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ADDRESS OF THE PRESIDENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.*

E. PERSILLIER LACHAPELLE, M.D.

It is not without a legitimate feeling of uneasiness that I rise on this important occasion to address you in a tongue that is somewhat strange to me. I avow that the dictates of duty would scarcely be powerful enough to develop sufficient courage were I not assured previously of your benevolence and lenity. Encouraged by this reliance upon your indulgence, I shall proceed, and, by being as short as possible, I hope to merit your good-will.

The American Public Health Association, since its foundation, now twenty-two years ago, ever true to its mission, has never ceased to labour for the advancement of sanitary science—for the promotion of measures and organizations that should effect the practical accomplishment of the laws and principles of public hygiene. It has thus realized the brightest hopes and most enthusiastic provisions of its worthy founders, and has extended its benefits and influence over the whole of North America; to-day it embraces the three great countries that form this vast continent: the United States of America, the Republic of Mexico, and the Dominion of Canada, all three working together in brotherly emulation, recognizing no political boundaries, and valiantly striving to attain one unique and

* Read before the American Public Health Association at Montreal, Sept., 1894.

humane object: the dissemination to all of the knowledge of public hygiene and the development of respect for its decrees.

It is, therefore, fellow-members of the Association, with the greatest pleasure—after having taken part in our former meetings in the principal cities of the United States and Mexico, reaped precious knowledge and borne away happy remembrances—that I see us all to-day congregated in this city, the commercial metropolis of our Canada. I know we shall be pleased to again find ourselves united, not only to strengthen the bonds of friendship formed in preceding meetings, but also to communicate to one another the fruits of recently acquired experience and knowledge, each contributing his mite to help the progress of hygiene among our people and so continue the good work of the Association.

Every year the Association changes its places of meeting, and this for good reasons. The spirit of its founders being to establish, above all, a body for the diffusion and popularization of public sanitary science, this object could not be better attained than by extending to its greatest limits the influence of the Association; and for this purpose no surer means could be found than this bringing together of its distinguished members in different distant cities. There they are allowed to see and judge for themselves of the wants and progress of the different parts of the continent; their experience is enriched, they compare observations and suggest new ideas. Again, by adopting this method of meeting, the same members are not continually called upon to displace themselves, which would often entail considerable sacrifices.

On the one hand, not only do the members themselves derive considerable profit from such changes, but, on the other hand, and above all, those congresses in various parts of the continent immensely facilitate the propagation of our science to the public, by awakening, as they do, general interest wherever they are held; they help to dissipate erroneous ideas and prejudice by giving publicity to the unbiased opinions of a large number of enlightened and disinterested men on local questions; they are of great assistance to governments by having those import-

ant questions solved according to the requirements of each country; they give the authorities strength, confidence and courage to put into practice much needed measures; they even force them to act. Schools, universities, local boards of health, municipal authorities and others feel the stimulus imparted and labour on with fresh and invigorating impetus.

Judging, as I do, from what has occurred elsewhere, I feel convinced that Montreal, and the Province in general, will reap much benefit from this learned and important congress. Wherever the Assooiation has met it has stimulated and guided the march of progress, and it is becoming more and more respected and honoured by the grateful public, for it ever leaves behind it tangible and irrevocable proofs of the good work it propagates.

Ladies and gentlemen—Hygiene is no longer the patrimony of physicians exclusively; it is a science open to all, laymen and clergymen, men and women. It needs supporters and workers in all classes—engineers, architects, teachers, chemists, etc., etc. In a word, it appeals to all who are competent to aid its progress.

This universality of sanitary science has been productive of the most brilliant results; to it, we owe the greatest part of recent progress. What would hygiene be, to-day, bereft of the admirable discoveries of a layman, the illustrious Pasteur?—that light of modern science who has created such a revolution in our knowledge of the true cause of contagious diseases, and their modes of spreading; who has been the forerunner and inciter of all our modern effective methods of prevention and treatment of these scourges and is the real father of actual antiseptic medicine.

All cannot be Pasteurs, but all can work. Every one should contribute a mite of help or knowledge, thus securing universal interest and co-operation. There should be perfect solidarity as to individuals and nations, with regard to public hygiene.

Contagious diseases and epidemics respect no political frontiers; it therefore requires union and a common interest to effectually put a check to their invasion and extension.

The recognition of this fact relating more directly to adjoining countries, has caused our Association, originally founded in the United States, to gradually extend and naturally embrace the three contiguous countries which form North America and whose sanitary interests are identical. It is for this reason again, that it holds its annual meetings in divers sections of the continent, appealing to and bringing together in one harmonious family all the sanitarians of North America, to submit to their careful study health problems which interest them all.

Herein lies the explanation of the immense progress accomplished on this continent during the last twenty years.

Judicious and scientific quarantine has been established in all quarters ; state, provincial and local boards of health have become generalized, and have adopted wise and important sanitary measures and regulations.

Public opinion has been converted ; popular prejudice giving way to unwavering confidence. Governments have thus been enabled, without risking their often precarious existence, to cause important decrees of hygiene to be sanctioned by parliaments, and to have the necessary funds voted to permit of their being put into practice. Hygiene having thus drawn their attention, they begin to understand the necessity of strenuous means being employed to assure its advancement, and they realize the fact, that instead of being detrimental to public commercial interests, sanitary measures favour their growth by protecting the country from disease. They recognize, to-day, that the money and labour spent in upholding sanitary principles are repaid manifold by the security afforded to public health, a more continuous and active trade being thus assured.

May we not hope, that governments, fully realizing the importance of these questions and wishing to afford greater facilities for protection, will soon see the necessity of creating a new department in their cabinets :—that of Public Health ; and that, in the near future, all governments will be advised and supported by a competent specialist—a minister of Public Health ? We can easily forsee all the good that will arise from the creation of such a position.

Ladies and Gentlemen,—Although it is encouraging and pleasing to note the progress realized, the success obtained, we must not believe the task is done, and that all obstacles have vanished. For instance, the adoption of measures requisite to put into practice the solution of a question of sanitation, collides with two great and serious obstacles; expenditure and personal interests. Such is the case when measures for quarantine, isolation, disinfection, the cleansing of towns and seaports, the prohibition of adulterated food, etc., are put into force.

Quarantine, so needful to protect against the invasion of exotic epidemic diseases, is no longer, thanks to the progress of hygiene, what it was formerly; detention is shorter, I may say, practically suppressed by our modern methods of effective disinfection; but, nevertheless, even the slightest delay in the unloading of a ship begets expense, and brings constraint on personal interests.

I might say the same of the other measures mentioned; each calls for expenditure of money, time and labour, and is sure to affect the interests of some one.

In this way, opposition is brought to bear on the introduction of would-be effectual means of protection, by persons who are really wronged, or believe themselves so. On the other hand, these for whom protection is sought, are mostly indifferent to the labour and worry that is expended for their safety.

It is not surprising, then, that governments and parliaments should often hesitate, and frequently withdraw their support. On one side, they have small reason and light pressure to act; on the other, great influence is thrust forward to make them desist.

What is here needed to insure success is the voice of authoritative knowledge and teaching; and congresses of sanitary science, such as this one, composed as they are of eminent and influential men, can alone furnish cogent authority.

To the pretensions of interested individuals who often, in an exaggerated manner, plead expense and trespass on their private affairs, and to the hesitating, faltering governments that listen to those reclamations and are made to doubt the utility,

efficacy, even urgency, of the requested measures, we can oppose the authority of decisions rendered on those questions by the most authorized and disinterested sanitarians of various countries ; such decisions having been formed in open convention, after serious study and discussion, possess a value and respect which cannot easily be ignored or set aside. We have the hope, therefore, of seeing governments ignore the opposition of the one and the apathy of the others to accede to our humane demands.

Such have been the cares and tendencies of our Association since its foundation, and we may state with pride that the results obtained so far, in all directions, are an encouragement to labour on earnestly and vigorously for the achievement of the task that is left to be accomplished. May the success of the future even exceed that of the past !

To fulfil the spirit of our annual meetings, we must then choose questions that require the most immediate decision, study them fully, discuss them attentively, and try to effect a solution of them based on the experience of other countries and on the most recent decrees of modern science. We must bear in mind that ours is a science of application, whose problems may differ according to localities and circumstances ; and that, it thus belongs to each state and province to choose questions, and accept solutions most in accordance with local customs, climate and legislation.

We shall thus have to consider particularly exotic epidemic diseases and communicable affections of local origin in order to discover the most efficient means of protection against invasion by the one, and against the development and spread of the others.

Ladies and Gentlemen,—The protection against exotic contagious diseases is based on two theories, each having its staunch supporters.

According to the one, epidemics are due to, or are maintained by the unhealthiness of the soil ; to insure its permanent salubrity is therefore the best means of preventing and suppressing epidemics. England has supported this doctrine, and

spent over a thousand millions in cleansing and purifying its sea-ports.

According to the other, the real danger lies in the importation of the morbid germs; therefore, protection is sought in the efforts to prevent their introduction along sea-boards and frontiers, or, in other words, in the establishing of an effective quarantine service.

These two doctrines may be equally true, but separately they are not complete. To secure real protection in accordance with the requirements of modern science, of commerce, and of the financial standing of a country, a just medium has to be adopted by a combination of the two doctrines. What has been possible and successful in England, owing to the small extent of coast and land, and to the isolated position of the country, cannot be so in other localities; a long coast-line, a large surface of country, and near exposure to infection, would render the sterilization of the soil an enterprise much too expensive and tedious; the immediate help of a strict and intelligent quarantine service is required.

Quarantine may yet be looked upon as horrible and too rigorous for certain commercial and personal interests, but, on one hand, we all have interests to protect,—and the most vital interest: our health and lives; and, again, the quarantine of to-day, with its modern perfection, has been reduced to a minimum and has become simply a station for inspection and disinfection. The name alone of horrifying remains of the past. So all should bow before the general appeal and the general interests of a country demanding protection; and, instead of obstructing progress, should work actively to help science to render the means at hand still more perfect and less stringent, and invent others more effective and of easier application.

To protect us against fire, accidents and crime, the law demands of us certain requirements that do not always suit our views or our funds; but, for the general good, we are obliged to yield. Should the law not be even more inflexible and powerful with regard to the dictates of the apostles of Hygiene, that benevolent daughter of Esculapius and protecting goddess

whose sole care, like ours, was to watch over the health of mankind and prolong the existence of each of its beings.

By thus judiciously combining the two doctrines we may hope to secure almost absolute immunity and, at the same time, reduce to a minimum the exactions of quarantine and other rigorous measures; commerce and hygiene may thus be brought to an harmonious understanding and hereafter work in concert.

The calm with which we have witnessed for the last three years the menaces of cholera; the success with which it has been repulsed from this continent up to now, and the effective protection against yellow fever provided throughout the Mississippi Valley during these last ten years by the model quarantine of New Orleans, prove not only the progress accomplished and the efficacy of the actual system of quarantine, but also the confidence and co-operation of the intelligent public. This is a great step towards success. Let the good results of our labours be repeated and publicly brought out, and our humane instructions and exactions will soon appear less barbarous.

There is still room for progress, both to oppose the introduction of germs and to purify and sterilize the soil, so diminishing danger, and at the same time commercial restraint. Among other things navigation requires looking into. Is everything done by our great steamship companies, usually so interested, to facilitate our arduous task? Is the sanitary protection afforded sufficient? Have they on board all their vessels every suggested and available means of stamping out a budding disease and thoroughly destroying its effects? Have they methods of isolation and disinfection sufficing to protect healthy passengers and save from infection the ports they enter? Are they sufficiently under the control of health regulations? Those are questions that deserve our attentive study.

Ladies and Gentlemen—Communicable diseases that arise on our soil, particularly variola, typhoid fever and tuberculosis, have already often been the objects of our labours, and the results obtained, both as regards study and practice, have proved that they may be classed among preventable diseases.

Variola, so frequent and disastrous among us, has been van-

quished and is now kept in abeyance. The number of its victims, so numerous but a few years ago, has considerably decreased, and in a short time we hope it will be an exception to hear of any.

This death-dealing, beauty-destroying scourge will have succumbed to three inflexible agents—vaccination, isolation and disinfection. We shall have won in the energetic fight against this fell disease the gratitude and co-operation, not only of the general public, but more especially of the ladies, and this latter consideration means success to other measures of public health.

The experience of the last fifteen years has proved that the mortality from small-pox is inversely in proportion to the success of vaccination. In countries where vaccination and revaccination are obligatory (Germany, etc.), it ranges from 1 to 2 in 100,000; while in those in which the preservative is less enforced it reaches from 32 to 150. Such statistics are the best argument in favour of vaccination and revaccination. To convince every one of the necessity for such measures we must 1. Remove all apprehension or reality of danger; 2. Prove by stern facts and figures the good results obtained. The first consideration brings us to the importance of adopting, after careful study and experiments, the best means of obtaining pure lymph and insuring aseptic vaccination. With those agents no doubt need be entertained as to the danger or efficacy of vaccination. The second point requires the compiling of statistics, and especially the wide-spread publication of the good results. In a short time, by such proofs of utility, the public, and especially governments, will be thoroughly convinced of the urgency of obligatory vaccination and revaccination.

Typhoid fever and tuberculosis are even more malignant in their ultimate results than variola or great epidemics of other dreaded plagues, because their action is persistent, insiduous and universal. The attention of the public and others is not thus thoroughly awakened to the threatening danger, and no efficient opposition is brought to bear against the ravages of those two devastating diseases. No expense or study should be considered to discover means of fully arresting the action of those scourges; the demand is urgent, the answer, vital.

It is deplorable to see the continual ravages of typhoid fever among young people; it seems to maliciously devote itself to cutting off in the prime of life the more healthy and useful subjects: in the end the result is a most disastrous loss to the community.

Water being the one great medium of its spreading, all efforts should unite to obtain pure water supplies. The cause and the remedy being known, it is the duty of interested persons and governments to procure such help from sanitary engineering and elsewhere as will give the desired results. Do our municipal councils realize their responsibilities in this matter, and are they fully alive to their duty? We have before us, to be imitated, the examples of the Romans and Ancients, who drew back before no expense or labour, time or distance, to obtain wholesome water, and who built in every country where they ruled those monumental aqueducts which still excite our admiration.

This points to the urgency of developing and perfecting the study of sanitary civil engineering. It is a science that should be afforded all means of progress and quickly placed in a position to give its much needed powerful help to the cause of hygiene.

Among all the diseases that have been the subjects of our labours, not one actually forces itself more pressingly upon our zeal than tuberculosis. This implacable affection, that may be rightly termed the scourge of mankind, continues, despite all science and philanthrophy, to persistently thin the ranks of mankind and reap its deadly tribute from every family. To it alone are due the enormous proportion of one-sixth of the deaths from all causes.

Thanks to the discoveries of modern science we now know that this disease is produced by a germ or microbe; consequently that it ranks among contagious diseases and is amenable to hygiene. The resources of sanitary knowledge must therefore be immediately brought into action to perseveringly check its destructive operations.

We are aware at present that, contrary to what has been

believed up to these last years, the disease is rarely hereditary and nearly always acquired. We know also that germs, once set at liberty by the dessication of the sputum of consumptives, are to be found almost everywhere; that we absorb them with the air we breathe, and may ingest them in certain foods—milk, butter, cream, or the meat of tubercular animals.

But it is also proven that, even if such are the principal modes of transmission of the germs of this terrible disease, nevertheless, they can implant themselves and evolve only in a favourable pabulum; that is to say, in a predisposed subject. This predisposition in the person may be either hereditary or acquired from the dwellings and surroundings in which we live, from our occupations, from certain diseases that we may have, or from certain causes that weaken and undermine our system.

Possessed of this knowledge, we may undertake the combat with courage, as we know in what direction to turn our efforts. We must find and reveal the best means not only of preventing the dissemination of germs in the air and their ingestion with food, but also of rendering ourselves refractory to their action and of correcting any existing predisposition, whether hereditary or acquired; for with the greater number of contagious diseases the great point does not appear to be only the hunting out and destroying of the germs, but the placing of the system in such a condition that it may with impunity receive their attacks; give them no ground to work upon or to feed upon; in a word, "starve" them out.

The enormous destruction of health and life caused by those three last mentioned diseases, and the losses entailed to countries and commercial interests, demand the immediate and cogent interference of governments and municipalities. I again repeat that expenditure is necessary, but there is no excuse for refusing it for such urgent protection.

Ladies and Gentlemen—Not wishing to review all the contagious diseases and sanitary questions that have been and still are the objects of our work and debates, I will simply draw your notice to another question or two which demand the immediate attention of the Association and the co-operation of the

public; I mention food adulteration, alcoholism and vital statistics.

Food adulteration is, I should say, in most cases a crime deserving the severest punishment; it is fraught with danger and is an important factor in the increase of premature mortality, especially among children. Even when life is not immediately endangered, a chronic intoxication is often produced that insidiously and irreparably undermines the health of many a human being, both young and old.

Urgent appeals should be made to the press, to boards of health, boards of trade and governments to raise their warning and protective influence to eradicate such criminal procedures. Municipal laboratories should be established throughout the land for the detection of such fraudulent doings, and justice should deal rigorously with all offenders.

Could there not be a general understanding, so that in each country each state and each province on this continent, the same uniform methods of analysis be employed, and the same unwholesome products receive universal publication.

Alcoholism is the plague of many northern climates, and we are not without participating in its dire influences. It should not be allowed to escape our vigilant attention, for it is the ruin of health, of society, and of a nation. The Fates point to the gloomy picture of ancient times, but the experience of the past does not seem to have succeeded in rooting out this terrible evil, which is the harbinger and entertainer of all crime and vice. Alcoholism has for its share more than half the occupants of our prisons, hospitals and lunatic asylums. Not only do those addicted to drinking intoxicating liquors most of the time throw their entire families upon the state for support, but the latter is also obliged to look after their scrofulous, idiotic and epileptic offspring, who are incapable of providing for themselves and are often dangerous to society. Their other children, although less affected by the original taint, are generally worthless subjects; lazy, criminal and degenerate, and form loathsome mediums for the propagation of disease and vice.

Under such conditions as these, and with such dreadful

results, we pay too dearly for the money that enters the coffers of the state or municipality under the title of tax or license. It is simply speculating on vice, on the ruin of wealth, health and talents, and such speculation is no wise justifiable, and should not be tolerated under any consideration. By every means in our power this plague should be opposed and if possible exterminated ; it is more deadly than contagious diseases, and more difficult to deal with. The problem is one for serious study and painstaking measures. Good work has already been done, and if the desired result has not yet been attained by the measures advocated and tried up the present, let us not be discouraged, but set to work again. Let us find out if there are no other ways of succeeding. Are men sufficiently educated in their childhood on the dangers and terrible consequences of indulging in the use of liquors, even in a social way ? And in this as in all other matters of hygiene, why not ask more of education and not trust exclusively to legislation ?

To insure the success of the sanitary reforms dictated by the progress and discoveries of modern hygiene, we must obtain the good-will and co-operation of the public. For this purpose, we must set before them plain facts and figures, problems solved and strikingly exposed. It is then of paramount importance to unite our efforts so as to bring each of our national governments and each of our states or provinces to possess and adopt a complete and uniform system of vital statistics, in order to bring out such convincing evidence as will happily impress the public. Plain numbers alone are often sufficient to awaken them to a state of things they did not surmise. In these statistics should be included not only city districts, but rural divisions also ; for, alas ! in the country there are still many sad conditions of unhealthiness and ignorance that require to be relieved.

Such are the principal questions which, with the unmentioned contagia : diphtheria, measles, scarlatina and others, the protection of infantile health and life, the destruction of and utilization of garbage and refuse matter in large centres, the purifying and sterilizing of the soil, the action of pathogenic germs, the pollution of water supplies, &c., are to be submitted to our

study. I feel confident that, with such a programme, this congress will bring forth as happy results as those of preceding ones ; nay, as we are always progressing, we may hope for even more.

The perspective of the future is thus very encouraging. The work done during the last fifteen years has been enormous ; what may we not then expect of the next fifteen years ? All over the continent, state, provincial and local boards of health have been organized and are working effectively ; associations, conferences and conventions are studying the most actual and urgent problems of public hygiene ; everywhere, already, a prominent position is given to the teaching of sanitary knowledge ; universities and schools obtain the services of competent and distinguished teachers, and are being rapidly equipped with laboratories of sanitary science ; every city or district will soon have, if it has not already, its municipal laboratory worked by competent specialists.

The practical scientific working is now created and advancing. The generation that succeeds us, luckier than we are in this respect, will be in possession of all that is needed to ensure success ; we shall drop out wishing them courage and perseverance, and be happy if we can claim to have contributed according to our means to prepare the way for them and render less ungrateful the task we bequeath them.

Without fearing to counteract the designs of God, we may continue to utilize the talents He has given us, in seeking the best means of protecting our health and lives and of attaining the average of longevity.

Without wishing to frustrate the decrees of his Supreme Justice, let us not forget that contagious diseases and epidemics, although they may in a measure serve as punishment for the waywardness of man, are most frequently the outcome of his errors and ignorance in the preservation of his health, and, as such, they should be struggled against.

The protection and preservation of one's health and that of one's fellow beings is not only a right, but a solemn duty.

My dear Colleagues,—As President of the Association, I

cannot close this address without acknowledging the zeal and perseverance shown by the Local Committee of Arrangements in the organization of this congress, which they have so largely contributed to make a success. I am happy in the name of the Association, to express our gratitude to each of them, especially to their devoted Chairman and Secretary.

To the distinguished statesmen who honour us with their presence, to the citizens of Montreal who are here assembled, and to the ladies who so largely contribute to the brilliancy of this formal opening of our Congress, the Association is grateful. Their presence proves the interest shown in its proceedings and is a powerful encouragement to our labours and a guarantee of further success for sanitation.

To the Press—that true and powerful friend of hygiene—we also owe our gratitude for the interest it has always taken in meetings and the publicity it gives to our work.

Ladies and Gentlemen, I again renew my thanks for your kind attention and forbearance.

"ON THIS SIDE JORDAN."

Inaugural Lecture in the Faculty of Comparative Medicine, McGill University, October, 1894.

By J. G. Adami, M.A., M.D.

Professor of Pathology in the McGill University, Montreal.

Gentlemen—In this Faculty, as in that of medicine, it is the old established, time-honoured custom, and a kindly custom at that, to have, as it were, a little ceremony of welcome at the beginning of each new academical year in the shape of an inaugural meeting and an inaugural lecture. It is in this way that you, the new students just entering the school, see before you, passing, as it were in review, the body of your teachers—that we, your teachers, make our first acquaintance as a body with you. Some of us, naturally, you have seen before, as you have been hovering in a state of uncomfortable unrest round the precincts of the college; just as, according to the old poets, those about to be born hover disconsolate in Hades. To one at least of us you are already personally acquainted through that simple operation of enregistration; but as a body you are unknown to us until now, and we are complete strangers to you.

Thus this inaugural lecture serves to both parties concerned, to you and to us, a very useful purpose, and speaking for my associates I may say that individually and as a body we all of us are more than glad to have this opportunity of meeting you, of making, even if rather formally, your acquaintance, and of striving from the first, not simply to put you at your ease, but what is more and of higher import to make you feel from the start that you are not coming into the camp of your enemies, but that you have in us a body of those earnestly desirous of being your friends in the highest sense of the term, of helping you on and of making each one of you one of us; one, that is to say, in spirit and in desire to do good work and honest in what is among the very greatest and noblest of the pro-

fessions. I say advisedly one of us, for now you have passed a stage further in your career by the ordeal of matriculation; you are no longer members, as you must have been in the old days, of isolated schools, but by matriculation you have become members of a University, and in this way you are members of a large corporation which, though at first you may feel inclined to regard as composed of two wholly dissimilar elements, of teachers and students, I would nevertheless have you from the start regard as being a single united body; for in the university it is that the student cannot live without the teacher, the teacher is of no effect unless he has students, and the more these two elements, elements of co-operation, work together towards one common goal, the greater must be the power of the university, the greater its harmony, the greater the work by it performed. We, your professors that are to be, and you are separated by no wide gulf; on the contrary, we are more nearly akin to each other than is possible, I suppose, for you at this moment to realize, and while at the very start I would point out to you, the scholars, that it is wise that we the teachers receive from you, as I know we shall, all that respect befitting those who occupy a senior position, a position of authority; nevertheless, at the same time I would ask you to believe that we, like yourselves, are human and have like feelings and similar aspirations.

It seems to me but a very little while ago, and yet when one comes to measure the time it is long years back since I, like you, made my first entry into university life and sat in the theatre in which all was new to me, surrounded by those who were to be the friends and rivals of the next few years, and listened to the inaugural lecture introducing me into my new career. I still see clearly the scene, see the strange faces around me, the body of professors trooping in one after the other, see the old principal of the college stuttering out some general statements with regard to what had been happening during the last few months in college and hear him give a few words of welcome, and

then see before me the professor to whom was allotted the delivery of the inaugural address. How I remember as clearly as though it were yesterday the awe that fell upon me in listening to him, the feeling that here was one belonging to another world immeasurably superior; the wonder, too, that any ordinary man could attain to such knowledge as was evidently his. I remember wondering, too, what it all meant, what the future would be, how I should stand in relation to those students, my opponents that were to be, how possibly I could gain any respectable place in the contest with those keen-faced, intelligent young fellows, whose capacity I did not in the least know, but of whom many had intellect written on their countenances; wondering, in short, whether I was to be a success or a failure and whither this career I had just entered upon would carry me. Well, gentlemen, it has carried me here, and now I am occupying the position towards you that that dread professor of my first inaugural lecture bore towards me. Whether you in this new country feel quite the same awe and reverence towards your superiors as has become the habit of the old country I do not feel now inclined to discuss; but I will say to you, speaking for myself, that during the years that have elapsed since the moment of my green entry into the ranks of the freshman I do not feel that I have undergone personally in myself any great transformation, and I fancy that each one of my colleagues would tell you the same; we feel older, it may be, we know more of the world, but the longer we live the humbler we become as to the extent of our knowledge, the more we work at our respective branches of medical science, the wider appears the field of the unknown that looms before us. Nevertheless, that which gave me pleasure as a freshman I can still appreciate, that which gave me annoyance or pain does so equally at the present time. I have still the same feelings in me of admiration and respect for manly conduct, of disdain for that which my conscience tells me or told me then was not quite manly, and just as in those old under-

graduate days I enjoyed an occasional, shall I call it "ballyrag," and felt guilty if any damage was done in the course of that row, so now-a-days, in my heart of hearts, I feel the old sympathy for any form of hearty amusement, only now under the somewhat altered condition when I find myself in a responsible position, instead of feeling guilty when harm is done, I must frankly confess, feel irritated and ready to come down upon the offender. That is inevitable with the assumption of responsibility and is right.

You see thus, gentlemen, that I am giving to you, as it were, the inner feelings of a professor, and am wishful to make clear to you that the professor is a human being, anxious to make you assured that we, your teachers in the years that are to come, are beings of clay like unto yourselves; so that if the in coming years in the first place you begin to think that our decisions in matters relating to you are worthy of discussion by you, I would ask you always to remember that those decisions have been arrived at by those, not your antagonists in any way, but by men who are still students, still of yourselves, only differing in this, that we are burdened with responsibility, whereas you, happily, for the next few years are relatively free from great responsibility. And in the second place I would without arrogance, put all this before you in order to encourage you in the thought that if in the course of your study of this great subject of comparative pathology and comparative medicine, you gain the desire to do good work and high work, work that shall be for the benefit of your fellows in their treatment of dumb creatures, you may not be discouraged by the idea that there is a great gulf fixed between those who are teachers and investigators, and you who are students and undergraduates. For we are all students. I, in the old days that I have mentioned to you, had not the remotest idea that I should ever be found worthy to assume the responsible position of a University teacher, but somehow, as I say, and largely owing to the encouragement and kindly advice of my old teachers, I find myself here in this high position addressing you, who

now, coming from places, many of them long distances apart, are met together in a body for the first time.

You are at this moment on the threshold of a new and in many respects a larger existence than has been yours previously. During these next three years that are to come, you will be finding your level, will be testing yourselves and others as to your relative capacities, and while acquiring a knowledge of a profession which you intend to be that of the rest of your lives, you will of necessity be acquiring a larger and wider education at the same time.

Leaving aside for a moment the subject of the profession and of your competition and endeavours to obtain a worthy position in that profession, let me for a few moments address you upon the subject of this larger University life I want you at the outset to feel that in becoming the undergraduates of a university you are doing something more than merely attempting to assure for yourselves a good professional education in the narrow sense. The great advantage of the university education as distinguished from the school education, and still more from private study that indeed which, in my opinion. is the very salt of university life, is the fact that in the university to a far greater extent than is possible in the confined limits of school, you gain that knowledge of men and manners which will give you a stamp throughout life, which must throughout life distinguish you from others who have not during the early years of manhood had the opportunity of mingling freely among all sorts and conditions of those of their own age. During these years of early manhood, it is that one has the largest opportunity of forming intimacies ; never again will you find it so easy a matter to form friendships—never so easy a matter to get to know men intimately, to read their thoughts, to see clearly the mainspring governing their actions. You and your fellows are at this stage in what may be termed a highly receptive condition, and the virtue of the university life is that at this receptive period of your existence you are thrown in communion with, and into contact with, a

larger body of men, equally receptive, impulsive and transparent, and from this very fact, having a large amount of material to draw upon, you can begin to apprehend easily their motives and their methods in life, and from this comprehension can form your model; so that insensibly the practical lessons that you now gain in men and manners must mould and affect your whole future life. In rivalries, in the pleasant associations also outside the class room with your fellows, you learn how to conduct yourselves towards them, you see and learn what course of action it is that best commends you to them, and from example, and from hard experience you learn thus how to conduct yourselves well and honourably towards all men. This is, as I say, the very salt, it seems to me, of a university career, and I have little doubt that the more you keep this in mind, the more, to look at the matter from the very lowest standpoint, you will profit in the future. As the old motto of one of the oldest of the English public schools has it: "Manners makith man." And I have little doubt that from a purely commercial and self-seeking side, as well as from the higher ground of self-respect and mental content, you will in your future life experience the truth of this saying.

And here with regard to this mingling with your fellows and the advantages that accrue therefrom, let me impress upon you the fact you have become members, not merely of a Faculty of the University, but of the University itself, and urge upon you to seize all the benefits that can be gained in this larger field. There is I find in too many of the universities of this continent the tendency of the undergraduates to wholly overlook the fact that they are members of a larger whole, and to content themselves with entering heart and soul into the affairs of their Faculty alone. I own that it is difficult to overcome this Faculty feeling, and I don't wish to imply that in itself it is not most praiseworthy, as praiseworthy as it is natural. You are inevitably thrown into most intimate contact with those who are pursuing the same course as are you yourselves.

With them you have common interests and the strongest bond of union. But let me point out how much you lose if you let this override everything. You have, it is true, the same interests as have the other undergraduates of your Faculty, but these are what must be your interests throughout life, and never will you be able to tear yourselves away from them wholly. Never again will you have the same opportunity as will now during the next three years be yours of meeting on terms of frank intimacy those of different interests, different modes of thought, different aspirations, of obtaining so easily an insight into and sympathy for the controlling impulses of those who are embryo doctors, lawyers, theologians, engineers and would-be members of each of the learned professions. The more you learn to appreciate and comprehend the different minds of men, and the diverse modes of thought associated with each line of life, the better and more capable men do you become—and as I say, never in all probability will you at a later period have such an easy opportunity of acquiring all this. Thus it is that I would beg you with all earnestness, while entering with eagerness into the concerns of your own Faculty, and while making your most intimate friendships within the walls of this college, at the same time to embrace every opportunity that leads to making you feel that you are members of the university. Meet and mingle with the students of the other faculties in games upon the campus, in the sports, in the debating and musical and other university societies, and again outside the university, and at all these points of contact with the other students do your very best to make them through you respect your Faculty and your profession that is to be. For remember this, that it is very largely through you of the younger generation that veterinary science is to gain a more complete acknowledgment in the country, a greater meed of respect. That acknowledgment will come freely when you show yourselves, each one of you, the equals of the students of other faculties—of the members of the other learned professions.

You have a large and worthy task before you ; embrace every opportunity of preparation for the task.

While treating of this matter of manners and mingling with men there is in this university life another advantage that I wish to bring before you, the advantage namely, that in it you learn the benefit of being a member of a corporation, of a well-defined body, of those having similar aims and similar ideals. If you pass in review the whole animal world you will see well exemplified the benefits of belonging to a corporation, for you will in such a review certainly make this out that it is those classes of animals which are gregarious, which have learned the benefit of combination for common ends and for the preservation of the species, that have preserved the species and have thriven most. Observe the strength and security that is obtained by relatively defenceless animals, such as the various classes of cattle and sheep, not to mention the smaller ants, bees, herrings and so on, by their gregarious mode of life. A sheep alone is an almost absolutely helpless animal, and the species has been preserved and has thriven purely in consequence of the fact that the members of the species seem at a very early period to have realized the truth that union makes strength, and in this way the species has endured, or to put it otherwise, the individual sheep have prospered. So it is with men for any class of individuals to be strong and to make its influence felt there must be co-operation and combination. The individual alone and unaided easily succumbs to adverse influences ; he gains strength and support so soon as he realizes the benefit of living, not for himself, but for the species ; so soon as he realizes the truth of the paradox that in subordinating the desire for his own immediate gain to the good of the body of which he is a member he ensures his greater gain. And here during these undergraduate days it is that you will acquire that feeling that you are one of a class, and will aquire it so strongly that even in the years to come, when you as practitioners are isolated one from another and scattered over the length and breadth

of the land, the feeling that you are a member of a university, a McGill man and a member of a school that has always had a high ideal in veterinary matters, will endow you with a strength and power that time after time you will find to be of the greatest possible help.

Well, now, to pass on to the other side of the question that I left over, I refer to the educational advantages of this university life. You will, I doubt not, already be attempting to gauge, or at least will be wondering as to, your own capacities, your own powers in relationship to the capacities and powers of those you see around you—will be wondering how it will fare with you during the coming years. Some of you will be confident of success; others,—I trust they are but few,—merely satisfied that you may be able just to scrape through and obtain your qualification with a minimum amount of work coupled with the maximum of comfort and personal indulgence. I trust, as I say, that this last class is a very small one. I am not going to flatter you by declaring my belief that it does not exist, for after all you are but human; but if there is any one here whose conscience tells him that he belongs to the latter class, I would earnestly ask him to reconsider his position—ask him to remember not merely for his own eventual good, but also for the good of that body to which he has voluntarily joined himself, that such a line of proposed work, or want of work, is in itself as utterly harmful and emasculating to him as an individual as it is destructive to the advance of this school, of this Faculty, of which all of us are proud, which is in its days of trial, though success has come to it, and greater success is assured to it, but which can only keep that extended reputation by the combined and determined effort on the part of *every individual* connected with it. For this Faculty to make itself felt throughout the length and breadth of America, it is necessary there should be a long pull and a strong pull and a pull all together; and surely it will be a matter of no small self-satisfaction in the years that are to come, when the name of the school is celebrated everywhere, for each one

of us to think that we have had some part in the making of that name and in the keeping of it.

I will not say to you that all of you can do equally well and make an equal mark; I will not say, as one is apt to say on such occasions, that you have all equal powers and that it is the fault individually of each one of you if he is not at the top of his class. To say so would be absurd; men are not born alike, men are not endowed with equal powers. As Carlyle, I think, has remarked, men are no more equal than potatoes are equal. But while some, it may be, have had given to you ten talents and some five, there are none of you who are absolutely talentless; the very fact that you are here, that you have elected to take up as your life-work so onerous a profession is in itself an evidence that you know yourselves to have at least a talent.

But if, then, the number of talents allotted to each of you varies, you can during the next three years learn this, how best to employ those talents that are yours to the best advantage. It is in this competition with your fellows that you will find the solution of that problem. You will find that you have gifts rather greater than your fellows in some one direction, and discovering this, my advice is that you employ them with the greatest assiduity and thereby to the greatest advantage. And this is another good of an university education: you learn not only to know others, but to know yourselves. You learn that it is useless to repine because others appear to have greater gifts, and that your own highest personal good is to be discovered in the discovery of how to fit yourself into the scheme of things—how, in fact, the peg you are to find and to fit the most convenient hole.

Your years of school life have been most important it is true, but the three years that are to come must form the critical period of your existence. Those years of school life gave you, as it were, a general training, and it was during them and during the latter period more especially

that you began to realize in what direction your faculties would find their best play. But during them you learned little that had a direct bearing upon the subject of comparative medicine. It is during the three years that are to come that you will make your special preparation for what is to be, I suppose, the life-work of each one of you; and very largely according as to how you profit by these three years will be determined your success in the profession you have chosen. Mind you, here again I do not wish to raise false hopes; I have known, and you must have known, men who have been slack students, whose education has been a miserable one, yet who somehow or other have gained positions of great importance in the profession, and have amassed no small fortunes. I have known also others who have been thorough students to make comparative failures of their professional careers—failures, that is to say, from the monetary side—but I would ask you to compare the inner conscience of two such men, the man who has little knowledge of his profession and the one who has a large knowledge, and to picture to yourself the habit of mind of each of those. Think of the mean estimation in which one of the former class must hold himself when his life is practically one of continued deceit—think of the constant confession he must have to make to himself that he is absolutely ignorant of the principle adopted in his treatment, and of the self-contempt that in his sober moments such a man must have when he considers that his professional life is but one long game of brag. And on the other hand, picture the honest pride there must be to the sincere student when he can feel that although the opportunities that come to him may be ever so much fewer, nevertheless he makes, or attempts to make, the fullest use of each opportunity. He endeavours to treat every case to the best of his ability, not by chance means, but by means that he has carefully thought out. I met one such student, a graduate of this college, during this last summer, and it was a genuine pleasure to me to be in his company and to see how although, at present, he is still young, and the

opportunities that he has are not very numerous, yet each opportunity was utilized to its fullest extent; to see how each case gave him food for thought and for study, and I may add it was extremely pleasant to hear him speak of his old teachers, and state with emphasis that it was the course of lectures which in the opinion, I know, of some of the older students has no direct connection with veterinary science, I mean the course of physiology, that had given him most room for thought, and strange as it may seem to you that constantly from the lessons and suggestions thrown out in that course he had illumination in the most unlikely kind of cases.

Thus, then, gentlemen, I say to you again that it is these three years that are to come which are the critical and all-important years of your life, and according as to how you employ these years, so will you be in the years to come, an honest student and an honest practitioner in your profession, or, I will not say a dishonest, but assuredly an unsatisfactory member of the same. In fact, gentlemen, we may say that your school days are like the unsettled indefinite wandering of the children of Israel in the wilderness, that seemed to lead nowhere in particular, but which was all the time a preparation for the Promised Land; and that the three years to come are like the years passed immediately before the entry into that land, when, in order to take possession, Sihon, King of the Amorites, and Og, the King of Bashan, had to be conquered and possession to be taken of all the land of the Amorites on this side Jordan. It is now that you are about to come into possession of Gilead and all on this side Jordan and that, like Moses, you will have to ascend Pisgah, whence you will observe the Promised Land. Unlike Moses, you will be permitted to enter into it; and I would add that the higher you ascend this Pisgah, the more clearly will you be able to map out the rivers and the dales and the hills and the lakes of that Promised Land, even unto the utmost sea; the more clearly will you see the relative positions of the various strongholds scattered through the

country. So that the higher now you make your ascent of Pisgah, the more successfully will you traverse that Promised Land when it is permitted you to enter into it; for the more sure will you be as to the relationship of one region thereof to the other.

There are yet one or two other points that I would like to bring before you :—First of all with regard to the subjects that you work at; while I would ask you to work hard while you work, I would also suggest that early in life, in addition to the study that is requisite for your profession, you select also some hobby, some subject that takes you wholly outside your own veterinary profession—some hobby that is not horsey, but which in the riding will fully exercise your faculties. As a matter of experience I have found that the most successful men and at the same time the most powerful and interesting men that I have come across, have one and all had their hobby wholly apart from their life work; I have known great physicians whose hobbies have been such subjects as 17th century divinity in one case, etching in another, horticulture in another. I have known great railway magnates of whom you might firmly believe, if you met them in their leisure moments, that the study of porcelain or of pictures was quite the absorbing passion of their lives; and the amount of fresh, healthy interest that these men have taken in their hobbies has been something remarkable. So, too, I would ask you to take up something of the nature of a hobby; it is impossible to suggest what you should take up, simply because every one's hobby is different from other people's, just as the trend of that man's mind and thoughts is different from the trend of other men's minds. The only thing I can suggest is this, that if you find there is some subject which excites in you more than a passing curiosity, you cultivate that subject; in your leisure moments work it up, hunt up in your libraries and elsewhere a knowledge of anything that relates to that subject. And this very having a hobby will make broader men of you, and also will give you an entry to

an extent that will seem remarkable to you, into societies and acquaintanceships of those whose professional rank is entirely different from your own; in fact, outside the world of your profession, you will have created a new and delightful world for yourself.

Mind you that in this I am not advising you to take additional work; your hobby will not be work, it will be recreation. Remember this, that the true and the best holiday is not stoppage of work, but change of work; it is turning the mind away from that which generally occupies it into totally different channels.

These suggestions that I have laid out to you, gentlemen, are not arranged, I am sorry to say along any definite lines; I am ashamed they do not form any consecutive whole; nevertheless I have attempted to lay before you thoughts that have often been in mind, thoughts gained from experience and observation rather than from the reading of books, thoughts which have originated either from my own personal experience or from the observation of others, their mode of life and their success in life. Perhaps, if you will attempt to sum them up you will find that practically they can be summed up into this. My own experience has led me to think but poorly of the man who is a book worm and nothing else; to think even more poorly of the man who is slack; and to see that neither of those classes of men do good in the world or achieve true success. It is those men who throw themselves heartily into work and college life outside of classroom that I find happiest and most successful in their future careers. And finally, I have learned to appreciate most those who have the widest range of interests, and the greatest eagerness in the pursuit of those interests, and to see that it is those men, who, provided they pursue those interests at right times are not merely the happiest, but are bound to make a mark in this world and to do good, not simply to their own immediate surroundings, but to those distant, not merely in place but also in time.

Finally, gentlemen, let me once more assure you, on the part of my colleagues, that in us your teachers you have those who, as a body and individually, are your friends, willing to counsel, aid and support you to the best of our individual ability, and that we feel, and wish you also to feel, that by combination and hearty union we shall do the best work and you will be the lasting gainers.

Society Proceedings.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Twenty-second Annual Meeting, Held in Montreal, September 25th, 26th 27th and 28th, 1894.

September 25th—First Day—Morning Session.

The Association met in the hall of the Y.M.C.A., and was called to order at 10 a.m. by the President, Dr. E. P. Lachapelle, of Montreal.

Dr. Robert Craik, of Montreal, reported on behalf of the Local Committee of Arrangements a very attractive programme. He also announced the social features of the meeting. The committee had arranged for trips over the Lachine Rapids and down the St. Lawrence to Grosse Isle.

The reading of papers was next proceeded with. Dr. H. F. Nuttall, of Baltimore, contributed a paper entitled "Hygienic Notes Made on a Journey Through Italy in 1894," which was read by Dr. A. L. Gihon, in the absence of the author.

This paper described the sanitary conditions, particularly in reference to water supply and sewage of Rome, Naples, Venice and other Italian cities. In Naples, poverty and ignorance provided an easy prey to every epidemic until 1884. But after the cholera epidemic of 1884, the government resolved to spend one million francs for sanitation. New sources of water supply were secured, new sewers built, and whole blocks of tenements were torn down and replaced by modern houses. The result has been to impart habits of cleanliness to the people and to greatly reduce the death rate.

"The Cart Before the Horse." By Dr. Benjamin Lee, of Philadelphia.

The object of the paper may be briefly embodied in the two following propositions :

1. Copious water supplies with the aid of what is known as modern plumbing, constitute a means of distributing fæcal pollution over immense areas through the soil, through subterranean water courses and in surface streams, and cannot therefore be regarded with unmixed approbation by the sanitarian.

2. The question of drainage and sewerage, whether for individual residences or for communities should always precede that of water supply : and no water closet should ever be allowed to be constructed until provision has been made for the disposition of its effluent in such a manner that it shall not constitute a nuisance prejudicial to the public health.

Dr. Wyatt Johnston, of Montreal, read a paper entitled " Observations upon Sedimentation in Water." The amount of settling which takes place in what is called the settling basin of the Montreal Water Works, is too small to be seriously considered. The capacity of the basin being only 23,000,000 gallons and the daily consumption about 18,-000,000, the water really only passes in and out of the basin. In the reservoir the change in the water is also very rapid, although not to the same degree for similar causes. However, analysis proves that bacteria are far less numerous in the reservoir water than in the settling basin. The melting of snow in the spring has a tendency to increase the number of bacteria in the reservoir water. As to the value of sedimentation from a hygienic point of view, it is much below that of a sand filter.

" The Long Island Water Basin, Brooklyn's Reservoir." By Dr. A. N. Bell, of Brooklyn.

After a lucid description of the basin, the author said that while the waste of streams is enormous, it is nevertheless easy to appreciate from a knowledge of the conditions of the soil and the wells sunk in it, the inexhaustible adequacy of the Long Island water basin to supply water sufficient to meet the demands of Brooklyn for all time.

Dr. Frank T. Shutt, of Ottawa, Canada, contributed a paper on "The Water of Our Farm Homesteads." During the past six years the chemical department of the Dominion Experimental farms has examined some hundreds of samples of water from wells on Canadian farms, and the fact has been impressed upon the writer that the evil of polluted water is a lamentably common one throughout the country districts, both in the villages and on the farms. The only method the speaker knew for lessening this evil was by instruction and advice, by first emphasizing the great danger that lies in using water polluted with excreta or drainage from filthy sources, and second to teach the people that pure water is as much a necessity for the farm animals as for man. Third, farmers must be cautioned against sinking wells in barn-yards, stables, or near the pig-pen or privy.

Mr. Geo. W. Fuller, of Lawrence, Mass., followed with a paper entitled "Sand Filtration of Water with Especial Reference to Recent Results Obtained at Lawrence."

While the removal of pathogenic bacteria by chemicals, including coagulants and by heat will forever be directly dependent upon human attention, he ventured to predict that the day will come when a knowledge of filtration among sanitary scientists will be such that filters may be constructed and operated by which water, free from objectionable bacteria, will be supplied to hundreds and thousands of citizens and require the attention of a mere handful of men. During the five years preceding the use of the filter at Lawrence, the average annual death rate from typhoid fever in Lawrence was 1.27 per thousand inhabitants. The population of Lawrence is 50,000, and this average is equivalent to sixty-three actual deaths per year. During the past year there have been 26 deaths from typhoid fever, a reduction of 60 per cent. Furthermore, it has been learned of the 26 who died, 12 were operatives in the mills, each of whom was known to have drunk unfiltered and polluted canal water, which is used in the factories at the

sinks for washing. In conclusion, it has been found practicable to protect the consumers of infected water supply by means of sand filtration.

"Some Deductions from Bacteriological Work on the Water of Lake Ontario." This paper was by Mr. E. B. Shuttleworth, of Toronto. It dealt with the normal bacteriological character of lake water, and the depth of water as affecting the number of bacteria, and the author is inclined to think that the number of bacteria is directly influenced by season. He is convinced that in their nature certain micro-organisms multiply most rapidly at certain seasons of the year. He threw out the suggestion that this may have an important bearing in explaining the prevalence of typhoid fever at certain times during the year. This seasonal peculiarity is very well marked in Toronto, when every September shows a sudden increase in the typhoid rate, with a corresponding decline after October. Since May last he had been paying attention to the temperature of tap water, which seems to be related to the development of this disease. He hoped in the future to throw some light on the subject, as the experiments of numerous investigators had shown that it is possible for micro-organisms to exist and multiply enormously in distilled water, or at all events, water containing only the minutest traces of organic matter.

First Day—Afternoon Session.

Dr. Chas. Smart, of Washington, D.C., Chairman, read the Report of the Committee on the Pollution of Water Supplies.

The report reviews at length the influence which a polluted water supply may have had in the recent cholera epidemic in Europe, and upon the spread of typhoid fever on both continents. The efforts to purify water by sand filtration were also reviewed, wherever made, and the report concludes :—"From this brief review of facts and opinions concerning filtration, it will be seen that your

committee hesitates to reaffirm its former positive language with regard to the sufficiency of filtration as protection against typhoid fever. Nor, on the other hand, do we regard the testimony as authorizing a formal declaration of opinion in favour of the efficiency of filtration. Our experience in this country is extremely limited, but it is hoped that the success achieved at Lawrence will lead to the filtration of other surface waters, each of which will probably teach an important lesson in connection with bacteriological experiments and with the mortality from typhoid fever, before and after the construction of the filter beds. In view of an unbroken record of typhoid fever in communities that use raw river water, and an equally unbroken record of lessened typhoid rates following the filtration of such river supplies, your committee considers that in Washington, D.C., special attention should have been given to the improvement of the general supply. This country needs some practical lessons in methods of water purification.

At the conclusion of the report, Dr. Gardner, of London, Ont., offered the following resolution :

Resolved,—That in view of the danger to the public health by the sewage contamination of our fresh water lakes, rivers and streams, this Association memorialize the different federal governments, as well as the state and provincial governments to pass laws prohibiting the contamination of these water supplies by sewage from cities, towns and villages, and compel them to provide some means for the treatment and oxidazation of this sewage before emptying it into these places.

The resolution was referred to the Executive Committee and subsequently adopted by the Association.

" Management of Diphtheria Epidemic in Rural Districts." By Dr. Chas. A. Hodgetts, of Toronto.

The medical officer must exercise a personal supervision not only over his patients, but generally superintend the carrying out of all orders, for upon the thoroughness of the work depends to a very large extent the prevention of

further outbreaks in the district. He felt the inhabitants of the rural districts should receive more attention from the sanitary authorities than they had heretofore, and some inexpensive system should be adopted for the more efficient and prompt management of epidemics in those portions of our country. Schools should be closed in the district until such time as the inspector has satisfied himself in the manner indicated that the household of the individual scholars thereof are free from diphtheria.

"Practical Difficulties of Medical Health Officers and Physicians in Dealing with Inspected Cases of Diphtheria," was the title of a paper read by Dr. Peter H. Bryce, of Toronto. With every advance in our knowledge we find that the practical benefits are often limited by unforeseen difficulties, and that bacteriological results bring into prominence the difficulties which the health officer finds in dealing with cases of sore throat, and which may be summed up as follows: 1st. That according to recent investigations at least 25 per cent. of diphtheria cases are not caused by Loeffler bacillus; 2nd. That physicians endeavour to hide cases in the supposed interest of the client, and conveniently shield themselves behind the assertion that they could not tell whether the disease was diphtheria or not. The author drew special attention to the difficulty of differentiating between cases of ordinary sore throat and real diphtheria. It was impossible often to decide that cases were really diphtheria without microscopic examination.

Dr. J. Ed. Laberge, of Montreal, read a paper in French, entitled "Vaccination as a Preventive of Contagious Diseases. The paper was historical, it being largely a review of Pasteur's experiments.

"Innocuous Transportation of the Dead." This paper was read by Dr. J. D. Griffith, of Kansas City, Mo. The author said that the age demands a far greater protection to the public health. He was convinced that we owe to the travelling public that greater precautions should be taken in the transportation of the dead body. He cited as

evidence of the virulence of a dead body, that in a Normandy village, 23 years after an epidemic of diphtheria, some of the bodies of those who died of the disease were exhumed and an epidemic at once broke out, first among those who opened the grave, and then spread from them to many others. Other examples were cited. Until the public are educated to the point of the thorough sanitation of cremation, the transportation of dead bodies by the railways is, and always will be, a source of very great danger, The speaker urged that the attention of the different legislative bodies of the country be directed by the Association to a subject of such vital importance. He urged, furthermore, that all railways cut off a small portion of their baggage cars for the transportation of dead bodies, The dead body should be placed in a box lined with zinc. with a door very much after the fashion of a large ice chest. This done the lives of employes would not be endangered ; no broken or open box could become infected, and no odour could escape from the car.

First Day—Evening Session.

At this session addresses of welcome were delivered by Dr. Robert Craik, the Lieut.-Governor of the Province of Quebec (Hon. J. A. Chapleau), the Mayor of Montreal, Hon. L. P. Pelletier, Provincial Secretary, and Dr. Gregario Mendizabel, of Mexico, after which the President of the Association delivered his annual address. (See page 241.) He said the American Public Health Association, since its foundation, now 22 years ago, has never ceased to labour for the advancement of sanitary science ; for the promotion of measures and organisations that should effect the practical accomplishment of the laws and principles of public hygiene. It has thus realized the brightest hopes and most enthusiastic provisions of its worthy founders, and has extended its benefits and influence over the whole of North America. To-day it embraces the three great countries that form this vast continent ; the United States of America, the Republic of Mexico, and the Dominion of Canada, all

three working together in brotherly emulation, recognizing no political boundaries, and striving to attain one unique and humane object: The dissemination of all the knowledge of public hygiene and the development of respect for its decrees. Every year the Association changes its place of meeting, and this for good reasons. The spirit of its founders being to establish a body for the diffusion and popularization of public sanitary science, this object could not be better attained than by extending to its greatest limits the influence of the Association; and for this purpose no surer means could be found than the bringing together of its distinguished members.

President Lachapelle in closing urged the creation by the governments of a new department in their cabinets—that of public health.

September 26th—Second Day—Morning Session.

President Lachapelle in the chair.

The Executive Committee recommended, which was indorsed by the Association, a new committee to consist of five persons, entitled "Steamship and Steamboat Sanitation."

Dr. E. Gauvreau, of Ste. Foye, Quebec, described in a paper the process followed in his institution—The Vaccine Institute of Ste. Foye—for the culture and collection of vaccine lymph, showing that every care is taken to insure absolute safety to the public using the points.

"Restriction and Prevention of Tuberculosis." By Dr. H. E. Wordin, of Bridgeport, Conn. He showed that consumption was an infectious or communicable disease, and that the principal source of danger of its spreading lay in the sputum ejected by a phthisical patient when it has become dry. The breath of a consumptive contained no bacilli, and was not infectious. If the spread of this disease was to be prevented the sputum must be attacked. Phthisis might be communicated by osculation, and among the hygienic commandments should be one for the syphilitic

and the consumptive, "Thou shalt not kiss." He considered that the most practical and the quickest way of restricting the spread of tuberculosis would be to put it on the list of infectious or communicable diseases to be reported to the health officers.

"Examination of the Milk Supply for Tuberculosis in the State of New York." By Dr. F. O. Donahue, of New York City.

He said that in May, 1892, New York State took a step forward in authorizing its Board of Health to make investigations in reference to the existence of tuberculosis in cattle. The relation of the milk supply to infant mortality from tuberculosis was insisted upon by all health officers who had made it the subject of systematic observation. That milk and its product will convey tuberculosis had been proven. When it is considered that milk is the principal aliment during childhood, and enters largely into the diet of all classes, it was a highly important question for consideration. Statistics of New York State show that for a period of eight years last past, every eighth death was caused by tuberculosis. The State Board of Health evolved the lesson that tuberculosis existed in the dairy cattle to quite an extent, and that special legislation was necessary to deal with it. It is confidently expected that future legislation in this regard will be enacted, carrying with it an appropriation commensurate with the magnitude of the work.

Dr. Paul Paquin, of Missouri, followed with a paper entitled "Should the Marriage of Consumptives be Discouraged?" He held that the marriage of a consumptive with a healthy person must lead to the infection of the latter, and that the children born of consumptives are always naturally predisposed to tuberculosis. Thus the centres of infection are increased and the danger to society is made much greater. No consumptive should marry, and it is perfectly proper for science to interfere and use all its influence to prevent such marriages.

"The Climatic Segregation of Consumptives." Dr. Henry Sewall, of Denver, read a paper on this subject. He proposed the following plan for the treatment of consumption in its early stages, viz., he would establish at favourable points in Colorado a series of cottage sanatoria. The cottage plan was eminently the best in its adaptation to the character of the climate, the people, and the disease. The efficiency and feasibility of such an institution had already been established in the Adirondack Cottage Sanatorium of New York, which might well serve as a model for extensive development. These sanatoria should be located with careful regard to climatological conditions, purity of water supply, beauty of scenery, and accessibility to railways.

Dr. John T. Nagle, of New York City, in some remarks upon diphtheria, said that the health department of New York city had been making strenuous efforts to stamp out diphtheria, and with this end it had instructed the bacteriological division to examine gratuitously the cultures furnished it by physicians who attended suspected cases of diphtheria. He said that Dr. Cyrus Edison has great faith in the anitoxine treatment of diphtheria, and it promises to be one of the most important discoveries of modern medicine, and so far as could be judged from the data at hand will afford us a means of not only protecting persons from diphtheria, who have been exposed to the disease, but also a certain means for the cure of the disease, when cases are subjected to this treatment in the early stages. One of the most important and significant features of the treatment depends upon the absolutely innocuous character of the remedy, it having apparently no influence either favourable or unfavourable in health or disease, excepting as to its power of neutralizing the poison of diphtheria.

The afternoon of this day was devoted to pleasure, the members of the Association, many of whom were accompanied by their wives and daughters, taking the trip which had been arranged down the Lachine Rapids.

Second Day—Evening Session.

The President in the chair.

Dr. F. Montizambert, General Superintendent of the Canadian Quarantine, gave an interesting sketch, illustrated by lantern slides, of the quarantine appliances at Grosse Isle. He briefly explained the mode of boarding ocean ships, the examination, disinfection and hospital treatment.

Dr. J. C. Cameron, of Montreal, read a paper entitled "Some Points in the Hygiene of the Young in Schools." He pointed out that mind and body were dependent upon each other, and consequently for the proper development of the individual, the body was to be considered and cared for as well as the mind. He referred to the fact that the physical culture of school children was in too many cases improperly cared for, though in the case of boys, who engaged in out-door sports, the effects were not so marked as in girls, who indulged less in out-door sports and were inclined to be more sedentary. Spinal curvature and pelvic deformity were liable to result from assuming an improper attitude when sitting, standing or walking, and consequently it was of the utmost importance that school children should be taught to sit, stand and walk, properly.

"Sanitation in Plumbing." By Mr. John Mitchell, President of the National Association of Master Plumbers, New York. The speaker advocated a semi-annual inspection of all houses for sanitary measures. The rule that at present appears to be observed, he said, is to wait for crape on the door before asking a question regarding the sanitary arrangements.

"Influence of Inebriety on Public Health," This paper was read by Dr. T. D. Crothers, of Hartford, Conn. The facts he wished to make prominent were :

1. The influence of inebriety on public health is of far greater magnitude and more closely associated with the various sanitary problems of the day than is realized at present.

2. Our present conception of the extent, nature and character of inebriety is erroneous and based on theories that are wrong. Our methods of dealing with inebriates are most disastrous and fatal in not only destroying the victim, but perpetuating the evil we seek to lessen.

3. These cases must be recognized as diseased, and be housed in farm colonies, under military care and treatment. They must be organized, employed, and placed under hygienic surroundings and made self-supporting.

4. The present duty is careful medical study of these classes and full recognition of their needs and requirements. Public sentiment should be built up to sustain rational means and measures in their treatment.

5. The sanitary problems that confront our civilization are very closely associated with the inebriate class. One of the central sources of peril to public health is inebriety. This is the one fountain head that must be corrected to break up some of the evils of the present day.

September 27th—Third Day—Morning Session.

The President in the chair.

Secretary Watson read a short paper entitled "A Journal of the American Public Health Association." He urged establishing a quarterly journal in connection with the Association, to replace the annual volume of Transactions. He expressed the belief that the establishment of such a journal would increase the influence and strength of the Association. The matter was referred to the Advisory Council.

Dr. Ralph Walsh, of Washington, D.C., read a paper entitled "Vaccine and Vaccination." He summarized as follows: So-called cow-pox is simply modified variola. The admixture of glycerine with vaccine lymph will destroy all extraneous bacteria without injury to its peculiar active principles. The admixture of glycerine with vaccine lymph, not only does this, but prolongs the activity of the lymph. The selection of lymph and the simple but

important operation of vaccination had not received from the profession the attention they deserved. The physician should see that each infant brought under his care is successfully vaccinated during the first year of its life, and again at sixteen, or better to the point of saturation during infancy. The accumulation of unvaccinated material, and consequently the increased danger of outbreaks of smallpox are caused by the general practitioner failing to perform his duty at the proper time.

Dr. G. P. Conn, of Concord, N.H., read the Report of the Committee on Car Sanitation, of which he is chairman.

The report maintained that the railway companies are very negligent in this respect. The railway car is virtually and for the time being a house on wheels, in which a varying number of people are expected to make their homes for a longer or shorter period, according to the distance which they may be expected to travel. Therefore, like a house it should be constructed on sanitary principles, in which venlation, heating and such conditions as will allow it to be kept clean are paramount factors in every case. Unless these sanitary principles can be carried out and made permanent, then this house becomes unwholesome and unhealthy, and the conditions become favourable to disease or of spreading it should a contagious or infectious malady find a place within its walls. According to investigations it had been found that the atmosphere of the ordinary coach contained from one to six times as much carbonic acid as other public assembly rooms, such as churches, theatres and public halls.

Dr. Felix Formento, of New Orleans, read the Report of the International Committee on the Prevention of the Spread of Yellow Fever. The report maintained that this plague never originated in Louisiana, but is imported from Cuba, Mexico and Central and South America. It recommended attempts to stamp out the disease in the swamps in those countries and the adoption of thorough sanitary measures in the southern centres, where the disease is wont

to become epidemic. An effort to secure the co-operation of the governments of Cuba, Mexico, Brazil and the Central American Republics was recommended.

Dr. N. E. Wordin, of Bridgeport, read a paper on "Disposal of Garbage," in which he advocated its destruction in an incinerator.

The Report of the Committee on the Disposal of Garbage and Refuse was presented by Mr. Rudolph Hering, C. E., of New York city. It dealt with the character of city refuse, its collection and removal from a building to the place of disposal, and the several methods in vogue for its disposal.

Colonel W. F. Morse, of New York, dealt briefly with the collection and disposal of the refuse and garbage of large cities, describing what was being done in New York in order to find out the best method of disposing of its refuse and garbage.

"Influence of the Climate of Canada on Health." This was the title of a paper read by Dr. W. H. Hingston, of Montreal He touched briefly on the geographical situation and the topography of the country and then went on to show that, after a residence in the country of shorter or longer duration, a change in the constitution could be observed. The high colour which flushed the cheeks of some Europeans faded somewhat and the skin became less soft, the hair became darker and more like the aboriginal type, and the muscles were less prominent. The hot weather did not last long enough to produce any great disturbance of the liver and the cold was exhilarating. The ratio of mortality in Canada was lower than that of Great Britain, and, with the exception of Malta, this country was the healthiest station of the British army. Statistics gathered from the States showed that all constitutions were healthier as they approached the great northern lakes.

Third Day—Afternoon Session.

"The Advisability of Teaching Rules and Principles of Hygiene in the Primary Schools by Means of Object Lessons." This paper was read by Dr. Jesus E. Monjaras, of San Luis, Potosi, Mexico.

Dr. S. Gauthier, of Upton, Quebec, followed with a paper on "The Importance of Teaching Hygiene in Elementary Schools." The speaker held that it was through the teaching of hygiene to the school children that we could eradicate the unfortunate prejudices which directly caused the loss of so many who might have been the strength, glory and pride of our country.

Dr. T. D. Reed of Montreal, dealt with "The Hygiene of Vision in Schools," recommending the introduction into schools of the suggestions of the Anthropmetric Committee of the British Association for the Advancement of Science, in order to test the power of vision and colour sense. He also recommended exercises for the development of the power of rapid and accurate observation.

"A Few Remarks on School Hygiene," by Dr. M. T. Brennan, of Montreal. The points in this paper might be summarized as follows: The rousing of the general public to the necessity of propagating the study of hygiene; the hygienic education of children, whose teachers must be proficient in hygiene. In each school there should be a school commission endowed with power to act. There should be some system of general supervision and the general co-operative support of local and general boards of health and the board of public instruction should be assured.

Dr. Andrew McPhail, of Montreal, contributed a paper entitled, "An Epidemic of One Hundred and Twenty Cases of Paralysis in Children." The paper contained an account of an epidemic of infantile paralysis which occurred in the State of Vermont during July, August and September, and which the speaker investigated. He first stated that the belief was held that it was an outbreak of

cerebro-spinal meningitis, but he showed in a lucid manner that it was a true myelitis. He quoted the notes of 91 cases out of the 120. In some children the paralysis came on without any symptoms, and in others there was a preliminary illness of a few days resembling indigestion. He described in detail the fatal cases, of which there were 18, and 42 in which there was permanent paralysis. There were also notes of six cases in adults, three of which ended fatally. He then referred to the origin of the malady, giving full statistics of temperature, rainfall, and humidity and geological factors. There were, besides, 12 deaths from the same cause amongst horses, and fowls were likewise affected. In conclusion, he dwelt upon the necessity for having in every State a properly conducted laboratory and a competent staff to deal with such outbreaks and a board of health with authority to investigate epidemics and perform autopsies. The paper had additional interest from the fact that it is the first epidemic of the kind reported in America and the third which has occurred in any country. The speaker refrained from expressing any views or propounding any theories till the pathological work which he has in hand shall have been completed.

"The Advances of Public Health in the City of Montreal" was the subject of a paper by Dr. L. Laberge, Medical Officer of Health for Montreal. The author outlined the development of the several matters connected with the public health of the city and the legislation by which they were governed, such as milk inspection, meat supply, ice supply, drainage and public baths. He gave an account of the present state of sanitation in the city, and concluded by showing that during the last twenty years the death rate had been reduced by 12.87 per 1,000.

Dr. A. A. Foucher, of Montreal, followed with a paper entitled "Myopia in Its Relation to School Hygiene." The speaker presented a chart which illustrated that myopia is more prevalent in the secondary than in the primary schools. In the primary schools of Russia it is 14

per cent., while in those of Germany, Austria, France, Holland, New Zealand, the United States and Switzerland it is 13 per cent.; Norway 11 per cent.: England, Roumania and Belgium, 13 per cent. In the secondary schools in Austria it is 38 per cent., Switzerland 36 per cent., Germany 36, France 36, Russia 36, Denmark 36. In Italy it is 38 per cent., Sweden 34, and in England 38.

Dr. G. Mendizabal, of Orizaba, Mexico, gave some "Observations on Yellow Fever in Vera Cruz and Its Prevention," and was followed by Dr. J. I. Desroches, editor of *Journal d'Hygiene Populaire*, and member of the Board of Health of the Province of Quebec, who discoursed on hygiene in medical education.

The day's session closed with the reading of the Report of the Committee on Nomenclature of Diseases and Forms of Statistics, by Dr. S. W. Abbott, of Boston, chairman.

The committee considered changes in the nomenclature and classification of diseases and causes of death, uniform methods of reporting vital statistics, uniform methods of estimating population and death rates and the adoption of a standard of age distribution. It is quite plain that a fair comparison cannot be made of the death rates of countries, cities and towns in which the age distribution is widely different; hence the importance of adopting some conventional standard to which all populations may be referred, or with which they may be compared.

September 28th—Fourth Day—Morning Session.

Dr. M. T. Brennan, of Montreal, contributed a paper entitled "A Plea for Vaccination." He said vaccination should be performed with all the precautions calculated to insure the action of the pure lymph, free from all contamination and the action of it. Each vaccinator should be provided with (1) pure lymph of a standard strength, if possible; (2) a vial of distilled or boiled water to dilute the lymph; (3) a vial containing a solution of bichloride of mercury; (4) a small alcohol lamp to sterilize the lancet,

etc.; (5) some sterilized absorbent cotton, and (6) some sterilized gauze. All these take up but a small space and may be placed in a small satchel or metallic case. The operation should be done under strict antiseptic precautions; all instruments, dressings, hands of the operator, etc., should be clean.

Dr. K. Cameron, of Montreal, read a paper entitled "Infection by the Bacillus Pyocyaneus as a Cause of Infant Mortality," based on the observations of hsmself and Drs. Adami and E. P. Williams. It was not until 1889 that this bacillus was found to produce definite general infection in young children. The author drew the following conclusions:

1. That the infant tissues are susceptible to the invasion of this bacillus.

2. That the bacillus is distinctly pathogenic, setting up a disease peculiar to experimental pyocyanic disease.

3. That this disease is characterized by a train of very definite symptoms, such as diarrhœa, fever, rapid emaciation, rigidity of the legs and hæmorrhagic and bullous eruptions.

4. That the disease appears to be very fatal.

As this combination of symptoms occurs not infrequently in young children, especially when congregated in nurseries and foundling asylums, the author ventured to infer that a certain proportion of the deaths which now appear upon our records of vital statistics under the heading of gastro-enteritis, purpura, or marasmus, were in reality cases of generalized pyocyanic disease.

As to prophylaxis, he had nothing definite to offer at present beyond a strict observance of the laws of hygiene, fresh air, suitable nourishment and cleanliness; but he is inclined to consider that this disease is one eminently suited for a trial of serum therapeutics. It is a disease in which, experimentally, immunity can be easily produced in susceptible animals. This being so, it is probable that the serum of animals vaccinated against this disease, or sub-

stances obtained from such serum will be found, as in the case of diphtheria, to have curative effects.

The closing paper of the convention was read by Mr. J. W. Hughes, of Montreal. It was entitled "Evolutionary Development of Domestic Plumbing During the Past Twenty-five Years.

Several papers were read by title owing to the absence of the authors.

The following resolutions were offered, referred to the Executive Committee and adopted by the Association.

By C. O. Probst, of Columbus, Ohio:

Resolved, That this Association approves the suggestion for a co-operative investigation into the bacteriology of water, and commends the efforts of the committee in carrying out this work to the officers of the state and municipal boards of health, to the individual members of this Association and to all persons interested in the purity of water supplies for such special assistance as they may be able to render.

By Dr. E. R. Campbell, of Bellows Falls, Vt.:

Resolved, That this Association records its protest against the use of alcoholic liquor as a beverage, especially among the young, believing that such use is attended with great danger to the health, the individual and the society.

The Executive Committee failed to act on this resolution.

By Dr. George Homan, of St. Louis:

Whereas, It is the sense of this Association that the pollution of potable waters in America has reached such a point that the national governments should be asked to take cognizance of the matter with the view of devising means of prevention and relief; therefore be it

Resolved, That this Association memorialize the Congress of the United States and ask that they shall authorize the appointment of a competent commission clothed with power to fully investigate the whole subject of the pollution of rivers and lakes by municipal and manufacturing waste, and provided with sufficient means to enable them to conduct the examination in such a manner as shall be deemed best, the results of such examination to be published from time to time for the public information.

The following officers were elected for the ensuing year:

President—Dr. William Bailey, Louisville, Ky.

First Vice-President—Dr. G. P. Conn, Concord, N. H.

Second Vice-President—Dr. G. Mendizabal, Orizaba, Mexico.

Secretary—Dr. Irving A. Watson, Concord, N. H.

Treasurer—Dr. Henry D. Holton, Brattleboro, Vt.

After a vote of thanks, offered by Dr. A. L. Gihon, of Washington, D. C., the Association adjourned to meet in Denver, Col., at a time to be fixed by the Executive Committee.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, September 21st, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

A Case of Symphysiotomy.—Dr. J. C. CAMERON presented a rachitic dwarf, upon whom he had recently performed this operation for the relief of convulsions. The patient was 26 years of age, height 4 ft. 6 in. and weighed 84 pounds. The conjugate was 6.8 cent. Delivery was accomplished fifteen minutes after the commencement of the operation, the child being alive and weighing four pounds. The stitches were removed on the eighth day, the union being perfect, there being no moving or riding of the bones. The woman was now brought before the Society for fear she might be lost sight of after leaving the hospital, but a full report of the case will be given at a later date.

Old Dislocation of the Hip-Joint Treated by Resection.—Dr. BELL presented a little girl aged six, who had suffered from spontaneous dislocation of the left hip-joint during an attack of scarlatina and had been treated six months later by excision of the head of the bone and clearing out the acetabulum. She contracted scarlatina in January, 1894, and was put to bed with her limbs in a perfectly normal condition. When convalescent in the month of February and without having met with any accident or presented any symptoms, it was observed that the leg was deformed and that she was unable to stand upon it or to use it. A physician was called (not the one who had diagnosed the scarlatina), who easily recognized a dislocation upon the dorsum of the ileum. Several attempts at reduction having failed, she was brought to the Royal Victoria Hospital in July, where she was chloroformed and unsuccessful attempts made at reduction. On the 17th of July the head

and neck of the bone were exposed by incision. One-third of the globular head was worn away where it lay upon the ileum above the brim of the acetabulum. The capsular ligament could not be recognized posteriorly and the acetabulum was practically obliterated with fibrous material. There was no ligamentum teres. The limb could not be sufficiently extended to replace the head in the acetabulum and extend the limb. The muscular resistance seemed to be general. (There was 1¾ inches of shortening with the limb brought down as well as possible.) There was no sign of inflammatory or other pathological change. The head of the bone was excised and the acetabulum cleared out, when the limb fell easily into position. The patient made an uninterrupted recovery, the wound healing by first intention. The limb remains in normal position. She has free movement in every direction and a good strong limb and there is half an inch of shortening, although from the tilting of the pelvis it seems greater.

Resection of the Intestines.—Dr. SHEPHERD exhibited two cases in which he had resected the bowel.

Case I.—This case was shown to the Society soon after operation three years ago, and she was now again brought before the Society in order to show in what a good condition she was. The resection was for stenosis following strangulated hernia, for which operation had been performed. At the time of operation the gut had looked suspicious, but was returned, more sloughing occurred and this was followed by the stenosis for which resection was performed. Several inches of the bowel had been removed and the cut ends sutured end to end by an inner row of interrupted silk sutures passing through muscular and mucous coats and an outer row of Lembert's sutures through the serous coat. The patient recovered well and when shown appeared in good health. Her age is 56.

Case II.—This was a case of resection of nine inches of small bowel in a woman aged 40. The bowel had been strangulated for five days and was found gangrenous at

the operation for the relief of the strangulation. As the patient's condition was fairly good, immediate resection was performed. The cut ends of the bowel were sutured by two rows of continuous sutures, the inner row passing through the mucous membrane and muscular coat and the outer, a continuous Lembert, through the serous coat. The hernia was an inguinal one, and after suturing the bowel a radical cure was performed by excising the sac and obliterating the inguinal canal. The patient got well without a bad symptom and the bowels moved naturally on the fifth day. She went out in four weeks perfectly well. It was now six weeks since the operation. Dr. Shepherd remarked that it was now his custom to use the continuous suture, and that he used no plates or other apparatus. The suturing of the bowel did not take very long, some twenty minutes. It was his experience that the divided mesentery gave most trouble on account of the hæmorrhage and its liability to tear. He was strongly of opinion that immediate resection was the best treatment in all cases of gangrenous hernia where the condition of the patient was good; in other cases it would be the better treatment to open the bowel and form an artificial anus, which could be closed by a subsequent operation.

A Case of Pylorectomy.—Dr. ARMSTRONG exhibited a woman from whom he had recently excised the pylorus. She came to the Montreal General Hospital on the 10th of May, 1894, complaining of a tumour situated in the right hypogastrium just below the seventh, eighth and ninth ribs, associated with pain and nausea after eating. Wishing to gain some accurate knowledge of her gastric condition, Dr. Armstrong sent her to the medical wards under the care of Dr. Lafleur, who made the necessary investigations.

Dr. LAFLEUR had first seen the patient in the out-door department, and under the impression that it was a case of malignant growth of the pyloric extremity of the stomach and of a kind suitable for operation, he sent her upstairs to Dr. Armstrong, who confirmed this view, but returned her to

the medical department for further information as to the functions of her stomach. Her history was as follows: In December, 1893, she began first to feel out of sorts, without, however, any definite stomach symptoms. In January, 1894, there was pain in the epigastrium after eating. February, 1894, the pain persisted, but was regularly relieved by an attack of vomiting coming on two hours after eating. She grew slowly weaker and by the end of the month had to take to bed. These conditions persisted during the following March and April, accompanied by a steadily progressive loss of flesh. She lost 37 pounds from the beginning of her illness until the date of her appearance at the out-door department of the hospital. She was a dark woman, much emaciated, but with her muscles still in fairly good condition. Examination of the respiratory, circulatory and urinary systems proved negative. The digestive symptoms were poor appetite, bad taste in the mouth, constipation, pain in the stomach and vomiting after meals. Physical signs as detected under examination in the ward were enlargement of the stomach, ascertained by means of the peristaltic waves observed to traverse from left to right. The boundaries were above, extending on a line with the ninth costal cartilages on both sides, and below, reaching as far as the umbilicus, typical hour-glass contractions of the stomach were at times noticed. There was a hard tumour about the size of a hen's egg, movable in every direction except downwards, and varying greatly in its situation. No contractions could be observed in this tumour and percussion gave a dull note. It was continuous with the funnel-shaped outline of the stomach. No nodules were observed. On May 19th a test breakfast, consisting of a small piece of bread and a cup of tea without milk or sugar, was given and withdrawn one hour afterwards. the examination of its contents revealed a complete absence of free hydrochloric acid; the gastric juice seemed effective, but lacked the presence of the acid. The want of this latter constituent seemed to be the chief abnormal feature. A few days later a second meal was administered, which confirmed

in every way the first. From a medical standpoint the chief interest in the case was the probability of its proving a suitable one for operation, owing to the complete absence of adhesions, as evidenced by the extreme mobility of the tumour and absence of all indication of involvement of the lympathic glands. The rule that abdominal tumours are always larger when exposed than they appear from external examination was contradicted in this case. There was no appreciable difference between its real size and that which we supposed it to be before opening the abdomen.

Dr. ARMSTRONG said that the patient having returned to the surgical ward, the question of surgical interference with all its attendant dangers was put before her to decide. So miserable was her condition that she preferred death to a continuance of life under such circumstances and gladly chose the risks of an operation. Before anæsthetizing her a hypodermic of morphia and atropia was administered, with a view to lessen the shock of the anæsthetic, and it had very satisfactory results. She took the ether quietly, there was no vomiting, and only 6½ ounces were used in the two hours she was under its influence. Her pulse, which was 100 at the start, fell to 70 before she left the table. A median incision was made and the tumour brought up to the opening. It was small and well defined, quite movable, non-adherent to surrounding organs, and there seemed to be no infiltration or involvement of any of the surrounding parts. It seemed a very suitable case for removal of the growth. The greater and lesser omenta were tied off, the pylorus drawn well up and the duodenum constricted by a soft rubber band at a point about 2½ inches from the pylorus. An incision was then made across the stomach well above the tumour, taking care to have it include all infiltrated tissue; and the duodenum was then cut across well below the tumour. A hole was then made in the posterior wall of the stomach and the duodenum united here, instead of the usual method of joining it to the head of the organ. In this way he was enabled to work right inside the stomach in the process of uniting the duo-

denum, which obviated many of the mechanical difficulties, and after joining it from the inside the stomach was turned over and the parts further united on the outside by a Lembert suture. The end of the stomach itself was then closed up, the edges being inverted, united, and the serous coats being finally joined by two rows of Lembert's sutures, Her recovery was as smooth as possible, there being neither pain nor vomiting. Solid food was first administered on the fifth day and she has been taking it ever since. She was last weighed about two months ago and had then gained ten pounds and has been increasing in weight ever since. She looks well nourished and says her appetite is good.

Dr. SHEPHERD congratulated Dr. Armstrong on the success of this extraordinary operation. It was, so far as he knew, the first of the kind ever performed in Canada, and was, without doubt, the first in Montreal. He had seen the patient after the operation, and looking at her now he must say he had never seen a case do better, which, when we consider the seriousness of the condition, is saying a great deal. He thought much of the rapid improvement may be attributed to the early feeding, as, in his opinion, the patients in many of the older cases owed their deaths to the starvation which was enforced. Dr. Armstrong's procedure in bringing the duodenum through a separate opening into the stomach is regarded as the only proper method by European surgeons.

Dr. RODDICK joined with Dr. Shepherd in congratulating Dr. Armstrong on his success in this case. Early feeding, without a doubt, contributes largely to the success of these cases.

Dr. JAMES BELL said that the trouble with these cases is the fact that most of them only submit to operation when they are practically moribund and when the disease has consequently made such progress as to render a cure under any circumstances almost hopeless. He had more than once opened the abdomen in cases of this kind only to find the disease so advanced that, unless for the relief of a

stricture or some such mechanical difficulty, an operation was unwarrantable.

An Appendix Containing an Ordinary Pin as the Exciting Cause of a Perforating Appendicitis.—Dr. BELL presented the specimen and gave history. The patient, a boy, aged six, had been brought to the Royal Victoria Hospital with the usual symptoms and signs of appendicitis with abscess formation. There was a history of two day's illness. The child was operated upon and made a good recovery. On slitting up the appendix a pin was found lying transversely across its lumen near the apex. The head of the pin had perforated (by ulceration) all the structures of the appendix, and the point of the pin had very nearly perforated at the opposite side, and at this point the appendix was strengthened by a mass of adherent omentum. This was the only case which Dr. Bell had seen with an actual foreign body as the exciting cause of the disease—except possibly a foreign body may have been the starting point of some of the enteroliths so frequently found in the appendix.

Calcareous Tumour of the Thyroid Producing Œsophageal Obstruction.—Dr. BELL showed the specimen and reported the case. An old lady, aged 58, had suffered for two years and a half from difficulty in swallowing, gradually growing worse until she was actually starving. Since March last she had not been able to swallow solids at all, and liquids only in very small quantities, and with the greatest difficulty. She was greatly emaciated and very weak. She was short of breath on excitation and also had one or two severe attacks of dyspœna. A small hard nodule was felt above the right sterno-clavicular articulation, and she stated that she had suffered from goitre when a young girl, but that it had gradually disappeared. The diagnosis was substernal calcareous thyroid tumour, and operation advised. Enucleation was not difficult and not attended with hæmorrhage, the patient made a rapid recovery and is now swallowing quite well. The tumour, which was about the

size of a hen's egg, was conical in shape and flattened against the sternum and sternal end of the clavicle. The apex had apparently pressed against the œsophagus. In structure it resembled one of the tarsal bones (excepting the articular surface) having a smooth outer surface resembling compact bony tissues, and cancellated structures internally. The operation was performed on the 13th of August last.

Tumour of the Prostate.—Two specimens were presented by Dr. BELL and brief histories given. The first was from a man, aged 58, who had suffered for ten years, with symptoms of prostatic obstruction. For the first six years he had suffered greatly, and in March last he had had a large calculus removed by lateral lithotomy, which gave a measure of relief, but this was only temporary. On examination several stones were found in the bladder and supra-pubic section was advised for the removal of the calculi, and subsequent prostatectomy if thought necessary or desirable. On section, five (5) smallish stones were removed and the projecting prostrate enucleated. Several deep sloughy ulcers were found, apparently due to the pressure of the calculi, and prostatectomy was decided upon. Only the projecting part of the prostate was removed by enucleation, and the patient made an excellent recovery. He is now perfectly well, has good bladder function (although there is some residual urine), and is quite free from pain and frequent desire to micturate.

The second case was an old, decrepit man of 68, who had suffered for a great many years, but for the past year his sufferings had been so great that he declared that life was intolerable unless he could be relieved. His urine showed no evidence of kidney disease, and after due preparation the prostate was enucleated by the suprapubic route. The points of interest were—the great ease with which the bladder gland was enucleated in its entirety, (making an unique specimen) very rapidly, and without hæmorrhage or shock. On the third day the patient began to grow dull and stupid

and died on the fourth day toxæmic. At the autopsy a few spots of very recent lobular pneumonia were found in the left lung, but the organs were otherwise healthy. The bladder was also presented, showing the capsule from which the prostate had been removed. Urine had flowed freely from the bladder wound, showing that there was no arrest of kidney function. In both these cases the after treatment consisted in irrigation every three hours with boro-salicylic solution through a catheter introduced into the bladder by the penis, the out-flow being through the bladder wound. Dr. Bell expressed the opinion that the operation of the future would be enucleation from the perineal side, and that this could best be carried out by means of combined supra-pubic and perineal incisions.

Dr. SHEPHERD had a somewhat similar case to the first within the past few months. A man came from the country who had been sounded many times for stone without success. Dr. Shepherd was also unsuccessful until he examined him under ether. There was no sensible enlargement of the prostate. A supra-pubic section was made, and two very rough stones were found lying in the bladder. Wherever they had come in contact with the bladder wall a sloughing ulceration had taken place. He treated the ulcers with caustic without interfering further with the prostate. This was the first time that he had ever seen such a condition of the bladder in connection with stone; but it may be that they are more frequent than we think, as it is not possible to see them during the lateral operation, even when looked for.

Dr. RODDICK believed in removing the prostate by a perineal opening. He had removed diseased glands on two or three occasions by this method, and was surprised how easy it was to shell them out. He had no doubt that it would in time become the standard method of removing the prostate.

Dr. ARMSTRONG had recently seen Prof. McKeown, of Glasgow, remove a prostate, and had a talk with him on

the subject afterwards. Some time after the Leeds meeting of the British Medical Association the professor had discarded the perineal method and adopted the supra-pubic, as there advised. His results, however, were exceedingly bad. One after another of his patients died of toxæmia and hæmorrhage, until he finally went back to the perineal method, which plan he now almost without exception adopts. Sometimes when only one lobe is enlarged, he will remove it through a lateral incision. In the perineum, he exposes the prostate by a U shaped incision, and enucleates it without opening the mucous membrane of the bladder. In this way he avoids toxic troubles and can control hæmorrhage by packing. It seems very desirable that we should get some better method in prostate surgery than the supra-pubic one, and we would then be in a position to relieve a large class of people who now suffer from prostate disease in its last stage.

Dr. BELL often supplemented his supra-pubic incisions by a perineal drain. This in many instances did not appear to cause any improvement in the results, and he found it hard to believe that the difference between the two methods can be so very great. Again it is often very difficult to enucleate by the perineal method without injuring the mucous membrane of the bladder over the prostate. His idea of late has been a double incision—supra-pubic and perineal—so that instead of enucleating from the bladder only, one could enucleate from the perineum with the fingers in the bladder as an aid and guide to the performance.

Four Calculi Weighing 5 ounces 1 drachm Removed from the Bladder.—Dr. RODDICK exhibited four remarkable calculi, removed from a man, 65 years of age, who had been for four or five years suffering from bladder symptoms. During that time he had been several times sounded for stone, the last occasion being not more than three months ago, but without any signs of such a condition ever being detected. Enlarged prostate with symptoms arising there-

from was looked upon as his disease. Dr. Roddick, on examination, succeeded in diagnosing the presence of a fairly large stone, the size of which, in fact, made him conclude it was the only one. The existence of an enlarged prostate, and the unhealthy condition of the bladder, decided him to choose the supra-pubic method. On making his incision, a large stone presented in the wound, which on being removed was succeeded by another, and so on until four large ones were removed, weighing in the order of their size 37, 38, 39 and 50 grammes respectively. Two of them must certainly be looked upon as very large, and considering the combined size as well as the circumstances of the history, the case is altogether a very remarkable one. The failure of the previous surgeons to detect stone by sounding is explained by the fact that the calculi were all lying in a distinct sac, or pocket of the bladder; the examinations no doubt were made with the bladder empty, and its mucous membrane folding itself over the stones, deadened the touch of the sound.

Cases of Cholecystotomy.—Dr. SHEPHERD reported two cases performed during the last six weeks. In the first case the patient was a woman and aged 36 years. For two years she had suffered much pain about the right hypochondriac region, the first attack of pain being accompanied by profuse jaundice, which lasted several months and then disappeared. There was always a pain of a dull character in the region of the gall bladder. In February last she had a severe attack of pain, high temperature, rigors, and rapidly became jaundiced. In July, she noticed a tumour to the right of the umbilicus; it was painful and seemed to increase slowly in size up to the time of her entrance into the hospital. All this time she was deeply jaundiced, her urine was dark in colour and her stools were colorless. On examining her, it was noticed that she was very thin and deeply jaundiced. She complained of dull aching pain in the right hypochondrium; had continuous nausea, was feverish at night and often suffered from chills. On ex-

amining her abdomen a round, smooth tumour was felt to the right and below the umbilicus ; this was dull on percussion, the dulness being continuous with that of the liver. The tumour was about the size of a small cocoa-nut, elastic and freely movable. Dr. Lafleur examined the case and looked upon it as a case of enlarged gall-bladder. The operation was performed on August 30th, and the tumour was found to be a largely distended gall-bladder projecting beyond a "lacing lobe" of the liver ; it was opened and about a pint of thick bile evacuated. A few small stones were found in the gall-bladder, but the cystic duct was not dilated. On examining further, two large stones were found in the common duct, and these were soft and could not be broken up by needle or padded forceps, so the gall-bladder was sutured to the abdominal wound and a glass drain inserted. Patient has gone on perfectly well ever since, large quantities of bile being discharged through the tube into a rubber bag which is attached to it. The patient is up and about and eats well. The jaundice has almost disappeared, but unless something more be done, she will have a permanent fistula discharging bile. Dr. Shepherd said that if the fistula persisted, it was his intention to do a further operation, viz., to re-open the wound and perform a cholecystenterostomy, and then close the present opening in the gall-bladder. In making a communication between the gall-bladder and intestine, it was his intention to make use of the Murphy button.

In the second case there had been severe attacks of pain with jaundice and high temperature for more than a year. The patient was a woman, aged 36, who was somewhat stout. Dr. Shepherd saw her in the last attack and advised her removal to hospital. She had a temperature of 103°—4°, with great tenderness and pain in right hypochondrium and she was intensely jaundiced. She improved immediately on admission to hospital, the jaundice rapidly disappearing. No stones were found in her stools. Although the pain had disappeared there was a point of great tenderness in

the region of the gall-bladder. At her request operation was performed on September 7th to prevent further attacks. An incision was made in the left semilunar line and the gall-bladder searched for; it was hidden by adhesions and situated deeply down beneath a high-placed liver. On opening it a small quantity of bile escaped, and six gall stones the size of marbles were removed; the common duct was free. The gall-bladder could not be brought up to the surface, so a glass drain was introduced and the cavity packed round with iodoform gauze. The wound was closed by three layers of sutures. The patient went on very well. The gauze was removed on the second day and replaced, but a day or two after a severe iodoform rash appeared, so the sterilized gauze was substituted for the iodoform. The tube was removed on the tenth day, the amount of bile coming away having very much diminished. She is now going on well, sitting up and going out. The fistula is rapidly closing, a very small quantity of bile being now discharged.

Dr. BELL also reported a case of obstructive jaundice in which the symptoms pointed to obstruction in the common duct. A woman aged 50 had suffered from pain and disturbance about the right hypochondrium for about eight months. Since March last she had suffered from paroxysmal attacks of pain with some vomiting followed by jaundice, which, although diminishing in the intervals, never entirely disappeared. Later on she had chills and the jaundice became persistent, increasing with each attack.

Diagnosis—Obstruction in common bile duct from gallstone, or possibly malignant disease.

Operation July 23rd—Incision in right linea semilunaris. Firm, old adhesions made it very difficult to expose the under surface of the liver, so that it became necessary to make a transverse incision from the upper extremity of the vertical one inwards nearly to the median line. The liver was shrunken and retracted beneath the

ribs. The gall-bladder contained no fluid and was contracted upon a stone which lay in the entrance to the cystic duct and was as large as a filbert. Nothing could be detected in the common duct, but a chain of enlarged lymphatic glands were felt in the hepatic fissure. The gall-bladder was incised and the stone removed. A probe forced down the duct failed to enter the bowel. He did not feel that he had removed the cause of the trouble, but being unable to locate any obstruction elsewhere in the biliary passages he could do nothing further. As it was utterly impossible to suture the wound in the gall-bladder, which lay far back and high up underneath the ribs, to the peritoneum lining the abdominal walls, or in any other way establish a natural conduit for the outflow of bile, the wound was closed with sutures, the ends of which were brought up through the abominal wall to fix it in position. Although there was no flow of bile during the operation it was not thought probable that the wound in the gall-bladder would remain closed, especially as it was impossible to apply Lembert sutures, owing to the fragility of its peritoneal covering. A glass drain was carried down to the line of sutures in the gall-bladder and carefully packed around with iodoform gauze—the idea being that the sutures would probably keep the gall-bladder closed for a couple of days until the track of the drainage tube would become closed off from the general peritoneal cavity by adhesions. This was evidently successful, as there was no biliary discharge from the tube for five days, when bile began to flow in great quantities. The jaundice then began to disappear, but the stools remained colourless and covered with oil globules. Bile continued to flow in large quantities until the 12th of August (20 days after operation), when it rapidly diminished and the stools became normal in colour. Nine days later (August 21st) the wound was perfectly healed, the jaundice gone and the digestive functions normal and the patient was discharged.

The post-operative history of this patient I think, supplies the missing link in the diagnosis. When we remem-

ber that the gall-bladder was empty at the time of operation, that there was a chain of swollen lympathic glands along the line of the hepatic duct, that bile began to flow from the wound five days after operation and that it ceased to flow through the wound and began to flow through the common duct 20 days after operation, it seems pretty clear that obstruction was due to pressure from the enlarged glands from without and that when the exciting cause was removed and the swelling disappeared from the glands the symptoms all subsided. Dr. Bell knew of no similar case recorded.

Dr. RODDICK in April, 1892, had a case of cholecystotomy which he thought worthy of recording, especially so, since he was under the impression it was the first operation of the kind performed in Montreal. A lady, 64 years of age, had been jaundiced for nearly one year, accompanied by pain, etc., and her symptoms had gradually become much worse. Examination revealed a distinct tumour, which had all the signs of being a distended gall bladder. An incision confirmed this fact, an enormously distended gall-bladder being found, containing about one pint of thick treacly looking bile. A conical shaped stone, about the size of a filbert, was found blocking the cystic duct ; and along the line of the common duct a distinct thickening was felt, but whether of a simple or malignant character could not be ascertained. The size of the gall-bladder made it an easy matter to bring it up to the abdominal wound and suture it there, a drainage tube being inserted for the escape of the bile. A few days after the operation, the jaundice disappeared, showing that the common duct, to a certain extent at all events, was patent. Jaundice, however, returned after a time, and in a more aggravated form. Bile continued to flow through the abdominal wound for nearly three months, sometimes very little, and sometimes very much, the fistula, however, never permanently closing or being healed. Finally the woman died of a pneumonia, which was very likely the result of her condition. The

operation here was made a very simple one, owing to the gall-bladder being so large and easily handled.

Dr. LAFLEUR wished to say a few words with reference to the innocuousness of bile in the peritoneal cavity. It is hard to say when the bile is septic and when not. In regard to the first case mentioned by Dr. Shepherd, he thought a diagnosis of the condition could be positively made from the physical signs. The character of the tumour was clear, because the area of dulness on either side was quite continuous with the liver dullness, an absolutely flat note being elicited from the lower border of the tumour right up to the liver. If it had been renal, as Dr. Shepherd suggested, there would be some interspace between the tumour and the liver with a lighter note. Then the feel of the tumour was too elastic for a solid growth.

Dr. ARMSTRONG said that Dr. Roddick's case recalled to his mind one of his own attended with somewhat similar difficulties. The woman went home after the operation with the bile flowing through a fistulous opening in her abdomen. After an absence of six months she returned with the bile still flowing, but with her stools pretty well coloured. Dr. Armstrong then made some attempts to stop the escape of the bile by means of cotton wool plugs and collodion. A second effort in this respect was successful, and after remaining here six weeks without any sign of the flow breaking out again, she went home. The fistula eventually closed up.

THE OPHTHALMOLOGICAL CONGRESS.

The eighth International Ophthalmological Congress is now a thing of the past, and the many attending ophthalmists have turned their backs on the modern northern Athens, after what they one and all have acknowledged to be a most enjoyable and also instructive visit.

The congress was held in the physiology lecture theatre of the new university building, while the demonstrators rooms were utilized for the microscopical and instrumental exhibits.

The congress was opened on Tuesday morning, August 7th, Dr. Argyll Robertson, of Edinburgh, being chosen president in room of the late Professor Douders, whose death had occurred since the last meeting.

In a brilliant address Dr. Robertson welcomed the hundred and sixty-three visiting members, dwelling shortly on the attractions of Edinburgh, on the university, with its many illustrious names—Goodsir, Bennett, Syme, Christison, etc.—then passing on to the strides made in ophthalmology since the first meeting of the congress thirty-seven years ago, and finally urging all to push on and not prove traitors to their noble leaders, Graefe, Donders and Bowman.

The election of officers followed, Swanzy, of Dublin, and Power, of London, being elected vice-presidents, and G. A. Berry general secretary.

Lord Provost Russell (who, by the way, is a medical man) then in a hearty address welcomed the members of the congress, and after this the congress settled down to practical business.

Snellen, of Utrecht, opened with a paper on the subconjunctival treatment of operative and traumatic wounds of the cornea and sclerotic; Knapp, of New York, offered remarks on cataract extraction based on a recent series of

six hundred successive cases; Dr. Priestley Smith spoke of scleral puncture as an adjunct to iridectomy in the treatment of glaucoma; Leber, of Heidelberg, discussed injuries to the eyes caused by copper chips; Professor Panas, Paris, made a communication on the traumatic paralysis of the motor nerves of the eye; Mules read two papers, one on a new operation for ptosis, and the other on treatment for the immediate cure of corneal ulcers; and Professor Pflüger, of Berne, treated of the drainage of the eyes.

The congress then rose, it being 1 o'clock. In the afternoon the members were taken to Holyrood and the castle. In the evening the Lord Provost gave a very brilliant conversazione in the Museum of Science and Art—fully three thousand invitations were issued. The military bands supplied excellent music.

On the morning of the 8th the sittings were resumed at 9 o'clock. The first portion of the business consisted in the description of various specimens shown in an adjacent room by members.

Dr. Dimmer, of Vienna, treated of albuminuric retinitis, with specimens. Dr. Juler, of London, demonstrated the existence of a dilator muscle of the iris immediately beneath its posterior epithelium, which he considered would be of considerable interest in physiology and perhaps in the pathology of glaucoma.

Franke, of Hamburg, showed some fine sections of the histological changes which accompany the healing of perforating wounds of the sclerotic.

Dr. Gustav Mann, of Edinburgh, gave without doubt one of the most exquisite exhibits as a lantern demonstration on the alteration in cells of the visual centres produced by exposure of eyes to light. His demonstration illustrated the result of experiments on the brains and retinæ of rabbits and dogs, certain of which experiments had to be carried out in Germany, as he could not obtain the necessary license in Britain. He concluded from his experiments that during rest the cells stored up an amount of chromatin,

which was used up when the cells were stimulated to functional activity, and that along with this chemical change there was a definite visible change in the cells, consisting in the enlargement of the cell and nucleus, if the functional activity were not excessive; the sections exhibited showed this.

The various papers were next read, subjects being grouped as far as possible.

Abadie, of Paris, read an article on choroido-retinitis; Gunn, of London, followed with a communication on changes in the macula associated with retinal inflammation and œdema. Benson, of Dublin, described a case of recurring and very transient visual obstructions, which he considered to be of the nature of an angioneurosis. Viau, of Toulon, spoke of the treatment of ocular diphtheria with crude petroleum. George Bull, of Paris, gave a paper on lid pressure on the cornea causing asthenopia. This gave rise to free debate. Roosa thought strain on the ciliary muscles was the cause of asthenopia. Swan Burnett said he found lid pressure gave rise to pronounced astigmatism. Savage, of Nashville, held that it was extra effort on the part of the inferior recti and superior oblique which was at the bottom of this asthenopia.

After this the sederunt closed and the whole congress was photographed in front of the Royal Infirmary. Drives to Craig Millar Castle and a garden party at the Lord Provost's filled in the afternoon.

The Royal College of Surgeons gave a dinner and after it the President and Mrs. Argyle Robertson gave a brilliant reception at their house in Charlotte square.

The third day of the session was the great one on muscular eye troubles. Landolt led off with a paper on strabotomy, in which he gave, as the result of twenty years' practice, his entire allegiance to muscular advancement rather than setting back in cases of strabismus. He aimed not alone at parallelism of the eyes, but also binocular vision, and this all over the field. He held that by

advancing the muscle the movement of the eye was increased, and thus the advancement was capable of curing the squint in every direction.

Swanzy, of Dublin, would not disregard the tenotomy to the same extent as Landolt, but he considered the advancement, accompanied by tenotomy, as valuable in extreme cases of squint.

Roosa, of New York, spoke in the same strain as Mr. Swanzy, as did also Dr. Noyes.

Gruening, of New York, said he tried to tenotomize invariably rather than advance a muscle, using a pulley stitch in addition sometimes.

Stevens, of New York, spoke of equal rotations of the eyes as being the great desideratum, and held that this could not be obtained by advancement, which indeed restricted them.

Landolt, in reply, said the criticisms of his colleagues proved to him that they did not follow up their cases in the same manner that he did, otherwise he was sure they would have the same results.

Thier, of Aix-la-Chapelle, and Fukala, of Pilsen, submitted contributions on the operative treatment of high myopia.

In the afternoon a visit was paid to the Forth bridge, and in the evening the Royal College of Physicians gave a large conversazione, which wound up with a highland reel to the skirl of the bagpipes by some of the younger Scotch members.

On Friday, August 11, the final meeting of the congress took place. Dr. Lyder Borthen, of Drontheim, explained a series of drawings of leprous diseases of the eye, which were beautifully executed. He said 80 per cent. of all lepers had their eyes affected.

McHardy, of London, held forth on the artificial maturation of cataracts by iridectomy and trituration of the lens through the cornea, results being equally as good as in senile cataracts which had been left alone to ripen.

Dr. Noyes held it was only necessary to iridectomize in children where the lens was soft.

Nieden, of Bochum, described a case of sympathetic ophthalmia following sarcoma of the choroid.

Theobald, of Baltimore, read a paper on radical cure of strictures of the lachrymal duct, urging the use of large probes. Quite a debate followed, there being a majority against the use of very large probes.

Dr. Stolting, of Hanover, then spoke on the cure of hydrophthalmia, and Malgat, of Nice, on the treatment of palpebral granulations.

Drs. Savage, Risley and Stevens closed the sitting with communications on the optics of astigmatism.

The next place of meeting was chosen to be Utrecht in 1900.

Dr. Noyes, of New York, then proposed a hearty vote of thanks to the university authorities, and also the Royal Colleges of Physicians and Surgeons. Sir William Muir, principal of the university, responded.

In the evening the congress dinner took place; about a hundred and fifty ladies and gentlemen were present.

Thus the eighth congress ended.

The Edinburgh folk, both professional and other, did their best most successfully to entertain the guests, and junketing was the order of the day after the morning was got through. The visitors were elected honorary members of the University Club and Union for the duration of their stay. Never did classic Edinburgh look fairer or more romantic than during this first week of August.

The recollections of the congress and its accompaniments will long linger in our mind as a fragrant memory of bygone days.

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AMERICAN PUBLIC HEALTH ASSOCIATION.

The meeting of the American Public Health Association held in Montreal last month has been a very successful one, both from a social and scientific standpoint, thanks to the untiring efforts of the local committee, the liberal subrcriptions from the government and from private individuals.

The visit to Grosse Isle quarantine will, we hope, satisfy the visitors that it is easier for a camel to pass through the eye of a needle than for a cholera germ to enter the Dominion of Canada, and we may feel assured of escaping in the future from the vexatious and not altogether necessary surveillance which has been in the past exercised over Canada by the United States in times of threatened epidemics. If it is found necessary in the future to "watch Canada" it will probably be with a view of learning from her the most improved quarantine methods and adopting them.

The scientific meetings were full of interest. The papers and discussions, while being of direct practical interest to those engaged in scientific work, were largely such as could be understood and appreciated by the general public. Special prominence was given to the subject of water pollution and water filtration, hygiene of the young in schools, car sanitation.

The reports of the standing committees were numerous and carefully prepared, showing a good organization on the part of the executive, and the plan adopted by the committee on water supply pollution for the co-operative study of the water bacteria will be watched with much interest.

The next meeting will be held at Denver, Colorado, under the president-elect, Dr. Bailey, of Kentucky, in the autumn of 1895.

Good effects in the shape of a sanitary revival may be anticipated in our city and province as a result of this meeting, and it might be well if courses of free public lectures on sanitary topics could be given in Montreal during the coming winter before the stimulating effect of the meeting has passed away.

A POST-GRADUATE COURSE IN MONTREAL.

From time to time it is the pleasant duty of those connected with the hospital staffs to welcome visiting doctors, many of whom are graduates of our own universities, possibly classmates not seen for years and almost forgotten. It is a great pleasure to show the improvements in building, nursing and methods, and many times while doing so, the thought has struck us why should not Montreal, with her hospital facilities and wealth of clinical material have a post-graduate course, to which could come our brethren who have not the opportunities for keeping abreast of the times afforded by residence in a large city with its medical societies and other advantages.

When a visiting physician comes here during the session, he finds that he is a supernumerary, everything in the way of teaching being for the benefit of the students from the medical colleges; he is shown the interesting cases, but has no opportunities for study unless he enters on the same footing as an undergraduate, and that, in the vast majority of cases, will not suit him, as he wishes to take up certain branches only in which he feels that he is not so well up as he ought to be, both in clinical and classroom subjects.

At present such a one has to go to New York or across the ocean to obtain what might be furnished to him just as well at home. We are quite aware that there are difficulties in the way of arranging such a course, but it is wanted in Canada and must come before long. A course lasting say four weeks, arranged on a plan similar to the summer session, would do for a beginning, to be improved upon in the course of time.

This would mean more work for the teachers, who have already a heavy burden to carry, but such a course would be a great gain to Montreal and her universities, and when found practicable we feel sure that the extra labour will not be grudged, but that all working together cheerfully and willingly, success will be achieved.

THE DIPHTHERITIC ANTITOXINE.

Since Koch's announcement of the discovery of tuberculine no subject has excited more universal interest in the medical and bacteriological world than the antitoxic treatment of diphtheria, yet the principles on which it is based have antedated the discovery by many years. It was Carl Fraenkel who first performed experimental vaccination with the diphtheritic toxine, and since that time the methods have been numerous and in many cases prolific of the most brilliant results.

Although the exact nature of the diphtheritic poison is as yet not clearly understood, nevertheless for some time past it has been known to present characters analogous to the enzymes—ferments produced in the human body—and some authorities, such as Sidney Martin, place the poison in very close relationship to that class of substances.

The poison is readily obtained artificially by various methods from pure concentrated cultures of the diphtheria bacilli, the safest means being by filtration, inasmuch as heat alters the chemical nature of the poison and renders it inactive. Fraenkel, who first rendered animals immune, based his experiments on the theory that if the poison be the active principle, one must merely accustom the animal to the poison. He obtained the toxine, heated it up to 65° C., thereby modifying it, and injected it into the animals without producing fatal results. After two weeks he repeated the injections and continued thus till he considered his vaccination complete. He then inoculated poisonous doses of the toxine with impunity and further found that after a certain time his animals resisted fatal doses of the pure culture.

The greatest care is necessary in repeating an inoculation,

inasmuch as animals after a primary injection are for a time far more susceptible than previously.

The serum from animals that have been thus rendered immune is found to have special properties, preventive, antitoxic and therapeutic, and has been employed against diphtheria by various methods and with varying results.

Some animals are refractory to the germ of diphtheria, and it was formerly believed that the serum of such was in itself antitoxic; this has in recent times been proved absolutely false, vaccination by the toxine being essential in all cases for the production of antitoxic serum.

In the administration of the toxine to animals Behring combined the toxine with various reagents, preferring trichloride of iodine, while at Paris M. Roux employs gram's fluid with equally brilliant, if not even better, results, and finds that only a few days interval is necessary between the first and second injections.

Dogs, goats, cows, sheep and horses can be thus immunized, some authorities preferring one animal, some another. It may be said in general that the larger the animal and the less susceptible it be, the more suitable it is for inoculation purposes, inasmuch as thereby more serum is obtained and the toxine can be injected with greater impunity. At the Institut Pasteur the horse is employed, M. Roux having succeeded only after several years' labour in completely and satisfactorily immunizing the animal.

Aronnson, whose antitoxine has now become procurable, obtained the serum from dogs rendered immune. He precipitates the antitoxine of the serum with sulphate of aluminum, after adding ammonia, and then washes the precipitate with a solution of carbonate of soda and places it in small phials for sale. Its activity is doubted and its strength apparently much less than many other serums.

Serum from the horse which has been rendered immune is likewise readily obtained. It must be collected pure and is best kept in sterilized vessels with a small crystal of thymic

acid. The strength of that employed in Paris is such that one milligram will vaccinate a guinea-pig of 500 grms. in weight.

A serum is called active when one part by weight will vaccinate an animal weighing 500 times that amount, though much depends on the time of treatment, the amount of toxine and other conditions.

Injections are usually made into the peritoneal cavity, and the greatest essential is the early treatment of the case. Under favourable conditions the effect is rapid and marvellous. The temperature is modified, the membrane detached and the general symptoms greatly improved.

Statistics of cases treated by M. Roux at the Hôpital des Enfants Malades in Paris, show that of 275 cases treated there were but 65 deaths, *i.e.*, a percentage of 76.4 recovered. Further, upon 107 of these tracheotomy had been performed, and nevertheless 56 per cent. were cured, whereas of the 168 children in whom only the angina was present and the serum alone was employed without operative interference, 89.2 per cent. recovered. It may be added that of the above cases none were treated till the Klebs-Lœffler bacillus was found. It will be thus seen what a future presents itself for this new and scientific mode of treatment and it is to be hoped that soon every opportunity will be afforded the various hospitals and practitioners to employ this new agent without the present enormous outlay which would be required for even a single ward full of patients.

TESTIMONIAL TO SIR JOSEPH LISTER.

Sir Joseph Lister having recently retired from active hospital and teaching work, the occasion has been thought appropriate for presenting him with a testimonial of the esteem in which he is held by his former colleagues and pupils, and committees have, therefore, been formed in Glasgow, Edinburgh, and London for the purpose of raising the necessary funds.

It is proposed that the testimonial shall take the form of a portrait. Subscriptions have been limited to two guineas, and it is hoped that sufficient funds will be collected to permit of

some memento of the occasion being presented to each subscriber of that amount.

As there are probably many surgeons in Canada who may wish to join in the movement, but whose names and exact addresses it has been difficult to ascertain, I should be glad if you would permit me to state that subscriptions may be sent to me at 29 Weymouth street, Portland Place, London, W., England, or to one or other of the following gentlemen who have kindly consented to act as treasurers, viz. : Dr. James Finlayson, 4 Woodside Place, Glasgow ; Prof. Chiene, 26 Charlotte Square, Edinburgh ; Prof. William Rose, 17 Harley street, London W., England ; Dr. Malloch, 124 James street, South, Hamilton, Ont. ; or Mr. J. Stewart, M.B.. Pictou, Nova Scotia.

I have the honour to remain, Sir,

Yours faithfully,

J. Fredk. W. Silk,

Honorary Secretary.

P.S.—Two guineas are about $10.23.

Obituary.

OLIVER WENDELL HOLMES.

The Autocrat has passed away at his residence at Beverley Farm, on October 7th, and the world is poorer for his loss. He was born at Cambridge, Mass., on August 26th, 1809. He graduated from Harvard in 1829, and commenced the study of law, but soon abandoned that for the more congenial study of medicine. He commenced the practice of his profession in Boston in 1836, and in 1838 was appointed professor of Anatomy and Physiology in Dartmouth College. This he resigned in 1847 to accept a similar position in the Massachusetts Medical School, from which he retired in 1882. But it is as a writer that he is best known the world over. As early as 1836 his poems appeared in various periodicals, and as a writer of songs and verses for festive occasions he was unsurpassed. In 1857 his "Autocrat of the Breakfast Table," appeared as a series of articles in the *Atlantic Monthly*, followed three months later by "The Professor at the Breakfast Table," and in 1872 by "The Poet at the Breakfast Table." His works, however, make too long a list to mention here. Collections of his poems have appeared from time to time, the last in 1889. Bssides his literary efforts, he contributed largely to current medical literature. His greatest contribution to medicine was the discovery of the fact that puerperal fever is contagious, and this he maintained for years in the face of opposition and ridicule.

For thirty-five years he laboured at the Harvard Medical School, teaching at the one time anatomy, physiology and histology until 1871, when he became professor of anatomy alone. He used to say that he occupied not a *chair* but a *settee* of medicine in the school. He did much for his Alma Mater and it can truly be said of him that the world is better for his having lived.

Medical Items.

To Abolish the Office of Coroner.—The Constitutional Convention now in session for the State of New York has voted to strike out the office of coroner as a constitutional position by a vote of ayes 97, nays 43. This is one step in the direction of giving to New York a system of medico-legal experts such as has been adopted by Massachusetts for many years. The ratification of the action of the convention must be obtained at the polls by the general vote of the people of the State. There seems to be a strong presumption that the revised constitution will be adopted. —*Journal of American Medical Association.*

Transfusion of Blood in its Legal Aspects.—Our Paris letter of June 23rd contained a report of an interesting trial that had taken place in France. It being necessary to resort to transfusion in a desperate case of illness, the servant of the patient volunteered, or consented, to supply the blood. Some time afterward the giver fell sick, and, attributing his disease to the sacrifice he had made for his master, sued the latter for 60,000 francs damages. Experts were appointed to examine and report on the case, but in the interval the plaintiff died. The action was continued by the widow at the Civil Tribunal of the Seine, where the court gave judgment for the defendant. The decision was obviously equitable if, as we assume, compensation was claimed simply on the ground that the illness resulted from the operation and from the effects of the loss of blood. When a person is asked to furnish blood for the purpose of transfusion it is the duty of the receiver, by himself or agent, to state precisely the possible dangers attending venesection, and to insure that reasonable care is taken to prevent untoward consequences, that is, the wound should be made under strict antiseptic precautions, and the patient

skilfully attended until it has soundly healed. Of course, a person could stipulate that he should be remunerated for the loss of employment during enforced idleness and compensated for incapacity arising from an unforeseen accident attendant on the operation, but, failing this, he has neither the moral right nor legal title to recover a money equivalent. His voluntary act of self-sacrifice is a tribute to humanity and should not be used as a lever to procure self-aggrandisement. In the case under consideration the man died from cancer of the stomach, certainly not caused, and probably not aggravated, by abstraction of a few ounces of blood.—*London Lancet.*

—The "Canadian Medical Literature" has been omitted this month on account of lack of space.

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