does not seem to have any influence upon the number of subsequent convulsions. These opinions harmonize entirely with the results of Theis' histologic examinations of the nervous system of patients who died during eclamptic convulsions. Pollak found marked changes in the spinal cord, and also in the nuclei of the motor cranial nerves, especially of those controlling respiration. That respiration often becomes shallow after lumbar puncture cannot be explained by the immediate effect of the withdrawal of the spinal fluid, but is entirely due to the extensive degenerative changes in the nuclei of the vagus nerves.

*

Eclampsia in the Puerperal State. The etiology and therapy of Eclampsia in the Puerperal State forms the subject of a communication to a recent number of *Centralblatt fur Gynækologie* by Liepmann. He considers eclampsia an intoxication. The toxin originates in the placenta, most probably as the result of an insufficient synthesis of maternal albuminoid substances secreted by the syncytium. If the maternal organism is incapable of neutralizing these toxic albuminoids by the prompt production of antibodies, it becomes poisoned. The argument has been made against this theory that it does not seem to explain the cases where the first eclamptic convulsions occur after labour, i. e., after the expulsion of the placenta. This argument, in Liepmann's opinion is not acceptable.

Experiments and similar observations with bacterial infection have shown that the liver is capable of retaining a large amount of such toxins and later may not be able to neutralize them. They may then enter the maternal system and lead to convulsions after the expulsion of the ovum. The eclamptic poisons injure, first, the renal parenchyma, leading to a reduction of the total amount of urine, which contains albumen and casts. The treatment in such cases consists of hypodermoclysis, with venesection in case of plethora, and diuretics. Second, the heart is injured by the toxins, producing a pulse with low tension. Treat with stimulants, caffeine, camphor oil. Third, the brain likewise may suffer from intoxication, resulting in coma, superficial breathing, possibly with complete paralysis of the respiratory center, œdema of the lungs, convulsions. Treat by artificial respiration, which in some instances has to be kept up for some days, stimulation with cold water, cold packs, very small amounts of narcotics, preferably hydrate of chloral per rectum or morphia if patient is very restless, and then in half grain doses. Liepmann is convinced that this therapy, combined with quick delivery in all cases in which the convulsions occur before the delivery, is bound to reduce the present mortality of eclampsia.

Remote Effects of Tonsillar Infection The pathologic conditions that appear as the late results of tonsillar diseases are discussed by P. K. Brown, in the *Journal of the American Medical Association*, of June 15. He first remarks that the importance of this source of infection for heart disease has been pretty thoroughly exploited, and that he has himself reported in a previous paper some

typical cases, and reviewed the literature. Since then he has observed recurrent endocarditis, chorea and muscular rheumatism, occurring in certain of his old patients, and he considers that continued slight fever in children is probably a common result of tonsillar disease in San Francisco. A rather peculiar complication of pericarditis, pneumonia and lung abscess is reported. Nephritis after tonsillitis without rheumatism is, he thinks, a commoner complication than is generally supposed, and has occurred four times in his cases. One of these, complicated by acute mania, is reported, as also one of fatal staphylococcic septicæmia, and one diagnosed as leukæmia occurring in connection with, and presumably as the result of tonsillar disease. The evidence, he thinks, clinical and experimental, tends to show that more and more connection is being established between the tonsillar cervical route and lung tuberculosis. Histologic studies alone are insufficient, the proportion of tonsillar involvement, as shown by Lartigau's results, in which tubercle bacilli were found in only two cases out of 135, and then only in small numbers, while twelve out of 75 inoculation experiments gave positive results. Brown concludes with the statement: "In the study of portals of entry of disease into the human body, the pharyngeal and especially the faucial tonsils have an importance not well enough recognized or understood, but increasingly appreciated in the light of each new clinical or experimental study."

Indicanuria. Wm. H. Porter in an article entitled "Indicanuria, its Etiology and Practical Significance," appearing in the *Medical Record* of June 15, says that indicanuria is one of the

most important conditions in connection with clinical medicine. Bayer showed that a simple substance, indol, was the antecedent of the more complex indican. It is now known that indican is the result of putrefactive fermentation. While animal proteids are more likely to undergo putrefactive fermentation, vegetable proteids are much more difficult of digestion; hence they are less economic and often detrimental to the system. Bacterial action is always required to produce putrefactive fermentation in connection with the production of indican. A sulphur atom, which is required for the formation of indoxyl potassium sulphate, from which indican is generated, comes from the proteid molecule as a result of its oxidation reduction. The primary seat of the formation of indican is the intestine, not the liver, as has been supposed. At the same time that it is produced many other toxins are formed, which are absorbed into the circulation from the alimentary tract, and excite an endless variety of symptoms by their effect on the nervous system. The conditions favoring the production of indican are errors in diet, lack of outdoor exercise, defective digestive secretions, and profound disturbances in the working of the nervous mechanism. Indican is never a normal urinary constituent, but always indicates an abnormal condition of the system, since putrefaction cannot be regarded as a normal, physiological process. Successful treatment of the condition associated with indicanuria always depends on accurate apprehension of the etiological factors producing it, and the best method of removing these factors.

*

Exophthalmic Goitre. Freund, writing in *Muenchener medizinische Wochenschrift* of April 23, records his results in the

treatment of five cases of exophthalmic goitre by means of X-rays. His experience was favorable, and he considers that the treatment meets the causal indication. The nervous symptoms, cardiac trouble, goitre and exophthalmas all disappear under the treatment. The best results are obtained in those cases which are of recent development, and in which the goitre is soft, vascular and compressible.

*

Peritonitis Following Appendicitis. The treatment of diffuse Suppurative Peritonitis, following Appendicitis, is discussed by Franz Torek in the *Medical Record* of December 1, 1906. Torek has operated in eighteen cases of diffuse suppurative peritonitis. All cases operated upon not later than seventy hours after the onset of the diffuse peritonitis recovered. Two patients who were operated upon on the fourth day also recovered. The writer's method of operating differs in various particulars from that described by other surgeons. In all but four cases the incision was made in the median line. In almost all of the cases the exudate extended all the way over to the left. The incision described reaches from the pubes to about two inches above the umbilicus. The writer has never excised the navel. The peritoneum is subjected to as little traumatism as possible. After lavage, the abdomen is completely closed without drainage. There are patients in whom the general systemic infection has so far progressed that the removal of infectious material from the peritoneal cavity cannot save them. Operation in these cases should be undertaken as soon as the diagnosis has been made.

*

The Testicles and Abdominal Tumours. An article entitled "Abdominal Tumours Associated with Disease of the Testicle," from the pen of Wm. Osler, appears in the *Lancet* of May

25. Osler refers to the assistance which examination of the testicle sometimes gives in the diagnosis of obscure abdominal affections. Thus the discovery of a tuberculous orchitis may throw light upon a peritonitis or tumour in the abdomen. So, too, a gumma of the testicle may indicate the nature of a growth in the liver. In malignant disease of the testicle the influence of a recent tumour is often traceable. A further matter of importance is the frequency with which rapid generalization of malignant growths of the testicle occurs. Usually this is through the lymphatics, and may occur quite early in the course of the disease.

Typhoid Perforation.

C. D. Selby, *Journal American Medical Association*, June 22, remarks on the almost uniform fatality of typhoid perforation as compared with the better results obtained in the similar surgical condition of bowel perforation in appendicitis. Of the 400 cases of operation reported in the literature, recovery took place in 25 per cent. Nevertheless it has been statistically demonstrated that the mortality from typhoid perforation runs from 8,000 to 16,000 annually in the United States. The conclusion inevitably follows that the vast majority of cases are either not diagnosed or diagnosed so late that operation is hopeless. The mitigating circumstances for the physician are that the text-books are not sufficiently definite on the subject, that the accident occurs in a disease with infinite variations in its symptoms, severely testing the diagnostic ability of the medical attendant, the blunted sensibility of the patient rendering subjective symptoms unavailable and frequently also masking, to a great extent, the early objective ones on which a timely diagnosis depends.

Selby points out the various indications and their value in some detail, but says that unfortunately there is no one symptom, nor syndrome, indicating with certainty the existence of perforation. The diagnosis must be based largely on the judgment of the physician who has watched the case and its variations so attentively that he subconsciously recognizes the changes brought about by the perforation, and the surgeon, seeing the case for the first time, must be guided by the opinion of the physician. But when the three cardinal symptoms, suddenly appearing abdominal pain, rigidity of the muscle wall, and tenderness on pressure, appear in any case of typhoid fever, the assumption is warranted that perforation has occurred, and operation is not only indicated, but demanded.

*

The Opsonins in Medicine.

The opsonins and the opsonic index came in for very full discussion at the recent meeting of the Association of American Physicians. Many of the most eminent clinicians and laboratory workers in the republic took part. While a wide variety of opinion was evident, it was agreed that opsonins have a definite and very important part in immunity. The majority admitted that the determination of the opsonic index by present methods is unsatisfactory, and a large margin for error must be allowed. Some maintained that the oscillation in the index is so great that its estimation does not afford so satisfactory a means for determining the time and the dosage of vaccines as does careful clinical observation. On the whole, however, the impression was given that Wright's work marks a distinct advance, and that simplification of methods may soon be expected which will make it more practicable and accurate.

Medical Society of Nova Scotia.

The Windsor meeting of the Medical Society of Nova Scotia is now a matter of history, and will be remembered by those who attended as one of the most pleasant and successful of the fifty-four annual gatherings of the oldest of Canadian medical organizations. A capital programme, good discussions, and a most hospitable reception by the good people of Windsor, combined to make the meeting a most successful one. The presence of several eminent visitors from other provinces of our Dominion was especially gratifying, and the excellent papers by Drs. Archibald, of Montreal, and McPhedran, of Toronto, were much appreciated.

Dr. Archibald dealt with "Cerebral Compression: its Physiological Basis and Therapeutic Indications." He presented a rather technical subject in a charmingly clear and succinct manner. He referred to the splendid experimental work done in elucidation of the puzzling problems of cerebral compression by several investigators, notably Cushing, and illustrated by charts the results of his own studies in this line. Emphasis was laid upon the practical value of careful determination of blood pressure in diagnosis, and in indicating treatment.

Dr. McPhedran's practical address on the "Early Diagnosis and Treatment of Gastric Ulcer" was considered chiefly from the standpoint of the physician, and was followed attentively by every member.

The presidential address delivered by Dr. J. B. Black, M. P., was an able effort on Public Health topics, and we trust the suggestions expressed therein will not fall "by the way-side."

Too much praise cannot be given the profession of Hants County and

particularly Windsor, for attending to the social part of the programme so effectively. The dinner was a fine climax to the Society's proceedings, and the bright speeches of more than ordinary merit.

*

Canadian Medical Association

Annual Meeting.

Arrangements have been completed for the annual meeting of the Canadian Medical Association in Montreal on September 11th, 12th and 13th, 1907. The authorities of McGill University have placed the University buildings at the disposal of the local committee of arrangements, and it has been decided to hold the general meetings of the association in Molson Hall, the medical section in the lecture room of the Redpath Museum and the surgical and pathological sections in the lecture rooms of the Arts Building.

The President's Address, for which the first evening, September 11th, is reserved, will be delivered in the large hall of the Students' Union and will be followed by a reception to the visiting members of the Association and their friends. The Students' Union is situated on Sherbrooke Street, opposite the University grounds, and is admirably suited for such a function. On the evening of September 12th there will be a smoking concert in the Victoria Rifles Armoury. A garden party, golf match and drives, to fill in the afternoons after the business of the sections has been concluded, have also been planned.

The staffs of the various city hospitals have arranged to give clinics in the hospital theatres each morning at 8.30, at which members will have an opportunity of seeing rare and interesting cases in the service of the hospitals.

PRESIDENTIAL ADDRESS.

RACE SUICIDE WITH SUGGESTIONS OF SOME REMEDIES.

By J. B. BLACK, M. D., M. P.

Windsor, N. S.

(Delivered before Medical Society of Nova Scotia, Windsor, July 3rd, 1907.)

THE greatest asset of any nation is its people. The greatest need of Canada to-day is population, a good healthy vigorous, virile population. A wise government seeing this has been expending large sums in bringing immigrants to our shores, many of them desirable, some of them not. The best men and women for Canada and its needs are our own native born. With all this judicious expenditure for people, all this striving for increased population, yet our government stands by and sees the enormous waste of life every year in Canada from preventable causes. Race suicide is rampant all around us, and there is little or no organization, of our knowledge and science, to prevent the waste.

It is within the easy reach of our knowledge, that the great majority of deaths in Canada are from preventable diseases.

From a commercial, national and humanitarian standpoint, it is the duty of our governments, both Federal and Provincial, to institute such regulations for the care and oversight of the public health, that our population may be preserved from disease and death, and the nation benefited thereby. From the reason of our superior knowledge, as medical men, it is our duty to instruct in the mode of protecting the public health, and to show our governments the way to this end. In regard to this duty I yield to no one in my appreciation

of the unselfish devotion of the medical profession to the interests of the public. Almost all acknowledge the physician's devotion to the sick and injured, but few realize the work he does to prevent illness, and to guard the lives of those already well. Every medical man present has been doing his generous share of this great work, but most of it has been done by a single personal effort. How much more can be done by combination and by united effort of the profession and the governments of Canada. I am thoroughly convinced from the results of efforts put forth by other organizations and the governments, that the death rate can be greatly lowered, and that thousands of valuable lives can be saved yearly, to assist in building up our Canadian nation. That the entire medical profession of Canada is ready and willing to embark in such a crusade goes without saying in such a company as this.

Massachusetts, which is probably the most advanced state in preventative medicine, began in 1864, in a small way with a small government grant. Year after year this grant was increased, and the organization for the preservation of health was more perfectly carried out. Monied manufacturing corporations were compelled by law to cease polluting the rivers of the state from the mills and factories. Water supplies were made pure and clean, drainage and sewerage laws enacted, and every thought-

ful supervision of the public health was instituted, till Massachusetts has shown for 35 or more years a lowering death rate that is a credit to the wisdom and knowledge of her people.

In New York, proper organization has reduced the death rate from tuberculosis, from a little over four per thousand of population in 1881, to a little over two per thousand in 1906. In other words the death rate in this period has been reduced one-half, by using our present knowledge in an intelligent and properly organized manner. The Japanese during their war with Russia, making practical use of their knowledge of preventive medicine, reduced the death rate from enteric fever to such a low percentage that it not only astonished the whole civilized world, but the medical profession everywhere.

The instruction of the people in self-preservation is a work peculiarly ours. It is our duty. It should be our pleasure, and will be, when the peoples' governments take up the work in connection with the medical profession. It is ours to instruct the governments how to instruct the people. We who know that typhoid lingers hard by the nether end of the farm kitchen sink spout, and frequently comes through the tap of the city polluted water supply; that the back door well and convenient out-houses have death in their neighbourhood; that insanitary plumbing, whether done by gross ignorance, or criminal carelessness, leads to illness and death; and that tuberculosis poison is spat out on the street and road and house floor everywhere, and carried in pocket handkerchiefs, to scatter death and disease. We who daily see the sunless room, the closed windows, the small and close sleeping room, and a thousand and one death

giving conditons, in the homes of our people in both town and country, we must lead the crusade in reform and sanitation.

Much of our work will fall on dry ground and stony places, and the old devil of ignorance will proclaim, "Ye shall not surely die if you do these things," yet some seed will fall on good ground and yield abundant results.

If you will study the vital statistics of Canada, (and I regret to say that they are not perfect) you will find, that most of our people die young. As a matter of fact more die before the fifth year than from the 5th to the 55th. That is an awful thing to contemplate. If you look at the causes you will find that the great majority die of preventable diseases. Maternal ignorance in feeding the infant and small child is accountable for most of these deaths. Indigestion in its various forms is a great assistant of the grim reaper among our children. Then comes the long train of exanthemata, diphtheria, tuberculosis, and so forth, all preventable. An all wise God who loves every creature he has made has given every animal instinct to protect and defend the life of its young. It should be ours, with intelligence far transcending animal instinct, to give our knowledge and our keenest interest in the protection of the lives of the children. They are being destroyed by ignorance in the home, by ignorance in the school, and by greed as well as ignorance, in the factories and work-rooms. In the health of children, consider the item of food alone—consider the ignorance and indifference shown in regard to the cleanliness, purity or quality of milk; much of it diseased by tubercule bacilli, much of it poisonous from the excreta of the stable, and much of it

undergone fermentative changes before it is taken as food, and some administered from vessels foul to putrefaction. Consider the giving of meat to small children, all of it tough to the imperfect teeth, all of it indigestible to the immature stomach. Consider the every-day outrage of the child's delicate digestive organs by food prepared for the adult, badly prepared much of it. It is any wonder that death is so busy with the little ones before their fifth year.

We are so advanced in knowledge of hygiene that medical writers do not hesitate to say that it is a disgrace to any community to have an epidemic of diphtheria or scarlet fever or measles or any other preventable disease. It is a disgrace that preventable diseases are destroying more children under five years of age than of men and women for the next fifty years.

Tuberculosis, that contagious and preventable disease, claims in Nova Scotia alone six hundred every year; six hundred, most of whom are at the useful and producing period of their lives. And yet there is only a little, a very little organized effort to prevent the spread of this disease, or to teach its cure.

The waste of life is so needless, the bulk of our fatal diseases are so preventable, if knowledge were spread abroad, that the demand for an intelligent organized interference with our unnecessary death rate is urgent, and is called for not only on the grounds of humanity, but also on the grounds of good statesmanship and business common sense, in adding to our population. It is true a good deal has been done along the line of the prevention of diseases. First and most marked have been the efforts for the prevention and cure of tuberculosis, and it is marvellous how much has

been done in so short a time, and what satisfactory results. It is no more than a decade since Canada sent her first delegate to the antituberculosis conference at Berlin. Our delegate (the late lamented Dr. Farrell) wrote a most clear and readable report of that Congress; and our government had thousands of copies of it sent over Canada. I believe this was the first public step to awaken our people to the combatting of this dread disease. Now we have a national antituberculosis association, with local societies springing up all over Canada, and all at work spreading the gospel of pure air and sunshine, and proper hygiene in eating, drinking and sleeping. We have sanatoria opening up in all the provinces, for the treatment of this disease, and the result is less consumption, vastly more recoveries, and besides a greater knowledge of the proper manner of living, with a greater demand for pure air and sunshine in our homes, and more digestible food on our tables. Nova Scotia has led the van in establishing a sanatorium for the treatment of consumption, but we are far behind in the formation of societies for the prevention of this disease. Colchester county alone has, I believe, the only antituberculosis association in the province, and it has done good work in scattering literature and giving school-room talks on the prevention of tuberculosis, through the country.

In the race for the lives of men, running neck and neck with tuberculosis, is alcoholism, and there are many points in common in the two diseases. The tendency to contract either is hereditary, and the exciting causes, tubercle bacilli in one, and spiritus vini in the other, are almost everywhere to be found. Many per-

sons can have enter their system either of these exciting causes, and contract neither disease. In other persons, with a hereditary tendency, these diseases are promptly contracted. In either disease the period of incubation varies, sometimes short and the effects rapid, sometimes longer. Spontaneous cures in both are frequent, but in these twin curses of humanity lie a greater number of deaths than from all other causes combined, barring the mortality in infancy and early childhood.

We have long classed alcoholism as a disease and labeled it in our medical nomenclature as dipsomania and inebriety. Of the moral or social aspect of this malady it is not my present purpose to discuss, but I desire to bring it to your notice as a preventable disease, and a curable one, and as one of the most potent causes of death to our people. Somehow or other, I fear we have failed in our duty in combatting this disease, or preventing its spread. We have left it to others who have too often made it a by-word and a derision. The tramp declaimer has rolled the subject as a sweet morsel under his tongue, and shouted of it to the gaping multitude, for dollars and applause. The irresponsible fanatic has shouted himself into imaginary fame for its suppression, and the scheming politician has made the subject of its prohibition a snare to catch many a vote. The suppression and eradication of alcoholism has also had, I am glad to say, the well directed efforts of eminent statesmen and humanitarians, both lay and medical. It should be our aim as medical practitioners, to assist in the prevention and cure of this disease, as much as of tuberculosis. In both diseases the first instructions for the prevention should begin in the home and in

the school-room, and the treatment of it should be in special hospitals. A start in the latter work was made some years ago by the Nova Scotia Government, but for some cause fell through. At the annual meeting of the Ontario Medical Association, held at Toronto three or four weeks ago, an able paper by Dr. Ryan of Kingston, dealt exhaustively with the subject of an Institution for Ontario for the treatment of alcoholism. In the discussion that followed, beside the support of many medical men, Mr. Justice Riddell strongly supported a resolution "empowering the president to select a committee to use whatever means are deemed best to secure the establishment of an institution for the treatment of the inebriate, and also the necessary legislation and judicial measures." Dr. Ryan pointed out that the question of alcoholism was one of anxiety and importance to the physician, the economist and the humanitarian. The loss to the state of the productive activity of this class was enormously great. The question was one which could not be measured merely from an economic standpoint, because it was especially associated with all that made life valuable. The continuation of the race itself in the higher and more valuable attributes was closely connected with the question." We have in Canada opened up very recently several institutions for the cure of tuberculosis, and they are doing an incalculable good to the nation in saving useful lives, but to our shame I fear it may be said, there is not a recognized hospital for the cure of alcoholism. Nova Scotia leads the way for the first government hospital for the treatment of tuberculosis. May we not indulge the hope that she may soon lead the way in

the establishment of a hospital solely for the treatment and cure of alcoholism?

Another cause of disease and premature death which is growing in our country, is the employment of child labour. We are beginning to be a manufacturing people, and as factories increase so will there increase in Canada the demand for child labour, and the sooner we take active steps to prevent their employment the sooner will we escape the terrible conditions, so freely commented upon, in the factories of the United States. In many of the states of the union strict laws and enactments have been made for the prevention of child labour, and in many places it is well enforced. In others, judging from the terrible arraignment in the public press, there is sad need of reform. In Nova Scotia, little or no action has been taken, and we are so fearful of offending our few manufacturers, that the age of employees is scarcely ever inquired into. In Ontario a forward step has been taken and a comprehensive measure dealing with the whole subject of factory and shop inspection will be brought down at the next session of the Legislature. To Mr. Nelson Monteith, chairman of the committee on child labour, I am indebted for their report to the Ontario Legislature of 1907. We are not yet an extensively manufacturing people, but if the matter is looked into there will be found a goodly number of children doing work that is only fit for those of mature years. Working long hours, robbed of sufficient sleep, over worked in body, kept in ignorance in mind, many of them die early and few of them add to intelligent citizenship.

Another matter demanding our attention is the medical inspection of schools. A beginning has been made

but nearly the whole of this great and necessary work for the preservation of the health of the children lies before us. So far as work in our own country is concerned I cannot do better than make a brief quotation from an address I had the pleasure of hearing at the British Medical Association last summer at Toronto, by Dr. MacMurchy of that city. Dr. MacMurchy says, "In Nova Scotia the question has been agitated in the towns and cities, and in the Provincial Normal School some elementary instructions is given to teachers to enable them to test the hearing and sight of pupils. In Ottawa, Dr. McDougall King laid the subject before the School Board early in 1906, and they now have it under consideration. Montreal is still farther on. The City Council early in January, 1906, appointed seven physicians as medical inspectors of schools and made a grant of three thousand dollars for this purpose. The Jewish citizens of Montreal have had a school medical officer attached to the Baron Hirsch School for some ten years at a salary of fifty dollars a month. In Ontario this subject has repeatedly occupied the attention of the Ontario Educational Association and Provincial Board of Health. In the West of Canada the school medical officer has not yet come, except in Victoria and Vancouver." Dr. MacMurchy goes on to say: "It begins to dawn on us that the race is all right, it is we who do not do our part. Even in the poorer classes eighty per cent. of the children are born physically healthy. It is after their birth that we, poor, untaught and indifferent parents, spoil their life and health."

Of the contagious diseases so fatal to the life of children, scarlet fever, diphtheria, tuberculosis as well as measles and whooping cough, there

is no centre from which they spread so widely as from the uninspected school-room. Let us hope that the day is not far distant when our schools, both town and country, shall be regularly visited and inspected by duly appointed medical men.

Now in conclusion, having refreshed our memories with what we all knew before, viz: That thousands of our people in childhood, youth and middle age, are dying of diseases the prevention of which lies in our hands, and that it is possible by using our knowledge in properly organized efforts to banish typhoid, smallpox, tuberculosis, alcoholism, scarlet fever and the epidemics of enteric diseases that sweep away our children by the hundred every summer. Surely we may quote the Prophet Hosea "My people are destroyed for lack of knowledge."

To accomplish the desired reform, we want first-class modernized organizations. The first minister of Canada has said that "man for man we are the best educated people the world has ever seen." If this is correct, I believe it is, we should be capable of organizing the best system of state medicine that the world has ever seen. *I believe it is the duty of our governments, both Federal and Provincial, to take full charge, in protecting the public against preventable diseases.*

The Federal government has already recognized its duty to protect the health of our domestic animals, and there was spent last year \$421,993.50 for this purpose, and I take this to be an average expenditure. There are for this purpose employed a hundred and seven veterinary surgeons with salaries ranging from five dollars per day to seventeen hundred dollars per year. In addition to this there was spent last year for the im-

provement of domestic animals \$9,714.40, with three additional grants of \$4,554.17 and \$4,489.44 and \$387.09, making all together the splendid sum of \$440,138.60 in one year for the protection of the health of domestic animals.

What little is done by the Federal Government for the preservation of the public health is administered by the Department of Agriculture. It consists main'y in maintaining quarantine stations at some of our ocean ports, the examination and care of sick or diseased immigrants, two lazarettos for the care of leprosy. To the expenditure in this regard was added this year a special grant of \$5,000 to assist the society for the prevention of tuberculosis. Here we have thoroughly organized government superintendence and care of domestic animals (of our brothers the brutes) and a few paltry thousands, with little or no organized effort, for the preservation of the health and lives of the people. Is this fair? Is it reasonable? Is it good statesmanship? I am not complaining of the particular government now in power, but of the policy of all governments since Confederation, in dealing with public health. If our government acknowledges that it is a duty in giving instruction for the preservation of the health of domestic animals, and expends nearly half a million in this worthy object, how much greater is the government's duty to give instruction for the preservation of the health of the people, and how much more than half a million should be expended in the effort? In the reorganization of our present weak and imperfect manner of dealing with public sanitation, our first step, in my opinion, should be the formation of a Federal Department of Health, with a minister of

Public Health at its head. We have a department of Agriculture, of Marine and Fisheries, and of Militia and Defence, and so on, each with a minister to guide and direct it; but strange to say we have not advanced far enough in political economy or self-preservation, to have a minister of Public Health or a department for that object. In the department of Militia and Defence we have an annual expenditure up in the millions, with no foe to meet at present, or in the dim future, so far as we can see, while we have thousands of Canadians greatly needed in the development of our country, dying annually of preventable diseases. Yet we have no department of Public Health, and no minister, no head to administer it. I am finding no fault with the organization of our Militia, but in my view the protection of the lives of our people with foes to destroy on every hand is of more importance than the protection against an imaginary foe in the far future.

Given a Federal Department of Public Health with a responsible minister at the head, with his staff of sanitary inspectors, engineers, bacteriologists and chemists, the larger machinery would be ready for the proper carrying out of all the measures for the proper protection of the public from preventable diseases.

All that may be said in favor of a Federal Department of Health applies with equal force in the advocacy of a Provincial Department of Health in every province in the Dominion. Call the head of this department, a minister, or commissioner, or whatever you please, there should be in every province from Prince Edward Island to British Columbia a Department of Health, each working in harmony, in conjunction, with the Federal department, and each with a fully

equipped staff of inspectors and sanitary engineers, bacteriologists and chemists; and those Provincial departments, assisted by and directing city, town and country boards of health, with the inspectors and health officers; and all these with salaries sufficient to enable them to devote time and attention to their work. Thus we shall have the rural district boards of health and the town and city boards working in harmony with the Federal Department of Health, and this again working in harmony with the Federal Department. Then, and only then can we have proper supervision of sewerage (town and country), all sources of water supply, not forgetting the farm house well, plumbing, drainage, insanitary dwellings, and the thousand and one insanitary conditions in which so many are living. I may say by the way that the problem of sewerage in the country districts is as important as that in town or city, for enteric fever is as rife in the farm house as in the city dwelling. An important part of a Provincial Department of Health must be the education of the people in proper sanitation and in the cardinal virtues of pure food, pure air, and the free sunshine in our homes. I have no criticism of the work of the officers of the Provincial Board of Health. They are doing more than we could expect, tied up as they are by want of funds and liberty of actions in other ways. Every one must admit that the Government of Nova Scotia is doing much for education, general and technical, and if now the Government will lead the way in establishing a thoroughly equipped and up-to-date Department of Public Health, it will be setting an enlightened and praiseworthy example to the rest of Canada.

It is no great stretch of imagination to see that in the not very distant future, death from preventable disease will be more rare than death from accident. When we see clearly that so many of our diseases come from the pollution of air and water, and the exclusion of sunshine—three agents conducing to our health which God has given us so abundantly everywhere, when we learn that most of our deaths are suicides or homicides, then shall man's days be lengthened, and physicians will be more engaged in keeping before the people proper ways of living than in treating diseases contracted by ignorance of the laws of our being.

The great curses that militate against the progress and happiness of the human race appear for long ages to hold their sway and then suddenly disappear from forces long at work against them. Slavery no longer exists in Christian nations; the disarmament of the Powers has reached the point of practical discussion by the delegates of the civilized world: the average of human life has been lengthened by practical work in State sanitation. So we have every reasonable hope that when governments, national, provincial and municipal, properly undertakes the prevention of the causes of preventable diseases—then shall preventable diseases disappear from the civilized world.



MEDICAL INSPECTION OF PUBLIC SCHOOLS.

By *W. F. ROBERTS, M. D.,*

St. John, N. B.

(Read before the St. John Medical Society, May 22nd, 1907.)

TWO of the most important corner stones on which we erect a successful career are Health and Education; they seem to be inseparable when considered from this particular standpoint. A man is crippled physically without the one, and intellectually when not in possession of the other.

In order to insure ourselves that everything is being done that can be to have this important part of the foundation of the lives of the generation which is just entering upon the threshold of life, and of those that are to come, arranged for, it will be necessary that our public schools be thrown open to a most thorough and rigid medical inspection.

When mustering an army of men to go out to do battle for the nation, is it not required for the volunteers to undergo a rigid physical examination, and for what reason? Is it not that they may be the better able to withstand hardship and disease, and as a result have a larger percentage ready for service when called upon?

If this is of necessity in fighting the active battles of our country, is it not even of greater need that the youth of our land enlisting themselves in that great army of "the citizens of to-morrow" should be freed from any physical ailment that would in any way militate against the success of their educational career?

The constitution of the man is determined in childhood, when tendencies to disease can be recognized and offset by suitable treatment.

A great deal of influence during this last year or two, has been

brought to bear, and rightfully so upon the introduction of manual training in our public school system. I have read, too, during the last few days in our daily newspapers of those advocating the teaching of music in our public schools. All of these, and the numerous other studies in the curriculum of to-day, are good, and no doubt of service; but of what value are they to the child who is permitted by the board of education in this enlightened day to enter upon his school life under conditions which, if neglected, gradually become worse, and as a result of such neglect, the child may eventually become maimed by the total or partial loss of sight or hearing, or the development of some bodily deformity; or even death itself may step in and suddenly put an end to his career. Whereas, had it been compulsory for this child to have undergone a thorough medical examination before entering school, it is very probable these defects might have been detected, and a remedy offered, and the child's future been a brighter, happier and a more healthy one. So while it is well to place before our children all that we would have them know, is it right that we should neglect the most important; that, without which, his education stands for naught, namely, health in the very fullness of its meaning?

The inspection of public schools is one of the methods by which the prevention of disease can be successfully carried out, and the health of the community promoted.

Since the 12th century, physicians have visited schools from time to

time as sanitary inspectors, but little progress was made in medical inspection until the nineteenth century.

In France as early as 1883, laws were passed relating to school physicians, and at present there are in Paris one hundred and twenty-eight school doctors.

In 1874, weekly inspection of schools was instituted in Brussels, which has now fifty-two school doctors. Within the next twenty years Austria, Germany, Hungary, Holland, Belgium, Sweden, Switzerland, Russia, Portugal, Spain, Serbia and Roumania all directed efforts in the same direction.

Since 1893, Japan has had medical inspection, and has now eight thousand, four hundred and twenty-four school doctors, while Germany has six hundred and seventy-six, Austria fifty-six, and Hungary eighty.

In Great Britain, medical inspectors have been appointed by eighty-five educational authorities, representing in the vicinity of two million children; while in the New World, medical inspection obtains in the Argentine Republic, and in most of the large cities of the United States, and successful efforts have been, and are being put forth in this direction in quite a number of the cities of Canada.

In speaking of the need of medical inspection, the *British Medical Journal* of September, 1906, has the following:

"The Organization Committee of the British Medical Association decided to ask Mr. Birrell, President of the Board of Education, for a systematic provision for the medical inspection of school children. At noon, on Monday, July 16th, 1906, Mr. Birrell received a deputation from the British Medical Association, to ask him to make

Medical Inspection of elementary schools compulsory. The Bill, as it then stood, gave local education authorities power, with the sanction of the Board of Education, to make arrangements for attending to the health and physical condition of the children educated in public elementary schools."

Mr. Tennant's amendment was as follows:

"It shall be the duty of every local education authority to make arrangements in accordance with a scheme to be made by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools."

The sequel was a surprise. It would seem as if every man had already been persuaded in his heart of the value of, and necessity for this reform, but every man was not sure of his neighbour's opinion, either in the House, or out of it; but that very day in the afternoon, when the debate came on, it was evident that the proposal had the support of both political parties, and practically of the whole House. It was supported by Mr. Balfour, Sir W. Collins, Sir H. Craik, Sir W. Anson, Sir Gilbert Parker and Mr. Masterman, and Dr. MacNamara said that if medical inspection were made compulsory, that would be worth all other provisions of the Bill put together. At seven o'clock, Mr. Birrell agreed to insert for the report stage of the Bill, the following sub-clause:

"It shall be the duty of every local authority to provide for the medical inspection of every child on its application for admission to a public elementary school, and on such other occasion as the Board of Education may direct, or the local education authority may think fit."

This step marks progress. It is the opinion of the medical profession, repeated by this association, that there should be a Board of Education Medical Department, that medical inspection of elementary school children should be compulsory, and that this inspection should be made on admission, recorded, and repeated during the child's school career.

Whatever be the final fate of this Education Bill of 1906, there can be no doubt that either in this Bill or in its immediate successor, medical inspection of school children will become law.

As a result of enquiries by Parliamentary Commissions appointed by various cities in Europe, it has been ascertained that morbidity among schools was found to be twenty-nine per cent. in boys, and forty-two per cent. in girls; anæmia, neuralgia, headache and indigestion seeming to be the chief causes.

Compulsory education many times means compulsory infection, because the child on the one hand under the existing law of compulsory education, is compelled to attend school, and on the other, should there be an unrecognized case of any contagious disease, such as diphtheria or scarlet fever, he is necessarily exposed to infection. And further, it is possible from that one unrecognized case of either of the above diseases, to have same carried into the homes of thirty or more children in that one day. This being a fact, it is of importance for those citizens, who feel that medical inspection is unnecessary because they are quite capable of having their children inspected medically and kept in a healthy condition, to note that their child or children may leave home in the morning in perfect health, and on account of being compelled to come in contact with

one or more scholars who are in possession of an unrecognized virulent case of contagion, he may return home bearing with him germs of a disease, which may mean a serious illness, and in some instances, death.

The medical inspector should look after—

First.—The school building; that is: condition, ventilation, lighting, heating, seating, etc.

Second.—Inspection of candidates for teachers' professional certificates in the principles of preventive medicine and school hygiene, diffusion of knowledge among the general public and popular lectures.

Third.—Physical and mental condition of the child.

(a.) The simple measurements, height, weight, chest measurement, question of development as affected by up-bringing, under-feeding, malnutrition, housing and environment.

(b.) Eyes, ears and teeth. If necessary provide notification to the parent, with advice to consult the family physician.

(c.) Signs of over-pressure or fatigue, mental condition, studies, school hours, sleep.

(d.) Infectious and other diseases.

Seating is important. The difference in the heights of children of the same age may vary from 6 inches to 11 inches, and the seats should be adjustable to the bodies, not the bodies to the seats. The hygienic Swiss desks may be adjusted easily for height and slope. These desks and seats are regarded by good authorities as comfortable, constructed on correct principles, and generally satisfactory.

Next to the question of body measurement comes the examination of eyes, ears and teeth of the child,

because there is nothing that foils the best efforts of pupil and teacher so completely as imperfect sight and hearing, and nothing that more frequently causes physical degeneration than defective teeth.

In connection with some statistics given by Helen MacMurchy, M. D., Toronto, on this subject, I quote the following:

EYESIGHT OF SCHOOL CHILDREN.

"First of all it was necessary to make a rapid examination of a large number of children in order to convince educational authorities of the large percentage of school children who cannot learn because they do not see well, and to force the public into doing something by drawing attention to the crying need. Accordingly, we have now reports in the literature of the subject of perhaps 1,000,000 children. A few examples may be given:

London: 600,000 children examined by eight physicians, 10 per cent. found to have less than one-third of normal vision. Standard I, 54 per cent.; Standard VIII, 80 per cent. have normal vision.

Cohn has collected the statistics published by German observers: Lower classes, 22 per cent., near-sighted. Upper classes, 58 per cent., near-sighted.

New York, 1904: 7,166 children examined; 17 per cent. suffering from defective eyesight.

Philadelphia: In one school it was found that 2 out of every three children had something wrong with their eyes.

Dr. Timberman reports in the *Ohio Sanitary Bulletin* that he examined 1,200 pupils in the high schools, and found that 40 per cent. had defective eyesight.

DEFECTIVE HEARING.

In London, Dr. Cheatle examined 1,000 of the Hanwell District School with the following results:

Normal hearing	43+
Middle ear disease	518
Adenoids	43+
Enlarged tonsils	231

In Stuttgart, Germany, 5,000 examined, 30 per cent. had defective hearing.

In Glasgow, Scotland, 600 examined, 28 per cent. had defective hearing.

In Chicago, about one-sixth of the school children are so defective in hearing as to interfere with school work.

We remember that some of the causes of deafness are removable, especially in childhood, and that, as in the case of adenoid growths, other great evils, such as mouth breathing, may at the same time be removed, it will be seen that we have here more good work for the school medical officer to direct.

THE TEETH.

The condition of the teeth is closely connected with the question of physical degeneracy. Dr. Osler in presenting the prizes to successful students at the Royal Dental Hospital of London, last October, told them he thought there should be a dental surgeon attached to every public elementary school.

INFECTIOUS AND OTHER DISEASES.

Finally, there is the question of transmissible diseases. No argument is needed here. There is no quicker and surer way to spread disease and death than to let light, incipient, or unrecognized cases of diphtheria, measles or scarlet fever, attend school. House epidemics of children's diseases are usually traced to a child who has been infected at

school, and fatalities under three years of age are often the result of infection from an older child going to school.

From another table of statistics representing 806 children examined, only 218 were without defect of any kind. The remaining 675 had one or other morbid conditions.

The principal causes were as follows:—

Rickets	116	cases
Affections of the skin...	119	"
Gland enlargement.....	165	"
Eye disease or refractive error	361	"
Affections of the nose and throat	426	"
Spinal curvature.....	61	"
Lung disease apart from consumption	47	"
Ear disease or deafness..	91	"

In Berlin, of 32,902 children examined on their first entry into school, 3,056 were put back, that is, not allowed to come to school for a certain period of time. The causes were anaemia and general debility, scrofula, rickets, nervous trouble, and defective intelligence. Of the children admitted, 7,335 required continuous supervision because of their eyes or ears, or general weakness, or slight tuberculous trouble.

ADVANTAGES OF MEDICAL INSPECTION.

Investigations conducted by well trained experts have demonstrated again and again that many children attend school suffering from contagious diseases. In the first month of medical school inspection in Boston, 437 sick children were found at school, 37 being ill with diphtheria and 104 with scarlet fever. Such children are as capable of infecting the things with which they come in contact as if they were suffering from severe attacks. Medical inspection would at once ex-

clude these from school and have the rooms disinfected.

Investigations regarding the eyesight and hearing of children show that there are many in the schools who are handicapped in their progress by defective sight, or hearing, or both. The mild forms and early stages of these ills often escape the unskilled observation of the teacher—a thing not to be wondered at when it requires special skill on the part of the physician to discover the defect. In the majority of cases of defective hearing, neither parent, teacher, nor child is aware of the defect. When it is understood that defective eyesight, imperfect hearing, and growths in the vault of the naso-pharynx are all too often the causes of abnormal stupidity, and go hand in hand with poor talents, surely parents and school boards will see to it that these causes of imperfect work, wasted effort and failure to have adequate returns for legitimate expenditure, to say nothing of the effect upon the future progress of the country, will as far as possible be removed.

The following table shows that these defects are not imaginary:

TABLE OF PHYSICAL RECORD OF CHILDREN IN NEW YORK CITY FROM MARCH 27TH TO DECEMBER 23RD, 1905.

Number of children examined	55,332
Number of cases of bad nutrition	3,283
Number of cases of diseased anterior cervical glands.....	14,214
Number of cases of diseased posterior cervical glands.....	3,047
Number of cases of chorea	738
Number of cases of cardiac disease....	895
Number of cases of pulmonary disease..	600
Number of cases of skin disease	989
Number of cases of deformity of spine ..	485
Number of cases of deformity of chest ..	401
Number of cases of deformity of extremities	498
Number of cases of defective vision	16,394
Number of cases of defective hearing ..	1,296
Number of cases of defective nasal breathing	6,182
Number of case of defective teeth.....	18,182
Number of cases of defective palate ..	689

Number of cases of hypertrophied tonsils	8,347
Number of cases of posterior nasal growths	5,119
Number of cases of defective mentality ..	1,210
Number of cases where treatment was necessary	33,551

Children are frequently troublesome and inattentive, owing to over-pressure and over-fatigue. They are restless owing to the approach of some nervous trouble, as Lysteria, St. Vitus's dance, or epilepsy. Needless to say that many teachers have neither the knowledge nor experience to enable them to deal wisely with such cases. They are intent upon the intellectual progress of the child, and view him from that standpoint alone. It often requires the wise counsel of a quiet, tactful, medical expert, who views schools and school work from an entirely different standpoint, to keep the teacher from doing much permanent injury to such pupils. A thorough medical inspection dealing with the physical nature of the child will greatly improve the pathological conditions of childhood. It will tend to arrest and remove the evils of excessive brain work and long confinement, with deficient rest and sleep, together with a dietary improperly selected, poorly prepared, and inadequate to the nutrition of the growing child. It may be added that where medical inspection has been introduced, the well-to-do parents not only welcome it and act on the suggestions of the health inspector, but show their gratitude by writing letters of thanks as well.

THE METHODS OF EXAMINATION.

The child undergoes a physical examination when making application for permit to first enter school. Then visitation is made on the part of the medical inspector at regular intervals, and specially when called upon by the teacher.

The inspector sometimes gives a series of lectures to the teachers on

signs and symptoms of the more frequently occurring diseases among school children, and in this way keep a closer watch of pathological conditions existing among the children.

It is the duty of the medical inspector on finding a child in possession of some disease or condition requiring treatment, to notify the parents, and have the family physician look into the same, in this way preventing any professional friction.

If this system has proved of so much service in other cities, would it not be practicable to have the same adopted by the city of Saint John? We certainly ought to appreciate the fact that the generation of children entering school to-day should be a strong, hardy and well-educated one, and if you would pardon me, I would make bold to offer a suggestion as to how this matter might be carried out in our city. There are many cities throughout Canada and the United States, who have what is known as a City Physician. The exact duties of such an official I am not particularly familiar with, but I should imagine that one of such duties might be the medical inspection of public schools. Then could be added a number of others, such as coroner's physician, police and gaol surgeon, sanitary inspector of school buildings and other properties which are in the possession of the city, and no doubt such an official could attend to some of the city's poor, thus relieving the regular practitioners of some of the charity work which they are of necessity called upon to do.

The salary of such an official should be a generous one, thus warranting the selection of the best man procurable. I sincerely believe it would be money most wisely invested on the part of our city and municipality.

THE MECHANICAL AND CHEMICAL EFFECT OF MILK ON THE HUMAN.

By *ARTHUR E. GUE, M. D.,*

Detroit, Mich.

MILK is the normal secretion of the mammary glands of all mammals, and the milk of all mammals has a similar composition, consisting of fat, sugar, albuminoids, mineral constituents, and small quantities of other compounds. The milk of the cow has been studied in greater detail than that of any other animal, on account of the extended use of this animal's milk and the products derived from it as human food. Our knowledge of the chemical composition of cows' milk is indeed very complete, while studies, more or less incomplete, have been made of the milk yielded by woman, the goat, the ass, the mare, and the sheep. While there may exist a wide difference in the sustaining qualities of the mammary secretion of different animals as applied to man, this difference will be found not only in the chemical properties of the milk, as given by chemists, but we will also add that there is a mechanical effect which milk produces on the human tissues that must not be lost sight of. There is also a vitality which the animal has which produces the milk that is essential: this vitality is marked by certain characteristics which are all important, and to which we will refer later. Briefly our scheme is to show the mechanical and chemical effect of milk on the human, and why the Holstein Friesian cow is the food producing ideal.

While the chemistry of the different constituents of milk is only in its infancy, and it may seem premature to discuss such at this time, still for the

purpose of this paper it will be quite necessary to hint at some of the obscure truths. A word first as to the individual constituents of milk. The fat, for instance, is of peculiar and complex composition; it differs from other fats in that it contains compound glycerine; it exists in milk in small globules, and each globule is surrounded by a true membrane. Now this last is a proven fact, and I would ask you not to debate it for the present, but bear it in mind for future use in the study of this paper.

The sugar in milk is also of peculiar nature; that of the cow's milk is called "lactose," or, more commonly, sugar of milk. It is generally assumed that all milk contains the same sugar, but while this may be so, it is a fact that the sugar of one animal seems to have a property not found in that of another. For instance, the sugar of the milk of the mare has the property of easily undergoing alcoholic fermentation, a property not possessed by the sugar found in cow's milk. So also is it a fact, as stated by Carter, that the sugar of the human milk is not identical with that of the milk of the cow, though the properties are the same. Again we find that milk sugar exists in several modifications which are distinguished from each other chiefly by their behavior under certain atmosphere, even polarized light being sufficient to break up milk sugar into a modification of itself.

Our present knowledge of the albuminoids of milk is far from complete, though much work has been

done on the subject. This is due to the fact that it is extremely difficult to obtain these compounds in anything like a state of purity. The milk albuminoids are bodies of complex composition containing carbon, oxygen, nitrogen, hydrogen, phosphorus and sulphur. The way in which these elements are combined is not known, but that they exist differently in the milk of different animals is a fact borne out clinically, rather than chemically. It is this fact that undoubtedly suggested the comprehensive term "Vitality" to Prof. Carlyle, as related by Mr. Cortelyou, in his address at the 20th annual meeting of the Holstein-Friesian Association. It was this fact that Prof. Holt had in mind when he said that in infant feeding there is a difference among the different breeds. It may be slight, but that difference is shown on the delicate human organization, and to my mind he must have had the Dutch cow in mind when he said "select a large, strong, healthy cow and the little difference will not be noticed," and follows up by cautioning the student concerning the fact that tuberculosis is more common in the Jersey than in any other breed.

Taking up once more the albuminoids, we repeat that they differ in the milk of different animals. They may be divided broadly into two classes; those like the cow and the goat, which give a curd on the addition of an acid, and those like the human and the mare which do not. Now the curd found in the cow is composed of casein, which is composed in the main of earthy phosphates, the presence or absence of which causes the difference in the albuminoids of the two classes. Besides casein, there exists in all milks a second albuminoid called albumin; this differs from the casein by not being

precipitated by acids, but will be coagulated by heat. There are other albuminoids described in milk, but enough has been said excepting to allow me to reiterate that the elements found in the albuminoids vary in different animals, and this without disturbing the general complex make-up of the milk.

Salts:—Henkel and Bechamp are about the only authorities. They admit the presence of potassium, calcium, chlorides, phosphates and magnesium. Henkel has gone so far as to find an organic acid (citric acid) which he has found at times in some samples of milk, and while this result is not universally accepted, for the sake of future reference please keep this point in mind. If you can only see with me that the atoms composing the different elements of which we have been talking are so delicately arranged, and the molecules built up in so complex a manner that they cannot be disturbed, you would then understand how even a slight change in some one element would make a vast change in the whole. This is so to such an extent that in the large percentage of cases where the milk is modified, the child or invalid does not thrive.

By some writers it is said that the reason that the milk of Jerseys does not agree with subjects of low vitality is that it is so rich in fat that, when in combination with the digestive ferments, it produces a substance that is absolutely toxic; this I feel is not quite true. The difference we will find to be a physiological and mechanical derangement, physiological in the fact that it is impossible for the large membranous covered fat globule of the Jersey to crowd through the microscopical cells of the digestive organs, as they do when assimilation is perfect, and if forced,

will indeed produce an active mechanical irritation resulting in numerous disturbances of the alimentary tract, while with the Holstein's milk the fat globules are so small that they readily pass by endosmosis through the cellular tissue.

Prof. Holt in his summary of figures compiled from sixty thousand analyses collected by Mr. Gordon, of the Walker-Gordon Milk Laboratories, made from the American grades and common natives, says, "leaving out the Jerseys, the average of the different breeds of cows are remarkably uniform in their total solids."

Now if it is a fact that there is little difference in the component parts between the Holstein and other dairy breeds, wherein are we to lay claim to this superior vitality in the Dutch milk? In two ways. First, the chemical combination of all the elements of the milk; in one breed this combination will produce one result, while in another breed these elements combined will produce entirely different results; in other words, in one breed these elements are happily combined, while in others these same elements are opposed. How is this so? Well just as one manufacturing pharmacist will make a certain preparation composed of two or more ingredients, the results of administration of which are good, while another pharmacist analyzes the product and prepares, as he thinks, the same, but the result on the body is disastrous. Why? Because there is that lack of what is known in medicine as a happy combination. Now so it is between the different breeds. Although all the elements are present in a certain milk, there might be that lack of harmony which would change the final sum. For instance, compare diamonds and charcoal, chemically

the same, but what a gross difference in the completed substance! Now what would produce this lack of harmony in the different elements of milk in the several breeds (another claim to superiority)? The breed itself. The quality in a breed is one of the most important factors, and that which influences most of all these factors is, first, the duration of the purity of breeding without admixture of alien blood, and second the uniformity of type, and the inherent vigor of that type.

It is doubtful if any breed of cattle has been bred pure for a longer period than the Holstein, and the inherent vigor of the breed is indisputable. It matters little with what breed or type a Holstein bull is mated, the offspring is almost sure to resemble the sire markedly in characteristics, particularly so in color. Now I speak of this prepotency, because it is the vital factor in holding all of the delicate arrangement of the molecular formation of milk in happy relationship! On the other hand, take a breed of delicate constitution, nervous and predisposed to all outside influences, are they not more apt to cause an unbalanced condition of all those elements that go to make up the milk? If this is not so, then how are you going to explain the fact where a hospital full of patients (ranging from infancy to old age) fed on the milk of a certain breed, no matter how diluted or modified, failed to thrive, but when changed to the milk of the Holstein-Friesian, a marked change was shown. I do not think I am presuming too much when I say that it would not be unreasonable to expect in two different milking breeds where all the elements of this great chemical combination are practically in the same proportion, should one ingredient not be up to standard, (low grade

of phosphorus or poor sulphur for instance) it would sacrifice the whole. In other words, the difference in the digestibility of one cow's milk over another is dependent upon the difference in their molecular arrangement, and not upon whether they are rich in fat or not. The time is not far distant when the boards of health and city governments will insist not on a high grade of fat, but on a high grade of solids, a fine molecular combination and few bacteria, as most hospitals do now. Right here it might be patent to add, that a Walker-Gordon representative replied in

answer to my question: "if left with no other means of feeding infants than raw cow's milk, what breed would you choose?" "Holstein," because it comes nearer a balanced ration than any other. To the Holstein breeders, I will say you have in your breed all that can be desired for the production of a pure food product, to say nothing of other grand qualities, so don't waste your time trying to breed an absurdly high percent of fat to the detriment of inborn qualities, qualities that have made the Holstein-Friesian the head of all dairy breeds.



WATER PURIFICATION.

(Manuscript furnished by Messrs. Peter Spence & Sons, Limited, Manchester, England.)

AMONG the many achievements of modern hygienic science, there are none more notable than those relating to the mitigation of disease caused by the drinking of impure water.

Recognizing the dire possibilities of water for human consumption containing pathogenic germs, attention has been more and more closely given during the past generation to the general provision of ample supplies for domestic use, which shall not only be free from contamination with germ-laden liquid, but which shall also practically contain no matter in suspension.

A further desideratum in certain instances is the elimination of the unpleasant, though innocuous, tint arising from the peaty matter so frequently present in surface supplies.

The building up of large centres of population in recent times has undoubtedly aggravated the question of providing adequate pure water supplies, and drawn increasing attention to the subject. In a limited number of cases the natural supply from lake or reservoir is sufficiently pure for direct consumption, but, in most instances, the application of mechanical or chemical science or a combination of both is essential.

Mechanical filtration through beds of sand is one of the oldest means of effecting the necessary purification, and, in certain cases, under suitable conditions and care, affords excellent results.

More recently "intensive" working has largely come to the front, and the high mechanical efficiency and output of the many modern water purification and filtration plants mark a great advance on former practice.

In both the slower sand filtration and the more rapid mechanical filter methods, however, chemical science has come to the aid of the engineer, and not only largely facilitated his work, but rendered possible the achievement of results hitherto unattainable. The "life" of a sand filter bed and its efficiency are, it is now generally recognised, greatly increased by the preliminary elimination of the major part of the suspended impurities contained in the water under treatment.

To effect this removal, the well-known properties of hydrated alumina precipitated *in situ* are utilised. In the East, for centuries, alum has been in common use for the clarification of water, and is capable in itself of effecting such efficient purification, that subsequent filtration is at times almost a work of supererogation.

Properly applied, alum, (or, rather, its active constituent, sulphate of alumina) when decomposed by the bicarbonate of lime contained in nearly all waters, precipitates insoluble hydrate of alumina in a gelatinous form which enmeshes, entangles and carries down bacterial and suspended matter alike, leaving the purified water brilliantly clear.

Further, not only is there a very remarkable diminution of germ life and mechanical impurity, but the precipitated alumina, exerting its well-known action as a mordant or colour precipitant, also removes the objectionable yellow or brown colouration of peaty or surface waters which so frequently detracts from the appearance of otherwise suitable supplies.

As alum is expensive, and moreover leaves a little potash or ammonia

sulphate in the treated water, the alumina compound most generally used in the purification of potable and other water supplies, is that known as aluminoferric, a very cheap and efficient form of sulphate of alumina containing nearly 50 per cent. of that substance, and a small proportion of iron sulphate. Strength for strength, it is about thrice as cheap as alum.

Although meeting at first the prejudice of ignorance, and having slowly overcome the rooted objection to the use of any chemical, however innocuous, and however completely eliminated from the treated water, the use of aluminoferric is now world-wide.

It is important to know that it leaves no ingredient in the treated water which was not previously present; the only change being that the "temporary" hardness is, to a slight extent, converted into "permanent" hardness, a property possessed by most of the world's natural pure water supplies.

So far back as 1881, the water supply for Bolton, England, a reservoir containing some 70,000,000 gallons of water, so turbid from unsettled micaceous clay as to be highly objectionable, was treated at the in-take at the rate of $1\frac{1}{2}$ grains aluminoferric per gallon, and rendered perfectly clear and colourless.

In a recent case of another English reservoir, the presence in the water of light suspended matter, and also of the yellowish brown tint above referred to, caused serious objection to be taken to its consumption for domestic purposes. The water had, further, a slightly acid reaction, due to humic or other organic acids of vegetable origin. As it was desirable to purify the large body of liquid already in the reservoir, a raft, capable of carrying a man and a couple of large barrels, was put together; one of the latter was filled with dilute solution

of sulphate of alumina, and the other with whiting (chalk) in suspension in water. Suitable perforated distributors at both ends discharged a continuous outflow of the reagents, and the raft, which itself provided sufficient agitation to mix them, was pulled from side to side, gradually traversing the whole area. The result was a complete success, the whole body of water—in places 18 to 20 feet deep—being purified and decolourised. Arrangements were then made for continuously dealing with the inflowing water on similar lines.

In another case, where the impure water had the dangerous property of vigorously attacking lead pipes, this serious development has been counteracted by adding chalk along with the aluminoferric.

Aluminoferric has in recent years been increasingly adopted for the purification and clarification of large water supplies abroad. In South America, where the water from the river Plate is frequently highly charged with light suspended matter, etc., it has been employed on a very large scale for years with very satisfactory results. This is also the case in India, South Africa and other tropical regions.

Some interesting results were recently published in connection with the purification of the Nile water for the Alexandria water supply, showing the great utility of sulphate of alumina in the preliminary purification. In this case the installation is on chemical precipitation lines, followed by treatment in one of the most efficient and advanced installations of rapid mechanical filtration. As Nile water offers considerable difficulty on account of the presence of very fine particles of clay, chemical precipitation was found essential to coagulate the suspended matter, and thus enable the greater proportion of it to be

sedimented in subsidence basins before passing to the filters.

Sulphate of alumina is usually employed at the rate of about $1\frac{1}{2}$ grains per gallon, and the results, both from the appearance and bacteriological aspect, are excellent. The use of alumina as a coagulant is now regarded as an essential in the majority of rapid filtration plants dealing with water containing difficultly sedimented matter. In certain cases, the precipitant is applied to the water as it passes to the filter; in others, as above mentioned, the bulk of the precipitate is settled out first.

The germicidal effect of light on bacterial life in water has perhaps, as pointed out by Prof. Frankland, at times be exaggerated, but there is evidence beyond question, of the beneficial effect of the percolation of light through water areas.

The extent to which the light can penetrate depends very largely on the clarity, or otherwise of the water, and from this aspect the use of aluminoferric, resulting as it does in the production of brilliantly clear water, has a most important bearing on the question of water purification and storage.

Prof. Frankland,* after reviewing the work of a considerable number of experimenters on the action of light on micro-organisms under varying conditions, summarises the results obtained, and states:

"There is no question that light, and more especially sunlight, has a deleterious effect on bacteria in their vegetative, and to a less extent in their spore forms. This has been established not only by Downes and Blunt's original experiments on casual mixtures of micro-organisms, but also by numerous experiments, in which pure cultivations of the most diverse microbes have been employed.

"This deleterious effect can be produced by light, irrespectively of the

rise in temperature which must accompany direct insolation, unless special precautions be taken. It is, moreover, the most highly refrangible rays of the spectrum that are the most injurious to bacterial life, the ultra-violet being the most, and the infra-red the least powerful in this respect, a circumstance which clearly indicates that the phenomenon is due to chemical action.

"In its special connection with the bacteriology of water we must, therefore, recognize in sunshine, and to a slight extent also in diffused daylight, a powerful bactericidal agency, but one the importance of which there has been a considerable tendency to magnify and exaggerate."

The extent to which precipitated hydrated alumina is capable of entangling and carrying down micro-organisms is remarkable, and careful laboratory results have conclusively shown that from 80 to 95 per cent. of the bacteria present may be precipitated with the use of from 2 to 5 grains of alumina sulphate per gallon.

When it is borne in mind that the number of pathogenic germs per unit volume in a given water supply, rather than their mere isolated presence in insignificant amount is the determining factor in the safety, or otherwise, of the water, from the point of view of human consumption, the elimination of a high proportion of the organisms present is of paramount importance.

Remembering the fearful toll that has been paid in the past by our armies abroad, our travellers, and "the bearers of the white man's burden," to dysentery and other tropical diseases, the fact that the latter are preventable by the adoption of rational and proved means for the supply of wholesale potable water cannot be too widely disseminated.

* "Micro-Organisms in Water," 1894, p. 388.

PARASITISM AND INFECTION IN CANCER.

By HARVEY R. GAYLORD, M. D.

Buffalo, N. Y.

I DESIRE briefly to call your attention to the observations made in the New York State Cancer Laboratory where an animal cage had become infected from sarcomatous rats, and in which in the course of two years three cases of sarcoma have developed in eight rats thus exposed. These cases developed a year apart and the cage is known to have been infected for a period of three years. Heredity played no part in these occurrences. Parasitism is further illustrated by an infected cage which was purchased from a dealer and brought to the State Cancer Laboratory, out of which sixty or more tumor mice had been taken in the course of three years by the dealer, and in which five cases of cancer developed after the cage was brought to the State Laboratory.

With these facts so strongly indicating the infectiousness of cancer, it is of importance that in the State Laboratory since the beginning of 1905, a typical small spirochæta was to be found in all the transplanted tumors thus far examined. Up to date, some twenty odd mouse tumors have been cut, giving positive results, using the silver-staining method of Levaditi. In the more virulent tumors the organisms were present in great numbers distributed in the tumors and in the connective tissue stroma. They are occasionally found between the epithelial cells, and are known to have been present in one of the strains in 1905, when they were first detected in large numbers in vacuoles in the epithelial cells of one of the transplanted tumors. They are now apparently constantly

present in three separate strains of transplanted tumors, one being the Jenson tumor and two tumors of American origin. The presence of these organisms is interesting from the fact that they have constantly accompanied these transplanted tumors for so long a period and that in preparations stained in the ordinary way there are no alterations in the histology of the tumors, which can be deliberately attributed to the presence of the spirochæta.

Having found the organisms over twenty times consecutively by the Levaditi method, three primary mouse tumors which did not communicate with the air, being entirely enclosed and moveable beneath the skin, of small size, were removed aseptically and carefully sectioned after impregnation with silver. In two of these tumors the impregnation method was obviously not successful. In one of these occasional badly fixed organisms could be found. The condition of the tissue in the other made it obvious that the method was not successful. The third tumor examined was properly impregnated and contained large numbers of organisms scattered through the tumor, but most plentiful in the actively growing portions. Here they were found among the epithelial cells, usually surrounded by small vacuoles. They are invariably present in the larger cysts of the tumor, which is an adenocarcinoma. They are characteristic in appearance, from four to six microns long, with very closely wound, abrupt gyrations, each measuring not over one-half a micromillimeter. Involution forms are not infrequent and

fields showing active phagocytosis on the part of the epithelial cells are to be found. In these cells the organisms are found curled into rings or irregular masses, making inclusions such as have already been described by Prowazek for the organism producing spirochætosis in the fowl (Brazil).

By careful examination of the transplanted tumors this organism can be seen in the fresh state. It is very small, very actively motile, moving rapidly forward and backward. It occasionally comes to rest, when the gyrations can be seen, but its dimensions are so minute that neither flagellæ or an undulating membrane can be seen. All attempts to stain this organism with Giemsa or other aniline stains have been fruitless. In this respect it appears to differ from similar organisms seen in ulcerating tumors described by Loewenthal, and by Borrel in un ulcerated mouse tumors in the Pasteur Institute, and one from Ehrlich's laboratory. Similar organisms have been found by Friedenthal in an un ulcerated human cancer. Loewenthal and Ewing and Beebe have found them in smears from dog tumors, and there is every reason to believe that this organism or similar organisms are widely distributed.

In connection with the possibility of these organisms having an etiological relation to these tumors, it may be pointed out that the recent work of Fischer, showing that Scarlet R would induce proliferation of the

epidermal epithelium of the rabbit's ear when injected beneath the skin, might afford a possible explanation of how an organism like a spirochæta could induce proliferation through the medium of some toxic substance. The distribution around the periphery of the transplanted tumors of the organisms, in the light of Fischer's work is suggestive, and the evidences of phagocytosis on the part of the epithelial cells would explain how the organism could be transported by the cells and continue the irritation necessary to the development of metastases.

The task before us consists in careful examination of uncontaminated human tumors for the purpose of determining with what regularity these or similar organisms are present, bearing in mind that in the light of Fischer's work a very few organisms could produce extensive proliferation, and that inasmuch as Scarlet R affects only the epithelium of the epidermis in the rabbit, and has no other effect upon the epithelium of other regions in the rabbit, it is highly probable that we are dealing with a large group of organisms, each of which produces a toxin, or, as Fischer calls it, an attraxine, for certain kinds of epithelium. It is therefore, not necessary to look for a specific organism, but rather an organism of a specific group, and it must always be borne in mind that there are difficulties in distinguishing between the different spirochætæ thus far described.



SOME EXPERIENCES WITH THE DIFFERENT METHODS OF TREATMENT OF PNEUMONIA.

By A. W. RILEY, A. M., M. D.,

Professor of Principles and Practice of Medicine and Clinical Medicine in the Creighton Medical College; Physician to St. Joseph's Hospital, etc., Omaha, Neb.

IN almost all of my pneumonia cases I have used the salicylates, combined with expectorants, for the last five or six years. And at the present time I prefer this method of treatment in the very young and very aged cases. But in those patients varying from fifteen to seventy-five years of age I now use the quinine treatment with most satisfactory results. I have the deepest confidence in the latter method of treatment, and although I have used it in only fifteen cases as yet, every case, regardless of age, has recovered from the pneumonia itself; one patient only succumbing to complications after the pneumonia proper was cured. My method of treatment does not differ greatly from that laid down by Galbraith, and was first used by me after meeting Dr. Galbraith and hearing reports of other medical men who had visited his hospital and watched his patients from day to day.

Treatment is begun as soon as diagnosis is made, beginning with one drachm of quinine. In one hour the patient receives one-half drachm, then, in two hours, twenty grains, and after that ordinarily but six grains every three hours. If, after two or three days, however, there should be a noticeable rise of temperature, one-half drachm of the quinine is administered instead of the six-grain dose, the six grains continued as before. After the first day

the temperature usually returns to normal, and the necessity for the larger dosage seldom arises.

The question may be asked: How is it possible to give such a large dose of quinine, or rather, how to get the patient to take it without complaint? My method is to rub the quinine up with syr. yerba santa and glycyrrhiza, making a paste, adding a little water to hold it in suspension. In this form the patient usually makes no objection; and, in fact, rarely speaks of the bitter taste. If one dose is rejected, it can be repeated, and he rarely rejects the second.

In cases complicated by pleurisy, contrary to the usual custom, I make it a practice to give sulphate of morphia to relieve pain, and expectorants when necessary to secure relief from annoying cough. I believe when pain is present, or any symptom which interferes with the rest and comfort of the patient, it should be relieved, when possible.

Under the quinine treatment I have not found the usual heart stimulants necessary; the drug itself apparently acting as a stimulant. It seems to have a tonic effect on the heart, and its influence upon peripheral circulation is decidedly marked. The patients are invariably ruddy in color, and there is every evidence that the blood is driven to the surface of the body, thereby relieving the congestion of the internal organs.

Another merit of this method of treatment is that it does not interfere with the nourishment of the patient. I have been in the habit of giving some preparation of meat juice, alternately with milk, every three hours, but after the temperaturc goes down to normal the patient will require more nourishment, and can be given something else.

Objection has been made by those who do not favor this treatment that it is followed by violent delirium. In reply to this I can only say that I have seen violent delirium in many pneumonia patients treated by the salicylate and other methods, and I am convinced that quinine is a most valuable remedy in almost all cases of pneumonia. And right here I wish to speak of this treatment in a recent hospital case. A young man who had ben operated upon for appendicitis developed pneumonia in forty-eight hours; becoming de'irious, he escaped from the nurse, leaped from the window, and was found and returned to the hospital some hours later. He was put on the quinine treatment, and the following day, while his right lung was completely consolidated, he appeared well and ready to take nourishment,

and remained in that condition until the lung was entirely cleared up. Every physical sign of pneumonia was present in the case prior to the dosage of quinine.

In my private cases I always discuss this method of treatment with the patient or his family, and am governed by his or their preference; assurance, however, being given that I have seen no bad results following the quinine dosage.

A medical authority stated some time ago that "pneumonia was the old man's friend," since it appeared usually at a time when he had outlived his usefulness, and it was pretty sure to carry him away. Although we were formerly taught to expect a fatal outcome in aged patients suffering from pneumonia, I would like to mention a recovery in a patient eighty-seven years of age; and two more recent recoveries in patients seventy-four and seventy-eight years respectively. In the first-mentioned case the salicylate method of treatment was used. The quinine method has ben used, and has given me good results in patients ranging in age from fifteen to seventy-five years.—*The Medical Brief*.

OBITUARY.

DR. JAMES VENABLES.

The death of Dr. James Venables occurred at his residence in Halifax, on the 4th inst. His father was for many years provincial librarian, and was one of the most scholarly men in this povince.

Dr. Venables graduated at Harvard in 1867, and after serving as house-surgeon to the Provincial and City Hospital for some years, began practice in this city. During his lifetime he did much charitable work, and his good deeds will never be fully

known. He was 68 years of age, and is survived by a widow and family, to whom the NEWS extends its sincere sympathy.

PERSONALS.

Dr. H. L. and Mrs. Dickey of this city have gone on a trip to England.

Dr. C. E. MacMillan, M. P. P., of Inverness, was married at Boston, on the 11th inst. to Miss L. Diana Roberts, formerly of Parrsboro, N. S., The NEWS extends its congratulations.

SOCIETY MEETINGS

THE MEDICAL SOCIETY OF NOVA SCOTIA

THE fifty-fourth annual meeting was held at Windsor on the 3rd and 4th inst.

JULY 3RD, MORNING SESSION.—The President, Dr. J. B. Black, M. P., in the chair.

The minutes of the previous meeting were read and subject to completion and signature of the retiring secretary, were adopted.

Dr. J. W. Reid read report of the Committee of Arrangements as indicated on the programme.

The President named the following Nominating Committee: Drs. Hattie, W. B. Moore, A. P. Reid, C. H. Morris, A. McI Morton and the Secretary.

Dr. M. A. Curry read the first paper: "Some of the Common Causes of Difficult Labour, their Prevention and Treatment," giving a concise review of the subject which proved of general interest and stimulated discussion.

Dr. W. B. Moore mentioned his plan for uterine inertia. A cup of strong coffee is often efficient, also stimulating enemata. He has used caulophyllum, gr. $\frac{1}{4}$ every half hour, with good effect. Whenever possible he forestalls the condition by previous building up of the patient.

Dr. H. A. March has found uterine inertia in several cases of an acephalic fœtus. He ruptures the membranes early in these cases, to be rid of the excessive liquor amnii.

Dr. C. S. Morton has also found caulophyllum of good service in uterine inertia. He asked the reader for his rule regarding the time for applying forceps.

Dr. W. H. Eagar asked for Dr. Curry's treatment of R. O. P. cases.

He has found hypnotic suggestion of use as a means of controlling labour pains.

Dr. J. W. Reid confessed that he was, from his experience, favourable to the use of ergot in the second stage with a well dilated os.

Dr. J. W. T. Patton emphasized the importance of early supervision and preparatory treatment of the patient. He regards the hyoscine-morphine-cactin combination as the best sedative, and has also used caulophyllum with benefit as a uterine stimulant. Quinine, which had been rather discredited by Dr. Curry, would give better results if used in doses of at least fifteen grains.

Dr. Curry concluded the discussion, answering the questions asked. He helps delivery by forceps whenever there is cessation of progress for an hour or two, when not due to such causes as lack of flexion of the head, etc. R. O. P. cases should if possible be turned around before coming down into the pelvis. He discouraged the use of ergot before the uterus is empty.

Dr. C. H. Morris (Windsor, read a most interesting case report: "A Probable Case of Afebrile Typhoid," in which all the characteristic signs of the disease, with the exception of fever, had been present.

Dr. W. H. Hattie had recently encountered a series of 30 to 35 mild cases of typhoid in the N. S. Hospital, in which some peculiar temperature curves were noted, some of them being subnormal for a time at least. The Widal reaction was absent in most of them, which would argue that the condition called typhoid fever was not necessarily or always produced by

the typical typhoid bacillus, but that other members of the colon group might cause the symptoms.

Dr. Edward Archibald, of Montreal, pointed out the fact that the typhoid infection sometimes localizes elsewhere than in the small intestine, as for instance in the gall-bladder.

Dr. W. H. Hattie then read his paper, "The Cost of Degeneracy," pleading the cause of the degenerate as a public charge, and citing statistics to show that the public contributed more per capita for the maintenance of its criminals than for the maintenance and treatment of its mentally unfit.

Before adjournment the President invited the members of the Society, on behalf of the authorities of the Payzant Memorial Hospital, to visit that institution.

AFTERNOON SESSION.

Dr. W. H. Eagar presented a case of neurasthenia, which he had treated for several months by hypnotic suggestion, with beneficial results. Dr. Eagar demonstrated many interesting hypnotic phenomena on his patient.

Dr. Edward Archibald, Assistant Surgeon to the Royal Victoria Hospital, Montreal, then read a paper on "Cerebral Compression, its Physiological Basis and Therapeutic Indications." He referred to the influence and effect on the vaso-motor centre in cerebral compression. The point chiefly emphasized was the accurate determination and recording of the blood pressure, etc. He thought that the "traditional pessimism" with which the profession has approached these cases should be discarded, and that intelligent operative interference should be encouraged. Dr. Archibald's paper was exceptionally well received.

Dr. H. K. McDonald remarked that the diagnosis between cerebral compression due to fracture and uræmia must always be carefully considered, as in both conditions there is heightened blood-pressure. Dr. McDonald moved a cordial vote of thanks to Dr. Archibald, which was seconded by Dr. Burrell, passed, and presented by the President.

The session was then adjourned for the members to attend an "At Home" at the residence of the President and Mrs. Black. This was largely attended and included a large number of townspeople. Dr. and Mrs. Black received their guests in a front drawing room, and a profusion of cut flowers and ferns were artistically arranged in both rooms and in the spacious hall.

The occasion was a most delightful function, the guests greatly appreciating the hospitality extended to them by so genial a host and hostess.

EVENING SESSION.

This session was open to the public and was well attended.

Drs. G. E. Buckley, Sponagle and Birt sent messages of regret at not being able to attend the meeting.

Mayor Armstrong read the following address of welcome from the citizens of Windsor:

"To the President and Members of The Nova Scotia Medical Society:

"GENTLEMEN:—On behalf of the Town Council and Citizens of Windsor, I beg to extend to you a cordial welcome to our town. We are pleased indeed that you have honored Windsor by holding your meeting of 1907 here. It is also gratifying to us that at your last annual meeting you paid one of our citizens the honor of electing him president of your association. We trust that the conference just opening will be successful in every way in promoting and carrying out

all the objects and purposes for which you are assembled. We are aware to some extent of the great and manifold blessings to humanity that result from the unending study and self sacrificing work of your esteemed and honored profession, and feel sure that your deliberations and exchange of views and opinions at this present session will result in further advancing this most praiseworthy cause. We would point out that Windsor is one of the few towns in Nova Scotia that enjoys the privilege of a local hospital, and we would be glad if during your stay here, you would visit our institution, where I am sure the medical staff and lady superintendent will be ready to show you every courtesy.

"In welcoming visitors we are pleased to call attention to some of the places that might prove of interest. We have the old historic grounds and buildings of Fort Edward, the University of King's College, one of the oldest in America, the "Sam Slick" place, once the residence of the late Judge Haliburton, the Church School for Girls, Collegiate School, County Academy, etc. We hope that you will find time to visit some of these and also enjoy the many fine drives about our town, and that when you leave for your homes you will carry away with you pleasant impressions of your stay amongst us."

Dr. J. B. Black then gave his Presidential Address on "Race Suicide with Suggestions for Some Remedies," laying stress on the importance of medical inspection of schools, and made a strong plea for the establishment of Federal and Provincial Departments of Public Health.

Dr. A. P. Reid, Provincial Health Officer, agreed with Dr. Black's suggestions, but moved that this discussion be deferred until next morning's session.

Dr. W. H. Eagar said the paper was an admirable one, and met with his hearty approval. He moved a vote of thanks to the President, and that the paper be published in the *MARITIME MEDICAL NEWS* and in the daily local press.

Dr. G. E. DeWitt disagreed with Dr. Reid to defer the discussion, and seconded Dr. Eagar's motion.

He expressed his pleasure that Dr. Black had dealt with a subject which had so much to do with the public health. Dr. DeWitt dwelt at considerable length on the question of public health and sanitation.

Dr. H. A. March expressed his approval of the speeches already made, and thought that the matter should be discussed by the people in general, as they were strangely ignorant of the laws of health and careless about themselves and children. It is difficult to get any medical legislation through the legislature. The examination of children in public schools is a financial question. The people say the doctors want to make money; such is a curiosity in Nova Scotia, unless from speculation. It is far more easy to prevent disease than to arrest its progress. Tuberculosis can be cured under most favourable conditions. He wished to add his testimony to the able address of the President, which should be spread throughout the province.

Dr. W. H. Macdonald, Vice-President, read the motion, which was carried unanimously.

The President very gracefully acknowledged his appreciation of the vote of thanks given him for his paper, and was pleased that they thought it worthy of a place in public print.

Dr. Charles A. Hodgetts, Secretary Ontario Board of Health, was to have read a paper on "Public Health

in Relation to Federal and Provincial Authorities," but was unable to be present, and his place on the programme was filled by Dr. Hattie's paper on "The Cost of Degeneracy," which was re-read by Dr. Edward Archibald, Montreal.

Before adjourning, the President thanked those who attended the meeting, and the Mayor on behalf of the Society, for his kind address of welcome.

MORNING SESSION, JULY 4TH.

The report of the Nominating Committee was read by the Secretary, and adopted by the Society as follows:

President—Dr. J. Stewart, Halifax.

1st Vice-President—Dr. W. Huntley Macdonald, Antigonish.

2nd Vice-President—Dr. W. G. Putnam, Yarmouth.

Sec'y-Treasurer—Dr. J. R. Corston, Halifax (re-elected).

Executive Council:—

Guysboro, Dr. G. E. Buckley.

Shelburne, Dr. L. O. Fuller.

Yarmouth, Dr. S. W. Williamson.

Digby, Dr. L. H. Morse.

Antigonish, Dr. W. F. McKinnon.

Inverness, Dr. C. H. Dickson.

Richmond, Dr. C. P. Bissett;

and members appointed by the different County Medical Societies, as those already named on the Executive Council are from counties without medical societies.

The next meeting of the Nova Scotia Medical Society will be held in Halifax.

COMMITTEES.

Sanitation:—Drs. A. P. Reid, L. M. Murray, G. E. DeWitt, M. A. Armstrong, Clarence H. Morris.

Legislation:—Drs. H. A. March, E. A. Kirkpatrick, A. P. Reid, A. J. Cowie, J. B. Black.

Medicine:—Drs. W. H. Hattie, G. M. Campbell, C. H. Morris, C. S. Morton, C. C. Archibald.

Surgery:—Drs. H. K. McDonald, M. Chisholm, J. G. McDougall, R. A. H. McKeen, C. A. Webster.

Obstetrics:—Drs. F. U. Anderson, M. A. Curry, C. I. Margeson, A. McD. Morton, L. R. Morse.

Therapeutics:—Drs. W. B. Moore, W. H. Eagar, W. H. Macdonald, (Rose Bay), F. W. Goodwin, E. F. Moore.

LIFE INSURANCE FEES.

A very interesting discussion on this question occupied a large portion of the morning session.

Dr. W. H. Macdonald (Rose Bay) said that the Lunenburg-Queens Society first agreed on a five dollar fee and a great deal of work had been lost by so doing. The life insurance companies had fought against it, but their Society had adhered to it until last February when they agreed to a compromise of a four dollar fee. Eighty per cent of policies are for \$1,000, and these examinations would be raised from three to four dollars throughout the province. He then made the following motion:

"That the Nova Scotia Medical Society endorse the action of the Lunenburg-Queens Medical Society in accepting, for the present, the compromise with the Canadian Life Officers Association in setting a level fee of \$4.00 for old line life insurance examinations."

Dr. H. K. McDonald seconded the motion. Some societies had not accepted the compromise as yet, pending the action of this Society.

Dr. L. O. Fuller asked if the Lunenburg-Queens members had lost work on account of the five dollar fee, or did anyone do the examinations for a lower rate? This latter might be done in this Society.

Dr. H. A. March was exceedingly sorry that the Lunenburg-Queens Society had agreed to the four-dollar fee. He was not at that meeting or he would have urged for holding to the five-dollar rate. Life insurance depends on the medical profession for its success, and largely for soliciting life insurance business in this province.

Dr. J. J. Doyle stated that two past presidents of the Nova Scotia Branch British Medical Association in Halifax had made examinations (industrial) for 25 cents, and one had made examinations in Lunenburg County at the old rate because members of Lunenburg-Queens Society could not do it. He moved the flat rate for all life insurance examinations be five dollars.

Dr. M. Chisholm said the life insurance companies were anxious to give a four-dollar rate and it would be well for us to pass it.

Dr. J. W. Patton said that the Colchester Medical Society passed a resolution for a five-dollar fee, which was maintained until it was found the number of examinations became reduced. The question of a four-dollar fee then came up and they were practically compelled to adopt it. For Fraternal Societies this passed also, but he opposed it. The result was railway men went to Stellarton and New Glasgow and got examined for one or two dollars.

Dr. F. S. L. Ford thought that old line companies did not live up to their opportunities. A large class of people cannot afford insurance in old-line companies. It was a wrong thing to deprive a large proportion of people from life insurance. It should be the greatest good for the greatest number, and he would support Dr. Macdonald's motion.

Dr. R. H. Burrell, President of the Lunenburg-Queens Society, had fought this matter before their society. He had not changed his mind on the principle of a five-dollar fee, but as a matter of expediency thought it wise to pass Dr. Macdonald's motion. The compromise made by their Society was in the interests of the profession.

Dr. M. A. B. Smith asked if the motion passed would it morally bind the members to act by it. He mentioned an industrial insurance company whose fees were very small.

Dr. March said he would agree to the four-dollar fee if it included Fraternal Societies. Professionalism was much different to commercialism. It is not what we are to get out of it, but what is good for all. Fraternal Societies have not given this province the best kind of insurance, and we ought to advocate old line companies. He therefore seconded Dr. Doyle's motion—four dollars for all companies.

Dr. A. P. Reid facetiously moved the following amendment that a letter be written to the Life Insurance Association that two dollars be charged for an examination of the kidneys and heart, three dollars for the kidneys, heart and lungs, and five dollars for a full examination.

Dr. Doyle withdrew his amendment to make it a motion.

Dr. Macdonald's motion was then put and carried almost unanimously.

Dr. Ford said that Dr. Doyle's motion was like the prohibition law, it could not be carried out.

Dr. Doyle's motion was then put and lost.

Dr. W. B. Moore then read a practical paper on "Therapeutic Notes," being a review of the therapeutic field at present.

Dr. Alex. McPhedran, Professor of Medicine, University of Toronto, followed with an able paper on "The Early Diagnosis and Treatment of Cancer of the Stomach."

Dr. M. A. B. Smith said he had listened with great attention to Dr. McPhedran's paper. The disease was comparatively rare before 40, and more common in men than in women. Spasm of the stomach as a sign he had not been familiar with. The presence of hydrochloric acid where the disease is advanced is very rare. The absence of hydrochloric acid and a large amount of lactic acid with emaciation are almost pathognomonic of the disease. One ought to be careful in the use of the stomach tube where any danger of hæmorrhage. The stools ought to be inspected likewise. In ulcer cases there is often an excess of hydrochloric acid. The weight of patients is important, and ought to be done systematically.

Treatment.—Operation in early stage is very important. Medication should be sedative, and diet, as applied to absence of hydrochloric acid, largely vegetable. He was anxious to hear the results of radium in œsophageal cancer; Einborn has had good results.

Dr. W. H. Eagar referred to early diagnosis. A patient with dyspeptic symptoms not responding to treatment in three weeks, ought to make us suspicious. The corpuscle count, low percentage of hæmoglobin with other symptoms and cachexia, are important. The fæces should be carefully examined for blood, and especially connective tissue. The most difficult cases to diagnose are those involving the cardiac end of the stomach.

Dr. H. K. McDonald said he anticipated something good, and he

was not disappointed. The position of examining a patient mentioned by Dr. McPhedran appealed to him. The day is coming when it will be necessary for all physicians to make tests for stomach contents. Cachexia of cancer is largely due to auto-intoxication. Trypsin and amylopsin he saw used in New York. Benefit can be obtained from them in other conditions not cancerous. Thirst he had found a prominent symptom.

Dr. E. Archibald, of Montreal, has listened with great interest to the paper. There was great necessity for early diagnosis, and a great responsibility on the general practitioner. There is prevalent a certain amount of negligence and more room for improvement. Even after diagnosis, operation is often too late. This is a grave condition, and the appeal of Dr. McPhedran is extremely timely. Dr. Munro, of Boston, says to exhaust all measures; Dr. McPhedran says all measures are not conclusive. Operation should be advised as a confirmatory test. The Gram test to stools may be of aid. If Gram test is negative to germs present, the absence of cancer is probable. Inflation of the stomach is often valuable.

Dr. R. H. Burrell had much pleasure in moving a vote of thanks to Dr. McPhedran for his excellent paper.

Dr. W. B. Moore seconded the motion.

Dr. D. T. C. Watson wished to add his appreciation to the paper. He would like to know the results of trypsin and amylopsin.

Vote of thanks carried.

Dr. McPhedron, in reply, thanked the members for their kindness. Concerning rigidity of abdominal walls, it was not new, as it was described in 1852. The absence of hydrochloric acid and abundance of lactic acid he

had never seen to fail. He had much less fear of the stomach tube than Dr. Smith. The danger is from strangling and distress. He has seen many cases of hæmorrhage in indigestion from gastric congestion, due to errors of diet, etc.

AFTERNOON SESSION, JULY 4TH.

The Treasurer's report was read by the Secretary-Treasurer, and was moved and seconded that it be adopted; carried.

A committee was appointed to draw up resolutions of condolence to families of all members deceased during year; Drs. Ross, Chisholm and Smith to be the committee.

Dr. Smith moved that the original name of the Society be adhered to, viz: "The Medical Society of Nova Scotia," which was seconded and passed.

Dr. Corston moved a vote of thanks be extended to the Committee of Arrangements for the pleasant and profitable way in which the members were entertained.

Dr. P. C. Woodworth seconded the motion, which was carried.

Dr. Morris (Windsor) replied in suitable terms.

Dr. A. P. Reid then read a very comprehensive paper on "Therapeutics," containing much of interest during his long experience. On account of lack of time, discussion was deferred.

Dr. James Ross followed with a paper on "Chronic Prostatitis and its Treatment."

Dr. Watson asked how long would it be safe for a man to marry who had gonorrhœa for two or three years?

Dr. Ross answered that it would depend on repeated examinations of the urethral secretion to give a definite answer.

After the completion of the afternoon's session at four o'clock, the

members were given a drive about town and the surroundings; and as the day was fine, the suburbs looked most attractive, all points of special interest being visited. The conveyances were double and single carriages, many of the citizens placing their own private teams at the visitors' disposal.

EVENING SESSION, JULY 4TH.

Dr. J. W. Reid, referring to the establishment of a Health Department in both Dominion and Provincial Governments, moved the following resolution:

Resolved, that the matter of the establishment of a Department of Health in connection with the Dominion and Provincial Governments, as suggested by the President in his able address, be left to the Legislative Committee to confer with the Governments and report at next meeting.

Dr. Eagar seconded the motion, which was carried.

Dr. M. Chisholm then read a most interesting paper on "Some Further Remarks on Extra-Uterine Pregnancy."

Dr. J. W. Reid spoke of the importance of the general practitioner recognizing this condition. Dr. Reid referred to one case mentioned by Dr. Chisholm. Patient had slight bloody discharge and slight pain for two or three days; no fever, pulse good. He did not consider it serious, but having heard Dr. Chisholm's former paper a few days previously, he was reminded of the symptoms. She had passed her monthly period six or seven weeks. He watched the case about a week. Pain then became more severe, and he telephoned Dr. Chisholm, who advised operation. However, he (Dr. R.) deferred it for two or three days, when the pain

became more severe, but no increase of hæmorrhage. Pain one morning was very severe and pulse became hardly susceptible, running to 150. Dr. Chisholm came and operated. Peritoneum opened and the blood welled out. Patient recovered. No case should be considered too desperate to operate.

Dr. Doyle then moved that the Society adjourn, seconded by Dr. Eagar, and carried.

Dr. Ross moved a vote of thanks to the President for the able manner in which he had presided over the meeting. This was seconded by Dr. H. K. McDonald, and carried.

Vice-President W. H. Macdonald tendered the vote of thanks to the President, who thanked the members stating that it was a great pleasure to meet them. He had practised nearly 43 years, and had as much happiness as any man could have all these years. He would sooner practise medicine than anything.

The meeting then adjourned.

THE DINNER.

After partaking bountifully of the various well-served viands, the President proposed "The King," which was honoured with enthusiasm, followed by "The National Anthem."

"Our Visitors" was the next toast. This was replied to by Dr. McPhedran of Toronto, who thanked the Society for the honour conferred on him. He then spoke of the interests of the Canadian Medical Association, which demanded the attention of all practitioners in Canada. The profession in Canada was not doing itself justice. The trouble is for instance outside of the Maritime Provinces, the other provinces do not know of the work done by the Medical Society of Nova Scotia. His idea was to unite and have one

official journal which could be published monthly. He thought we were too narrow in our education, and our scientific training was not thorough enough. The Canadian profession should live up to its duties and privileges. If a journal were published it would tend to help the physician in his daily work, and elevate him to a higher plane. The matter would be brought before the next meeting of the Canadian Medical Association, and would suggest that the Executive of this Society be empowered to deal with the subject and report at that meeting. There was no doubt of success with good organization. He had nothing to say against local journals, and it might be necessary to continue the MARITIME MEDICAL NEWS.

Dr. A. P. Reid then proposed the health of the Nova Scotia members outside of Hants County, to which Dr. Eagar responded, remarking on his hearty co-operation with Dr. McPhedran's scheme.

Dr. Chisholm also said that the idea of a Canadian journal appealed to him very much.

Dr. Doyle then referred to the appreciation of the visiting members to the kindness of the profession of Hants County, and proposed their health in suitable terms.

Dr. Burgess, the senior practitioner present, responded, and also Dr. E. F. Moore.

Dr. Ford proposed a toast to the Life Insurance Association, which was responded to by Mr. Weston, of the Manufacturer's Life, who referred to his intimate relations with the medical profession of Nova Scotia, who had done much to protect life insurance companies.

Dr. A. P. Reid proposed the health of the officers of the Nova Scotia Medical Society.

The President responded in feeling terms. This was the first time the Society met in Windsor since 1868. He referred to the late Dr. Fraser, who had a gentlemanly bearing, and whose kindness of heart always gave encouragement to young practitioners. The same could be said of Dr. Weeks, the oldest practitioner in the County of Hants. Dr. Fraser was a good charger, but a poor collector. One time his wife gave him a present of "A Noble Charger," a picture taken

from one of Rosa Bonheur's paintings. Rev. Mr. Moore, father of Dr. E. F. Moore, looking at it one day, said, "There's a span of them in this house."

Dr. W. H. McDonald (Rose Bay) also responded, and proposed the health of Dr. John Stewart, our newly elected President. This was drunk and received enthusiastically. "Our Next Merry Meeting" brought this pleasant function to a close.

CANADIAN MEDICAL ASSOCIATION.

TRANSPORTATION RATES, MONTREAL MEETING, 11TH TO 14TH SEPTEMBER, 1907.

The standard convention certificate plan will prevail for this meeting; and all delegates when purchasing first-class single transportation to Montreal for themselves, their wives or daughters (no others) must get from the ticket agent at the same time a Standard Convention Certificate, which when vised at Montreal, will entitle holders to return free if three hundred are present holding them; one-third if fifty or over. Every one should therefore endeavour to make one of these three hundred, so as to provide for free return transportation.

Ontario, East of Port Arthur, and Quebec and Maritime Provinces tickets for sale on the 7th and 8th September; final purchase at Montreal, September 18th. Passengers

going by rail and returning R. O. C. Navigation Co., or vice versa, rate to be one and one-half fare—Toronto or Kingston to Montreal. Tickets will also be honored via R. & O. Navigation Co. on presentation of rail excursion tickets to the ticket agent at Toronto, or to the purser on board steamer, and payment of the following arbitraries, viz.: \$6.66, Toronto to Montreal; \$3.50 Kingston to Montreal.

Between Port Arthur and Halifax the C. P. R., G. T. R., C. N. R., Intercolonial and Royal Navigation Company, are included in these arrangements.

The General Secretary will issue his annual circular of information to members early in August.

AMALGAMATED MEDICAL SOCIETY.

The Medical Societies of Colchester and Hants met in Truro, Tuesday evening, May 21st, and made a formal amalgamation.

A constitution was adopted.

The officers elected were:

Dr. J. B. Black, M. P., Windsor, President.

Dr. Margeson, Hantsport, Vice-President.

Dr. H. V. Kent, Truro, Secretary.

Executive Committee:—The officers, Dr. Yorston, Truro; Dr. Reid, Windsor.

The banquet at the Stanley House was most enjoyable. Speeches, readings and music helped pass a merry evening.

Lactopeptine Tablets

A cleanly, convenient and very palatable method of administering Lactopeptine, especially for ambulant patients.

The tart, pineapple flavor, renders these tablets as acceptable as confections. They are particularly valuable as "After Dinner Tablets," to prevent or relieve pain or distension occurring after a heavy meal.

EACH TABLET CONTAINS 5 GRAINS LACTOPEPTINE.

SAMPLES FREE TO MEDICAL MEN.

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Liquid Peptonoids

WITH CREOSOTE

Combines in a palatable form the antiseptic and anti-tubercular properties of Creosote with the nutrient and reconstructive virtues of Liquid Peptonoids. Each tablespoonful contains two minims of pure Beechwood Creosote and one minim of Guaiacol.

DOSE—One to two tablespoonfuls three to six times a day.

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Borolyptol

A highly efficient (non-acid) antiseptic solution, of pleasant balsamic taste and odor. Absolutely free from toxic or irritant properties, and does not stain hands or clothing.

Formaldehyde, 0.2 per cent.
Aceto-Boro-Glyceride, 5 per cent.
Pinus Pumilio,
Eucalyptus,
Myrrh,
Storax,
Benzoin,

} Active balsamic constituents.

SAMPLES AND LITERATURE ON APPLICATION.

The **PALISADE MANUFACTURING COMPANY**
88 Wellington Street West, ✎ ✎ TORONTO, Ont.

IDLE MOMENTS.

IN NO DANGER.

A PROMINENT lawyer who formerly practised at the bar of Kansas City tells of a funny incident in a court there during a trial in which a certain young doctor was called as witness.

Counsel for the other side in cross-examining the youthful medico gave utterance to several sarcastic remarks tending to throw doubt upon the ability of so young a man.

One of the questions was: "You are entirely familiar with the symptoms of concussion of the brain?"

"I am."

"Then," continued the cross-examiner, "suppose my learned friend, Mr. Taylor, and myself were to bang our heads together, should we get concussion of the brain?"

"Your learned friend, Mr. Taylor, might," suggested the young physician.

—*Harper's Weekly.*

BATHING A BABY.

Many fathers stand aloof from the common domestic duties, not because they are so busy or because they are not willing, but because of ignorance.

How many men are there who would not gladly drop their business at any time and stay home and give the baby his bath, if they only knew how!

Yet in reality it is much simpler than it seems. Fill the bathtub full of any good water, first carefully removing germs. Put your elbow in occasionally to see if it is the right temperature. If ice forms on your elbow you may know the water is too cold. If there are blisters then it is too warm. Be moderate in all things.

Take the baby firmly by both feet and shake him loose from his flannel moorings, until you begin to see safety pins ahead. Then remove the safety pins with gas-nippers, and unroll until the baby looms into sight.

Now, having put on your rubber coat, put one hand firmly under the baby's chest and the other on his back, and launch him on the still waters. When he has kicked all the water out of the bathtub, renew as before.

Be careful while you are manipulating the baby, to keep him face down. Otherwise, you would not be able to put water anywhere else but in his mouth.—Tom MASON in the *March Delineator.*

*

A COLD WORLD FOR TOMMY.

Father's got the fresh-air craze, and
mother's got it, too,
And I don't know if I can stand this
bloomin' winter through;
We haven't a furnace fire, 'cause father
says as where

A fire is unhealthy, so we warin' with his
hot air,

He gets up every morning and thaws out
both the cats,

And then goes up in our spare room an'
does some acrobats;

The windows are left up all night, an' in
the mornin', gosh!

I have ter crack the ice up in the pitcher
when I wash.

An' mother, too, she's just as bad—she
walks from two to four,

And then comes back an' pulls at some-
thing hangin' on the door;

And then she takes a big long breath—it's
one of her best tricks—

And doesn't breathe till she has counted
up to ninety-six.

We live on malted shavin's and shredded
doormats, too,

An' I can't use my appetite—it's just as
good as new,

An' so I'm goin' to grandma's house
where I can sleep and stuff,

Till mother gets her lungs filled up, an'
pa gets air ernuff.

—*Puck.*



3 AGES OF WOMEN

The *parturient* period is one of the most critical stages of a woman's life. In obstetrical work both prior to and following delivery

Hayden's Viburnum Compound
HAS PROVEN OF INESTIMABLE SERVICE.

In Threatened Abortion it exercises a sedative effect upon the nervous system, arrests uterine contraction and hemorrhage, and prevents miscarriage.

The Rigid Os, which prolongs labor and rapidly exhausts the vitality of the patient, promptly responds to the administration of H. V. C., and no less an authority than

H. Marion Sims said

"I have prescribed Hayden's Viburnum Compound in cases of labor with *Rigid Os* with good success."

After-pains. The antispasmodic and analgesic action of H. V. C. makes it of especial service in this the third stage of labor. It modifies and relieves the distressing after-pains and by re-establishing the tonicity of the pelvic arterial system it prevents dangerous flooding.

Hayden's Viburnum Compound contains no narcotic nor habit forming drugs. It has enjoyed the confidence and support of the medical profession for over a quarter of a century. Its formula has been printed thousands of times and will be cheerfully furnished with literature covering its wide range of therapeutic uses on request

✓ Samples for clinical demonstration if express charges are paid

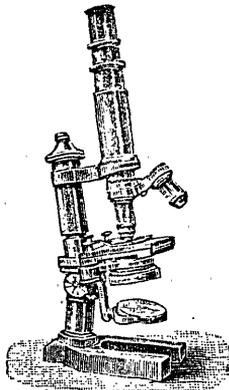
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✉ WRITE FOR OUR LATEST QUOTATIONS.

THERAPEUTIC NOTES.

By C. W. CANAN, B.S., M.D., Ph.D.

“Ergoapiol”: Its Therapeutical Indications With Clinical Notes.

We desire to call the attention of the medical profession to a new pharmaceutical product possessing valuable therapeutic virtues in many diseases peculiar to women. This remedy is known as Ergoapiol (Smith), and since its introduction to the profession it has rapidly gained favor with our best physicians. It is strictly ethical, manufactured from the purest drugs and advertised only to physicians.

It is the result of an original combination of the following remedies: apiol, ergotin, oil of savin and aloin, all of which are freed from toxic and other deleterious substances. These agents are blended in such proportions as to overcome the powerful irritating qualities of each and raise the tonic properties of all. A glance at the therapeutical indications of these remedies singly will convince the most sceptical, of the virtues of Ergoapiol—the result of their combination.

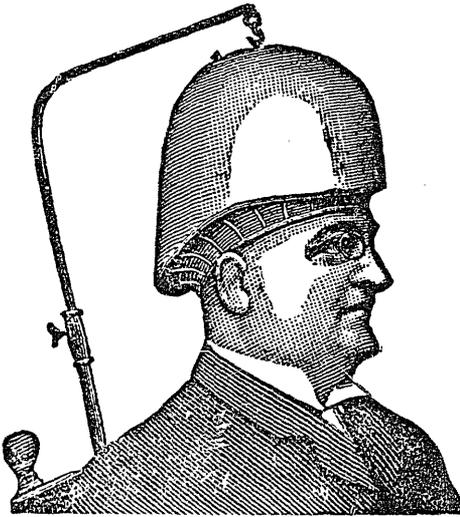
Since the days of Janet, Homolle and Baillot, apiol has gradually grown in favor as a therapeutical agent, but until recently it had one decided drawback, that of containing deleterious and toxic impurities in combination. Recently through the skill of the never-tiring pharmacist, these have been eliminated, and it can now be prescribed without fear of producing disagreeable symptoms, but with an assurance that its full therapeutical virtue will be realized. Even in its impure state apiol gained considerable reputation in the treatment of nephritis, dropsical effusions, amenorrhosa and dysmenorrhœa. Its

emmenagogue properties have been greatly enhanced by the removal of all impurities. In small doses it now became a mild aromatic stomach tonic; it is also highly recommended in membranous dysmenorrhœa. The therapeutic value of ergotin is too well known to call forth comment here. Combined as it is materially to the efficiency of the finished product.

All students of medicine are aware that oil of savin is a powerful and valuable stimulant to the uterine system, and is one of the most potent emmenagogues known. It is also a powerful gastro-intestinal irritant, and therefore is seldom prescribed alone. But when combined with certain correctives, as it is in Ergoapiol it becomes a valuable addition to the drugs already named—apiol and ergotin.

Since the discovery of the methods of producing aloin from the different brands of aloes, this drug has become very popular, and has taken the place of the crude drug to a considerable degree. Aloin enters into almost every emmenagogue pill and mixture. Its value as a therapeutic agent is so well known that it is not necessary for us to speak of it in detail.

Ergoapiol is indicated to a greater or less extent in all forms of dysmenorrhœa, viz., atonic, congestive, obstructive and membranous. In true obstructive dysmenorrhœa due to actual stenosis of the uterine canal, to a sharp flexure of the organ, or to the valve-like action of a clot or a polyp it is seldom indicated because this form of organic dysmenorrhœa requires either surgical operations or mechanical means to effect a cure. However, good results may be expect-



A

**REMARKABLE
INVENTION**

FOR THE

**CULTURE
OF HAIR**

THE EVANS VACUUM CAP is a practical invention constructed on scientific and hygienic principles by the simple means of which a free and normal circulation is restored throughout the scalp. The minute blood vessels are gently stimulated to activity, thus allowing the food supply which can only be derived from the blood, to be carried to the hair roots, the effects of which are quickly seen in a healthy, vigorous growth of hair. There is no rubbing, and as no drugs or chemicals of whatsoever kind are employed, there is nothing to cause irritation. It is only necessary to wear the Cap three or four minutes daily.

60 DAYS' FREE TRIAL!

The Company's Guarantee:

An EVANS VACUUM CAP will be sent you for sixty days' free trial. If you do not see a gradual development of a new growth of hair, and are not convinced that the Cap will completely restore your hair, you are at liberty to return the Cap with no expense whatever to yourself. It is requested, as an evidence of good faith, that the price of the Cap be deposited with the Chancery Lane Safe Deposit Company of London, the largest financial and business institution of the kind in the world, who will issue a receipt guaranteeing that the money will be returned in full, on demand, without questions or comment, at any time during the trial period.

The eminent Dr. I. N. LOVE, in his address to the Medical Board on the subject of Alopecia (loss of Hair) stated that if a means could be devised to bring nutrition to the hair follicles (hair roots) without resorting to any irritating process, the problem of hair growth would be solved. Later on, when the EVANS VACUUM CAP was submitted to him for inspection, he remarked that the Cap would fulfil and confirm in practice, the observations he had previously made before the medical board.

Dr. W. MOORE, referring to the invention, says that the principle upon which the Evans Vacuum Cap is founded is absolutely correct and indisputable.

An illustrated and descriptive book of the Evans Vacuum Cap will be sent free on application.

THE SECRETARY, EVANS VACUUM CAP CO., Ltd.
REGENT HOUSE, REGENT STREET, LONDON, W.

Halifax Stock Exchange

ESTABLISHED 1873

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BANK OF BRITISH NORTH AMERICA

(PAR VALUE \$243.33)

At 155%. To yield 4.50%

THE Bank of British North America operates under a British Charter, and is without double liability for shareholders. It is the only bank in Canada whose stock is free from double liability, and for that reason, and because of the well deserved reputation of this institution for conservatism and able management, the shares have constantly increased in value and in favor as an investment security.

During the ten years ending December 31st, 1906, the Bank's

Reserve increased	. . .	61%
Circulation "	. . .	185%
Deposits "	. . .	105%
Total Assets	. . .	100%

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ed from its use after such operations have failed to complete a cure or to relieve the suffering. It is even useful in the form where clots cause the trouble by their mechanical obstruction, and we have seen its administration cause the passage of a polyp in one patient. Good results may be expected from its use in that form of dysmenorrhœa known as membranous, due to an exfoliation of the endometrium in the form of a membrane. In amenorrhœa it is far superior in value to any remedy we have yet tried, if the cases are properly selected. Amenorrhœa due to taking cold at the menstrual period, or caused by shock, can be relieved with the remedy in question.

This remedy is occasionally beneficial in certain forms of metrorrhagia, after operations to remove fungoid or polypoid growths, or after curretting the uterus. It is a remedy of great value in menorrhagia, especially in that form due to faecal impaction, with torpidity of the liver in persons nearing the menopause. Where this trouble occurs in a plethoric and indolent subject the following plan of treatment will generally be all that is necessary: Begin three or four days before menstruation is due and give one brisk mercurial purge, then follow with Ergoapiol, one capsule three times per day. If this plan is carried out for several months at each menstrual period, a cure will be the result.

Ergoapiol is especially indicated when disturbances of menstruation occur in feeble and anæmic women. It should be alternated with some form of iron in such cases.

There is a condition in which the patient's menses are regular as far as time is concerned, but the flow is very scant, exceedingly thick, tarry in color, with an offensive odor. The patient suffers pain and weight in the pelvis and back; is despondent, loses

flesh and strength, and may or may not suffer from various reflex disturbances. In this state of affairs Ergoapiol will be found a sheet anchor.

In that form of amenorrhœa that is brought about by constitutional disease, such as tuberculosis, it is a common occurrence to have women insist on their physicians giving them something to bring on menstruation, thinking that its absence is the cause of their condition, when the fact is; the stopping of menses is only a wise provision of nature to prevent faster decline of vital forces. The course to be pursued is to treat the constitutional disease, and when a cure of the latter has been accomplished, this form of amenorrhœa will generally take care of itself. However when the patient's general health has been restored and the function fails to return, then Egoapiol can be prescribed with good results.

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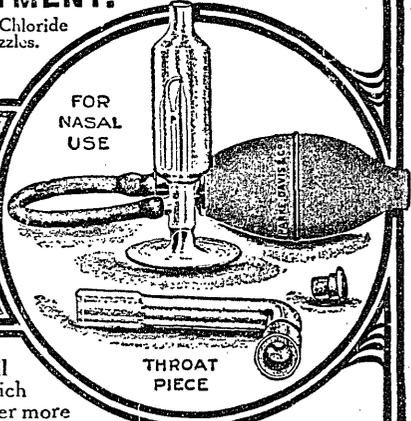
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