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Original Communications.

THE NATIONAL IMPORTANCE OF PURE MILK.*

BY DR. CHARLES J. C. O. HASTINGS.

When we consider that milk constitutes, practically the sole article of diet of infants and invalids and enters into the dietary of all more or less and that it is the most delicate and sensitive food we have, to bacterial contamination, it is surely time that we are waking up to the fact that it is at least as deserving of municipal control as is our water supply or light and power.

Some twenty years have elapsed since the appalling tide of infant mortality came home to thoughtful minds in Germany, France, Belgium and the United States of America, and so engrossed their attention as to stimulate a spirit of investigation, in consequence of which it was soon apparent that this enormous mortality was largely from the ranks of hand-fed children (90 per cent.), breast-fed children only contributing about ten per cent. They also observed that there was a marked seasonal fluctuation, having an abrupt upward curve for the mid-summer months and an equally sharp drop in the autumn. The marked increase in months of July and August was found to be largely due to diarrhoeal diseases, there being very little fluctuation in the non-diarrhoeal cases. In Leipzig¹ for instance, the proportion of deaths to births in August were as 571 to 1,000, of these 430 were diarrhoeal. Dr. Emmett Holt², in his article on Diarrhoea, says that of 1,943 fatal cases of which he had collected only three per cent. were exclusively breast fed, and that in his experience fatal cases of diarrhoeal diseases in breast fed infants are extremely rare. Dr. Holt goes on to say it is surprising to see how quickly diarrhoea is excited by impure

*Read before the Section on Public Health and Laboratory Workers of the Canadian Medical Association, held in Ottawa, June 9th, 10th and 11th, 1908.

milk. I once saw in the New York Infant Asylum, every one of the twenty-three healthy children, all over two years of age, and occupying the one ward, attacked in a single day with diarrhoea which was traced to this cause. (A woman was complaining on one occasion to Dr. Osler that Providence had seen fit to take her little child, when the doctor interrupted with the remark: "Providence had nothing to do with it, it was dirty milk."). In fact, all nations seem to be waking up to the fact that thousands of lives are being sacrificed every year as a result of impure milk, to say nothing of the thousands that have survived the contest but are more or less handicapped all through life, having had to use the energies to battle disease that should have been used for the building up of good sound mind and body.

In Berlin (Germany) the infant mortality among hand fed infants during the hot summer months is twenty-one times greater than among those fed from the breast, the maximum being reached in July when the mortality of the artificially fed children reaches twenty-five times more than that of the breast fed.

In France, of 12,000 deaths among infants under one year of age, 5,660 died in the months of July and August.

In Australia the authorities are gravely concerned about this awful infant mortality. In Brisbane⁵, says Dr. Turner, during the summer months more than half of the bottle fed babies die. In referring to this matter Musket, of Sidney, made the statement that of 303,070 dying in New Zealand and Australia in 19 years, one-half might have been saved. Dr. Newsholm⁶, M.O.H. for Brighton, said in an article in the *Lancet*, that breast fed children contribute but one-tenth of the diarrhoeal infantile mortality. Dr. Tyson⁷ states that 75 per cent. of the 150,000 infants dying annually in Great Britain from all causes are bottle fed. Dr. McLeary⁸, M.O.H., for Hampstead, says that infant mortality, broadly speaking, is a mortality of hand fed infants. Investigation in Munich revealed the fact that (83.3 per cent) of the infant mortality were hand fed.

In Germany 41.37 per cent. of the entire mortality for the year occurred in the months of July and August. On the other hand, in Prague, Austria, where nearly every woman nurses her own babe, the hot summer months do not show any increase in infant mortality.

It is quite obvious that cholera infantum is but another name for milk poisoning.

However, I presume there is no other problem in preventive medicine or state medicine so engaging the attention of all civilized nations to-day, as that of the ways and means by which they can best secure a pure milk supply. Unfortunately, in the Province of Ontario, and we may add in the Dominion of Canada, there has been no systematic inspection of milk supplies or bacteriological examination only from a commercial standpoint, except in Ottawa, but the marked similarity of conditions found by dairy inspections and bacteriological examinations in Germany, France, England and the United States of America is quite sufficient to establish a *prima facie* case upon which we should take prompt action.

Inspection in the United States has revealed spectacles of a most revolting character. The filthy condition of the cow, stables, utensils, and the milkers, and in fact at every turn from the cow to the consumer, the milk is exposed to reinforcements of myriads of bacteria. The conditions in England as reported by some of the officers of health are as follows:—

Dr. Groves⁹, Medical Officer of Health in England, referring to many reports from the inspectors, said: "The conditions under which milk is procured in many parts of the country, especially among small dealers, is too awful to describe." Dr. Hime¹⁰, M. O. H., describing conditions which he found in the farms which supplied Bradford with milk, states that he saw children's napkins washed in milk cans, and once he saw articles more foul being washed in milk cans that were to be used in an hour later for dairy purposes. The report of the Health Officer for Derbyshire, Staffordshire and Cheshire¹¹ stated that the great majority of the dairies and farms visited were in a dirty condition and totally unfit for the production of pure milk. In fact, cumulative evidence of the unfitness of English dairies might be quoted almost indefinitely. Almost identical reports are handed in in all countries in Europe where inspections have been made. In most instances both the stables and the cows were found in a most unsanitary condition; the cows were milked and the milk handled by those who were absolutely ignorant of hygiene or sanitation.

In June last, by invitation of the Great Ormond St. Children's Hospital¹², representatives of the various London children's Hospitals met to discuss their milk supply, the unsatisfactory milk supply having been a matter of concern for some years, but they were deterred from action on the grounds that a better milk supply would entail increased expenditure (human life placed in the scales with dollars and cents, or rather, pounds,

shillings and pence, and found wanting). Having been invited to inspect the various sources of milk supply, Dr. Carpenter, of the Northern Hospital for Children, related his experience, revealing as startling a condition and as grave a scandal as did the condition of the Chicago slaughter houses. The cows were huddled together in ill-ventilated, dark, dingy sheds and a foul atmosphere, all of them besmeared with their own excretions, standing on filthy floors. A batch of dirty men, with dirty hands and filthy aprons, were milking. The strainers through which the milk had been strained were found to contain a plentiful supply of stable refuse. The churns and utensils were washed with water taken from a trough in the yard which was smeared over with manure both inside and out. There was not the slightest evidence of any regard for ordinary cleanliness.

As a result of similar revelations in the United States, milk commissions have been appointed in various States, or, rather, in the principal cities, twenty-seven in all. A conference of these commissions was held at Atlantic City last June, when they merged into a national association for the purpose of adopting uniform methods of procedure to fix on chemical and bacteriological standards and to determine the scope of medical and veterinary inspections. This, of course, to be done in conjunction with the Health Department. Out of samples taken from thirty-one dairy wagons in Washington, only thirteen were fit for food, and of one hundred and seventeen samples examined in one year, only fifty contained less than 50,000 bacteria per c.c.; in fact, some of the samples contained a larger number of bacteria than did the sewage water of the city. In Boston fifty-seven samples showed over 2,000,000 per c.c. The conjoined Milk Commission has advised that all milk containing more than 50,000 per c.c. be destroyed by the Health Department.

Dr. Leslie Mackenzie, medical member of the Local Government Board for Scotland, in the *Edinburgh Medical Journal*, described the method of milking as follows: "To watch the milking of cows in most rural districts is to watch a process of unscientific inoculation of a pure, or almost pure, medium with unknown quantities of unspecified germs. To one who knows the meaning of asepsis it makes the blood run cold to watch, even in imagination, the thousand chances of germ inoculation; rarely is even the precaution taken of washing the udder, which is oftentimes besmeared with excretion from the cow.

Everywhere throughout the whole process of milking the perishable, superbly nutrient liquid receives its repeated sowings of germinal and non-germinal dirt. The hands of the milker

are rarely washed and are usually smeared over with excretion from the cow liquified by the milk used by the milker in the filthy habit of wet-milking. In a word, the various dirt of the civilized human are reinforced by the inevitable dirt of the domestic cow.'"

That milk is being consumed by us every day that is procured under similar conditions cannot be questioned. How would we like to have bread and pastry prepared by similar hands and in similar environments? And yet we could do so with infinitely less danger to health and life, as the bread and pastry have to be submitted to a temperature that would destroy all pathogenic germs, while milk is used with all its bacterial contamination in activity, and, furthermore, milk constitutes an excellent culture medium for the rapid reproduction of these bacteria. Let us contrast this for a moment with the milking of cows under the municipal milk supply of Rochester, N.Y., established in 1899.

A central station, at which the milk is prepared, is organized in a farm outside the city, where a trained nurse and assistant have full control of the cows, bottles, utensils, etc. Everything coming in contact with milk is thoroughly sterilized in steam sterilizers. The milk itself is not subjected to any pasteurizing or sterilizing.

At the milk station on the farm the milk is taken from clean, well-fed, tested cattle into sterile cans, which are carried to the barn in sterile linen bags. Just before milking the cow's udder is well washed. A sterile cheesecloth fly cover is placed over the cow. The first portion of the milk is rejected. As soon as the cans are filled they are immediately covered by a layer of cheesecloth, held in position by a rubber band. The cans of milk, thus covered, are immediately taken from the barn into the laboratory, about two hundred yards away, where the milk is properly diluted, sweetened and turned off into sterile nursing bottles. The bottles are corked with sterile rubber corks, placed in racks, covered with cracked ice, and immediately transferred to the city for use. Of the milk prepared in this way forty-three samples daily were found to average not more than 14,000 bacteria per cubic centimetre, while the city milk at the same time approximated 235,000 per c.c.

We must remember, however, that there are some 200 varieties of bacteria in milk that produce practically no harm, many of them only affecting the commercial value of the milk by souring, coagulating, etc. But these, as Prof. Vaughan expresses it, should constitute the red lantern or danger signals (others

are excreting or secreting toxic substances). The most common and most virulent of the pyogenic series present is the streptococcus, which is always associated with that most common of all bovine diseases, mammitis or garget, and also in "yellow galt," and what lends a greater degree of danger to the presence of streptococcus is the fact that milk at the temperature of the ordinary living room affords an excellent culture medium for it, laboratory experiments having demonstrated that at the temperature of a living room milk containing 300 per c.c. will increase in 24 hours to 10,000,000; while, if kept at a temperature of 40 there is practically no increase. (Prof. Conn states that in nearly all milk the streptococcus is present, as it is present in the milk ducts and teats even when no inflammatory process was going on. Bergy¹³, of the University of Pennsylvania, studied the milk of several cows during the entire period of lactation, and concluded that once the udder becomes infected with pyogenic bacteria the infection persists through several periods. Bergy, in his report to the State Department of Agriculture, Pennsylvania, of a large number of samples drawn in sterile tubes more than two-thirds contained bacteria, more particularly the streptococcus; he found them in half the samples examined from the Philadelphia supply.) The specimens examined in Germany averaged about 75 per cent. infected, except in Leipzig, where Brunning¹⁴ found 26 out of 28 samples containing all the way from 100 to 1,000,000 per c.c. (93 per cent.), Leipzig having the largest infant mortality from diarrhoeal causes of any city with reliable registration outside of Russia. In London, of the specimens examined by Eastes¹⁵, 186 in all, 75.2 per cent. contained streptococci. While these pyogenic bacteriæ are largely responsible for the infantile diarrhoea, they are not entirely so. We have the proteus vulgaris and the various dysenteric types, the bacillus pyocanus, etc.

While infant mortality is the most important factor in determining the necessity of a pure milk supply, the danger as a medium for the spreading of communicable diseases is not much less important. Scarcely a month passes that we have not instances cited of outbreaks of the various infectious diseases traced to the homes of the dairies or vendors. This was especially emphasized by Prof. Kober in the section on Hygiene of the International Medical Congress at Paris in 1900, in a report of 330 outbreaks of infectious diseases through the milk supplies, made up as follows: Outbreaks of typhoid fever, 195; scarlet fever, 99; diphtheria, 38. Dr. Harrington, Secretary of Massachusetts State Board of Health, in a recent address stated

that within the past two years, in the five cities, Boston, Cambridge, Lynn and Everett, there have been eighteen outbreaks of typhoid fever, fourteen of which have been traced directly to milk.

Of still greater significance, however, is "The Second Interim Report of the Royal Commission on Human and Animal Tuberculosis¹⁶," in which their conclusion was to the effect that a large proportion of tuberculosis contracted by ingestion is due to bacilli of bovine source, and that a very considerable amount of disease and loss of life, especially among children, must be attributed to cows' milk containing tubercle bacilli.

The presence of tubercle bacilli in cows' milk can be detected, though with some difficulty, if the proper means be adopted, and such milk ought never to be used as food. There is far less difficulty, however, in recognizing clinically that a cow is suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk procured from such a cow ought not to form a part of human food, and, indeed, ought not to be used as food at all. "Our results clearly point to the necessity of measures more stringent than those at present in force being taken to prevent the sale or consumption of such milk."

In January last the Health Committee of Birmingham¹⁷ issued to the City Council the report of the Medical Officer of Health (Dr. Robertson) and the Veterinary Superintendent (Mr. Malcolm) upon the investigations which had been made in regard to the infection by tubercular bacilli of the milk supplied to Birmingham. The collection of the samples of milk was undertaken by the assistant veterinary surgeon of the corporation, and the subsequent examinations were made by Prof. Leith and his staff in the bacteriological department of the University. Between September 13th, 1906, and July 31st, 1907, in 175 samples taken from the churns at the railway stations and other places tubercle bacilli were present in 14 per cent.

Dr. McCaw¹⁸, senior physician to the Belfast Hospital for Sick Children, after twenty years' careful observations and study of tuberculosis in children in connection with his hospital work, in his own hospital, and a careful examination, on exactly the same basis, of the returns of the Ulster Hospital for Sick Children; Great Ormond Street, London; Royal Edinburgh Hospital for Children, Manchester Children's Hospital, East London Children's Hospital, Glasgow Children's Hospital, presents the following significant report:

TUBERCULOSIS.

1906—Belfast Hospital for Sick Children—

No. intern. patients, 827; No. tuberculous, 26.10 %.

1906—Ulster Hospital for Sick Children—

No. intern. patients, 247; No. tuberculous, 30.36 %.

1906—Great Ormond Street, London—

No. intern. patients, 2,876; No. tuberculous, 27 %.

1906—Royal Edinburgh Hospital—

No. intern. patients, 1,968; No. tuberculous, 21.3 %.

1906—Manchester Children's Hospital—

No. intern. patients, 1,999; No. tuberculous, 21.3 %.

1906—East London Children's Hospital—

No. intern. patients, 2,054; No. tuberculous, 24.3 %.

1906—Glasgow Children's Hospital—

No. intern. patients, 1,177; No. tuberculous, 27.95 %.

One cannot help but be impressed with the similarity in the percentage of tubercular cases in all these hospitals.

The conditions found were as follows: Surgical—Tubercular joints, lymphadenitis, chronic abscess, chronic ulcers, lupus, spinal caries, etc. Medical—Phthisis, meningitis and general tuberculosis, in the proportions of about 6 to 1.

This surely demonstrates beyond question the existence of tuberculosis to an appalling degree among children, and at an age when milk constitutes the principal article of diet.

Let us couple with this the views of Professor Von Behring and his followers—that tuberculosis in children is principally disseminated through the alimentary canal, the chief source being tuberculous milk.

For confirmatory evidence, let us revert again for a moment to the findings of the Royal Commission, who, in summarizing their results, concluded with the following statement: "The bacillus of bovine tuberculosis is not so constituted as to act on bovine tissues alone, for it can give rise to tuberculosis in many animals other than bovine. Furthermore, it is not so constituted as to act on bovine tissue with a special energy, for it can give rise to tuberculosis in many other animals as readily, or even more readily, than in bovine animals themselves. (We call it the bacillus of bovine tuberculosis merely because we find it most frequently in the bovine body, it being the cause of bovine tuberculosis.)

"The fact that the bacillus of bovine tuberculosis can readily by feeding as well as by subcutaneous injection, give rise to generalized tuberculosis in the anthropoid ape—so nearly related to man—and, indeed, seems, so far as our few experiments go, to produce this result more readily than in the cow itself, has an importance so obvious that it need not be dwelt on."

However, with such indisputable evidence of the danger to

human life by ingestion of bovine tubercle bacilli, and the fact that 43.51 per cent. of the cattle slaughtered in Leipzig in one year were tuberculous, and, according to reports of the late Professor McFaygden, 30 per cent. of the milk cows in England are tuberculous and 2 per cent. suffering from tuberculosis of the udder, the latter yielding 100,000 quarts of milk daily teeming with tubercle bacilli, to be consumed by the people of Great Britain, one doesn't require to look long for a solution of the startling statement made recently by Sir William Broadbent, when addressing the Council of the Invalid Children's Aid Association, in which he said: "It is a remarkable fact that, while pulmonary consumption has steadily diminished during the past thirty years, there has been no corresponding diminution in the death rate from other tuberculous affections which were especially incident to infancy and childhood; on the contrary, they had distinctly increased."

What, then, is the remedy? For an answer to this question we must look to other nations where close observations have been made and remedial measures applied, which have in every instance been based on state and municipal control of all milk supplies and the establishment of infants' milk depots in all cities of 30,000 and over.

For demonstrations of the value of these methods of securing a pure milk supply we are indebted in the first place to Drs. Variot and Leon Defour of Paris, they having established the first "Gouttes de Lait" in Paris in 1892 and 1894, and there are now more than 100 throughout the country, and have made their influence felt, and now nearly all civilized countries have adopted them. The system has been carefully studied and pretty universally adopted in the British Isles. However, on the Continent of America we are more especially indebted to the American Association of Medical Milk Commissions, the pioneer work of which has been done by Dr. Henry L. Coit, of Newark, N.J.

Our neighboring city to the south (Rochester, N.Y.), under Dr. Goler, has done most creditable pioneer work in demonstrating to the world the role played by dirty milk in infant mortality. They have in operation for two months in the year, July and August, four milk stations, at which milk is handed out to the poor, containing not more than 20,000 bacteriæ per c.c. These milk depots are in charge of a trained nurse, who, in addition to handing out the pure milk properly diluted for the age of the child, also hands a pamphlet to the mother, instructing her in how to care for her children, with the following results: For

the months of July and August, in the ten years preceding the establishing of the milk depots, the deaths under five years of age from *all causes* totalled up 2,297, as against 1,143 in the ten years following the establishing of the milk depots, showing a saving of life for these two months of over 50 per cent. In these reports deaths from all causes are included, as they have very properly concluded that dirty milk as a food necessarily affects the results of all diseases in children. This is accomplished at a cost of \$1,000.00 per annum.

Where an absolutely pure milk supply cannot be secured, all milk should be Pasteurized before being fed to babies in the hot summer, as was demonstrated at the New York Foundling Hospital, on Randal's Island. The year before the introducing of the Straus system of Pasteurizing the milk there were 1,181 babies in the hospital, of which 524, or 44.36 per cent. died from all causes. In the year following, during which the system was in operation, the number of children in the hospital was 1,284, and the number of deaths only 256, or 19.80 per cent.

Pasteurizing, like tuberculin, has been condemned by a few because it has been abused by many. Dr. R. Godfrey Freeman, Lecturer on Pediatrics in the University and Bellevue Hospital, in an article on the "Advantages and Disadvantages of Pasteurized Milk," quotes some thirty or forty authorities on the thermal death point of the tubercle bacilli, which is the most resistant of all pathogenic germs infecting milk, and finds in conclusion that a temperature of 155 degrees F. for twenty minutes will destroy the t.b. and all other pathogenic germs, and, in fact, 99 per cent. of all germs found in milk, but will not destroy spores or the toxins that may have already been formed in the milk. All authorities, however, agree that if the temperature of the milk be lowered to 45 immediately after Pasteurizing it will remain absolutely unaltered for 24 hours, but after this time it is not safe, and after 36 hours should be re-Pasteurized before being fed to infants. Dr. Freeman refers to the three methods of Pasteurizing—the commercial method, the home method and the milk depot method. The commercial method cannot be too strongly condemned. It consists in raising the temperature of the milk to 155 for 15 seconds, which is absolutely useless in destroying pathogenic or disease germs, while it arrests the lactic acid ferment, which, when uninterfered with, constitutes such a valuable danger signal. Then there is the home method, in which the Pasteurizing may be carefully carried out, but with want of proper knowledge or proper

means of refrigeration the Pasteurization is practically useless if the milk is not used within a few hours.

On the other hand, the danger of Pasteurizing is that it may cause some relaxation of the eternal vigilance which seems to be so necessary in order to secure anything like clean milk.

A bill providing for the Pasteurization of all milk sold in New York City¹⁹ has been introduced before the New York State Legislature. It would provide that every quart of milk brought into New York City must be put through the process of Pasteurization. The penalty for selling milk which has not been Pasteurized is imprisonment for not less than six months or a fine of \$500.00, or both. Provision is also made for the appointment of a large number of milk inspectors.

Mr. Nathan Strauss, who has recently introduced his method of Pasteurizing into Germany, has received the following statement from Prof. Feer, of Heidelberg: "I have recently inoculated five guinea pigs with milk, raw, from tuberculous cows. All five pigs are suffering from a most virulent form of tuberculosis and are sure to die. At the same time I inoculated five others with Pasteurized milk from the same cows, and all of them are in perfect health. There can be no questioning the advisability of all hospitals and public institutions using milk as an article of diet having all milk Pasteurized and refrigerated at a temperature of not higher than 45 if possible."

A deputation²⁰, headed by Prof. W. R. Smith of King's College, Principal of the Royal Institute of Public Health, recently waited on the Board of Agriculture, to whom they emphasized a report of the Committee of the Institute that the time had arrived when active steps must be taken, in the interest of the nation, to protect the public from the dangers of impure and contaminated milk, and requested that they secure such legislation as would warrant them in adopting more stringent measures in their efforts to secure a pure milk supply. Replying to the deputation, Sir E. Strachy, Parliamentary Secretary to the Board of Agriculture, said that the Board is of the opinion that every possible precaution will be taken to protect the public, and that anything reasonable, which will not harass the trade, will be done.

"A Committee of the National League for Physical Education²¹ was formed last year by Sir Lauder Brunton. This committee has now formed a joint committee with the National Health Society, the Infants' Health Society, and the Liverpool Life Preservation Committee, with Sir Frederick Treves as chairman, the object being to secure a universal supply of milk,

pure from the cow and free from disease germs—'clean milk.' An annual system of licenses to dairymen is recommended, renewable only if their premises are kept in a sanitary condition. The corporations of great cities such as Manchester, Liverpool and Sheffield have already obtained special parliamentary powers to enable them to exclude from their districts the milk of cows suffering from tuberculous udders, but as such milk can be sold elsewhere it is proposed that such power be extended to the whole country."

Sir Thomas Barlow, referring to the milk supply to London, said: "It may be stated with emphasis that most American cities are far in advance of British cities in regard to their milk supply. The medical profession and the general public of Great Britain are commencing to recognize this fact, and it will not be long till steps are taken to remedy existing conditions."

We in Canada are already fifteen years behind, but in that fifteen years other nations have done the pioneer work, and it is only left for us to step into the procession and press rapidly to the front, but we must do it now. From the statistics I have already quoted, of Rochester especially, a neighboring city, with conditions identical with our own, what they have saved by securing a pure milk supply we are justified in saying we can save; and from the statistics of this city for the past ten years impure and disease-laden milk has cost the Dominion of Canada in the past year 15,000 lives under five years of age, to say nothing of the thousands that have survived but have been crippled more or less in the contest and the thousands of adults that have had the various transmissible diseases communicated by milk, and the numerous invalids, with whom milk constitutes the main article of diet, at a time when their vitality is low and their powers of resistance weak. In how many of these may not contaminated milk have turned the tide to a fatal issue?

The national importance of this problem is too apparent to necessitate any further comment or justify any further delay.

The solution of the problem is a simple one—Education and Legislation. The education must come largely from the medical profession. The best results have been accomplished through milk commissions acting in conjunction with the various health authorities in educating the dairy authorities and all producers of milk as to the precautions necessary to be taken in order to produce clean milk, and the consumer of the dangers of contaminated milk. The demand will create the supply. However, until we can secure an absolutely pure milk supply our only safeguard lies in proper Pasteurizing and proper refrigerating.

Children that could not digest modified poisoned milk or germ-laden milk will, in the vast majority of cases, be found capable of digesting modified pure milk. But we must secure such legislation as will warrant the necessary steps being taken by the various health authorities that will bring to a successful issue this all-important life-saving problem. We must have a co-operation of federal, local and municipal legislation, and thereby secure complete control of our milk supply, with rigid medical and veterinary inspection, including tuberculin tests of all herds. What other national question could compare in importance with the safeguarding the lives and securing the best physical development of those in whose hands the destinies of the nation must be placed?

At the conclusion of the discussion on this subject, on recommendation of the joint sections on Public Health and Laboratory Workers, a Milk Commission was appointed by the Association, to be known as the Milk Commission of the Canadian Medical Association, with representatives from all parts of the Dominion.

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Wellesley St. and Rose Ave., Toronto.

PRECAUTIONARY MEASURES NECESSARY TO PREVENT INFECTION IN TYPHOID FEVER.

JOHN A. AMYOT, M.B.

During the Spanish-American war 86.24 per cent. of the total deaths were from typhoid fever. There were 19,265 cases per 100,000 of the army. Of these cases, 1,463 died.

In 1900 there occurred in the United States 35,379 deaths from typhoid fever. This would represent approximately, taking 10 per cent. (and this is high; 7.5 per cent. is better) as the average mortality from this disease, 353,790, or one case for each 240 of the population for that year. Very few go through life without taking the disease at some time or another. There are no available statistics in this connection for us here in Canada. We probably are not very far behind, though allowance must be made in our favor for our northern situation. Three-quarters of these cases are now preventible. This disease attacks chiefly between the ages of 20 and 30 years, when the monetary value of life is greatest. Aside, then, from the suffering and the heart-pangs this disease alone, during 1900, cost the United States in money, estimating each life as averaging \$6,000, \$212,000,000. Preventive measures would have cost much less than this. Take one of the measures, water filtration, probably the most important, as an example of efficiency and cost. We may admit justly that three-fourths of the water supplies of the United States need this process. Eighty-five million people need on an average 8,500,000,000 gallons of water per day, or 100 gallons each. Taking as a basis for this calculation the estimate for the New York filtration works for 500,000,000 gallons per day as \$10,000,000 for three-fourths of the water used, it would cost approximately \$128,000,000. For the removal of the other causes much less would be required. The saving of one year would protect probably for twenty years.

This, I take it, is sufficient example to show us that this disease is important enough for our consideration. It is a preventable disease. The line of attack is fairly well understood. We know the causative agent. Eberth first isolated it in 1880. Koch and Gaffkey proved it in 1884.

The disease cannot be produced by bad air, bad water, faulty plumbing, or climatic conditions. The bacillus of Eberth alone causes typhoid fever. There are diseases resembling very closely, symptomatically, typhoid fever, and so far as the patient is concerned nearly as important. These are paratyphoid, para-

colon disease even under certain conditions, colon infection, and the striga bacillus, which gives us a dysentery closely resembling typhoid in many of its phases. All of them are principally intestinal in their lesions. Often other parts of the body are infected as well. Altogether they are so closely related that they are classed as the typhoid or as the enteric group of diseases. The causative agents in each case are transmitted from the patient to the victim by the same routes. The preventive measures for one are those for all.

Typhoid fever is a preventible disease. Every case comes from somebody's neglect or ignorance. A famous hygienist in indignation once said: "For every case of typhoid fever some one ought to be hanged."

This was not always *justifiable*. This disease had not been recognized as a specific disease before 1829, when Louis for the first time differentiated it from typhus fever. Chomel in 1834 gave it its present name. It took some time before this discovery was accepted. The Boston census of 1854 has no mention of it, only typhus. It is a contagious as well as an infectious disease. For a long time many have gone on looking on it as merely an infectious disease. Louis when he first differentiated the disease pointed out that it was contagious. Bretonneau and Trousseau in France, Munchison and Jenner in England, all asserted clearly their belief that it was contagious. Budd in 1873, in his splendid and convincing work, proved beyond a shadow of a doubt that typhoid fever is a decidedly contagious disease—though, of course, not to the same extent as the others with which we are only too familiar. The difficulty of health authorities to have practitioners report their cases, and the so often made statement to their patients by the family physician even now, "No; it is not contagious; it is only infectious," shows that the idea that it is only infectious is not dead yet.

The bacillus of typhoid fever locates itself chiefly in the lymph glands of the body. It overflows into the circulation. This is especially so in the early stages of the disease. Coleman and Buxton isolated from the blood of over 1,000 cases of typhoid fever, 89 out of a hundred in the first week, 73 during the second week, 60 during the third week, 38 during the fourth, and 26 after the fourth week.

During these infections of the blood any of the secretions or excretions of the body may have the bacilli in them, and in some cases these may carry them for years. The patient becomes a carrier. The sweat, the sebaceous secretion, the tears, the saliva, the bile, the urine and the intestinal contents. We are

not sure at any time that any of these can be free from the bacteria. These substances may be dried and be blown about. They may adhere to hands, to clothing, to food; may be expelled in coughing. They may be walked over by flies, fleas, lice, bed-bugs, or other vermin, and be carried to milk. They may be thrown out over the land and be washed over or carried by boots or by insects, toads, worms, mice, and many other ways into wells and water courses. They may thus get to shell-fish, to milk, to water supplies, be blown about in the dust, get onto food, on roofs, and into cisterns and into water supplies.

To prevent infection, then, the following general precautions should be taken by the various ones concerned.

The Patient.—When sneezing or coughing, he should protect from the expulsion of the bacilli from other than a handkerchief surface. In convalescence the handing of dainties to others should not be done. Even handshaking is dangerous. The use of the family-towel should be avoided. Urine and faeces should be voided in such places only where they can be taken care of.

The Physician.—It is his duty to warn the patient about his duty to those surrounding him. He should warn the family and the nurse as to the sources of infection to be avoided. He should make his orders explicit, should write them, not merely tell them to disinfect the stools, etc., but tell them how and what quantities of disinfectant to use, etc. He should not neglect medicinal disinfection in his patient, if it can with comparatively little risk take them—motropin for urinary disinfection, salol or some such drug for intestinal disinfection. Mouth washes and hand washing should be directed to be done frequently. He should report to the health authorities the source of infection, if he can find it, or suspicion.

The Nurse.—Understand the directions of the physician. She should take the greatest care that no part of the excreta of any kind, even in the minutest drops, should get away from the possibility of being disinfected. This may afterwards dry up and blow away, infect herself, or those about. She should see that the windows are properly screened to keep out flies, the doors as well should be screened. She should either disinfect everything that has come in contact with the patient or gather it together in such a way that it may be done by the household.

The Household.—Faecal matter, urine, sputum, and vomited matter, and any other discharge, should be disinfected as soon as possible. Some prefer chemical methods, some heat.

Chemical Lime, unslaked.—Use it dry or as freshly made milk of lime, using as much in bulk as of the substance to be

disinfected, thoroughly mixing. In cess-pools, use three-fifths of lime per cubic-foot of contents. A barrel may be required for an ordinary household cess-pool (milk of lime, 1 in 10 of water). Keep only a few days air excluded.

Chloride of Lime.—The available chlorine is the active principle here. Common grades contain 20—30 per cent. of this; electrolytically produced, it contains from 35 to 40 per cent. Use dry as in the case of quicklime. The latter is cheaper and less odorous, and about as effective. To prepare a disinfecting solution of chloride of lime, dissolve one-third of a pound in a gallon of water. Use a quart of this for each stool. Should be allowed two hours for effect. Should be prepared fresh each day.

Carbolic Acid.—Half a cupful to a gallon of water (5 per cent.). Equal quantities of this with the material to be disinfected should be used, well stirred, and left for two hours. This is expensive. It serves best in disinfecting by soaking bed-linen, underwear, handkerchiefs, towels, napkins, etc., before boiling; as a body wash, 2 per cent. sol. is as strong as the patient can stand.

Corrosive Sublimate.—One in 500 should be used for excreta in equal volume, and give 2 hours' action; 1 in 1,000 is sufficient for bed linen, etc., previous to boiling. If there are any flies about, it is especially necessary to use these disinfectants, with the object of preventing them carrying infectious material about. For bathing after stool, 1 in 3,000 is best.

Aromatic Disinfectants.—Are best for nasal and mouth washes.

Motropin.—For the urine in carriers in 5 to 7 gr. doses three or four times a day until bacilli disappears from the urine. They think much of this at the Hopkins.

Fumigation.—After recovery is useful. *Formaldehyde* is best. The permanganate liberation method is the most generally applicable. The requirements for thorough disinfection are, first, 75 per cent. humidity in the air of the room at the temperature at which the disinfection is done. Temperature should be between 50 and 70 degrees Fahr., and a sufficient quantity of Formaldehyde rapidly evolved. Ten ounces of commercial Formaline (40 per cent. Formaldehyde) should be used for each 1,000 cubic feet of room space.

Heat.—The most effective of all. It is the most neglected. It is the cheapest, and everywhere nearly available. Burn everything that can be burned. Boil everything that can be boiled. Use **BOILING** water for the disinfection of excreta. It is better

and cheaper than all else, and more easily got, but it must be at the boiling temperature. For excreta use three bulks to one of the substance to be disinfected, and stir well to break up the masses. The bacilli are vegetative, and are killed in 10 minutes if exposed to heat of 160 degrees Fahr. The heat will penetrate much better than the chemical will.

The *bath water* should be disinfected as well as the stools and other excreta. It is only a dilution of the same thing, as a rule.

Bed-clothing, towels, napkins, handkerchiefs, sponges, etc., should be disinfected.

Dishes, knives, forks, spoons, and cups should be all boiled.

Any food remains should be burned.

Burial of Excreta.—For fear it is not wholly disinfected, they should be buried when this can be done in unfrozen ground. In this last case it should not be put out in cold storage, but in a proper privy-vault. To bury, dig a trench a foot deep, heaping the earth up at the side. Cover each mass, leaving the rest of the trough trench for the next dosage, and so on.

Privies.—In typhoid this should be, where the "water carriage" system is not available, of the "dry earth" type. In this case use unslaked lime, 5 pounds per cubic foot of the content, and when possible carry away and bury or burn. Such outhouses should be well screened to prevent flies getting in or out, and keep closed. The flies from a lime-covered privy very soon would streak up a chocolate-iced cake exposed a hundred feet away. Flies may fly miles away. The privies should also be protected against the entrance of mice, rats, and other vermin, especially as these will frequently track back over food in the pantry or cellar. Infected material should be handled with very great care in carrying, etc. A drop of faeces or urine might contain hundreds of thousands of typhoid bacilli.

Strict quarantine is not necessary. Isolation as much as possible should be done. Keep children and others from running in and out of the sick room.

Public Authorities.

Receiving Reports.—This should be made as early as possible. Telephone and card. It would be well, too, to have to make provision for the reception of report of suspected cases. Much of the aversion to making a mistaken diagnosis and no report would be removed. Don't be afraid of your town reputation.

Diagnostic Tests.—Positive Widal serum tests and the Diazo test for the urine should be made easily available. Blood cultures would help out very much, where it is possible to carry

through the technique. The sooner one knows what one has to deal with the better for the community.

Disinfectants.—These with proper instructions for their use it would pay the authorities to supply gratis and without too much formality.

Disposal of Privy-Contents, by incineration or other method, should be made easy by the authorities. It also would pay.

Sewage.—Where the water carriage system of sewerage is in operation, the sewage should be disposed of by some of the methods in vogue. To remove the bacteria “land irrigation” and “intermittent sand filtration” of the bacterial methods is to be used. Where simply the removal of organic matter is done and the bacteria let through, as happens with the septic, the contact, and the sprinkling method, disinfection should be done of the effluent from these works.

The *latrines* of boats and railway trains are undoubtedly the cause of infection of some water supplies. These utilities should be made to remove this possibility. With terminal facilities for incineration much of the danger could be removed.

Flies.—A general war should be declared against these pests by the removal particularly of their breeding-places—the open manure-heap and the privies. General screening should be used to prevent their getting into sewers and then into houses.

Water-supplies.—In the crowded state of the population now existing, no open water supply is without danger of pollution. The general adoption of sewage disposal, and, above all, proper water filtration, according to the class of water in question, should be done. Undoubtedly infected waters, in Europe especially, have been made as free from infection as artesian waters from unquestioned soils or the melting snow of the mountain caps. People seem to be frightened off by the cost of this. A filter suitable for a city like Toronto can be built for under \$750,000, when 40,000,000 gallons a day would be provided for a daily operating cost of \$1.50 per million gallons. It would hardly add one-tenth to the water rate.

Vended-waters are not always safe. Often very little precaution is taken about the protection of their springs.

Food and Milk should be looked after jealously to see that it is not exposed to dust or the possibility of infection, and that in the case of milk a complete control over the supplies of milk be possible.

Prospective Victims.

Boil questionable water. Eat only unquestioned oysters or none. Pasteurize milk. Have screened windows. Keep up

health tone. Don't put your trust in nostrum preventatives, lemon juice or whiskey in questionable water.

Be vaccinated against typhoid if you are going particularly as a military man or nurse to infected localities.

Harrison's last report in the *Journal of the Royal Army Medical Corps*, gives the following figures, that seem to the open-minded, fairly hopeful and convincing:

2207 soldiers vaccinated—morbidity 6.8 per cent., mortality 1.36 per cent.

8,113 soldiers unvaccinated—morbidity 21.32 per cent., mortality 5.18 per cent.

ONTARIO MEDICAL ASSOCIATION.

JOHN HUNTER, M.B.

The recent meeting of the Ontario Medical Association in Hamilton can, very justly, be assigned to a class by itself. In point of attendance it outnumbered any of its predecessors, and in enthusiasm there was almost a surfeit. The weather was ideal, and added greatly in making the meeting very enjoyable. The social features were certainly satiating. Everything that lavish hospitality could bestow, was extended to all who were fortunate enough to be present. The trip through the picturesque peninsula was thoroughly appreciated. The beautiful scenery that was spread out before the eye as the trolleys swept along, and the delicious viands, and fragrant cigars were alike delightfully gratifying to both soul and body. The dinner at the Royal was a princely feast, and the post-prandial oratory had far more than the usual amount of vim. The division of the meeting into three sections—medicine, surgery, eye, ear, nose and throat—worked out admirably. The attendance in each section was large enough to make the papers interesting, and the discussions spirited.

One feature about this meeting stands out so conspicuously, as to practically mark an epoch in Canadian medical history. Anyone who has attended the meetings of either the Ontario or Canadian Medical Association during the past twenty-five years knows full well how zealously the officials and reputed leaders have always striven to preserve the "hall-marks" of traditional medicine. Papers and discussions reiterated, and reiterated the teaching, practice, and maxims of "the fathers." What Lister has said on antiseptics, Gower on neurology, Hutchinson on venereal disease, Lawson Tait on gynecology, *et al*, was always accepted with profound reverence. At the meeting in Hamilton no traditions were held to be either too venerable, or too sacred, to escape keen criticism. The teaching, practice, and dogmas of surgeons, physicans, and specialists were thrown into the crucible and roasted by the fierce fires, kindled by modern research and experience, and in the scientific, as in the physical world, truth, like the pure metal, shone all the brighter for the refining process. The dominant delusions that sway the minds of so many medical men in regard to the value of certain drugs, proprietary mixtures, and nostrums in the treatment of disease were held up to derision. The surgical craze that sees in every case of gastralgia, intestinal, hepatic, or renal colic, an attack

of appendicitis, and rushes the patient to the operating table, was mercilessly censured. The surgery of appendicitis was charged with creating a horrible record, and statistics were piled up to prove the statement. Challenges were flung at the surgeons to defend themselves, but they preferred to preserve a discreet silence, and allow an adverse judgment to be passed on their treatment of appendicitis. For several years past the physician who would hesitate to hand over to the surgeon, any patient suffering from pain and tenderness in the abdomen, to be operated on for appendicitis was looked upon as an old fogey. At the Hamilton meeting it was the hasty, illogical, mercenary conduct of many surgeons in regard to the treatment of appendicitis, that was held up to ridicule. It seemed very strange why there was not a surgeon in the large audience who essayed to defend the modern attitude of surgery in regard to the treatment of appendicitis.

Not only in the medical section, but in all the sections, the independent spirit was always in evidence. The University professors, and the more conservative of the graduates of the old Toronto and Trinity Schools—men who always strive to maintain the decorum and conservatism of the British Medical Association—looked on some phases of the meeting with about as much awe, as a crowd does on the flight of an airship, or a balloon. It was a fine study in psychology to watch the faces of the stereotyped physician, surgeon, and specialist, when some of these delusions were being arraigned in the courts of modern research and experience.

Why this radical change? Why was the psychologic moment kept in abeyance until a meeting was held outside of Toronto?

The answer to the first question is easily found in the vulnerability of so much in our practice of medicine, surgery and the specialties. Take the heterogeneous prescriptions we write—A's favorite is a special drug, B's a proprietary mixture, and C's a nostrum. Again, how absurdly illogical some phases of our work are? We all know that nutrition is one of the most vital factors connected with the treatment of many patients. Now, as a rule, what attention is given to this factor? We very properly seek to make an accurate diagnosis, to prescribe efficient remedies, and to have these dispensed by a competent druggist. We suggest certain articles of food, but what effort do we make to ascertain the qualifications of the cook? Do we not often leave the preparation of the food and the method of serving it—the very factors on which the life of the patient may depend—to an ignorant cook, "who may not know how to peel potatoes." A

delicate woman with fastidious tastes—had a good cook herself—may, when sick, have food brought to her bedside with such a lack of taste in the way it is served, and so improperly cooked, that it would almost nauseate an Indian, who perchance may have feasted erstwhile, on a moribund 'canis.' The writer very vividly remembers a consultation held some years ago with a well known Toronto physician. The consultant fully agreed with his diagnosis and treatment, but he had not the same faith in the mother's cooking. He spent about an hour teaching her how to prepare the child's food. Had the writer taken as much pains to see that the food was properly prepared, as he gave to verifying his diagnosis and medical treatment, the child might have been saved. Until we, as physicians, assure ourselves that the diet we order is properly prepared and tastily served, we leave ourselves vulnerable to be attacked, not only for being illogical, but also for being grossly negligent. Another cause for the radical change is to be found in the attitude that is growing stronger every day, viz., that there is too much surgery being done, and too many rushing into it. Surgery is now recognized as the "broad way" to success, and "many there be that find it." We have a host of very fair operators, but where are the men, whose broad literary culture, or whose scientific knowledge—especially in pathology and anatomy—is so profound as to give them the status of great surgeons? So long as our operating rooms are thrown open to any one who chooses to operate, we must expect to have a great deal of odium cast upon scientific surgery. Illiterate men cannot contribute very much to surgical literature, and men with few opportunities for acquiring experience, and with only a meagre knowledge of anatomy and pathology, are they; who swell the mortality rate in such a disease as appendicitis.

The opprobrium cast on much of the work of the specialist must be shared by the physician, in part at least. The specialist may overestimate the importance of some morbid conditions in his special field, but does not the family physician only too often act as though he had done his whole duty to his patient when he has handed him over to the specialist! It is the duty of the family physician to see that his patient is kept in the best possible physical and mental condition when under the care of the specialist, for operative work on nose, throat, eye or ear is often very trying to the patient, hence the complaint so frequently heard from our patients, that they feel worse than they did when they went first to the specialist.

The above defects are a few of the many in the art and science

of medicine that invite criticism. But on the other hand, there is scarcely an individual, certainly not a home, hamlet, town or city in the civilized world that has not been blessed beyond computation by our art and science. When we consider the pain that has been relieved, disabilities removed, lives prolonged, we find the sum total of the beneficent work of medicine and surgery outweighs the effects of the errors that have crept in, and the mistakes that may have been made, as the mountains do the neighboring hills. However, honest, intelligent criticism should be welcomed at our annual meetings, "for when men cease to be independent dry rot sets in." In medicine, as in morals, "eternal vigilance is the price of virtue."

Now, in regard to the second question. Why was the psychological moment kept in abeyance until a meeting was held outside of Toronto? The answer to this is quite evident. Toronto is the medical center of the Province. In it the influence of the medical faculty of the University is most potent. When the Ontario Medical Association meets here its members find themselves, perhaps somewhat unconsciously, swayed by the associations of other days, when they were students, and some members of the present faculty their teachers. It is not surprising that under such circumstances the spirit that inspires criticism should be somewhat curbed.

Now, criticism must of necessity come from those not attached to the University faculty. A University professor is not free to express any opinion not sanctioned by the whole staff, and not in full accordance with its teachings. The position of a professor in his University is quite analogous to that of the member of a cabinet to government measures. Take for example, the Right Hon. John Burns and Right Hon. Lloyd George. When in the ranks they made furious attacks on many measures, it mattered not from which party they emanated. Now, as members of a Cabinet, their words are very guarded, and they are only heard in propagating government measures, or in defending them. The very same restrictions surround the University professors, and therefore any medical society, or association where their influence predominates, must of necessity be but a reflex of the traditions of the University. The University faculty has its own sphere to fill, and within it there is abundant room for the exercise of talents and culture of the highest order. The work of the medical society, or association is entirely different. The duty of the former is to teach what is known to be true, that of the latter to criticize, to compare notes, to discuss opinions and theories, to project new lines of thought, etc. It is seen

then, from these fundamental distinctions, between the functions of a University faculty and the functions of a medical association, that the freedom of the latter must be somewhat constrained when its meetings are held in Toronto. If the Ontario Medical Association is to fill its own mission it must do so in its own way, and therefore must always be kept free from any dominating influence of the University faculty. Their missions are entirely different and the line of demarcation should be preserved, a clear and distinct one. If the Ontario Medical Association is to fill its high vocation, its officers should invariably be chosen from the profession outside altogether of the University faculty. There should always be preserved the best of mutual feeling between the two, but each should recognize its own obligations, and strive to discharge them faithfully. The Association should hold its meetings outside of Toronto frequently enough to insure independent action.

Selected Article.

THE TREATMENT OF SEASICKNESS.

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There is no disease which will tax the "ship surgeon's" resources to such an extent as a severe case of *mal de mer*, for not only has he to deal with the physical manifestations, but added to these are those mental symptoms of apprehension, etc., from which frequently the patient suffers far more than from the nausea and vomiting itself.

Seasickness declares itself in several distinct ways. In my experience none can compare, from the patient's standpoint, with that nervous type showing itself in intense occipital headache, severe spinal neuralgic pains, mental trepidation, etc. (frequently unaccompanied by vomiting), and, although a certain amount of relief may be afforded, these patients can seldom be given any permanent degree of comfort.

One can divide cases of *mal de mer* into two classes, for the purpose of laying down certain general rules as to their management. i. e., the "gastric" and "nervous." In the former group we meet with every degree of suffering from simple vomiting unaccompanied by nausea to uncontrollable emesis, with the serious problem, during a long voyage, of the maintenance of nutrition before us.

Prophylaxis may be of great service, especially in this form, and it is here that on the second night before embarking a full dose of calomel, followed the next morning by a saline draught, or large warm water enema, has its place; minor points, such as a cup of hot tea or coffee before rising, abstinence from the time honored tramp before breakfast, a somewhat hasty plain meal, and immediate recourse to a lounge chair on deck, should never be forgotten. Some individuals experience excellent results from a dose of effervescent saline on waking, or a full tumbler of sea water, in the latter case the induced emesis apparently acting as a gastric sedative, and this is the favorite method adopted by Chinese sailors in the Orient.

Occasionally a firm abdominal pad or binder, or a belladonna plaster over the epigastrium, will add not only to the patient's

comfort, but in certain individuals may even ward off an expected attack.

The patient should be warmly and comfortably clad; nothing adds more to the misery than sensations of cold. Encourage the sufferers to take a moderate amount of nourishment, the stomach being less impressionable during the process of digestion.

For the relief of nausea uncontrolled by simple remedies such as have been suggested, one must have recourse to more active measures, and foremost among these comes the application of sinapisms to the epigastrium; gastric lavage is often eminently successful, and this opportunity may be used for the introduction of such drugs as bismuth, carbonate, creosote, hydrocyanic acid, or cocaine (in doses of 1-8 grain), into the stomach; drachm doses of glycerin have also been recommended. These having failed, we have still several means at our disposal for relieving the depression, even if we cannot control the active emesis, and it is in these cases that the use of the hypodermatic syringe finds its place. In individuals who know by experience that severe nausea and vomiting are inevitable, a prophylactic injection of 1-100 grain of atropine sulphate combined with 1-50 grain of strychnine sulphate will do much to inhibit its onset. The drug on which I place greatest faith is nitroglycerin, in doses of 1-100 grain, the subjective symptoms of depression frequently being ameliorated, even though vomiting persists.

The use of champagne and the sucking of ice may be allowed, although it is doubtful if much value can be attached to their action, beyond the mental impression they produce, and in the same category I place the use of brown paper over the abdomen and many other similar expediences. Lastly, it may be necessary to relieve thirst with saline injections and employ nutrient enema to support nutrition.

Turning now to the nervous type of the malady, one's advice and procedure as to prophylaxis is similar, but following this a different course of treatment is usually found to be advantageous. Theoretically, the nausea and vomiting being ascribed to a central reflex disturbance (possibly due to an alteration in the normal conditions of the endolymph and perilymph of the semicircular canals), the etiological factor being the same, one's treatment of the two forms should be similar.

Experience teaches us that it is here the sedatives are of greatest value, and probably none are more useful than the bromides (given in doses of 20 grains every six hours for at least two days before embarking, preferably the strontium salt), or chlorotone in 5 grain gelatin capsules or paraffin wafers, and

repeated every four to six hours (it is officially known as trichlorotertiary butyl alcohol, is a crystalline salt, nearly insoluble in water, volatilizes at low temperatures, and should therefore be kept in glass stoppered bottles).

One may, especially in cases of headache and spinal pains, get marked relief from the "coal tar" products, and of these phenalgin (which contains ammonia) is the safest and least depressant, and in my experience is the most reliable. Hyoscine has been used extensively, but cases have been reported in which mania lasting for several days has been the outcome; lastly, and never to be used except in the most extreme forms, comes morphine.

In concluding let me emphasize the fact that, while seasickness is seldom in itself a menace to the life of the patient, it may, and not infrequently does, precipitate serious complications, such as cerebral hemorrhage or the rupture of a previously existing gastric ulcer, and that the treatment of even the apparently mild cases should receive more than a passing thought; finally, the future holds out to us the hope that in the "gyroscope" we may find an antidote which will displace entirely our present system of therapeusis, and that ultimately *mal de mer* will be a disease of the past.—*N. Y. Med. Jour.*

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON
AND BREFNEY O'REILLY.

Von Noorden's Oatmeal Diet in Diabetes Mellitus.

J. B. Herrick, Chicago (*Journal A. M. A.*, March 14), describes the composition of the von Noorden oatmeal diet for diabetics and the method of its use, and gives his personal experience with it in the treatment of this disease. The diet consists of 250 grams of oatmeal, from 250 to 300 grams of butter and 100 grams of some vegetable albumin, such as roborat, or for this substance, six or eight eggs or the whites of eggs may be substituted. The oatmeal is cooked thoroughly in water for two hours, the butter and eggs are well stirred in when the cooking is nearly done, or the whites of the eggs are beaten up and stirred in later. Salt is added to suit the taste. This forms one day's ration for an adult, and may be given in from three to eight portions. Von Noorden advises feeding every two hours; he occasionally allows a little clear coffee or a few sips of sour wine to relieve the monotony. The oatmeal may be served as gruel, mush, or, as Herrick has allowed, as fried mush. Von Noorden claims that this diet, given in many cases of severe diabetes will ward off threatening coma and establish a carbohydrate tolerance. It is not of value in the milder cases, and is not infallible in the severer ones, but in a certain number of these, in which emaciation, weakness, polyuria and glycosuria persist in spite of careful treatment, and when a study of the urinary content in acetone, diacetic and oxybutyric acids and ammonia shows acidosis with threatening coma, it has its greatest field of usefulness. Selection of cases and individualization are essential, and in mild cases it may do harm. The diet should be continued about two weeks and the return to the ordinary diabetic diet should be gradual. The objections to it are mainly its lack of appetizing qualities, and this can be met to some extent by care in the preparation and mode of administration of the food. It is not easy to explain just how it produces results so contrary to what might be expected, or why it does not increase the sugar and

acetonuria, but the clinical facts show that it does not. Herrick quotes the testimony of others and gives his own personal experience, reporting and commenting on a dozen cases. Several of these were of a rather mild type, and in these he has seen no evil effects, though the results were not so striking as in the severer ones. The good effects were especially noticeable in the diabetes of the young, a form notoriously hard to manage and of unfavorable course; two of the reported cases are of this type. In conclusion he says: "I would in the main confirm von Noorden's claim for the oatmeal diet. While occasionally the stomach will rebel and refuse to tolerate this food for any great length of time; while the diet is not suited to all cases, being of least avail in the milder forms; while it fails even in some of the severer types, and while no claim for a cure of diabetes can be made, this diet still remains a most valued therapeutic agent for the warding off of impending coma in the severer types of diabetes and for assisting in the establishing of a tolerance for carbohydrates. In the milder types of diabetes I have so far seen no ill effects follow its use, but the benefits have been trifling. My experience in using it in the diabetes of moderate severity has in general been favorable, it being of special help in establishing tolerance for carbohydrates. In the diabetes of children, if employed early, it seems to exert an unusually favorable influence."

Functional Dyspepsia.

Hutchison divides functional dyspepsias into four forms, corresponding to the four physiologic functions of the stomach, viz.: 1, Secretory; 2, motor; 3, sensory, and 4, absorptive. The last being a limited function, is dismissed. Functional dyspepsias, therefore, fall into the following classification:

- | | | |
|----------------|---|---|
| 1. Secretory.. | { | Excess: hyperchlorhydria and hypersecretion. |
| | { | Defect: hypochlorhydria and achylia. |
| 2. Motor..... | { | Excess: pyloric spasm. |
| | { | Defect: atony and motor insufficiency. |
| 3. Sensory.... | { | Excess: hyperesthesia. |
| | { | Defect: (?) anorexia and diminished capacity. |

Any one of these forms may occur alone, but frequently one finds two or more co-existing. Hutchison discusses the treatment of each form in detail. In excessive secretion the indications will be best met by a regimen into which milk, eggs, meat and fish enter freely, while the starchy foods are kept within strict limits. Medicinally, neutralizing drugs, of which the earthy oxids (magnesia is to be preferred) should be given when the

secretion is excessive, i. e., about two hours after meals. In defective secretion the actual composition of the diet is indifferent, provided it be given in a suitable mechanical form. Medicinally, the indications are to stimulate the natural secretion or to replace it artificially. The bitters effect the first end, alone or with small doses of sodium bicarbonate. The second, theoretically, would be attained by administration of ferments, but in practice this has proved to be almost worthless. Full doses, say 1-2 a dram (2.0 gms.) of the dilute hydrochloric acid, after meals, are sometimes of service in restraining some of the secondary symptoms, e. g., "gastric" diarrhea. In the excess form of motor disorder the dietetic treatment must consist mainly of milk supplemented by soft farinaceous foods; medicinally, antacids, bismuth, antispasmodics, e. g., carminatives, and especially opium in small doses before meals, are indicated, with local fomentations, etc., to the epigastrium. Motor defect calls for avoidance of all hard, tough, indigestible food, and of fluids, the diet being dry; medicinally, muscular tonics are indicated—strychnin, alcohol, mineral acids, certain aperients, particularly aloes. Massage, perhaps electricity, and hydrotherapeutics are useful measures. Anesthesia is the only sensory disorder of which we have any knowledge. Blandness should be the characteristic of the diet, while medicinally we have many gastric sedatives, especially bismuth, the bromids, hydrocyanic acid, hyoseyamus, cannabis indica, chloral and chloroform. Also the local application of heat is useful here also. While these lines will not always be successful, Hutchison holds that this is the only way of approaching this disorder that can be called rational and scientific.—*B. M. J. and J. A. M. A.*

Intermittent Limp.

An article by Ernest Reynolds, of Manchester, appears in the November number of the *Medical Chronicle* relating to the above subject; it was first described by Charcot in 1859 under the name of "Intermittent Claudication of the Arteries," and by Erb in 1898 as "Digsbasia Argioscleratica." The writer prefers the name used in the heading, as the others above mentioned both point to a preconceived theory as to the cause of the condition.

The essay is based on the clinical pictures found in five cases seen by the author, in all of which the physical signs were practically similar, and are as follows:

"More or less suddenly a man, previously healthy, experiences pains in the foot, ankle and calf, together sometimes with cramps

of the muscles, which cause him to stop, and if he looks at the foot finds it cold and bloodless. On resting, however, the pains gradually disappear and color slowly returns in red patches, which ultimately run together. On resuming the walk, however, the symptoms return, so that it becomes impossible for these patients to walk any distance. Physical examination reveals nothing except an absence of pulsation in the dorsalis pedis, and generally also in the posterior tibial artery. The muscles are often well developed and there is no sign of any affection of the nerves. As a rule only one leg is effected, cases have been reported in which an arm was involved." The condition, a well known one among horses, is called by French veterinaries "boiterie," and is identical with that found in man.

The connection between angina pectoris, due to curanary sclerosis, the earlier symptoms which terminate in gangrene of the extremities and this condition is of interest; the pathological findings are narrowing obliteration of the arteries supplying the limb, in some cases this extends even into the smaller branches; in some cases there has been found some degeneration of the nerves supplying the muscles, but as a rule both the latter are healthy. The microscopical appearance in the arteries is that of an obliterative endarteritis. The disease may well be termed "angina cruris," it appears to have no definite relationship to general arterio-sclerosis and no etiological factor has as yet been discovered, its course is indefinite and may terminate in gangrene. Beyond keeping the limb warm, avoiding tight boots and exertion, treatment is of little avail.

The following review of a paper published in the *Munchener Medizinische, Wochenschrift*, of February, 1908, appears in the *Medical Record* and we reproduce it in full as follows:

A Diagnostic Skin Reaction With a Tuberculin Ointment.—Moro has found that a specific reaction may be induced in tuberculous subjects by means of inunction with an ointment containing tuberculin. For this purpose he uses an ointment of anhydrous lanolin containing 50 per cent. of old tuberculin. When kept in the ice box the preparation retains its efficiency for months, and 10 g. is sufficient for about one hundred tests. The application is made to the skin of the abdomen just below the end of the sternum, or if this is not free from cutaneous lesions the neighborhood of the nipple is used. A portion of the ointment the size of a pea is rubbed in with the finger, using moderate pressure for a half to one minute. The area treated measures about five centimeters in diameter. The skin is left uncovered for about ten minutes but no dressing is applied. In

negative cases the skin showed no reaction but in others a positive result was manifested by the appearance of an eruption of papules at the site of inunction. Three grades of this are distinguished. (1) A weak reaction in which from two to ten solitary, small, pale papules appear in twenty-four to forty-eight hours and vanish again in a few days. (2) Medium reaction, in which in the course of the first twenty-four hours up to one hundred or more miliary or larger red papules which may measure three millimeters in diameter appear. The skin in the neighborhood is moderately reddened but the eruption is confined to the site of inunction, itches slightly, remains unchanged for several days, and then slowly fades. (3) Strong reaction, shown by the appearance within a few hours of very numerous red papules with inflammatory base and accompanied by itching. There is exudation into some of these lesions which may measure five to eight millimeters in diameter; the eruption is not confined to the site of inunction but extends to the surrounding parts. In a few days the papules dry up and become scaly and in two weeks nothing is to be seen except a brownish pigmentation of the skin. None of the forms of reaction is accompanied by general symptoms or elevation of temperature. The author believes that the reaction is strictly specific though somewhat less sensitive than the von Pirquet cutaneous reaction or the ophthalgo-reaction. Its value as a diagnostic measure must be determined by further observations in a large series of cases. The method has the great advantage of being entirely harmless, even the itching at the site of inunction being a comparatively rare occurrence.

No Special Providence.

It makes us "falter where we firmly trod" to feel that man comes within the sweep of these profound and inviolate biological laws, but it explains why nature—so careless of the single life, so careful of the type—is so lavish with the human beads, and so haphazard in their manufacture, spoiling hundreds, leaving many imperfect, snapping them and cracking them at her will, caring nothing if the precious cord on which they are strung—the germ plasm—remains unbroken. Science minimizes to the vanishing point the importance of the individual man, and claims that the cosmic and biological laws which control his destiny are wholly inconsistent with the special Providence view in which we are educated—that beneficent, fatherly Providence which cares for the sparrow and numbers the very hairs of our head.—*Dr. Osler.*

The Aim of Therapeutics.

Therapeutic tactics are the art of making the best use of these remedies, and this he hopes to teach. It is the duty of the medical practitioner not only to sustain the patient's supreme consolation of hope, but to cultivate it in himself, so that his patients shall not be able to reproach him by saying "You have not cured me, you have not relieved me, you have not comforted me." However mortal the disease, we should preserve this latent hope, and use every means that ingenuity can suggest when science fails; such energy and tenacity, he said, meet with occasional unexpected rewards, and he reminds us that the Roman Senate and people granted triumphant honors to those beaten soldiers who had not despaired of victory. We hesitate to spoil the effect of these eloquent words by any kind of criticism, but we may express a doubt whether it is possible to make such a subject as clinical therapeutics anything beyond the dogmatic expression of the experience of the occupant of the chair for the time being.—*British M. J.*

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM,
C. B. SHUTTLEWORTH AND F. W. MARLOW.

The Present Status of Spinal Analgesia. BY DR. STRAUSS (*Dtsch. Zeitschrift. f. Chir.*).

Based upon a critical review of the scattered material, the author arrives at the following conclusions:

At the present time, tropacocain must be regarded as the most harmless remedy for the production of spinal analgesia. Even this, however, is not free from by-manifestations, and cannot be considered as absolutely harmless. Donitz reports the case of a man 75 years of age, who died after the injection of 0.13 tropacocain. The normal dose is 0.06; the dosage should be rather less than more. Higher analgesias may be obtained by elevation of the pelvis, and aspiration of considerable amounts of spinal fluid. The addition of adrenalin should be omitted, since it increases the danger. The most rigorous observation of the technique is absolutely essential. The average duration of the anesthesia is one hour. The lower extremities, the perineum, and

the lower abdominal region can be anesthetized with a certain degree of positiveness.

The procedure is indicated in old, decrepit individuals; in cases of non-tuberculous lung disease; in diabetic patients. The contra-indications are youthful age of the patient, up to 15 years; affections of the brain and spinal cord; neuropathic or psychopathic conditions. The possibility of getting along with local anesthesia likewise excludes the use of spinal analgesia. Especial care is indicated in all tuberculous processes and kidney diseases, also in syphilis and advanced arteriosclerosis. The method as such is not devoid of danger, and its employment should always be surrounded with certain limitations. While the untoward phenomena or sequelæ may be considerably diminished by proper technique and selection of the cases, it is impossible to avoid them entirely. In conclusion it may be stated that in suitable cases spinal analgesia, although never absolutely free from danger, offers numerous advantages when properly performed.—*The Post-Graduate*.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED. FENTON
AND HELEN MACMURCHY.

Myomectomy During Pregnancy.

At a meeting of the Obstetrical and Gynecological Section of the Royal Society of Medicine, London, on March 12th, Dr. Herbert Spencer (President) in the chair, Drs. Walter Swayne and J. H. Dauber having described some cases in which myomectomy had been performed during pregnancy, Dr. Spencer said that, while not criticizing the three cases reported, in which the operations were done for definite and serious indications, he felt bound to express his strong opinion that operations in the case of fibroids complicating pregnancy were rarely called for, and that myomectomy, which was occasionally urgently demanded in the case of very large, or impacted, or rotated tumors, was, in relation to the frequent occurrence of this complication of pregnancy, very rarely required, and, as the cases exhibited that night showed, was attended by postponed till the child was viable. Dr. Amand Routh

thought Dr. Swayne's statistics, tending to show that fibroids were so serious a complication of pregnancy that operations were frequently justifiable, were out of date. He had collected statistics showing that the maternal mortality of such cases under modern methods was only slightly in excess of the normal. Abortion did not more often occur where fibroids were present, though labor often ensued a few weeks before full time. He had only twice had to perform Cesarean hysterectomy at or near full term, and never at an earlier date, though he had seen many cases of fibroids blocking the pelvis in the early months. The fibroids in such cases almost invariably underwent flattening and softening (*assouplissement*), and were gradually or suddenly displaced out of the pelvis, sometimes as late as the onset of labor itself, and labor spontaneously occurred without assistance. Dr. Arthur Giles said that speaking in generalities would lead to confusion and inaccuracy. To say that the complication of fibroids and pregnancy was generally unimportant was as much beside the mark as to say that it was generally dangerous. The existence of fundal fibroids might make no difference to pregnancy or labor, but cervical fibroids impacted in the pelvis were in a totally different category.

Diagnosis of Early Pregnancy.

L. J. Ladinski (*Med. Record*, April 13, 1907) describes as diagnostic of early pregnancy the following sign elicited by bimanual palpation. Frequently as early as the fifth week, but always in the sixth week, there can be felt in the median line in the anterior wall of the body of the uterus just above the junction of the body and cervix a circular area the size of the tip of the finger, which presents the sensation of an elastic fluctuation. This area increases in size in a crescentic manner, until between the third and fourth month, when nearly the entire anterior body, with the exception of the upper crescent of the fundus, partakes of this change, and gives the cystic fluctuating feel to the examining finger. The change appears in the anterior wall of the uterus when the uterus is in the normal position or slightly anteverted, but in extremely retroverted or retroflexed uteri the elastic area appears in the posterior wall, but, instead of being perceptible in the fifth or sixth week of pregnancy is usually felt in the sixth or seventh week. In incomplete abortion or subinvolution, there is a change in the consistency of a similar area of the uterine wall, but, while in pregnancy the feel of this area is distinctly elastic or cystic, the sensation obtained in subinvolution and incomplete abortion is soft and doughy.

Deep Incisions of Cervix Uteri.

Mason reports two cases of rigid cervix treated by Dührssen's deep surgical incisions. He describes the technic and concludes as follows: 1. When immediate delivery is demanded in the presence of an undilated and rigid cervix, multiple deep incisions from the border of the external os to the uterovaginal junction furnish the most rapid and safest method of emptying the uterus. 2. There is no danger of the incisions tearing in patients under full term, or in patients at full term, in whom the pelvis is normal and the fetus is of moderate size. 3. There is no risk of hemorrhage when clamps are employed before making the incisions. 4. The chance of septic infection is no greater than after the lacerations occurring at the time of normal delivery. 5. The scars in the cervix and vaginal vault cause no trouble in the course of subsequent pregnancies and labors.—*Jour. A. M. A.*

Pyuria in Women.

Dr. Henry D. Furniss, New York, in speaking of pyuria, said not all cases of purulent urine should be included. Only those cases in which pus is from the urinary tract were considered. Whenever pus is found in the urine, the first effort should be to locate its origin and determine the etiologic factor. The majority of the inflammatory disorders of the genito-urinary system recover spontaneously after the removal of the cause. In the acute cases there is not much difficulty in locating the origin of the pus, for the local symptoms are sufficiently intense to point to the source of the trouble. If there is pus in the bladder urine, if the bladder is catheterized and carefully washed, and a second specimen obtained by means of a catheter an hour later contains the same amount of pus as the first; the inference is clear that the pus is derived from a source outside of the bladder. With the aid of the cystoscope, one can determine the nature, the extent, and often the cause, of the lesion with which he has to deal.—*Jour. A. M. A.*

The Treatment of Peritonitis.

McGuire describes the practical steps of the Fowler-Murphy method as follows: Open the abdomen over the seat of the primary focus of infection and correct the trouble, whatever it may be, so as to prevent the admission of further poison. Make a second short incision immediately above the pubes, and insert a large rubber drain to the bottom of the pelvis. The work

should be rapid, with as little manipulation of the viscera as possible, and no effort should be made to remove the pus by sponging or irrigation. Place the patient in bed in an exaggerated Fowler's position. Give saline solution by continuous low-pressure rectal irrigation; administer morphia, in small doses, for pain and spartein, in large doses, as a general stimulant and prophylactic against suppression of urine. Purgatives should not be employed, but bowel action secured by the use of enemata. If there is much nausea or vomiting the stomach should be thoroughly irrigated and no food should be given until the patient can retain and assimilate it.

By the adoption of the method outlined McGuire has seen a great change in his mortality. A recent analysis of the last 500 cases of appendicitis operated on in his private hospital gives a record of twenty-four patients with diffuse suppurative peritonitis. The first six were treated by the old method of irrigation and multiple drainage, with five deaths. The last eighteen were treated by the Fowler-Murphy method, with but one death.

Prolonged First Stage in Primiparae.

Das *Journ. Obstet. and Gyn.*, March, 1908) reports two cases of primipare in which the first stage of labor was unduly prolonged until he ruptured the membranes, after which rapid progress was made. In both cases the membranes were unusually tough and hard, and the forewaters were scanty, the membranes did not bulge, but became tense with the occurrence of the pains. In the first case, before the rupture the os admitted three fingers with difficulty, it was fully dilated three hours later. In the second it took the os sixteen hours to dilate to two fingers' breadth, and less than an hour for the remainder of the first stage and the whole of the second stage to be accomplished. The writer has encountered many cases of a similar kind, always in primipare. In some of his earlier cases, thinking the delay to be due to adhesion of the membranes, he tried detachment of the membranes from the lower uterine segment. This, however, had no effect until he ruptured the membranes, which were not doing their work. On a close examination of the secundines the placenta is found to have a low insertion, and this condition is apparently the chief factor in causing the delay by not allowing the lower uterine segment to retract past the membranes, which are applied closely over the fetal head. When the following conditions are present, rupturing the membranes will expedite labor: Prolonged first stage, presenting head low in the pelvis,

primipara, os soft, dilatable, and generally thin, very little forewaters, membranes tough and not bulging through during the pains. Textbooks do not call sufficient attention to this point; on the other hand, the teaching that the membranes should be preserved as long as possible contributes towards longer delay and more suffering. These are the cases where premature rupture of the membranes will help dilatation and expedite labor.—*Brit. Med. Jour.*

Dry Labor.

The early escape of the amniotic fluid is a serious loss to the fetus. Not only is the progress of the first stage interfered with, but the fetus suffers from direct uterine pressure. The localized pressure of the cervix on the head may induce congestion, edema, and even hemorrhage of the brain. The violent contractions that are common in this condition are harmful alike to both mother and child. If it is possible to insert a metreurynter between the cervix and the presenting part of the fetus, saline solution may be injected in to the uterine cavity when its walls are relaxed, under chloroform, if necessary, and retained by means of the bag. By this method, it may be possible to avoid the dangers of a dry birth.—*S. H. M. Stowe (Surg. Gyn. and Obstet.)*

Opiates After Operation.

Pain is the one symptom common to all patients after an operation, and demands constant consideration according to Moore. As already suggested, much can be done in the way of prevention, but after that our sheet-anchor is opium in some of its various forms. Morphia administered hypodermatically is the universal favorite. Codeia and other milder preparations are disappointing and should only be used where the patient is known to have a marked idiosyncrasy against morphia. When morphia is indicated, it should be given in full doses—usually one-fourth of a grain—because a smaller dose does not have the desired effect and is just as liable to be followed by unpleasant effects as a large one. It is our mission on earth to relieve pain, and in post-operative treatment we have a great opportunity. One who denies his patients an opiate after an operation, on theoretical grounds, is in error, and would very quickly change his views were he the patient. At one time I, in common with most surgeons, denied my patients opiates after abdominal operations, on the theory that they caused gas and consequently greater suffering. My patients differed from me at the time and

censured me afterwards, and after long experience I am thoroughly convinced that they were right. All patients have some discomfort from gas after the abdomen has been opened, but my patients have infinitely less suffering now than they did when I denied them this boon. Some able surgeons of large experience are now giving a hypodermic of morphia to these patients before they recover from the anesthetic, as a routine, and while I have not yet adopted the routine, I am inclined to believe that this will eventually be the accepted practice. As long as the hypodermic syringe is kept in the hands of the nurse, and its use discontinued when the surgeon decides that it is no longer needed, any fears of establishing a habit are only theoretical. Post-anesthetic vomiting is not a contra-indication for the hypodermic, but, on the contrary, it is often helpful in this condition.—(*Surg. Gyn. and Obstet., Amer. Med.*)

Repeated Symphysiotomy.

Robert Jardine (*Jour. Obst. and Gyn. Brit. Emp.*) performed symphysiotomy three times on the same patient. Six weeks after the last operation the patient could walk.

A Case of Toxemia During Pregnancy.

At a meeting of the Philadelphia County Medical Society, Dr. William Campbell Posey and Dr. John Cooke Hirst.

The writers reported a case of toxemia during pregnancy where the ocular symptoms, which were the only demonstrable signs of the disease, also the general symptoms, disappeared promptly after the artificial induction of labor. The urine was free from albumin at all times, and the general symptoms were few, and had the ophthalmoscope not revealed the malignancy of the toxemia, it was probable that labor would not have been interrupted, and it was not unlikely that the patient would have died of eclampsia. Active eliminative treatment gave no relief. Dr. Hirst then induced labor artificially. The general symptoms disappeared at once and the ocular changes after some weeks. A year had elapsed since the termination of the pregnancy. The general condition of the patient was somewhat abnormal, and though there had been no recurrences of the retinal travasations, the retinal vessels appeared unhealthy, being unduly full and tortuous, awaking the suspicion of a disease of their walls. Nothing abnormal had been found in the urine, and the patient's physician was inclined to regard the toxemia as a result of the failure of the liver to perform its

functions properly, the patient's father having died of hepatic cirrhosis, and there having been great tenderness over the whole liver until after the expulsion of the fetus.—*N. Y. Med. Jour.*

Cases of Eclampsia.

At a meeting of the Obstetrical and Gynecological Section of the Royal Society of Medicine on January 9th, Drs. N. C. Carver and J. S. Fairbairn recorded some cases which it was suggested were cases of eclampsia in which death was brought about by hemorrhage into the pons. The symptoms which should arouse suspicion of such hemorrhage during eclampsia were deep coma and cyanosis, with marked respiratory disturbance occurring in a young patient presenting the urinary and other signs of eclampsia, and they were especially suggestive when the attack was unaccompanied by the usual eclamptic convulsions. Mr. A. Lionel Smith said he had seen three cases of cerebral hemorrhage complicating eclampsia or toxemia of pregnancy, in all of which the diagnosis was confirmed at the necropsy. Dr. Amand Routh thought it unwise to increase arterial tension, as must have been done in the first case reported, when 10 oz. of blood were removed, and 40 oz. of saline infusion injected. This might well have increased the tendency to hemorrhage. He presumed that saline infusion in these cases was given to dilute the toxins at each given point, and to increase the leucocytosis to combat the toxins; but it was doubtful if it should be given when it increased arterial pressure. Dr. Fairbairn, in reply, said no attempt had been made to make an exhaustive collection of cases of apoplexy as the cause of death in eclampsia, and the cases collected were those of hemorrhage into the pons or base of the brain without unilateral symptoms to suggest apoplexy. Large cerebral hemorrhages were not frequent in eclampsia, as was shown by the statistics quoted in the paper. The cases recorded were undoubtedly rare, but the possibility of a deeply comatose and cyanosed eclamptic patient having also a cerebral hemorrhage ought not to be lost sight of, especially in giving a prognosis.

An Analysis of 250 Breech Presentations.

Dr. R. L. DeNormandie reports an analysis of 250 breech presentations in the Boston Lying-in Hospital, with the following conclusions (*Surg. Gyn and Obstet.*, Ap. '08):

1. Breeches in primipare are common.
2. Manual extraction occurs in one-half of all breech deliveries.

3. Forceps to the after-coming head is at times a life-saving procedure.

4. Lacerations of the maternal soft parts occasionally are very extensive.

5. Injuries to the child are much more common than in vertex deliveries.

6. Sepsis is no more common in breech than in vertex deliveries.

7. Breech presentations in contracted pelves should have an early Cesarean Section.

8. The fetal heart in breech presentations should be listened to at short intervals after the rupture of the membranes.

9. If the cord prolapses, immediate extraction should be done.

10. A long labor, *per se*, is not an indication for operative interference.

11. Early rupture of the membranes, without advance in the labor, is an indication for immediate operative interference.

It is these last two conclusions upon which I wish to lay especial emphasis. A long labor where the advance is steady, with the membranes intact until a short time before full dilatation, is not an indication for operative interference. I have shown that the deaths in such cases are relatively few; but in marked contrast stand out the cases where the membranes rupture early or before labor starts. When a series of 21 cases with the membranes rupturing early in labor give a mortality of 12, then is it time to see wherein lies the error of our management of the cases.

We are advised in the text-books to leave breeches alone until a positive indication arises, and that indication is usually said to be an alteration in the fetal heart. If we wait until this occurs, then we must of necessity operate on a baby with lowered vitality. It is not the manual extraction *per se* that kills, it is the fact that a hard operative delivery is done on an already partially asphyxiated baby. This series of cases, it seems to me, show that fact clearly; for in the prolapsed cord cases, where manual extraction was done at once, the results were exceptionally good; while where manual extraction was done late, after the membranes were long ruptured, the results were very bad.

It, therefore, seems fair from this series of cases to recast the indications for operative interference in breeches and not to wait until there is an alteration in the fetal heart sounds, but to regard a non-advance or very slow advance of the labor, the positive indication for delivery.

THERAPEUTICS.

Strontium Bromid.

Robinson (W. J.) thus summarizes his paper in the *Journal A. M. A.* on strontium bromids:—

1. The bromids are valuable and sometimes indispensable agents.

2. Potassium bromid is the worst bromid we possess, its undesirable by-effects by far overbalancing its therapeutic value. Whoever administers potassium bromid in large doses for a long time is simply slowly poisoning his patient.

3. Sodium bromid is a much milder bromid, and when chemically pure strontium bromid is not available sodium bromid is the salt of choice.

4. Strontium bromid is the best of all inorganic bromid compounds. It is a positive (a) anaphrodisiac; (b) it is a positive nervous and genitourinary sedative; (c) it does not upset the stomach; (d) it does not produce acne, or if it does produce a few acne pustules they are mild and transient; (e) it often acts as a mild intestinal antiseptic; (f) it does not irritate the kidneys—rather the contrary, and (g) it has a tendency to diminish albumin in albuminuria and sugar in glycosuria.

5. The dose of strontium bromid ranges from 10 to 60 grains three or four times a day. Occasionally it may be given in doses of one or two drams. It is best prescribed dissolved in distilled water with the occasional addition of essence of pepsin, tincture of cardamom, etc.

6. Strontium bromid is incompatible and should not be prescribed with citrates or sulphates, and it is also best to avoid prescribing it with alkaloids.

7. To obtain the good results from strontium the salt must be chemically pure. If contaminated with barium, as the commercial strontium salts not only frequently but usually are, its effects will be disappointing and its untoward by-effects may be more severe than those of potassium bromid.

Paraldehyde. BY DR. A. WURSCHEIDT.

This was introduced into therapeutics by Cervello in 1892. It is a chemical product of the aldehyde series, and is a polymer of acetic aldehyde. It exists as a colorless liquid, with a peculiarly pungent and oppressive odor. It crystallises at 10° C. It is easily soluble in cold water, but requires 1 in 10 of

warm water. It mixes with alcohol and ether in all proportions. I generally used the following stock mixture :

Paraldehyde, 100 parts.
Aqua font., 1,440 parts.
Syr. simp., 300 parts.
Essent. citro., 10 parts.
Spir. sacc. opt., 150 parts.

This mixture contained 1 gramme of paraldehyde in 20. The dose ranged from 2 to 12 grammes, the average being 5 grammes. Sometimes such small doses as 3-4 grammes sufficed. The drug is given by the mouth.

The best results were achieved in mania, the maniacal exacerbations of dementia præcox, general paralysis, epilepsy and hysteria. Sleep was produced in 85 per cent. of an extensive series of cases; some of these also gave evidence of general improvement. At first the sleep was profound and calm, but as the night advanced irritability was manifested on external disturbances. The sleep was from five to eight hours in duration. No unfavorable by-effects were ever noted. Large doses did not upset digestion; neither were pulse nor respiration affected. One patient complained of an evanescent tinnitus. Patients who had previously taken chloral, or morphia subcutaneously, remarked that in the morning the head felt clearer than when these drugs were used. On one occasion a condition of delirium and apprehension came on when paraldehyde was left off, but these symptoms disappeared when it was resumed in small doses. My later experiences have confirmed my opinion of the efficacy of paraldehyde, and despite its taste and smell I consider it a valuable acquisition to materia medica. I regard a dose of 5 grammes of paraldehyde as superior to 2 grammes of chloral. Unfortunately, the unpleasant exhalation which proceeds from those treated with this drug constitutes a drawback to its employment. An advantage of paraldehyde is that it can be used in circulatory disturbances. It has no analgesic effect.—*Folia Therapeutica.*

PEDIATRICS.

IN CHARGE OF ALLEN BAINES AND W. J. GREIG.

Icterus in Pneumonia

Blumberg, in an article upon croupous pneumonia, with icterus, discusses particularly two phases of the question: (1):

Does the site of the pneumonia influence the onset of icterus?
(2) Is there any relation between the severity of the pneumonia and the icterus?

The basis of the discussion is 300 cases, of which 21, *i.e.*, 7 per cent., presented icterus. Twelve of these were right-sided, 8 left-sided, and 1 bilateral. He concludes that the site of the pneumonia has nothing to do with the causation of the icterus.

In regard to the second question, he adopts as the basis of measurement of the intoxication the appearance of albumin in the urine. This is a very poor basis of calculation, for practically all cases of pneumonia show more or less albuminuria. He found that 86 per cent. of the jaundiced cases showed albumin and 88 per cent. of the others. He concludes from this that there is no relation between the severity of the case and the presence of jaundice, but states that the mortality of the 21 icteric cases was 19 per cent., while that of the others was 11.3½ per cent., *i.e.*, only a little more than half the mortality shown by the cases of icterus. It is obvious that one cannot draw conclusions from such figures as these, for there are so many factors entering into the mortality of pneumonia, but I am confident that most who have had much to do with pneumonia will not agree with Blumberg, but would unite in saying that the jaundice is an expression of a severe infection.

Slight grades of jaundice may be disregarded, but all cases with well-marked icterus should be gravely regarded, for it not only indicates a grave infection in pneumonia, as in any other septicemic process, but in itself is a source of danger.

It has been repeatedly shown that jaundice, irrespective of its cause, has a deleterious effect upon the heart, causing it to dilate and cause such inco-ordination in the action of the papillary muscles of the heart as to cause leaking of either or both auriculo-ventricular valves. When one recalls the well established fact that in the heart lies the great danger in pneumonia, the existence of a complication, which in itself alone may seriously alter the heart's action, must cause grave anxiety. Even in the exceptional cases, where the jaundice is probably due to gastro-duodenitis, not to hemolysis, it must be considered as a serious thing.

Blumberg's conclusion, that the site of the pneumonia has nothing to do with the causation of true icterus, is quite in accord with that reached by others who have studied the same question.
—*Progressive Medicine*, March, 1908.

Editorials.

THE MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

The recent meeting of the Ontario Medical Association, held at Hamilton, May 26-7-8, has been called in sporting terms a superlative record breaker. In considering the whole history of this Association it is found that this meeting excelled in three respects:

1. It was the best meeting from a literary standpoint, that is, as to papers, addresses and discussions.

2. It was the largest meeting the Association has known, there being registered 319. We are glad to be able to state that over 100 of these were from Toronto.

3. The hospitality of the profession of Hamilton towards the visitors was the most generous that has been known at any of the twenty-eight meetings of the Association.

One might naturally ask what was the reason for such superlative success in so many directions? Was it partly chance and luck? There may have been some luck about the matter, but there certainly was no chance. The Hamilton physicians "took no chances." The President and local committees worked harder than any of the Presidents and Local Committees of the former 27 years.

We think that not one of the Past Presidents will object to our making the statement that Ingersol Olmsted's work for this meeting was far ahead of the work which was done by any of the former Presidents of the Association. We need not refer to the details of his work. From hints received from various sources, we have reason to believe that no one man is in a position to fully realize the character and the amount of the work which he accomplished. Let us then be satisfied to announce the general verdict that his work was in all respects magnificent, and was crowned with the success which it richly deserved.

It is impossible for a non-resident of Hamilton to discuss

intelligently the individual work done by the physicians of that city. The outsider soon received the impression, after arriving in Hamilton, that the local profession was working as a single, solid and active unit in keeping the machinery of the meeting going. Everything seemed to be right—nothing went wrong—except the weather. It seemed to warm up and become more enthusiastic as the meeting went on, until the last day when it became altogether *too red hot* for comfort. However, the heat had no appreciable effect on the attendance, and the interest in the proceedings was maintained up to the last minute. Considering the remarkable unanimity displayed it seems almost unfair to mention names, but we believe it is due to Dr. Wallace, Chairman of the Committee on Business and Papers, and Dr. Osborne, Chairman of the Committee on Arrangements, to say that the work of these two men might be considered “a close second,” to that of the President.

Congratulations to the profession of Hamilton!

There was a general feeling of regret when it was learned that Dr. Chas. P. Lusk, who has been so acceptable as the General Secretary for so many years, had decided to withdraw this year. He was certainly one of the most careful, able, and courteous officers the Association has known. It was also a matter of regret that Dr. Sam Johnston desired to withdraw from the Secretary's Department. While our thanks go to these two worthy officers we feel certain that they and others will join us in saying that the new appointments of Dr. Stanley Ryerson, of Toronto, and Dr. Heurner Mullin, of Hamilton, as Secretary and Assistant Secretary, respectively, are eminently satisfactory.

There appeared to be a consensus of opinion that Dr. H. J. Hamilton, of Toronto, the First Vice-President of last year, should be promoted to the position of President. We congratulate Dr. Hamilton on his election to a position which we think he richly deserved. Toronto will be the place of meeting for 1909. We can assure both Dr. Hamilton and the profession of Toronto that if they do as well for the next meeting as Dr. Olmsted and the profession of Hamilton did for the last meeting we will all be perfectly satisfied.

OTHER POINTS CONNECTED WITH THE MEETING OF THE ASSOCIATION.

We had intended to add something about the social side of the Meeting and also about the advisability of holding meetings frequently outside of Toronto. Since the above was written, however, we have received an interesting communication from Dr. John Hunter, of Toronto, which deals sensibly with these points, and which we publish with pleasure in this issue.

We may differ to some extent (not greatly, however) from Dr. Hunter, as to the standing of University Professors from Toronto and elsewhere. We think they should neither be placed on a pedestal above nor on a plane below other general practitioners. There seems no reason why they should be excluded from any privileges, offices, etc., in the Association. We believe that they should simply rank on equal terms with their brother physicians from all parts of Ontario.

Apart from these considerations, however, which are not of vast importance, we quite agree with Dr. Hunter that meetings should be held frequently outside of Toronto. In this connection we must consider the wishes of outside cities. We should not ask these cities to assume burdens unless we are certain that they desire to do so. There was no doubt last year as to Hamilton in the minds of the majority, because it was well-known that the President elect and the profession of that city were practically a unit in their desire to have the meeting for 1908.

MEDICAL CONTROVERSIES.

In looking back over the history of the race, medical men are inclined to feel puffed up, when they compare themselves with the clericals of the past, who indulged so freely in the sophistries of theological controversy. Whenever medicine came in contact with the church, it was always to the disadvantage of the former, and we think with pity of the Pope's punishment of Galileo, and of Calvin's wrath visited upon poor Servetus. If, however, we bear in mind that the priest played a larger part in the world's

politics than did the physician, and, therefore, had his faults, as well as his virtues, more emphasized, it will give us a much better perspective. Human nature is always the same, whether a man wears sacerdotal robes or a coat of mail, and although it is true, that the medical profession have seldom inflicted the thumb screw and the stake upon those brethren whom they deemed heterodox, yet there are many striking examples of other ways in which they have shown their disapproval.

After Harvey announced his discovery of the circulation of the blood, he was so angered by the discourtesy—to use a mild term—of his conferees, that he at one time resolved to leave London. Even as late as 1850 Semmelweis was driven to the mad-house in the hot controversy that waged about his “heresy” of the cause of puerperal sepsis. In our own day, however, discoveries are so numerous and heterodoxy so common, that we have not time to prepare a fagot for each new offender. And yet we look askance at any one who dares to discover a cure for cancer or who finds a new germ in syphilis or rheumatism. Very often we are right in our doubt, but to-morrow we may make a grievous mistake.

The proper scientific spirit, of course, is one which neither sees an enemy in everything new, nor with a silly optimism seeks ever for “the very latest.” At the present time, for example, the serum therapy of epidemic meningitis is on trial. Although many wonderful cures are reported, yet we must remember that in every outbreak many patients recover, when absolutely nothing has been done for them. We must not condemn the anti-serum simply because it is new, nor must we, on the other hand, be too sanguine, lest the treatment meet the same fate that befell Koch’s tuberculin. The golden mean in this, as in every other case, will soon put the serum in its proper place.

THE RESEARCH DEFENCE SOCIETY.

A remarkable association has been formed recently in England, which is known as “The Research Defence Society.” At

the head of it is one of England's greatest men, Lord Cromer. The list of Vice-Presidents, of whom there are nearly 100, includes some of the most distinguished men in Great Britain. The Hon. Secretary is Stephen Paget, F.R.C.S., who was the chief organizer of the Society.

The objects of the Society are to explain to the public by means of discussions, lectures and pamphlets, the value of experiments on animals to science and medicine. For some years the antivivisectors have bitterly and unjustly attacked scientists who performed experiments on the lower animals. During these years the outrageous statements of the anti-vivisectors have not been properly or definitely answered. It is thought by many that the time has arrived when the public should learn all the facts in connection with such charges. It is important that the public should learn that experiments on animals are performed in the interest of suffering humanity, and that the charges of cruelty in connection with such experiments are false.

The Society will give information to all who wish to examine the arguments in favor of such experiments. It desires the public to know "the truth, the whole truth, and nothing but the truth" as regards vivisection. With this end in view it will publish articles, and send speakers to meetings where the subject is discussed.

We learn from the London correspondent of the New York Medical Journal that several important letters have appeared in the Times, and other daily journals on the subject, including some from laymen, testifying to the interest the Society has raised among the educated classes.

CANADIAN MEDICAL ASSOCIATION.

When one considers the dismal dullness of last year's meeting of the Canadian Medical Association, it is a pleasure to think of the marked contrast found in this year's meeting. The Ottawa meeting was bright, snappy and interesting from start to finish. It is remarkable that two such excellent meetings as those of

Hamilton and Ottawa should have been held in Ontario within so short a space of time. It was feared that the profession of Western Ontario would be unable to give much support to the meeting at the Capital. However, our friends in Ottawa and the surrounding district were equal to the occasion, and under the leadership of Doctors Fred. Montizambert and Bob Powell, worked with a will, and the result was one of the best, and one of the most pleasant meetings Canada has known. In fact, we are probably justified in saying that all the superlatives applied to the meeting in Hamilton are equally applicable to that in Ottawa.

On the first afternoon there was a formal reception to the visitors by the local members at the Ottawa Golf Club, Aylmer. At the first evening session Dr. Montizambert delivered his presidential address. He began by expressing his belief that a new era in the history of the Canadian Medical Association had begun. He then briefly traced the development of scientific medicine from the days of Aesculapius. He divided this period of development into four eras. 1. Hebraic epoch, when special attention was given to domestic sanitation. 2. Roman epoch, the era of municipal sanitation. 3. Gothic epoch, the era of national sanitation. 4. The modern epoch, the era of international sanitation.

He then advocated more adequate protection of the public health, and the diffusion of information regarding preventative measures. He also urged proper inspection of the water supply and plumbing work. He believed the Federal Government, and especially the Bureau of Public Health, should undertake the lead in the struggle against tuberculosis and other contagious diseases; and he finally suggested that the Dominion Government should station medical officers in the emigrating centres of Europe and the Orient.

Sir Wilfrid Laurier then delivered a short address. As a citizen of Ottawa he gave to the Association the warmest welcome of the city. He expressed his personal interest in the work and objects of the Association. He stated that he could not turn a deaf ear to any reference to the duty of the National Govern-

ment. He was glad to listen to any arguments, and was open to conviction.

Mayor Scott then formally welcomed the visiting members of the Association to Ottawa and concluded by inviting the Association to the Carnegie Library, where the hospitality of the city was participated in in the form of light refreshments. This civic reception proved a most pleasant and enjoyable occasion. An orchestra stationed near the refreshment room rendered several selections. A large number of the wives and daughters of members of the Association were present.

On the second afternoon the hospitality of the Canadian Pacific R. R. Co. was extended to the members of the Association and their friends to the number of 300, who were taken by special train to Caledonia Springs, and tendered a luncheon at the large hotel at that resort. The doctors, individually and as a body, gave unstinted praise to the Canadian Pacific officers for this perfect and unique entertainment. This excursion occupied half a day, and a full evening session was held to make up for such loss.

Two very interesting papers were read at this evening session. Dr. Jno. C. Munro, of Boston, took for his subject "The Plea for the Fair Treatment in Medical and Surgical Operations." He expressed the opinion that in many hospitals criminal disregard for the welfare of patients was shown by allowing House Surgeons to undertake major operations. He criticized private hospitals as often carelessly managed, and as maintained simply for the purpose of returning profits on outlay.

Dr. Risien Russell, of London, England, read a very interesting paper on "The Use of Reflexes in Diagnosis." For the benefit of the laity who were present he simplified his explanations so far as possible, and made clear the meaning of the term reflexes. While not in all cases infallible, he stated that frequently the value of the reflexes in differential diagnosis was beyond doubt.

During the three days much good work was done in the various sections. On the third day a number of the members visited

the laboratory at the Experimental Farm. The members were entertained at a very enjoyable Smoking Concert on the third evening; but, unfortunately, a large proportion of the visitors were unable to remain for it.

The next meeting of the Association will be held in Winnipeg. Members of the profession in that city suggested last year that the meeting for 1909 should be held in Winnipeg immediately before or immediately after the meeting of the British Association for the Advancement of Science. Dr. Blanchard of Winnipeg was requested to take the presidency. After his election he telegraphed that he feared he would be unable to undertake the duties. If he adheres to his decision not to accept, the Executive, after consultation with the profession of Winnipeg, will elect a President. Dr. George Elliott, of Toronto, was re-elected Secretary, although he had tendered his resignation. It was not thought advisable, now, to appoint a new Secretary, who would not have the intimate knowledge of the new constitution under which the Association is now working.

The Members of the Executive Committee are: Dr. R. W. Powell, Ottawa; Dr. G. E. Armstrong, Montreal; Dr. W. T. Bradley, Ottawa; Drs. F. A. Lockhart, and James Bell, Montreal; Lieut.-Col. C. James, Ottawa; Dr. A. B. Atherton, Fredericton; Dr. A. T. Shillington, Ottawa; Dr. E. P. LaChapelle, Montreal; Dr. J. C. Mitchell, Brockville, and Drs. J. T. Fotheringham, R. A. Reeve, J. H. Elliott, and C. J. O. Hastings, Toronto.

Muskoka Sanatoria Medical Staff.

W. B. Kendall, M.D., C.M., L.R.C.S., L.R.C.P., Physician-in-Chief of the Muskoka Cottage Sanatorium, has been appointed Physician-in-Chief of both the Cottage Sanatorium and the Muskoka Free Hospital for Consumptives, and C. D. Parfitt, M.D., M.R.C.S., L.R.C.P., Physician-in-Chief of the Free Hospital since its opening in 1902, becomes Resident Consultant of the two Sanatoria, each giving his entire time and effort to these institutions. The medical staff will also include a trained resident Pathologist and two assistant doctors, together with a staff of specially trained nurses.

REPORT OF THE RECENT MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

For the first time in its history, the meeting of the Congress of the American Laryngological Association took place, in May last, upon Canadian soil. It was the occasion of its thirtieth annual gathering, Montreal, the home of the President, being the city chosen, with the Windsor Hotel as the place of meeting.

Although of only thirty years' standing, this association is the oldest of its kind in the world; and being almost exclusively American in its personnel, it was a fitting compliment to the courtesy and worth of its President, Dr. Hubert S. Birkett, to have the meeting occur in his own time-honored city.

The Association honored its President by gathering together its Fellows in the ancient town, and the President honored the Association by the beautiful and lavish hospitality which he and his good wife so bountifully displayed.

The Congress opened on the morning of the 11th of May, in a large hall beautifully decorated with flowers. The first address was one of welcome, by the well-known Dean of the Faculty of Medicine of McGill University, Dr. Roddick. It was extended most cordially to the visiting Fellows and their wives in behalf of the medical profession of the city.

Then followed the President's address; and as this is the Tercentennial year of the founding of Quebec, he chose for his subject, "The Early History of Medicine in the Province of Quebec." The address was an elaborate study, dating back to the folk-lore of Canada's earliest days, full of salient points and valuable details, that could only be gathered from a critical and elaborate examination of the archives of the Province. When published, this carefully prepared paper will, no doubt, be a valuable addition to the literary and scientific records of the country.

The first regular paper presented was entitled, "A Grain of Corn Removed from the Trachia," by Dr. Bryan, of Washington, followed by one on "Personal Experience in the Use of the Broncho-scope, Esophagoscope, and Gastro-scope," by Dr. Halsted (a Canadian), of Syracuse. These papers combinedly created a wide discussion.

A symposium upon "Recurrent Abductor Paralysis brought out exceedingly valuable papers by Dr. Gleetsman, Dr. Dela-

van, and Dr. Riel, of New York, and Dr. Casselberry, of Chicago.

Another series of papers that were grouped together and discussed with interest, were entitled, "Cyst of the Frontal Sinus Connecting with the Frontal Lobe," by Dr. Theisen, of Albany; "Notes upon two unusual cases of Frontal Sinus Disease," by Dr. Price-Brown; and "A Case of Sinusitis, some Cerebral Symptoms Relieved by Operation; Pyemia, Death, Autopsy," by Dr. Coffin, of New York.

Other papers were: "Formation of the Hard Palate," by Dr. Mosher, of Boston, illustrated by numerous wet specimens and plates; "Papillitis Atrophicans Bilateralis Linguae," by Dr. Wagner, of San Francisco; "Sarcoma of Tonsil," by Dr. Rhodes, of Chicago; "Adrenalin in the Causation of Anterior-scleroris," by Dr. Hopkins, of Springfield; "Methods of Opening Maxillary Antra," by Dr. Roe, of Rochester; "Abscess of Larynx Following Pneumonia," by Dr. Hardie, of Chicago; "Case of Laryngeal Scleroma," by Dr. Meyer, of New York; "Subglotta Neoplasm," by Dr. Garies, of New York; "Surgical Emergencies Associated with Tubercular Larynx," by Dr. Grayson, of Philadelphia; "Papilloma of Larynx," by Dr. Clark, of Boston; "Essentials of Speech," by Dr. Makuen, of Philadelphia; "Cysts of Epiglottis with Edema and Abscess," by Dr. Swain, of New Haven; "Laryngeal Stereosis in the Adult," by Dr. Simpson, of New York; "Morphology of the Turbinals," by Dr. Ingersoll, of Cleveland; "Hemorrhage Following Quinsy," by Dr. Newcombe, of New York; "Membranous Tertiary Syphilis with Report of Three Cases," by Dr. Kyle, of Philadelphia; "Essentials of Voice Production," by Prof. Mills, of Montreal.

The exhibition of Radiographs was a large and elaborate one. They were excellently displayed by the arrangement of lights placed behind each subject. The pathological exhibit, loaned by Prof. Adami, added much to the interest of one of the best meetings ever held by the Association.

Socially, Dr. and Mrs. Birkett excelled in their efforts to entertain and interest their guests. The exquisite lunch at the Hunt Club, for ladies as well as gentlemen; the beautiful drives through the city; the reception and concert at the Art Galleries, were all elaborate and beautiful things long to be remembered. The Fellows all went away enchanted with the old French city, and delighted with the unobtrusive kindness so freely and constantly extended toward them by the President of the Association and his amiable wife.

Correspondence.

SPONTANEOUS INVERSION OF THE UTERUS.

Recently I was called hurriedly to a case of labor. On arrival, I found that the child had been born, and that the patient—a primipara, aged 21 years—was obviously suffering from profound shock—a small, rapid, and feeble pulse, sickness, and a cold clammy skin. On examination, I found the child and placenta expelled on the bed, and the entire uterus inverted, protruding as a globular mass. The entire organ was in a state of relaxation, but hemorrhage had not been excessive. My hand placed on the abdomen detected the absence of the round ball of the contracted uterus. I reduced the inversion by grasping the uterus in the hollow of my hand and pushing gently and firmly upwards into its natural position. On making inquiries, I was satisfied that there had been no mismanagement of the third stage of labor, either by traction on the cord, the placenta being still adherent, or by improperly-applied pressure on the fundus. No mechanical cause could be traced, and the occurrence was undoubtedly one of spontaneous inversion. Such an occurrence is, I believe, one of great rarity. It was only observed once in upwards of 190,800 deliveries at the Rotunda Hospital since its foundation in 1745, and not once in 250,000 deliveries in the Vienna Lying-in Hospital, and many practitioners have conducted large midwifery practices for a lifetime without ever having witnessed a case. My patient never recovered from the shock, and died twenty-eight hours after delivery. The case, especially occurring in a primipara, seems sufficiently rare and curious to be worth recording.—*Brit. Med. Jour.*

Stockton-on-Tees.

GEORGE HALL, M.A., M.B., Ch.B.

LETTER FROM BERLIN.

The City of Berlin is the most modern of the cities of the world and the cleanest, with well-paved and brilliantly lighted streets, and traffic regulated by polite white-gloved police officials in a manner which strongly suggests a military compliance. The street car service is excellent, the rolling stock good, and the road-bed even, and there is an absence of the disgraceful

overcrowding found in other cities which claim to be the finest in "God's own country." The military system seems to have penetrated all classes, and is to be observed in the small boy, who touches his gold banded hat in respectful salute when opening the hotel door, as well as noted in the numerous clinics for syphilitics, where women line up in even order with nates exposed for the hypodermium injection of a thirty days cure during the secondary manifestations.

Police regulations are stringent in Berlin, and passports are advisable, and it is well also for the medical visitor to have with him a knowledge of the German language, which is essential in order to appreciate the demonstrations and lectures. The cost of living is much the same as in New York, London or Vienna.

Three years ago Berlin was popular with Anglo-American physicians, but now the drift is towards Vienna where the work is concentrated and there appears to be more enthusiasm, and where the charges for post-graduate instruction are lower.

The Canadian medical men who are here at present are Dr. McKenty, of Winnipeg, Dr. Herbert Jones, of Hamilton, and Dr. Hutchins. Last year, of the Canadian cities, Montreal alone was represented by Drs. G. E. Armstrong, C. P. Howard and Maxwell Lawrence, who registered at the Anglo-American Medical Association. On invitation I attended a meeting of this Society on Saturday night, held at Restaurant Heidelberg, on Friedrichs Strasse. The lecturer of the evening was Dr. Joly, first Assistant in the University Gynaecological Clinic. The subject was the "Causes of Haemorrhages from the Vagina." It was an able address, well illustrated, with prepared specimens microscopic and gross. During the delivery of the discourse the members of the Association sat around the tables in friendly fashion, smoking or drinking lemonade and reminding one somewhat of the sociable meetings of the late lamented Clinical Society of Toronto. The meetings are held every Saturday night, and are presided over by an American physician, permanently located here—Dr. Jas. Honan, of 78 Lutzon Street.

The Association was organized in 1903, and is similar to the one which has been in existence for many years in Vienna and has for its object the furtherance of the interests of American and British physicians coming to Berlin for study, and to advise them regarding the post-graduate work in the University, clinics, and hospitals, to assist in finding comfortable locations and to render assistance in case of illness.

Private courses, lasting for four weeks, instruction daily, are given in Internal Medicine by Profs. Drs. Michaelis, Bradenburg,

Strauss, Lazarus, and Drs. Klemperer, Jacobson, Mosse and Steyner. The price ranges from forty to seventy-five marks.

There are also several courses on Diseases of the Stomach and Intestines, mostly by assistants, at a cost of from fifty to sixty marks. Other subjects are taught by talented men at about the same price, except in operative surgery and gynaecology and practical obstetrics, when the fee asked is considerable, even as high as three hundred marks. Diseases of the skin and venereal diseases are exceptionally well demonstrated by Dr. Max Joseph, who has a private clinic with a very large out door attendance at No. 8 Johannis Street, open daily from 9 to 11 a.m., and the moderate fee of fifty marks is charged for a month's instruction. Dr. Joseph is not attached to the teaching staff of the University of Berlin, yet he is the most popular teacher on this subject for physicians taking post-graduate work, and his book on Diseases of the Skin is now in its sixth edition. He has a frank and amiable personality and I have to thank him for an unfailing courtesy to me during my all too brief stay in this city.

Berlin, May 19th, 1908.

W. H. B. AIKINS.

Personals.

Dr. Lorne Robertson, Stratford, returned from Europe June 1st.

Dr. Andrew Gordon, of Toronto, will sail for England July 10th.

Dr. R. A. Stevenson, Toronto, is paying a short visit to England.

Dr. G. Gibb Wishart, of Toronto, returned from his European trip the last week in June.

Dr. James Robertson, of Stratford, sailed from Liverpool on the "Republic," June 20th.

Dr. H. Crawford Scadding, of Toronto, was married June 15th to Miss Margaret E. Ramsay.

Dr. D. A. Sinclair, of Melbourne, has been appointed associate coroner for the County of Middlesex.

Dr. W. Herbert Carveth, son of Dr. George H. Carveth, was married, June 3rd, to Miss Edith Hewson.

Dr. R. E. Rudolf, Toronto, has been appointed Professor of Therapeutics in the University of Toronto.

Dr. H. B. Anderson, of Carlton Street, will remove shortly to N. E. corner of Bloor and Huntley streets.

Dr. Norman K. Macleod (Tor., '03) left Toronto June 15th for Buffalo, where he has commenced to practice.

Dr. W. P. Caven, of Toronto, has recovered from his recent serious illness, which extended over several months, and sailed for England June 27th.

Drs. A. Orr Hastings and M. M. Crawford, of Toronto, left for a three weeks' trip to New York and other Eastern cities, June 1st.

Dr. Ingersol Olmsted, of Hamilton, sailed from New York for Hamburg June 4th. He expects to spend sometime in the hospitals of Germany and Switzerland.

Dr. Jno. B. Murphy, of Chicago, has resigned from Rush Medical College, and has been appointed Professor of Surgery in the North Western University Medical School.

We are indebted to Dr. Charles A. Hodgetts for the editorial on "The Vital Statistics Act," which appeared in the June issue of THE CANADIAN PRACTITIONER AND REVIEW.

Dr. E. Stanley Ryerson, of Toronto, has been appointed Assistant Secretary of the Faculty of Medicine, University of Toronto, in the place of Dr. J. J. McKenzie, resigned.

Dr. McKay's return to the Legislature will be heartily welcomed by his many friends in the Medical profession of Ontario. None ever worked harder than he in the interests of our profession.

Dr. A. Primrose, of Toronto, sailed from Quebec for England, May 30th. After spending a short time in England and Scotland he will go over to the Continent to visit the hospitals of Berlin and Vienna.

Lieut.-Col. J. T. Fotheringham, M.D., of Toronto, will represent the Canadian Army Medical Corps at the Army and Ambulance Section of the British Medical Association at the coming meeting in Sheffield, England.

Dr. E. Treacher Collins, the celebrated oculist of London, England, paid a visit to Toronto after attending the meeting of the American Medical Association in Chicago, June 8th. During his stay in Toronto he was the guest of Dr. J. Orlando Orr.

Drs. James Russell and J. W. Edgar, of Hamilton, sailed from Quebec, June 26th, on the *Empress of Ireland*, with the Ontario bowlers, who expect to play three weeks in England and Wales, three weeks in Scotland, and one week in Ireland.

Dr. W. H. B. Aikins, of Toronto, after remaining for a time in Dresden, went to Carlsbad. After leaving Carlsbad he spent some time in the hospitals of Berlin, visited Bad-Nauheim and other "watering places" in Germany and then went to Paris. At last accounts he expected to reach Toronto early in July. His Berlin letter appears in this issue.

The following physicians were successful in the recent contest for seats in the Ontario Legislature:—Hon. Dr. J. O. Reaume, Windsor; Dr. C. N. Anderson, Leamington; Dr. Thomas T. Smellie, Fort William; Dr. David Jamieson, Durham; Dr. A. W. Nixon, Georgetown; Dr. R. F. Preston, Carleton Place; Dr. E. Jessop, St. Catharines; Hon. Dr. R. A. Pyne, Toronto; Dr. H. J. Lackner, Berlin; Dr. Forbes E. Godfrey, Mimico; Dr. Angus McKay, Ingersoll.

Prince Ito, Japanese Resident-General, presented the Diplomas to the first class of Corean students who graduated in Medicine at the Serance Hospital and Medical Schools, Seoul, Corea, June 4th. In his address he paid a high tribute to the conscientious

labors of Dr. O. R. Avison, Head of the Hospital and Medical School. Dr. Avison graduated from Victoria University in 1887, and practiced in Toronto for a number of years, being for a time a teacher of the Medical Faculty of the University of Toronto.

The Medical Society of London, England, presented the Fothergillian gold medal to Sir A. E. Wright. This medal is awarded triennially to the man who has done exceptionally valuable work in some branch of medicine or surgery. In 1803 the first of these medals was presented to Edward Jenner, the discoverer of vaccination. It is an interesting coincidence that the man who now received this medal for his work on opsonins and vaccines, has done more than any other to extend Jenner's great work.

Dr. George D. Wilson, as the result of his examination in May last, has become a Fellow of the Royal College of Surgeons, England.

Obituary.

JAMES STEVENSON, M.D.

Dr. Stevenson, of Iroquois, died April 30th, aged 73. He graduated M.D. from McGill University in 1859. He was for many years one of the busiest practitioners in Eastern Ontario.

Dr. Wm. Wright, of Montreal, who was for many years Professor of Materia Medica in McGill University, died May 1st, aged 80.

Book Reviews.

GREEN'S ENCYCLOPEDIA AND DICTIONARY OF MEDICINE AND SURGERY. Vol. VII. NERUR-Physiology. William Green & Sons, Edinburgh and London. 1908.

The above is in keeping with the former volumes, both in general arrangement and in the contents. Among the contributors we note with pleasure such men as Burney, Yeo, Risier, Russell, Broadbent, and many others of equal worth. In the earlier pages comprehensive articles on nerves, the nose and its affections, the ovaries and pancreas, are found; that on paralysis covers nearly 70 pages: then follows a well-illustrated monograph on the parasites; pharmacology has also considerable space devoted to it. Finally, the last 100 pages consist of a fully illustrated article on physiology; the diagrams are particularly profuse and clear; the physiology of the tissues and neuro-muscular mechanism only are described in this, the first part of the essay; finally, we note that the opsonins and ophthalmo-reaction have not been neglected.

MEDICAL GYNECOLOGY. By Howard A. Kelly, A.B., M.D., LL.D., F.R.C.S. (Hon. Edin.); Professor of Gynecological Surgery in the Johns Hopkins University, etc., etc. New York and London: D. Appleton & Co. 1908.

It has been with the greatest pleasure that we have read Dr. Kelly's latest work. It fills a much-needed gap in the subject of gynecology, and it is to the general practitioner that we more particularly recommend it.

The book is in style and binding similar to the two volumes on Operative Gynecology already published by the same author; the illustrations are mostly pen and ink drawings from the hands of Brodel and Horn, and are both numerous and comprehensive, numbering over 150.

The earlier chapters embrace methods of examination and the hygiene of infancy and childhood, and are well worthy of perusal; the disorders of menstruation (including extra-uterine pregnancy), diseases of the genital tract and pelvis, sterility, abortion, gonorrhoea, etc., are fully discussed; finally, the relation of functional disease to gynecology, appendicitis in association with pelvic disease, splanchnoptosis and post-operative complications have abundant space allotted to their consideration. The whole book is alive with practical hints, and we cannot too highly recommend it to our readers.

BIER'S HYPEREMIC TREATMENT in Surgery, Medicine, and the Specialties. A Manual of its Practical Application. By Willy Meyer, M.D., Professor of Surgery at the New York Post-Graduates Medical School and Hospital; Attending Surgeon to the German Hospital; Consulting Surgeon to the New York Skin and Cancer Hospital; and Prof. Dr. Victor Schmieden, Assistant to Professor Bier, University of Berlin, Germany. Just issued. Beautiful octavo volume of 209 pages illustrated. Bound in cloth, \$3.00 net. W B. Saunders Company, 925 Walnut St., Philadelphia; London, 9 Henrietta St., Covent Garden. J. A. Carveth & Company, 406 Yonge St., Toronto, Canada.

This book is not a translation, but an entirely new and original work written by Dr. Willy Meyer, the leading exponent of the treatment in this country, and Professor Victor Schmieden, assistant to Professor Bier at Berlin University. With such an authorship, the authoritative and practical presentation of the subject is assured. The Bier method of treating disease by artificial hyperemia has assumed a place of such importance in modern therapeutics that an up-to-date work on the subject has become a necessity. In the first part, the three methods of inducing hyperemia are described and their practical application exhaustively discussed, namely: Obstructive hyperemia by elastic bandage or band; obstructive hyperemia by suction glasses, and hot-air (arterial) hyperemia. In the second part are taken up the details of application in the various acute and chronic infections, as well as in many non-inflammatory diseased conditions, in which the Bier treatment has proved beneficial or gives promise of doing so. Special attention is drawn to the great importance of preserving the function in infectious cases. Besides detailing the use of the Bier hyperemia in general surgery and medicine, the work presents its uses in gynecology and obstetrics, genito-urinary surgery, otology, ophthalmology, rhinology, pharyngology and laryngology, neurology and psychiatry, and dermatology. The large number of original illustrations and the many marginal notes add further to the practical character of the book. The work reflects the latest developments in the use of this method of treatment—a therapeutic discovery of greater importance than any within recent time.

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

Volume III. certainly maintains the high standard of this system. The distinguished authors who write here cover the surgery of the head, neck and abdomen most minutely. Mr. Monaghan devotes two chapters to the pancreas and the spleen. In these chapters it is striking to note the great advance that the surgery of these inaccessible and important organs has reached. The distinguished author certainly ranks highest on these subjects, and has reduced the matter to a very small space.

The surgery of the liver is very ably discussed by the Mayo brothers, than whom no surgeons in America have had a wider experience.

Mr. Mayo Robson writes a chapter on the surgery of the stomach. That particular portion of the chapter referring to gastric diagnosis is exceedingly concise and up-to-date. He depends a great deal on the X-ray as a means of defining the outline of the stomach, and there is no doubt about it that this particular method of examination is most important for the diagnosis of stomach displacement and enlargement. When one sees the X-ray picture of the displaced stomach that it was impossible to determine by auscultation and percussion, it must carry conviction that the X-ray has been relegated too largely to unusual conditions and other than routine practice.

It is a practical impossibility to thoroughly review any one volume when that volume comprises so many chapters, each of which is a complete monograph in itself.

There is no chapter in this volume that is not worth the price of the whole work, and it is so thoroughly up-to-date that it should be, and we believe it is, exceedingly popular. The illustrations are largely new and exceedingly good, and the publishers have spared no expense in presenting the work in its most attractive form.

THE FREQUENT, URGENT DESIRE TO URINATE in old men, with some mucus discharge, is relieved by a teaspoonful of sanmetto every three or four hours.

Selections.

The Undesirable Immigrant.

There are many different circumstances arising every day in Montreal which drive home upon our minds the fact that we are getting a great deal of moral and physical riff-raff from Europe. This is not a reflection upon the decent and healthy immigrant, but upon the laxity of rule that allows the "undesirable" to land. With the question of financial fitness we have not to do at present, although we do know a case where an inland bank telegraphed a large amount of money to Quebec to be loaned to immigrants to pass the portal. What we are here concerned with is the question of a medical examination that shall be sufficiently searching to detect advanced tuberculosis, and mental incapacity, and such important disorders. We are in the position of having seen in a few days in Montreal three cases: two of these were far gone in consumption at the time of their landing, and are at the public charge at present. The third is a cripple, of such a great degree of deformity as to be quite unsuited to anything but a life of immobility in a tailor's shop, where he will be certain to end his days at no far-distant time. The country has as good a right to reject such immigrants as has the insurance company to refuse to insure them. This is no question of sentiment, for we yield to no one in our admiration for the cripple who makes a brave fight against his disabilities; but it is a question of who are to be the fathers of the future children of Canada, and if we hope to do our duty by the country it is part of our duty to see that we have as great a freedom as possible from preventible diseases.

It is not beyond our province to say that the medical inspection of immigrants at our ports is not adequate: the steamship and railway companies are eager to pass their passengers on as rapidly as possible, and there seems no possibility of having them kept long enough to allow a thorough examination of them to be made; the solution does not seem to lie upon this side of the water, but upon so rigorous an examination on the other side that such passengers would not be allowed to begin their journey. Upon first cabin steamship passengers this ought not to be obligatory, unless it were plainly evident that an "undesirable"

was paying the extra money to travel among a class to whom he obviously does not belong.

We know that this will cost money, for it will mean the employment of thoroughly capable physicians who will devote adequate time to the work; to undertake such stringent measures will also exclude the chance traveller who comes to Canada "in search of health"; in the case of a consumptive, travelling in Canada is not good treatment, and his lot will be no worse, rather better. If we could keep a hundred consumptives a year out of Canada, such a movement would financially justify itself, if such justification were needed.—*Montreal Medical Journal*.

Summary of a Thousand Cases of Appendicitis.

Crile (*Cleveland Medical Journal*, Vol. VI., No. 8, 1907) holds that an acute abdominal pain and rise in temperature and tenderness, particularly over the appendix, with associated referred pain, are sufficient evidence of the disease to warrant the incision. If in addition there is nausea and vomiting, rising leucocytosis, a history of previous similar attacks, and no evidence of other acute disease, the diagnosis may be considered certain.

Crile roughly groups the atypical cases as follows:

(a) Acute infection of the appendix with minimum local but maximum systemic manifestations, early complicated by bacteremia. In these cases there are usually early and perhaps repeated chills, high temperature, early delirium, rapid pulse, negative abdomen, positive blood culture, and usually death from bacteremia. In some of these cases the rôle of the appendix is discovered only at autopsy, and in others the diagnosis is reached only by inference and exclusion. These cases are compared by Crile to bacteremia arising from infection of the tonsils.

The importance of correct diagnosis in such cases is incident to the fact that in them operation should be avoided, since surgical infection reduces the natural resistance of the patient and hence lessens his chances of recovery. Maximum constitutional with minimum local symptoms foreshadow a fatal termination.

(b) Appendicitis appearing in the course of other diseases or local disturbances. The greatest number in this group occur in the course of gastroenteritis—the latter in children usually incident to obvious great error in diet. Vomiting, diarrhea, and intestinal pains are typical, but after a few days the peritoneal, in