

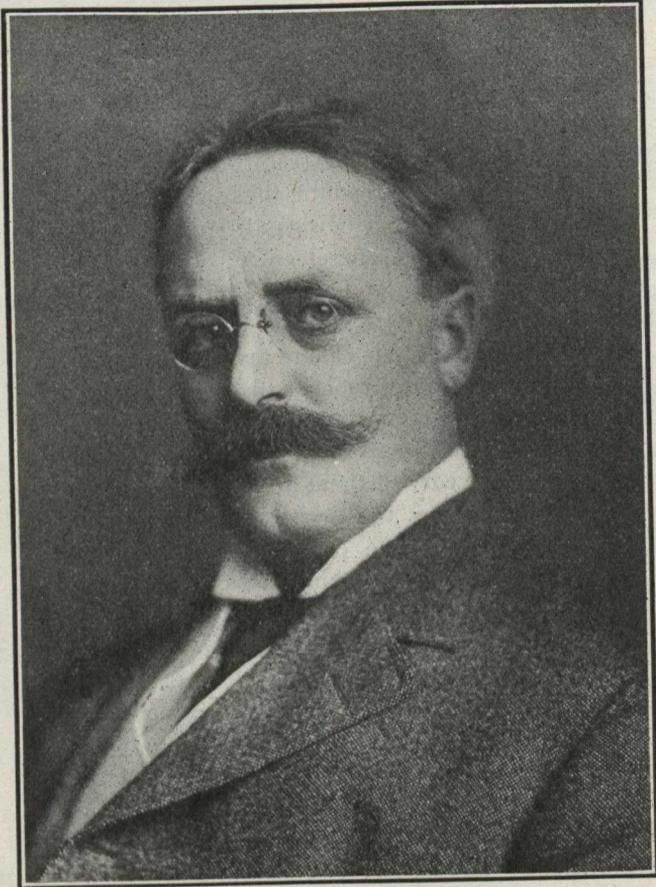
PAGES

MISSING

Public Health Journal

There is social unrest stirring throughout the country to-day. Social and economic conditions have changed. But shall tradition and custom remain unchanged, or adapt themselves to their new environment, their new conditions? Biology teaches us to adapt ourselves to our environment, while at the same time endeavoring to change and shape it to suit our needs. So with eugenics and its objects. There are new economic, political and social problems. New methods of dealing with these questions are necessary. We must adapt ourselves to these new conditions and try to shape or correct them to more perfectly fit our needs, longings and desires. The evils which have accompanied the changed conditions are not self-corrective, but cumulative. What shall be our attitude? Shall we, in typical *laissez faire* manner, helplessly view the spectacle and shake our heads sorrowfully? Or shall we rather lift up our heads, stare the problems full in the face, and meet them as man to man? They are there before our very eyes. We cannot and must not be blind to them, except at our own peril. Let us, like men, meet these new social conditions. Let us be up and doing, as it was intended that we should be.

—Meyer Solomon.



F. F. WESBROOK, M.D.

Whose article "Modern Public Health Teaching and Practice in Relation to the Control of Tuberculosis" appears in this number.

The Public Health Journal

State Medicine and Sanitary Review

VOL. III

TORONTO, CANADA, SEPTEMBER, 1912.

No. 9

Special Articles

MUNICIPAL POWERS IN DEALING WITH TOWN PLANNING SCHEMES

BY RICKSON A. OUTHET, FELLOW AM. SOC. L. A.

Municipal powers in Canada vary with the size of the town; and as town planning has not until recently been thought of seriously, there are no uniform powers for Canadian municipalities in dealing with town planning. Although Germany was the first to deal with town extension plans in an enlightened way under Government control, the Garden City movement in England, started by the large manufacturers, was the first to influence town planning in its true meaning in England and on this continent. This brought about the necessity of having broader laws, made to assist such enterprises, without having to resort to private bills, the result being the passing of the Housing and Town Planning Bill by John Burns.

This was to amend the law relating to the housing of the working classes and to provide for town planning schemes, the appointment of county medical officers, and the establishment of public health and housing committees of county councils.

The bill not being generally known, I will try and tell you in plain phraseology what it contains, with the hope that it may find its way in its broad meaning through the Legislature in Ottawa.

Every County Council must establish a Public Health and Housing Committee.

Every County Council must appoint a Medical Officer, the Local Government Board in London prescribing his duties; the Board's consent to his removal from office being necessary. He shall not engage in private practice.

The Town or County Council may promote or assist societies by grants or advances on a co-operative basis, for the erection or improvement of dwellings for the working classes; the loan not to exceed two-thirds the value of the property.

Capital money arising under the Settled Land Act may be expended for the erection of dwellings for working classes, as well as for cottages for laborers, farm servants and artisans, whether employed on the settled land or not.

A Town Council may purchase land (even compulsorily) for working class dwellings, or acquire land by agreement if not immediately required.

A Town or County Council may purchase land for town planning schemes.

It shall be the duty of a town themselves to carry out any improvement schemes (except such schemes as they enable others to execute).

A town must furnish a report to the Local Government Board on any crowded area if wanted.

Neighboring municipalities must act jointly for any purpose of the Housing Acts if the Local Government Board deems it expedient.

Landlords must rent working class houses at not more than \$16.50 per month (if in the administrative county of London), not more than \$11.00 if situated in a town of 50,000 inhabitants, and not more than \$6.70 elsewhere.

A town planning scheme may be made of any land already in course of development or likely to be used for building purposes, open spaces, or any land incidental to a town planning scheme, with the object of securing better sanitary conditions, amenity, convenience and use of the land and of any neighboring land.

The Local Government Board may authorize a town council to prepare a town planning scheme, if the Board is satisfied there are good reasons, or may authorize a town council to adopt any such scheme proposed by any of the owners of any land, with respect to which the town council might themselves have been authorized to plan.

If it appears to the Local Government Board that a piece of land already built upon or not likely to be used for building purposes, ought to be included in a town planning scheme, the Board may authorize the adoption of a scheme including such land, with provisions for the demolition of any buildings thereon.

A town planning scheme must be approved by the Local Government Board, when it becomes law; it may be varied or revoked by the Board for good reasons, on application of a Town or County Council.

The Local Government Board may prescribe a set of general provisions for the objects of town planning schemes; in particular, for dealing with streets, right of way, buildings, open spaces, objects of historical interest or national beauty, drainage, lighting, water supply, and, in general, with the powers of municipalities.

Any person whose property is injured by a town planning scheme shall receive compensation.

Any expenses incurred by a Town Council for town planning shall be defrayed as expenses under the Public Health Acts,

and the authority may borrow for these purposes in the same manner; the amount not being reckoned as part of the municipalities debt.

If the Local Government Board are satisfied on representation after inquiry, that the Town or County Council have failed to exercise the powers of the Housing and Town Planning Acts (such as those mentioned), the Board may, after holding a local inquiry, order that authority to do all things necessary for executing the scheme, which the Board may enforce by mandamus.

Any decision of the Local Government Board is final and conclusive.

You will notice that these clauses have one principal object in view, that of good health, for even the expenses of town planning come under public health expenses and not part of a municipality's debt.

One of the greatest misfortunes to this country is that there is no authority such as the Local Government Board, consequently the real estate speculators are planning our future cities any way they like; they conform with the by-law regarding the width of street or get a special Provincial Bill passed contravening the by-law.

In most cases they are right in getting a bill passed, for generally it is the statute width of street which is changed. Take, for instance, the Montreal by-law (Montreal is not famous for its wide streets, but it says): "Every new street shall be at least 80 feet wide unless the council by special resolution shall decide otherwise, and provided that in no case the street shall be less than 66 feet."

The 80-foot clause is a good one to ensure a wide thoroughfare, but as the city is not planned comprehensively, being done, as I have mentioned, by private individuals, no council knows where thoroughfares of such widths are required in the future.

Then regarding the 66-foot street, we all know localities where there never will be any through traffic, and it is as unreasonable to make an unimportant street 66 feet wide, as it is to make important thoroughfares the same width, as is being done now.

In Philadelphia the minimum width of new streets is 40 feet, in New York City 60 feet.

In England it is 40 feet but nevertheless it can vary with the approval of the Local Government Board.

In a general consideration as to how town planning should be carried out in practice, Nettlefold, the English authority on housing, says: "It is not advisable to have wide roads everywhere as has been the practice until recently all over Germany; that only puts up the price of building sites thereby hindering instead of helping, a sane solution of the Housing Problem."

If a town has an engineer he sees that drainage in the proposed streets is possible; in some cases it is not thought of, and the plan becomes official when registered, to be found perhaps years afterwards a sewer cannot be laid.

There are no definite laws limiting the number of separate houses to the acre of building land.

The English law says "open spaces in rear of houses must be in depth equal to the height of buildings thereon," thereby allowing about 50 houses per acre.

In Philadelphia there is said to be a maximum by-law of 40 houses, but some of the new rows show about 50 houses to the acre on lots 14 feet wide x 60 feet deep.

The best of these have backyards in concrete, enclosed with iron fencing. Instead of a lane there is a 4-foot passage and the arrangement is a very good one. A six-room house rents for \$16.00 a month.

In England 12 to 14 houses per acre have been adopted at Bournemouth, Earswick, Letchworth and Hampstead. At Ealing there are 20 to the acre, and it is considered a healthy suburb.

With a cosmopolitan population it must be remembered that there are many people accustomed to the crowded city life, who will not live in a garden city, and until they understand the quieter social conditions and that grass is meant to grow this class will be better housed in rows of the Philadelphia type.

A solid row of houses is better than detached houses unless space is left at the sides, sufficient to eliminate the side alley effect.

If commercial reasons have forced the Government to inspect the vegetable and animal life, and to destroy the diseased individuals, and if it is worth while to inspect each immigrant to avoid pestilence, there is no doubt their mode of living should be looked after and controlled by housing laws.

MODERN PUBLIC HEALTH TEACHING AND PRACTICE IN RELATION TO THE CONTROL OF TUBERCULOSIS

BY F. F. WESBROOK, M.D.,

PROFESSOR OF PATHOLOGY AND BACTERIOLOGY AND DEAN, COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MINNESOTA; MEMBER, MINNESOTA STATE BOARD OF HEALTH.

Two groups of unwilling obstructionists in the path of public health are interesting. The one hesitates to delve into the unknowable or to undertake the impossible, whilst the other fails even to see complexities and ignores difficulties which should be met squarely at the outset. Perhaps it is a species of fatalism which renders the first group inactive on account of inability to differentiate clearly between disease and death and to realize that although disease may end in death they must not be confused. In fact, disease should be regarded rather as indicative of vital force, being the struggle between man and his adverse environment.

As Sir Frederick Treves has pointed out, if it were not for disease there would be no life left, because there would have been no struggle. Disease is, therefore, a sign of life, whilst death is the absence of life. Disease belongs to the realm of the knowable and even the closure of death's door upon the known and the knowable may be postponed.

To impute sacrilege to those who desire to increase and prolong the period of man's efficiency without realizing the sacrilege which blames Providence for disease that human foresight can prevent and death that human effort may postpone is the too-

frequent characteristic of the unprogressive.

We must realize that health is conserved by the application of precisely the same physical and biological sciences which have led to commercial and social development and added to man's pleasure and comfort.

Health, which should be our most cherished possession, must not be wrapped in mystery and buried in ignorance, nor lost by any *laissez faire* policy. On the other hand we must not allow the too enthusiastic faddist to risk it for us on any of his too optimistic theories.

The faddist says "if preventable, why not prevent." It looks simple to him.

He recommends a "cure-all" serum. He proposes universal vaccination. He advocates deep breathing, cold baths or long walks as a preventive or cure of all ills. Fresh air, overfeeding and prolonged, complete rest appeal to him as a panacea, in fact, too much to eat and nothing to do appeal to most of us.

He simply cannot see that there is no royal road to health and no blanket method of prevention or cure of disease.

His enthusiasm is much too easily aroused by the announced discovery of some hitherto unknown active cause of disease, some new theory as to the effect of physical environment on human resistance or some new method of cure or prevention.

Our eagerness to be deceived is evidenced by our public support of newspapers and magazines which furnish impossible and misleading news items concerning health and its preservation and publish advertisements of fraudulent remedies. We imprison the burglar when we are lucky enough to catch him. If in his operations for the relief of financial plethora he impairs his victim's health, his punishment is increased and in case death results his life is the forfeit. On the other hand, charlatans and quacks who foster our fears, steal our strength and lose our lives are willingly presented with millions of dollars annually. Our credulity permits us, in fact, leads us, to offer ourselves voluntarily to be drugged, robbed and murdered.

When Irving Fisher, the well-known Professor of Economics of Yale University, and his colleague, Norton, estimated that over six hundred thousand deaths occur each year in the United States which might be prevented, or, more correctly, postponed

by the systematic and conscientious application of scientific knowledge already available, we should have been appalled. We undoubtedly were amazed at his figures showing the equivalent financial loss of about two billion dollars per annum.

Recognition of the various complexities which confront those who desire to improve the public health is important in order to permit of the preparation of broad general plans which properly co-ordinate the various fields and workers.

These will be found to be of two general classes, namely, those which concern man in his relation to environment, and those which arise from a conflict of interests between man and mankind. Their consideration, however, will not be found to warrant either a fatalistic pessimism born of a helpless ignorance or a "cock-sure" optimism resultant from any phenomenal forward movement of our own generation.

Not land nor sea nor sky afford escape from the mad rush of to-day. Is "velocitania" a disease or is it a natural evolution of our times? Shall we become immune or shall we end in "tachyphobia"? Modern means of annihilating space enable, in fact, compel us to group and regroup ourselves many times a day and seem to stimulate towards, instead of away from, the herding together of cities. We are increasingly bearing each other's burdens and exposed to each others real and imaginary ills. The unremitting grinding of each one of us against the other prevents adequate renewal of the loss from vital waste.

There is, indeed, much need of the increasing armamentarium provided by present advances in our knowledge of the environmental foes of man's health and happiness, because of the increasing opportunity for disintegration to which the modern kaleidoscopic life exposes us.

We may find it profitable to consider shortly some of the exact knowledge which has come to us concerning disease processes and to see what we have in the way of real weapons for our own defence.

Many of us at this time can recall the announcement of the discovery of the bacilli which cause diphtheria, tuberculosis, typhoid fever, cholera, cerebro-spinal meningitis and other diseases. Within a quarter of a century the method of transmitting malaria has been discovered and it is not more than half that time since Reed an-

nounced that yellow fever, too, is carried by mosquitoes.

Within the very recent past the living cause of syphilis has been demonstrated and the bacilli which produce leprosy have been cultivated.

We must not think that our generation deserves the entire credit of discovery and has promulgated the modern theories of cause and prevention of disease on the basis of its own observation alone.

The relation of bacteria to disease was forecast by Athanasius Kircher in 1646. The slight magnification of his imperfect microscope enabled him to see blood corpuscles and pus elements which he described as worms, and suggested as the cause of disease. This hypothesis of a living cause of disease, correct in itself, was thus based on an error of observation.

The microscope was perfected to such a degree that in 1675 Anthony von Leeuwenhoeck was able to see and describe bacteria in various substances. His drawings are very accurate and of interest to those of us who are working to-day in the same field.

He did not, however, suggest any relationship between his bacteria and the fermentative, putrefactive or disease processes with which they are now identified, nor did he know how essential they are to the maintenance of vital balance or conservation of the vital energy.

Nearly one hundred years later, in 1762, Marcus Antonius Plenciz, a Viennese physician, not only accepted the published work of Leeuwenhoeck, but suggested that his bacteria were the cause of disease. He went further and promulgated the theory of a specific microbe for each disease just as when we sow a particular grain we expect that particular grain to reproduce itself. He advanced the idea that bacteria increased in the body and called attention to their possible transmission through the air.

It was the middle of the nineteenth century before definite proof of certain of these theories became available, through the work of Davaine and Pollender, who showed the presence of anthrax bacilli in the tissues and fluids of cattle which suffered from the disease and were able to transfer it from one animal to another, and to show that the bacteria caused the disease.

The preparation of vaccines by Pasteur,

Chauveau, Salmon and others from living cultures of bacteria whereby protection against the diseases produced by them could be developed, led to the hope that protective inoculation might become general and an immunity of greater or lesser duration might be induced for all the disease.

Many of my readers will recall the great excitement which accompanied the announcement of a protective or curative tuberculosis "lymph" by Koch in the later eighties. The disappointment of thousands or millions which followed was a tragedy, and it has taken thirty years to show the limits of usefulness of this tuberculin in the cure or prevention of tuberculosis.

About twenty years ago, the accidental discovery by Kitasato, the Japanese investigator, working in Germany with von Behring, of the principle that bacterial poisons injected in increasing doses into animals, not only produce resistance to infection, but cause to be liberated in their blood a substance, antitoxin, which protects or cures other animals, was made in regard to the tetanus bacillus, the cause of the disease commonly called lock jaw. Diphtheria bacilli, like tetanus bacilli, produce disease through the liberation of poison from the bacilli into the tissues and fluids of the body, and the same principle of antitoxin treatment was applied in the cure and prevention of diphtheria. This discovery has revolutionized public health procedure and the care of the patient, and has already saved hundreds of thousands of lives.

Avoiding technical detail, it may be stated that the site of the disease, method of growth of the bacilli, and the paths of distribution of the bacterial poisons and their effect upon the various groups of body tissues, cells and fluids are different in the two diseases as is also the stage at which our attention is called to the necessity of combatting the poisons or toxins. The faddist who expected exactly similar results in the two diseases, because each bacillus operates through a soluble poison and each can be neutralized by antagonistic bodies, which are developed in the animal body and circulate in the body fluids, has been disappointed because of the other variables now so plain to us.

On the other hand, we sometimes achieve most wonderful results in human better-

ment by means of a partial illumination. Yellow fever affords an example of revolution in protective measures based upon our knowledge of a living poison which has never been seen, although we know a great deal about it. We know the particular mosquito in which it only can develop. We know something of its cycle of development. When man has been exposed to infected mosquitoes we know if he has been infected just when he will show symptoms. After he becomes sick with yellow fever we know just the days of the disease when if bitten by the particular variety of mosquito he may transmit to it the infection and we know just how many days will elapse before the mosquito will be able to transmit the disease by biting another human being. We know just how to kill these mosquitoes at the various stages of their lives and we know just how they propagate.

We have not seen, as in malaria, the living cause of the disease, nor studied the various stages in its life cycle in man and in the mosquito. Nevertheless, prolonged and strenuous work and the self-sacrifice and heroism which withheld not even life itself enabled Walter Reed and his colleagues Lazear and Carroll to give us information which has already saved many thousands of lives and robbed the American tropics of their chief terror.

General Leonard Wood, himself a physician and largely to be credited with Cuba's transformation, on the occasion of Dr. Reed's funeral, felt impelled to point out that Reed's work saves more lives annually than were lost in the entire Cuban War, and that a greater financial saving than the entire cost of the war results each year through the work of Reed and his colleagues.

In the case of Joseph Lister, the people of Great Britain and of the world were able to show fitting appreciation of the quiet, persistent, courageous work of that titan brain which revolutionized surgery and has already contributed thousands, perhaps millions, of years in the aggregate to human life. We cannot compute and can scarcely imagine what modern aseptic surgery which grew out of Lister's scientific laboratory and hospital study, has meant through the gift of those years of active life which have been conserved for

the better accomplishment of the world's work.

We might continue to multiply examples of the difficulties still to be solved and of the encouragement which may be had from the success which has already come to us, but it seems wise rather to attempt to classify loosely the complications which arise in man's endeavor to cope with his environment in order that we may know when, where and how to plan attack. Some of the following considerations are of importance as affecting logical procedure and determining the points of least resistance on the one hand, and of greatest danger on the other.

1. A knowledge of the nature of the microbe, virus or other exciting cause of a disease or unsanitary condition is essential. We must know how it reproduces, where and how it completes its life cycle, the influences which are harmful to it such as relate to heat or cold, dryness or moisture, sunlight or darkness and the chemical and other means for altering its characteristics or destroying its life. A knowledge too of its other living foes may help man to escape.

We must know whether it is capable of living and reproducing itself *only* in the human body, *only* in the body of some other animal, or *both*, in man and animals or in nature *outside* of both. We must know whether it requires two or more hosts in which to complete its life cycle as in tapeworm and allied conditions.

Man does not seem to share with the other living animals the venereal diseases, diphtheria, typhoid, leprosy, scarlet fever, measles and many other infections.

In the case of plague, anthrax, glanders, hydrophobia and certain other diseases which are common to man and the other animals the complications are increased by the difficulty of knowing the exact extent of the danger and where and how to apply protective measures.

Certain bacteria operate through their poisons which are liberated into the tissues and combine with cells and produce changes in fluids to their detriment. Other bacteria contain the poisons in their own bodies and only liberate them when they are broken up and destroyed. Some poisons cause proliferation of cells, some cause clotting in and plugging of blood vessels, others have selective degeneration effects on particular

regions and structures sometimes independent to some extent of the method or site of their introduction.

2. To know and to recognize the gateways in the body by which particular infections enter is very important, if our attempts to close them are to be successful. Penetration of the skin as in certain blood poisonings of surgical importance, yellow fever, malaria, hookworm disease, venereal and other diseases must be kept in mind. Bacteria may be breathed into the nose and mouth and carried deeper into the respiratory passages. Amongst the most important diseases contracted through the respiratory mechanism are tuberculosis, pneumonia, diphtheria, cerebro-spinal, meningitis and probably anterior poliomyelitis. We are exposed to certain infections, such as typhoid and cholera through food and drink, and we must not forget that dust that falls into the eyes and particles which are inhaled may lodge in nose or mouth and be swallowed. To what extent this is of importance in tuberculosis we cannot as yet be sure. Bad conditions of mouth and teeth are now recognized as important causes of disease and oral prophylaxis is receiving increasing attention.

A third important consideration is the distribution of the virus or microbe in the infected individual and the means by which it is normally eliminated. The paths by which the bacteria or their toxins or poisons spread and the methods by which they work harm to the tissues, cells and fluids of the body must be known, too, in order to afford intelligent protection. Certain of the bacteria remain pretty well confined to the locality where they enter. Tetanus is a good example of this, although the soluble poison is distributed. Certain of them spread slightly as in diphtheria, and here, too, the toxin is widely distributed. Cerebro-spinal meningitis and anterior poliomyelitis are rather localized, and seem to have a very different kind of poison from the two already mentioned. In tetanus only the wound and objects which come in contact with it are likely to spread the infection. The guarding of the mouth and nose in diphtheria and pulmonary tuberculosis is the really intelligent step in the prevention of the diseases.

In typhoid fever the chief sources of danger are the excrement and urine which should be easy to safeguard. In cholera,

the bowel discharges alone seem to be dangerous. In scarlet fever, measles and small-pox where the whole skin surface is involved, we have been led to believe it very difficult to prevent the spread of infection. We are accustomed to neglect the nose, mouth and ear, and now find, particularly in scarlet fever, that undetected troubles in these localities are frequently operative in the causation of the disease long after the skin be exonerated.

4. A fourth consideration of very great importance is our need of knowing the vehicles of transmission or the carriers of disease. Flies, ticks, mosquitoes and other vermin belong to this group. Domestic and other animals may act as intermediaries in the spread of disease, especially in those which require more than one host to complete the life cycle of the living cause of the disease, as in tapeworms of various kinds and certain cystic diseases, trichina and kindred conditions.

But of all the living carriers of disease man is the worst offender. It is now well known that human beings may harbor and transmit living virulent bacteria without themselves showing any ill effects. Typhoid Mary, over whose destiny Dr. Biggs presided for so long, was shown to have spread typhoid fever to numerous households. During many years, whilst well herself, she has infected many others with the disease. Similar instances are being found elsewhere. Well people may carry diphtheria bacilli to others who are susceptible. Our means of detecting such sources of danger in the various diseases have been improved, although much remains to be done yet. These carriers constitute a constant menace to public welfare and tax the ingenuity of our sanitarians and the erudition of our legal experts in order to know what is at once just to the individual and protective of public rights.

In addition to the well carriers, we have also those individuals in whom the disease is so mild or atypical as to evade detection, and also those who have been sick, but in whom after recovery the virus persists in some undiscovered or inaccessible locality.

The inability of the public to realize that the tendency for a disease to spread has no relation to the severity or mildness of the disease is a constant stumbling block. In case of doubt as to diagnosis of some of the children's diseases we find the ordinary

householder very apt to overlook the golden rule in his haste to carry out the precept which declares "it is more blessed to give than to receive." Other vehicles for disease distribution are found in earth and air and water.

Earth may contain such living and active causes of disease as those of hookworm, typhoid fever, cholera, tetanus, anthrax and gas bacillus infections of some surgical importance. Our frequent reference to man's inalienable right to free and pure water and air is an euphemism. We not infrequently have to pay a high price in cash and a higher price in health for poisonous air and water.

5. The fifth and last important consideration in the prevention of communicable diseases depends upon our possession of any specific means of prevention or cure. When available they render the task much easier. Treatment with attenuated virus or with exceedingly small doses of full strength virus produces a resistance of more or less permanence useful in protection against certain infections. Smallpox need not exist if vaccination be systematically and universally carried out. Protection is practically absolute. A comparable method affords protection against hydrophobia if employed in time. Typhoid vaccine seems to compel greater confidence as further opportunity for observation occurs. Sir Almroth Wright, to whom we owe the typhoid vaccine, has also shown us how to increase resistance and thus overcome the effects of other bacteria by the use of specific vaccines which stimulate our prephagocytic forces. This means we give our cells an appetizer which better enables them to digest their food, the bacteria.

Antitoxins or serums are, indeed, a very great help in those few diseases for which efficient ones have been developed.

The resistance or immunity which follows their administration is neither so intense nor so lasting as that induced by natural infection or the use of vaccines; nevertheless when available they revolutionize public health procedures.

Diphtheria is, however, about the only disease where antitoxin treatment is of great public importance as yet, although, in many of the world's leading scientific institutions, work is in progress looking towards specific means of protection and cure

which may serve to strengthen man's hands and improve his aim in the battle of life.

This game of life is so full of hazards that we need not wonder at the interest and enthusiasm displayed by the scientific physician. Man versus microbe, or, more correctly, man versus environment, would surely seem to be sufficiently complicated without the addition of another set of variables. We are forced, however, into fresh complications by having to consider the rights of the individual in the light of society's needs and man versus mankind adds almost an illimitable set of permutations and combinations to our problem. The physician who by training and tradition finds his chief duty and interest to lie in helping the individual and family to maintain their integrity and efficiency is impatient with the further complexities imposed by society. He has been accused of a lack of quantitative sense and is deemed incapable of thinking in terms of mass. Sociologists, economists, engineers, commercialists, politicians and others who are accustomed to plan in terms of mass are in turn impatient of the consideration demanded for and by the individual.

Dr. John S. Fulton, late Secretary-General of the International Congress on Tuberculosis, which met at Washington, was one day addressing a popular audience on the fearful waste of human life during infancy and the methods which would be likely to increase human longevity by elimination of this needless waste. He pointed to the right path when he said, "but we must not forget that singly these babies came into the world, and if they are to be saved it must be one at a time."

Whether we agree or not with the idea we are forced to realize that the health of the individual is a matter of public concern and not purely of individual or family interest. This is no new conception. Civilized nations, in providing education at public expense, demand that each individual avail himself of a minimal amount. Standards of moral conduct have been established to which the individual must conform. Physical efficiency is, perhaps, easier to measure and to attain. To demand it is quite as just and logical as to insist upon an educational or moral efficiency. In fact, all three are inseparably related. This is being better recognized every day and greater public interference is being made

on behalf of the child. At public expense, in case of inability to pay, the mother is confined. In certain cities, co-operation between the midwifery and children's departments of public dispensaries has been undertaken so that the mother and her associates are instructed in the scientific and sanitary procedures necessary to the health and well-being of the infant. Visiting nurses visit the homes to see that instructions are carried out and to extend and assist practically in the betterment of conditions. The mother with the child reports at stated intervals to the children's department where measurements are made and recorded and the progress and development of the child noted. In a few years through such means we shall have available scientific records which will confirm, extend or replace what our grandmothers have been preaching and inducing us to practice. Our knowledge is being extended, human life is being prolonged and little hands are being strengthened unto the day when they must take over, and, let us hope, better carry on the work which is ours to-day. Practical results are being obtained and to-day in many of the large cities there is, perhaps, less malnutrition, sickness and death in the homes of the poor than in those of the well-to-do. Why should not the children of the well-to-do have a chance, too?

Education at kindergarden, at public and high schools and in many commonwealths at vocational schools, agricultural colleges and universities is furnished either free or at less than cost. As we have seen, the individual child is forced to acquire a minimal amount of this education.

It is not uncommon to provide at public expense every facility for the care and education of the defective child, the aim being to provide care at the teachable period and avoid the creation of public dependents. The blind and deaf are made independent and self-supporting. Feeble-minded children are more humanly cared for and made more independent than can be the case at home. It is, therefore, more humane and a good financial investment to undertake this work publicly.

We have even gone so far in the direction of intelligence, humanity and economy that open air schools for tuberculous and delicate children are being provided. This is done frequently by combining the efforts of private or voluntary agencies with those

of school boards or other official or public mechanisms.

In many cities when a child reports at school in the morning, if hungry, he is fed. If dirty, he is bathed. If absent, his home is visited in order to see why. If delinquent he or his parent is disciplined by a public mechanism. If sick of a transmissible disease, others are protected against him.

All of these steps which are very definite interferences with the liberty of the individual are taken for the betterment of the mass. Even his own compulsory betterment is justified because it raises public efficiency. It is, therefore, apparent that from the time of conception the welfare of the individual is already regarded as a matter of public concern.

We now seem about to take still a further step towards socialism and away from anarchy in the education of the public on those very vital matters of sex and race hygiene.

Dr. Biggs could tell us of the steps which are being taken first to spread information, and, secondly, to secure official report of venereal disease. Prenatal conditions are often just as important factors in personal and public health as postnatal environment.

In Indiana by legislative act, the State has sought to control procreation amongst defectives and criminals and the license to marry is issued only after medical examination.

New York just passed a law which has the same object in view.

We need not further discuss here to what extent society will justify itself in its interference with individual rights. It is extremely doubtful whether any two of us at this time could draw the line in exactly the same place in the evolution of any purely impersonal and theoretical plan. It is still more unlikely that each would draw it for himself quite where he would feel inclined to place it for another. It is, however, quite certain that the Epicurean doctrine still fits our needs and that in the interest of public health, which means national efficiency, it will be necessary to continue at times to compel the individual to do for the benefit of others what he may not wish to do and that for which he sees neither need nor logic.

In our brief consideration of man's struggle with his environment, we have

neglected all causes of disease except living causes and have taken into account only the transmissible diseases. Physical and chemical irritants have been left out of our reckoning. Occupational and recreational factors have been ignored and the psychological aspects of diseases have not been mentioned.

I am sure, however, that you will agree with me that our problems are not simple nor, on the other hand, is their solution hopeless. The conviction that our tuberculosis problem is perhaps one of our most complicated and the belief that its solution will prove most helpful in the solution of others, led me to select this topic for consideration here.

The fact that others will speak to you concerning particular and important practical phases of tuberculosis work makes it unnecessary for me to dwell upon details except in so far as they affect a successful fitting of it in with allied or dependent activities.

Every advance in knowledge makes it increasingly necessary for each of us to specialize more highly. Greater specialization means greater restriction of field of activity. Greater restriction means increasing dependence of the workers in the one field upon those in other fields. This in turn calls for better means of ensuring co-operation of the workers and co-ordination of the work. In nothing is this more imperative than in our efforts to promote public health, which includes the suppression of tuberculosis.

The proof of the bacterial theory of disease by the discovery of those microbes which produce some of our well-known diseases led to gross errors in perspective, so that our disappointment in the late eighties of the nineteenth century was very keen when we failed to find some miraculous and instantaneous cure for tuberculosis. The pathologist knew too little of the how, when and why of this protean disease to enable us to arrive at definite conclusions concerning its prevention. We expected a vaccine or an antitoxin and were disappointed; in fact, we still lack specific means of prevention and cure. In tuberculosis we have an exceedingly chronic disease, whose average period of duration is at least five years, and yet we have irrationally expected immediate cures, and many there are who venture to make rash

statements as to the effectiveness of methods of prevention and cure, which could only be justified after observations have extended over years. We can understand the situation better if we keep ever before our eyes the picture of the two opposed processes which are set up in the body by the tubercle bacilli and the toxins which they contain. They lead both to reduplication of cells or cell overgrowth, and also to cell destruction. The tubercles or little swellings are formed and their centres break down and contiguous ones may become confluent. The cells and tissues on the one hand and the bacilli and their toxins on the other are in a state of balance.

The microbe, slow in growth, is extremely resistant. It may be engulfed by body cells or walled in by masses of cells which have wandered to a given locality or have been stimulated to grow from others in that region. When so engulfed or walled in, it may, however, remain living. We can and should do everything to strengthen resistance by building up our body tissues, but here, as elsewhere, we must again repeat, we have no royal road to cure and prevention. We can only hope for success through prolonged, patient and perhaps painful effort.

Care of the curable cases is not enough so long as we leave advanced cases in our lodging houses, sweatshops and otherwise in close contact with those whose very lives they threaten.

Care of the tuberculous in all stages of the disease must be provided, and at present in most communities the demand for such care is far in excess of the supply.

In many communities, too, there seems to be lack of the necessary legal power to remove advanced open cases of tuberculosis to institutions where they may be properly cared for should they or their families object.

In the matter of buildings, we do well to remember that hospitals and sanatoria should neither be intended as monuments to the generosity of donors nor to the artistic genius of architects, but are workshops intended for a specific purpose. That work is the cure or care of the sick. The patient's safety, comfort and happiness should be assured and efficient service guaranteed; after that it should be our aim to

spend our money in the work rather than on the workshop.

We require, however, good tools and good workmen. Physicians have frankly acknowledged their inability, unaided, to cope with this disease. It is not a medical question, but it is an economic and social disease which we are called upon to cure and to prevent.

Tuberculosis, this grim, relentless, untiring, deceptive and all-powerful foe, feeds and is fed upon our misfortunes and sorrows. We do not know whether to regard tuberculosis as the cause of poverty or poverty as the cause of tuberculosis. Those of us who have been too enthusiastic, and have had our ardour dampened by a dawning realization of the magnitude of the task, are not yet discouraged.

We have profited by our mistakes and disappointments. We have seen in time the need of co-operation of medical, social and economic forces. We have had to demonstrate by voluntary agencies and the expenditure of generous contributions and the brain and brawn of the enthusiastic volunteer that this foe can be conquered. We now are securing co-operation of federal, provincial and civic forces, not yet, however, to the proper degree. The volunteer fire brigade has been replaced by a professional, adequately supported public fire-fighting organization, but we have no comparable mechanism for preventing and fighting the fires of this fever. In time of warfare our volunteer militia becomes a trained arm of the Government.

We are at war now with tuberculosis and other diseases, but we lack the co-ordinating devices and the proper mechanism for articulating our volunteer with our Governmental forces. We need a scout service, that is, research institutions backed by, if not entirely provided for by, public funds. Thus, shall we find out new weaknesses of our enemy and acquire new weapons. We need better trained physicians or officers in this fight. If they are really social servants, and not members of a privileged class, then Society should demand efficiency and provide means of securing and ensuring it. Efficient officers should be trained at public expense, and, when trained, their compensation should be derived from the public chest. This is true also for nurses, social workers, teachers of personal hygiene and all other expert officers in this campaign.

Our universities, technical schools and colleges are the Kingstons and West Points for the training of our officers to whom we look to win our fight. Are we going to insist that these officers be expert and trained to the minute in modern public health warfare or are we going to permit them to continue to gain their experience at the expense of life and health; that is, train themselves in actual battle as we have done, instead of preparing intelligently before hand? Who shall constitute the rank and file of the army? The answer is, everybody. We must instruct our soldiers, and childhood is a good place to begin. Military tactics are taught to some extent in public schools. The tactics of personal efficiency and public health are surely of importance. To avoid embarrassment and to ensure wide diffusion of the truth, the teaching of the adults must not be neglected. We are doing some of these things now. That public interest has been aroused and hope of better things has been born cannot be doubted. If you are skeptical, compare the newspapers and magazines of to-day with those of fifteen years ago, and you cannot fail to be convinced that man is becoming interested in his own health and strength. He is also more discriminating as to the source and accuracy of his information.

The evidence of active work throughout the whole Dominion presented in the eleventh annual report of The Canadian Association for the Prevention of Tuberculosis is stimulating to our pride and courage. We cannot stop. We must go on. Those of us who were afraid that organization of tuberculosis crusades might interfere with and possibly check other important public health work have been reassured. We find that there is an insensible merging of every kind of effort which looks toward the increase of man's efficiency.

We find it very easy to extend the tuberculosis exhibit method of teaching into other lines and to add instructive display materials concerning typhoid, diphtheria and other communicable diseases. Infant welfare exhibits and publicity campaigns concerning racial and sexual hygiene are naturally following the lines opened up for tuberculosis.

We must not be over confident. There is no method of protecting individual or public health which is proof against ignorance,

apathy and fear. On the other hand, we cannot fail to be encouraged with the progress already made and in the promise for the future.

I for one am proud to belong to this generation whilst looking forward to better ones for our children and children's children. I am not ashamed of the land in which I live and am proud of Canada, the

land of my birth, but I feel justified in anticipating societies which are more humane and peoples which are more efficient when man rises superior to his environment and adjusts the individual's rights to mankind's needs. Nor shall we be denied our part in this millenium if we do our full share of to-day's work and meet each new day with the courage born of having done one's best.

METHODS ADOPTED BY THE CITY OF SASKATOON FOR THE PURIFICATION OF DOMESTIC WATER SUPPLY

BY GEORGE T. CLARK, A.M. CAN. SOC. C.E.,
CITY ENGINEER, SASKATOON.

In the report of the proceedings of the first annual meeting of the "Commission of Conservation" held in Ottawa, January, 1910, there is published an address delivered by Mr. Charles R. Coutlee, C.E., on the Water Wealth of Canada. In the course of his address Mr. Coutlee says, in part, as follows:—"Increase of population at Calgary, McLeod and Lethbridge, will bring up the question of sewage contamination at Medicine Hat, which is down stream from all these places. The same difficulty, too, will arise later in Saskatoon."

Owing to the extremely rapid increase in population in the Provinces of Saskatchewan and Alberta, this difficulty, anticipated by Mr. Coutlee, has arisen sooner than was expected. The water of the South Branch of the Saskatchewan River is being polluted, not only by small towns and villages which are springing up along its bank, but also by the cities above mentioned; all of which are still discharging their crude sewage into the South Saskatchewan or its tributaries.

The City of Saskatoon is located on the South Saskatchewan River at a point approximately 700 miles from the foot hills of the Rocky Mountains. Owing to its passage over this long distance through various kinds of soil there is a considerable quantity of matter collected by it, which remains in suspension and solution. The matter in suspension, indicated by the turbidity, varies at different times of the year from 10 to 400 parts per million, and of this amount of matter in suspension about

75 per cent. is inorganic. In addition, the organic matter in solution at all times of the year amounts to 150 parts per million and the inorganic matter in solution to 300 parts per million.

While it is the general belief that none of the typhoid cases which have developed in the city during the past two years can be traced directly to the city water supply, yet the Provincial Bureau of Public Health maintains that a turbidity in water such as is presented in this case, consisting to a large extent of fine quartz particles, has an irritating effect on the intestinal canal and predisposes to enteric conditions. It would appear as if there were good grounds for this belief because the period of most typhoid comes immediately after the period of excessive turbidity in the water. For these two reasons therefore, namely:—Excessive turbidity and danger of contamination, the civic authorities of the City of Saskatoon, acting in conjunction with the Provincial Bureau of Health, decided that it was advisable to guard the public health by purifying the water which was being daily distributed to the city's consumers for domestic use.

Requirements of Water Being Used for Domestic Purposes.—Water which is to be used for domestic purposes should possess the following qualities:—

- (1) It should be free from disease-producing germs.
- (2) It should be free from those allied organic forms, which may not as yet be

recognized as accompanying disease, but which, nevertheless, may not be conducive to health.

(3) It must be uniformly clear and free from turbidity, whether it be produced by mineral or organic matter.

(4) It must be free from color, odor and taste.

The method adopted by the City of Saskatchewan to accomplish these results may be divided into three steps—Sedimentation, Filtration and Sterlization.

Sedimentation.—This is a very important step in the question of water purification, the principal factor being the action of gravity. Under this influence particles of suspended matter, whose specific gravity is greater than that of water, settle to the bottom, the force by which they are drawn downwards, being proportional to the size of the particles in suspension. In settling through the water, however, there

is friction between the surface of the particles and the water, hence, smaller particles settle more slowly than the larger ones.

To illustrate, a particle of sand .1 millimetre in diameter will settle through water at the rate of 2,000 feet in 24 hours; a bacterium .001 millimetres in diameter will settle at the rate of only a few inches per day, while a particle of clay .0001 millimetres in diameter will settle at the rate of one-twentieth of an inch per day. Furthermore, the velocity of the settling particles is slower in winter than in summer because low temperature impedes sedimentation.

The larger particles of matter in suspension are more cheaply removed from the water by means of settling basins. Therefore, even with filtration, it is advisable to utilize sedimentation as a preliminary process in order not to put too heavy a load on the filter bed.

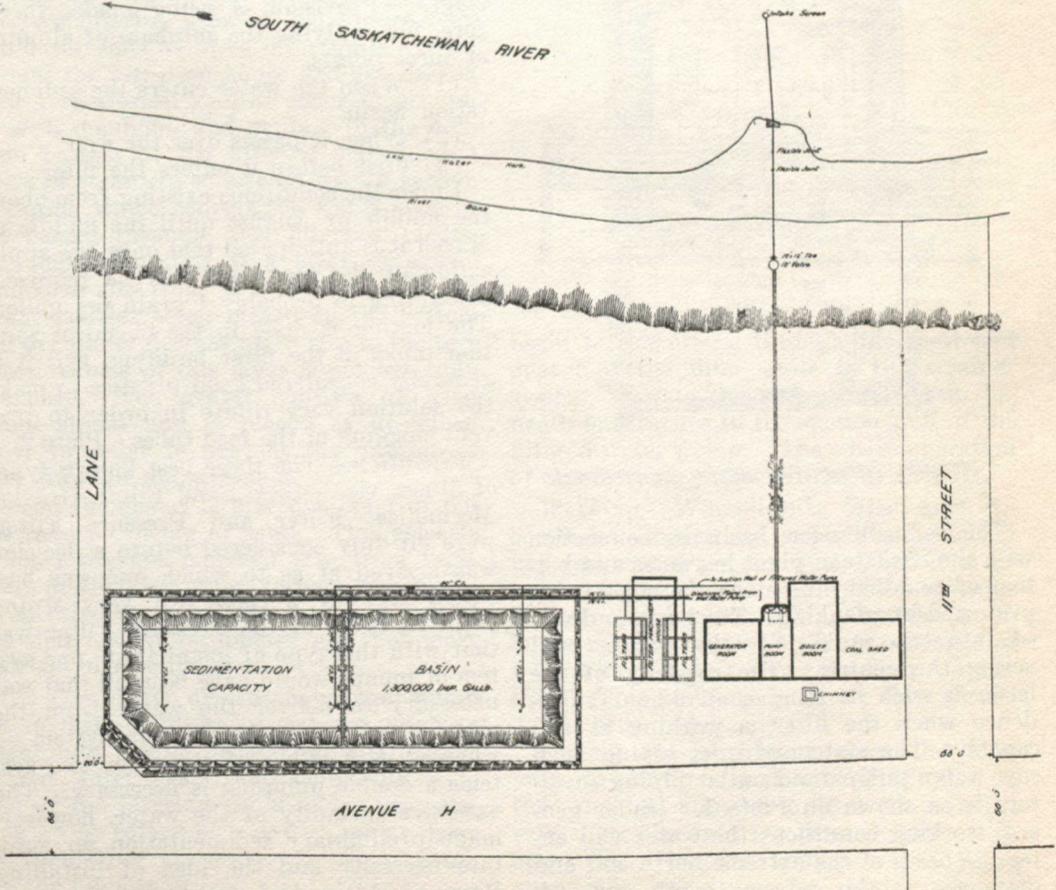
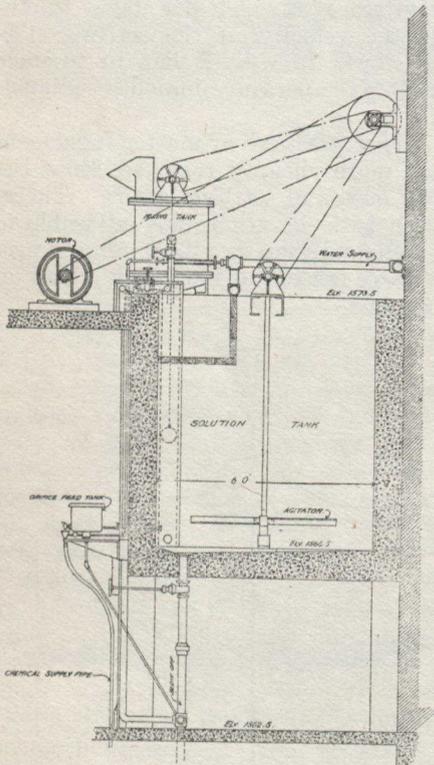


Plate I.

At Cincinnati, where experiments have been made on the sedimentation of the water of the Ohio River it was found that after 24 hours' subsidence 62 per cent. of suspended matter was removed, after 48 hours 68 per cent.; after 72 hours 72 per cent., and after 96 hours 78 per cent. It will be seen from these figures, therefore, that there is a limit to economical subsidence depending on the nature of the suspended matter.



SECTIONAL ELEVATION of CHEMICAL SOLUTION TANKS
Plate II.

The sedimentation basin in connection with the Saskatoon plant has sides and bottom of puddled blue clay; the sides being protected by planking. The basin is divided into two equal parts by a weir wall across the centre. The capacity of the basin is such as to give an 8-hour subsidence when the filter is working at full capacity. The system of inlet piping from raw water pumps and outlet piping to filters is as shown on Plate 1. Under general working conditions the water will enter the basin at the extreme north end and discharge at the extreme south end. A

mechanical device will register the amount of water passing over the weir at any time. It is very necessary to have this information in order that the operator may know at what rate to feed the coagulant.

In the case of the Saskatchewan River, owing to the fact that the water has a sufficient alkalinity content, sulphate of alumina presents the necessary reaction to form an alumina hydrate, which, in precipitating, coagulates much of the organic matter and drags down the finer suspended matter. It is proposed, therefore, to add sulphate of alumina to the water in the subsidence basin as a coagulant in order to increase the deposit of sediment before the water enters the filters. Reports from the Harrisburg filtration plant and other places would indicate that, instead of adding a unit of coagulant in one particular application, greater efficiency is obtained by dividing the unit into three parts and adding each part separately at different stages. Provision is being made, therefore, for applying the sulphate of alumina at three points.

(1) When the water enters the sedimentation basin.

(2) When it passes over the weir.

(3) Just before it enters the filter.

Under the conditions existing from about the middle of August until the middle of March it is anticipated that only one application of the coagulant will be required, amounting to probably 1 grain per gallon. The mixing is done in the chemical solution tanks in the filter building, and it is generally considered good practice to make the solution very dilute in order to prevent clogging of the feed tubes. Plate 2.

Filtration.—The three best known types of filters, viz.:—Slow Sand Filter, Gravity Mechanical Filter and Pressure Filter, were all duly considered before a decision was arrived at as to which one was best suited for our purpose. A very strong point in favor of the Pressure Filter was that with this type of installation, one system of pumps would have been all that was necessary to deliver the water from the river direct to the distributing system — whereas with either of the other two systems a double pumping is necessary. The excessive turbidity of the water, however, made preliminary sedimentation an absolute necessity and the idea of installing Pressure Filters had therefore to be aban-

done. The Gravity Mechanical Filter was chosen over the Slow Sand Type for the following reasons:—

(1) The Mechanical Filter will handle 50 times more water per unit of area per day than the Slow Sand Filter.

(2) The Mechanical Filter is, therefore, on account of smaller area, more easily protected from excessive cold.

(3) It is cheaper because it requires less land, less material for construction and less equipment.

(4) It is cheaper to operate because it is more easily cleaned.

Description of Mechanical Filters.—The Filtration Plant as installed in Saskatoon consists of the following:—

(1) One reinforced concrete filtered water basin having a capacity of approximately 125,000 imperial gallons.

(2) Six reinforced concrete filter units, each unit being 14 inches by 6 inches by 20 feet by 7 feet high. This provides an effective filtering area of 290 square feet. The outer ends of these filter units extend beyond the filtration house and are decked with a reinforced slab of concrete provided with manholes and vents. In the concrete bottom of the filter is embedded a series of strainers connected with a system of piping which collects the water after it has passed through the filtering media. This media consists of a layer of gravel graded in size from .2 to .5 of 1 inch; the larger pebbles being placed on the bottom and gradually decreasing in size to the top. The thickness of this layer is not less than 8 inches. The gravel consists of hard round stones and is placed as described above in order to prevent the passage of sand through the strainers.

Upon the gravel is placed a layer of not less than 36 inches of sand. This consists of hard silicious material free from vegetable matter, or other foreign substance, in effective size of grain it should not be less than .36 of millimetre and not more than .55 of a millimetre.

(3) One motor driven centrifugal pump for furnishing filtered water for washing filter units, taking filtered water from the filtered water basin, and delivering it to each of the filtering units under pressure.

(4) One rotary blower with motor drive for furnishing air under pressure to agitate the filter sand.

(5) A complete apparatus for the preparation and feeding of sulphite of alumina and hypo-chlorite of lime.

(6) Hydraulically operated valves for controlling the operation of the filter units. All the filters are controlled from the operating tables in one building. Plate 3.

Operation.—Water will be delivered from the river to the subsidence basin at a point where the end of the supply pipe enters this basin. The water will flow by gravity from this point to the dividing wall in the centre of the basin. During the passage of the water from the inlet to the outlet in this basin the heavy particles of suspended matter will settle in the bottom. As the water flows over the weir between the basins it will receive the coagulant. Coagulation and additional subsidence will take place in the second basin and the water will flow from this

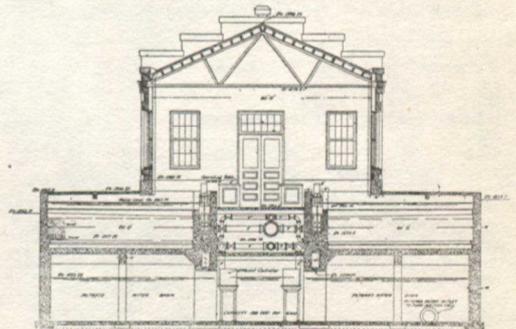


Plate III.

basin to the filters, through the sand and gravel of the filter units to the strainer system, then to the clear water basin beneath and thence to the suction well of the filtered water pump. The entire operation of the filtering plant will be by gravity.

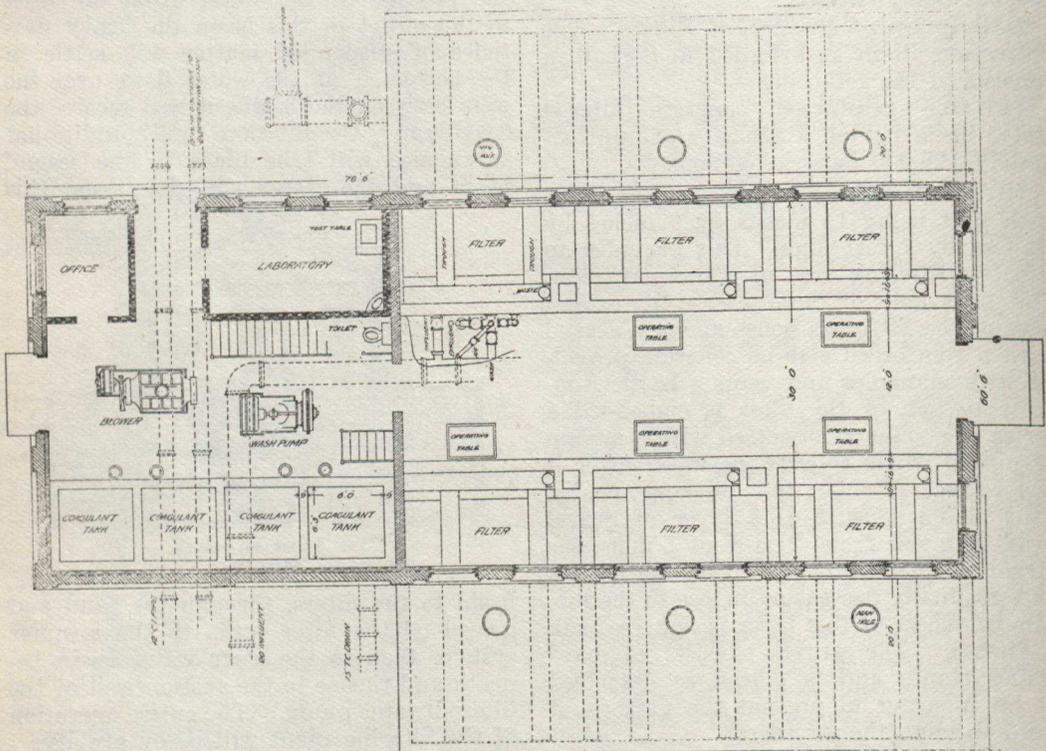
Washing.—Whenever a filter unit becomes so clogged by impurities which it has removed from the water that it is no longer filtering economically the operator is warned of its condition by the automatic ringing of a bell and appearance of a light immediately above the filter in question. This particular unit is then placed out of commission.

During the washing process the inlet valve to the filter is closed. The water on the sand bed allowed to filter through the rate controller into the filtered water storage well. The air supply valve being opened on the filter, the air is admitted

to the sand bed, and the latter is scoured for a period of two minutes, after which the air supply is shut off and the wash pump placed in operation and filtered water admitted to the filter through the manifold and strainer system, causing a reverse current for a period of two minutes, which washes the sand, carrying the heavy deposits which have been filtered out of the water during the process of filtration to the supply and wash trough, from whence it is carried to the waste and thence to the drain. This alternate air and water washing is continued

The air, the wash water supply, and waste valves are now closed, and the influent and filtered water to waste valves opened, allowing the treated water to filter through the sand bed as during the process of filtration, the water passing to the drain until the clay particles which were not raised during the washing process to the waste trough are carried off to the drain and until the water is about the color of the treated water being supplied to the filter.

The filtered water to waste valve is then closed and the effluent valve opened, plac-



PLAN OF FILTERS

Plate IV.

for a period of from six to ten minutes, the time depending upon the cleanliness of the sand bed. The duration of the air scouring and washing periods being diminished after the period of two minutes each.

After the washing process the sand settles back into its normal position in the bed, the heavier particles settling on the bottom with the finer grades toward the surface, or the sand settles in relation to its specific gravity.

ing the filter in operation and allowing the water to pass through the effluent rate controller to the filtered water storage well beneath the filters.

On each of the operating tables is located a test bibb for drawing samples of the wash water during the washing process, also for taking samples of the filtered water at any time while the filter is in operation.

In the laboratory equipment is included a test basin having properly marked bibbs

for taking samples of filtered water from each of the six filters, also provision for taking samples of the raw and treated water before and after coagulation. The samples of the water are pumped by the use of a hydraulic lift from the sources of their supply to the bibbs. The hydraulic lifts are actuated by the high pressure of the water in the force main from the high duty pumps. By opening the bibbs on the operating tables and test basin, the pressure is released to the hydraulic lifts, which places them in operation. Plate 4.

Results.—(1) Each filtering unit should be capable of delivering 666,666 imperial gallons of filtered water per 24 hours. This is equivalent to 100,000,000 imperial gallons per acre per day.

(2) The filtered water shall be free from color, odor and taste.

(3) The filtered water shall not contain undecomposed coagulant.

(4) When the number of bacteria contained in the raw water is more than 3,000 per C.C., the filtered water shall show an average bacterial reduction of 97 per cent. and when the number of bacteria is less than 3,000 per C.C., the average number of bacteria remaining in the filtered water shall not exceed 100 per C.C.

(5) The average quantity of water necessary to clean the filters will not exceed 4 per cent. of filtered water. This is based on the yearly average of water required for washing.

Sterilization.—This is a third operation which may be required to be performed on the Saskatoon water supply before it is absolutely pure. It is only necessary to take this step in the cases of highly polluted rivers where the filters have not removed all the harmful bacteria.

Sterilization or disinfection consists in the poisoning, or destroying by chemical means of the bacteria in the water, not removed by the filters. Up to the present there have been two methods tried in an effort to accomplish this object, viz.:—Ozonization and Chlorination.

Ozonization.—The principle of this process is, that a current of electricity is passed through a constant supply of fresh damp air. This current transforms the oxygen of the air into the active form of ozone which is collected and then passed through the water to be treated, the destruction of bacteria supposedly taking place during

the passage of the gas through the liquid, when the ozone is supposed to part with its active atom.

The principle underlying any successful sterilization of water by ozone, is getting the ozone after it is produced into intimate contact with every drop of water, because of the fact that some ozone is comparatively insoluble in water. This must be done, therefore, by mechanical means and the apparatus for bringing the ozone and water into intimate contact must be complete in all details. It simply means a perfection of mechanical detail which is purely a question of cost.

Chlorination.—The chlorination process consists in adding to the water to be purified a solution of calcium hypochlorite mixed in the proper proportion.

In making up the solution the required amount of hypochlorite is first dissolved in a small quantity of water, to insure thorough breaking up of all lumps. This solution is then put in the storage tanks and a sufficient quantity of water run in to make the required strength. In this method of sterilization the active atoms of oxygen are liberated in the water instead of being liberated outside and then passed through. The consequence is that the difficulty experienced in the last method of bringing the gas and liquid into contact is solved.

I think it would be of interest at this point, to briefly draw your attention to the results obtained at the Harrisburg Mechanical Filtration Plant from the use of calcium hypochlorite. After giving fully the record of the bacterial efficiency since the plant has been in operation, the twenty-third annual report of the Board of Commissioners goes on to say, "It will be readily seen that the improved results were secured each year by the use of increasing amounts of sulphate of alumina. From the experience and knowledge gained in the operation of the plant up to August, 1909, by no other method could better removal be obtained. The use of more coagulating material shortened the period of service of the filters between washes and increased the amount of water used in washing. With water such as that taken from the river in the late summer and early fall when the turbidity and color are low and the bacteria running from two to five hundred per C. C. an elimination of all but five or six bacteria would not prevent the

coli tests from having from four to six per cent. of them showing coli present.

As mentioned in last year's report during July and August, experiments made with the use of hypochlorite of lime, first in the laboratory and then in the operation of the plant, showed so satisfactory results that, beginning in September this agent was used constantly in quantities of from .05 to .075 grs. per gallons made up in one-half of one per cent. solution and containing an average of 32.75 per cent. available chlorine.

The excellent record made this year and the saving in the chemical cost has been due in a great measure to the use of hypochlorite, and its benefit as an adjunct to the operation of a mechanical filter has been so clearly demonstrated that it would be difficult now to discontinue its use.

It seems that the action of chlorine or the property that does the work has oblit-

erated a great many of the difficulties that were encountered at the plant. Its benefits can further be seen in the difference in the chemical cost per million gallons, in the increased periods of service between washes and the consequent saving in wash water and in the regularity of the results.

A complete calcium hypochlorite plant is being installed in connection with the Saskatoon filter, and extensive experiments will be carried out along the lines suggested in this report.

In connection with the operation of this plant it is the intention of the authorities to appoint an experienced chemist who will keep systematic records of the qualities of the raw and treated water, the bacterial count, etc. It is the intention also that the appointee to this position shall act as city analyst, and when the plant has been a year in operation we hope to have some information which will be of value to all those interested in the public health.

MUNICIPAL FOOD INSPECTION

BY P. B. TUSTIN.

CHIEF OF FOOD AND DAIRY DIVISION, HEALTH DEPARTMENT, WINNIPEG.

From history we learn that since the earliest days it has always been recognized that there should be a supervision of the food supply of the people. Some of the earliest Hebrew writings, on pieces of pottery, dated back to 850 B.C., have been discovered in excavations made in Palestine. These pieces of pottery were used as labels of jars of oil and stated: "Jar of pure oil," and mentioning the district from which the oil came. In the Holy Writings, Leviticus 22, 22, reference is again made to the inspection of sacrificial animals offered as sacrifices to the Lord. The High Priest acted as food inspector in those days.

From the writings of Herodotus and Plutarch, we learn that the Egyptians were forbidden to eat pork for the reason that it produced an excess of humors and eruptions.

The City of Athens had a wine inspector and in Ancient Rome, from the year 388 to the founding of the city, two officials exercised control of the meat market, public shops, and cooking of meat, and meat condemned by these officials was thrown into the Tiber.

In one number of the *Acta Populi Romani Diurna*, A.D. 164, the following notice is found: "The official Tetini punished the small butchers because they sold meat to the people which had not been previously inspected by the officials. The fines were devoted to a temple for the Goddesses."

From those early days until to-day many laws, decrees, and by-laws have been passed, many useful and many impracticable, with the object of protecting the consumer. If the necessity of such inspection existed in those early days, I venture the opinion that it is much more essential at the present time, when foods can be kept for such long periods by refrigeration, chemical preservation, and canning.

In these days of rush and hurry, eating, instead of being looked upon as a pleasure and the mid-day mealtime a pleasant break in the day's work, it is regarded in the great majority of cases as an unfortunate necessity which must be got over as quickly as possible, and the rush meals at the lunch counter or restaurant is the result.

The modern housekeeper is seldom able to show her friends into a stock room filled

with her own work in the shape of home made jams, pickles, cakes, bread, home-brewed ales and wines, nor does she pride herself in gaining a reputation as a culinary artist. In these days, the butcher, baker and the grocer supply these articles of food.

The enormous number of young men between the ages of 18 and 24 whom we see around town, and who live away from home, subsist on meals taken at a lunch counter or restaurant.

A great number of married women whose husbands do not return to lunch take no interest in the preparation of wholesome meals; take only a cup of tea and a biscuit at mid-day, and in the evening, on their return from a shopping expedition or the matinee, purchase some cooked meat at the store for their husband's evening meal, and many apartment block dwellers obtain all their meals outside.

It is to be regretted that such a state of affairs is in existence, as it must eventually show its mark on future generations. That it does exist can be easily verified by inquiry, and it is this condition of affairs that calls for a strict inspection of all places where food is stored, prepared, offered for sale, and sold.

Food inspection, to be efficient, should cover the inspection from the raw material to the finished product. The inspector must see that the raw material is wholesome, that it is prepared in sanitary premises, that the people preparing it are clean in person and in habits; and this must be followed up by an inspection of the premises where it is kept until sold so that it can be kept clean and free from contamination.

The food inspector has two duties to perform. First, to protect the consumer; secondly, to assist and educate the producer. This requires considerable study and he must be a thorough sanitarian; he must make a study of refrigeration and must also have a knowledge of veterinary science, chemistry, and microscopy. To do work of any value he must make himself familiar with all phases of food manufacture. This requires considerable study, as new articles of food are being placed on the market every day, and for every one that gains popularity many imitations spring up, and to be able to gain the con-

fidence of the trades people, he must be able to talk intelligently and give advice on the products they handle.

In our cosmopolitan Canadian cities, many strange kinds of food are on the market. The inspector must make himself familiar with all of these, otherwise he would be committing grave mistakes and would be likely to condemn as unfit for food such articles as sauerkraut, Limburger cheese, and Chinese meats and fish, simply because they did not appear wholesome to him.

He will find on starting into work in any municipality many insanitary conditions that are not due to any wilful neglect on the part of the trades people, but rather to ignorance of hygienic principles, and it will be his duty to have reforms instituted. He must always be able to give a sensible reason why he requires certain alterations and by so doing he will gain the respect of the trades people and his work will be conducted with a minimum of friction.

In the City of Winnipeg no person can open premises for the storage, sale, or preparation of food without first obtaining a permit from the Health Office. The Food Inspector visits the premises when the application is made and endeavors to assist the applicant in the layout of his premises to the best advantage of his business, not forgetting the hygienic requirements. We find that this is an excellent law, as many places which are absolutely unsuitable are not permitted to open, and the advice of the Inspectors is very much appreciated by the trades people. In fact our Winnipeg tradesmen are willing to co-operate with the Health Department in every improvement for the betterment of conditions with very few exceptions. No food-stuffs are exposed for sale in Winnipeg outside stores, or in open windows or doorways.

Meat inspection, to be efficient, means ante mortem inspection, the methods of slaughter, and post mortem examination. By these means only can meat, which is unwholesome as a result of pathogenic organisms, animal parasites, or disease which existed in the body before slaughter, be excluded from sale.

The object of ante mortem inspection is to exclude all animals from slaughter that show symptoms of disease or parturition trouble, so that they can be slaughtered

separately from healthy animals and sanitary precautions taken to avoid contamination.

Inspection of methods of slaughter ensures that animals are slaughtered under the most humane and sanitary conditions.

Post-mortem examination enables the inspector to judge which animals or parts of animals are fit for food, and which should be destroyed.

The ideal system of meat inspection cannot be enforced until private slaughter houses are abolished and public abattoirs only allowed.

The Dominion Government have established a branch of meat inspection under the very able supervision of Veterinary Director-General Rutherford, and all abattoirs doing an export or inter-Provincial trade have to have a Government inspector or else their trade is restricted to their own province.

The greatest difficulty we have to contend with is meat shipped in from outside the city, the viscera and intestines removed, when only very crude examination can be made, although I have been able to detect cases of tuberculosis by cutting into the lymphatic glands. We also setze meat when the pleura has been stripped.

This inspection of the whole carcasses must be followed up by frequent inspections of shops where meat is sold or where it is liable to become contaminated by insanitary conditions, or to decompose through being kept so long, or adverse weather conditions.

In Germany there are institutions known as Friebanks or Municipal shops where meat, which would otherwise be condemned for such causes as tuberculosis and cysticercus is cooked under official inspection at such a temperature as to render it harmless, is sold to the public under declaration. By this means an enormous quantity of meat is put to a valuable use which would otherwise be destroyed. These Friebanks are also to be found in France, and Italy, and are of great benefit to the poorer classes. No injustice is done to any person by the introduction of Friebanks, as every person is free to buy meat from them or not.

Fortunately, with the one exception of tuberculosis, Canada is very free from diseases of food-producing animals when compared with other countries in which

I have had experience, viz., Great Britain, Africa, Argentine, and the United States.

There have been outbreaks of anthrax, black quarter, and hog cholera, but these outbreaks have been practically stamped out by the efficient work of the officials of the Dominion Government Health of Animals and Live Stock Branch.

The most important feature of municipal food inspection is the inspection of dairies from which milk is supplied to our cities. On taking over the dairy inspection in Winnipeg, I realized that the cause of much of the unclean milk was due to ignorance on the part of the dairymen, rather than their wilful negligence. We called a meeting of dairymen in several districts and gave them lectures on the cause and prevention of tuberculosis; the sanitary construction of cow barns and milk houses; the proper feeding of cattle, and other subjects of interest to them in their business. After these lectures these matters were thoroughly discussed, and as a result a vast amount of improvement has been brought about, and with very few exceptions we have always found the dairymen willing to learn when these matters were fully explained to them.

When an application for a dairy is received, the premises are inspected and if found satisfactory a permit is granted. If, on the other hand, the premises are insanitary, we supply the dairyman with a plan of a new building suitable to his requirements and pocket. During the course of construction of the said building, the Dairy Inspector visits the premises several times and oversees the building. The city supplies the dairymen with gravel and cement at cost price, and as a result of these co-operative measures, we have a large number of first-class dairy barns, and many more are intending to build as soon as their means will allow.

The question of tuberculosis in dairy herds is a very serious one, which can only be properly handled by a well-planned campaign of education throughout the country.

We have three dairymen who had their cattle tested and bore the whole brunt of the loss. These men have since made a great deal of money, as the Department has helped them to advertise their products. This is a hopeful sign and an encouragement to others to do likewise.

The Municipal Food Inspector cannot be too careful in his judgment of food stuffs, for, were he proved in the wrong, the owner would make him refund the value of the goods destroyed and then sue the city for heavy damages for injuring the reputation of his business.

In conclusion I would say that the control of food supply is of national import-

ance. The strength of a nation depends on the health of its members. Food products are an important factor in a nation's commerce, and it must be the earnest desire of all authorities to so conduct the inspection, that, whilst safeguarding the public, it does not oppress the industries concerned.

NOTIFICATION OF PHTHISIS

BY D. A. CRAIG, M.D.,

LAKE EDWARD SANATORIUM, QUEBEC.

If we are to successfully cope with such a difficult problem as is presented to us in the effort to eradicate or at least control tuberculosis, it is absolutely necessary that our measures should be systematized and placed upon a well-founded business basis. Recent investigations have demonstrated the immensity of the task, and the need for immediate and stringent procedure to combat the ravages of the disease. Our eventual object in this campaign is to leave no case of tuberculosis uncared for and no source of infection unguarded.

Individual philanthropic effort, while entirely commendable and of great value to a certain number of cases, cannot of a certainty go so very far toward the eradication of the disease. So long, however, as the public authorities fail to make proper provision, private philanthropy must be accepted, not only as a means of dealing with the disease, but of educating the authorities to a sense of their responsibility. There is not only a private responsibility on the part of the physician, but a public responsibility on the part of the municipality, and also the provincial and federal legislative bodies. It is decidedly necessary to have a definite specification of the duties of the municipal Board of Health toward the consumptive, and the assurance that these duties will be fulfilled.

Registration of phthisis has not so far here in Canada received the consideration for which its merits would call. Although, in certain instances, we have the law upon our statute-books, that law has not, generally speaking, been properly enforced. The fact that the health authorities are notified of deaths occurring from the dis-

ease, serves for little if any purpose other than to supply statistics, and adds but slight assistance to the tuberculosis campaign. The living cases and not the dead are the most flagrant agencies for the propagation of the disease. It is well to remember that a large percentage of those suffering from tuberculosis do not die of it, but are ultimately carried off by some other ailment. This is a disease which is extremely apt to become chronic, and the afflicted individual may live for years constantly expectorating millions of bacilli. The necessity for systematic control is evident, and the first step in this direction is notification.

Notification means registration with the sanitary authorities of all cases suffering from tuberculosis. The registration may be made in several ways, through private physicians, hospitals and other public institutions, clinics and dispensaries, visiting nurses or laymen. The identity of the informant need not be revealed. Previous to the undertaking of definite proceedings, an inspector or nurse should visit the patient and learn the actual nature of his condition with a view to determining what further procedure is necessary. In most systems the finding of a positive sputum specimen at the laboratory is considered as a notification.

Many objections have been raised to notification, but these have been largely from a personal standpoint and have not taken into consideration the well-being of the public. One of the foremost objections is that it would interfere with the confidential relations between the patient and his physician, and also that the family would be branded as tuberculous. This objection

is largely done away with by the fact that in all well-regulated sanitary departments such information is private, and in no way subject to public inspection. Should the attending physician request that no further action be taken in the case other than the required registration, the responsibility rests with the physician without interference from the sanitary department provided precautions are enforced.

It has been held that as tuberculosis differs from other infectious diseases, being as a rule of such a protracted duration, no sanitary department with ordinary equipment could hope to handle so much work in detail. From the fact that such a large number of cities have adequately handled this question, it has been decidedly demonstrated that it can reasonably be undertaken by almost any organized municipality. Each member of the sanitary department should have his or her work definitely outlined and supervised. Thus, a maximum of efficiency would be attained with a minimum number of employees. This number would naturally vary according to the hygienic conditions of the municipality. A separate problem must be worked out by each community, its solution largely depending upon the social status. In a well-to-do community as a rule, little is required to be done by the sanitary authorities, whereas in the congested poorer quarters of our cities, and towns where colossal ignorance of sanitation is displayed, stringent measures must necessarily be enforced.

The expense of conducting a well-organized campaign has been urged as an objection. When one considers the economic aspect of this question, such objections are readily answered. From the report of the Royal Commission for the Province of Quebec, we have it estimated that this province alone loses several millions of dollars yearly as a result of tuberculosis. From the fact that the activity of tuberculosis is most manifest between the ages of twenty and forty-five, at which period the wage-earning ability of the individual is greatest, we have as a result of the inroads of this disease, a large depreciation in economic value. All things considered, a well-organized sanitary department would be a decided asset from a financial point of

view to any community, and could not be considered as an unnecessary expense.

Having considered some of the objections which are raised let us now turn to the advantages of a system of notification. Although he may not recognize it, notification is a boon to the individual himself. He is at once placed in a position to receive the benefits at hand for treatment in one of the various institutions for the accommodation of such cases. Should the case be suitable for a sanatorium, he receives the benefits to be derived from institutional treatment, also an educational training, and has, as a rule, to a certain extent, his wage-earning ability restored. The day and night camps prove a great advantage to patients who have to follow their employment during the remaining part of the day. The hospital for advanced cases affords hygienic surroundings with a maximum of available comfort to the hopelessly afflicted individuals. Free medical advice is rendered available to those who otherwise would be unable to obtain it.

One of the greatest advantages of notification is that it converts the patient from a source of infection to a focus of prevention. Not only are we able to undertake personal preventative and curative measures; but the patient becomes a centre for the detection of hitherto unrecognized cases. Through the agency of the visiting health officer or nurse, the physical condition of the other members of the family or intimate associates is investigated. In this way, any predisposition to the disease or existing disease, whether in its incipency or otherwise, is made evident. This is not only beneficial to the immediate family and associates of the patient, but affects the community and the public as a whole.

We have two types of notification, voluntary and compulsory. Voluntary notification has been used as a means of preparing public sentiment for the reception of compulsory notification. Probably the most efficient scheme of voluntary notification at present in force is that which is being carried out in Manchester, England, under the supervision of Dr. James Nevin. The Manchester system was first introduced in September, 1899. The city, however, had received considerable preparation

for the introduction of the scheme before this time by means of education in regard to the communicability of the disease and the dangers of infection. In this way, the civic authorities were prepared to receive and sanction the scheme of the Sanitary Committee for Voluntary Notification of Phthisis when it was submitted. This scheme comprised compulsory notification of all cases coming under the poor law or associated with public institutions such as general hospitals and dispensaries. Notification in private cases was left to the discretion of the attending physician, who received a small remuneration for the case notified.

I have had the opportunity during the past year of visiting Manchester and, through the kindness of Dr. Nevin and Mr. Locke of the sanitary department, of observing the working of this system. There are a few points to which I would like to invite attention. First, the evidence which has been obtained of direct infection. Secondly, the evidence as regards the spread of infection through houses or public buildings. A third point is the method of dealing with infected houses. Working hand in hand with the tuberculosis department, there is a sanitary cleansing department, whose duty it is to carry out an efficient cleansing and disinfection when required to do so. An endeavor is made to secure a thorough cleansing of the house by the tenants every three months, and so far this has largely met with success. A report of the actual condition of the dwelling is made to the sanitary department by the inspector, who recommends the proceedings required to be undertaken. A letter is addressed to the owner of the property, notifying him of the fact that a case of consumption has occurred, and requesting permission to carry out the necessary disinfection. Should the landlord in any way oppose the cleansing of the property, such cleansing may be carried out under compulsion; but it is always considered advisable to have these measures executed with the good will of the owner. In some cases a complete renovation is required.

With regard to the actual disinfection and cleansing, for cleaning the walls in such cases as the medical inspector may

deem it advisable, Esmarch's method of using dough for smooth surfaces is carried out, as they have considered that cleansing with bread or dough is more effective than spraying with disinfectant. The other method, which has been advocated by Prof. Delepine, is the application of a solution of chloride of lime of a known strength. Articles of clothing are disinfected by steam, books and boots, etc., by the formaldehyde method. Soft soap and water are strongly in evidence.

House infection, which has proven so prevalent in Manchester, without doubt extensively exists in our own cities, towns, and country districts. Why should we not be in a position to demand a bill of health of the sanitary authorities for each and every dwelling? As a rule, the leasing of a dwelling is left in the hands of agents whose sole object is to rent the property for the highest possible figure and derive therefrom a good commission. The cleansing of the property is most frequently left in the hands of the new tenant, who knows little, if anything, regarding the previous occupants, except what he may learn from the wreckage left behind.

Manchester, being a manufacturing centre, a large percentage of the population are factory hands. The sanitary department have a card index indicating the number of employees who have developed tuberculosis in each of the large manufacturing concerns, or business houses. It is recognized, however, that it is well-nigh impossible to disinfect and properly cleanse factories. The department have requested permission to place placards, and to instruct the employees along hygienic lines. The number of cases in which the actual infection may be traced to the factory is exceedingly large. The prevalence of tuberculosis among those employed in offices or other indoor work would lead one to suggest that large business firms be required to arrange for physical examination of their employees at stated intervals. Such an arrangement would not be a bill of expense to the firm, but, on the other hand, would in a short time prove a decided asset.

Voluntary notification, although incomplete, has in many instances proved of great value, especially as heretofore men-

tioned in educating the public for the reception of the compulsory system. Under such a system, the physician should not notify of private cases without first placing the matter before the patient and receiving his consent. In this way the interest and confidence of the public may be gradually obtained, and the need for a more widespread system demonstrated.

As an example of a well-organized system of compulsory notification, one cannot do better than to consider what has been done in the City of New York, where such a system was introduced in 1897, following a period of four years in which a scheme of voluntary notification was carried out. Owing to the cosmopolitan nature of the population, the work in such a city as New York is necessarily of a very extensive nature. The organization, however, has been excellently effective, and has been improved from year to year, as the knowledge of existing conditions has increased.

Some estimate of the actual work accomplished may be gained from the fact that while in 1881 the death-rate from tuberculosis was 4.27 per 1,000 inhabitants, in 1910 it was 1.81 per 1,000, which is a reduction of 55 per cent. in mortality. The city has been divided into tuberculosis districts, in each of which there is a clinic with an organized staff of physicians and nurses, who have under their control all cases in their district. The work of the visiting nurse is very important. The patient is for a time placed in what is termed the sanitary supervision class, and frequently visited. Having learned the proper hygienic precautions, the case may be transferred to the observation class, on certificate of the medical chief of the clinic. In this latter class, visits by the nurse are not necessarily so frequent. Should it be found, however, that instructions are not being followed, a transfer back to the supervision class may be made.

The Hospital Admission Bureau plays an important part in the system, as it constitutes a centre for the admission of patients to the different available institu-

tions, thus keeping the department in touch with these institutions, so that advantages of treatment may be offered at the earliest opportunity to the most deserving cases. The mass of clerical work which necessarily results from such a system, is divided among a number of offices, each of which is responsible to the head office of the division. On visiting the New York tuberculosis department, one is immediately impressed by the earnestness and vigor with which the work is carried on. There is published in connection with the department a small paper, called "Communicable News," which is issued periodically for the information of the employees, and serves to hold their interest.

Frequent conferences between those engaged in the work are a means of stimulation and of suggesting new ideas and improvements.

The compulsory notification system, as introduced in Edinburgh in March, 1907, in unison with its excellent dispensary system, so strongly advocated by Dr. Philip, has been a means of producing excellent results. In Norway, compulsory notification has been carried out for several years. Last autumn the city of London saw fit to adopt the scheme.

Notification of phthisis constitutes one of the important links in the chain of co-ordinate effort which must of necessity be carried out if we are to attain success in the tuberculosis campaign. It is, however, of little avail if the means are not at hand for caring for the patients once the cases have been recognized. We must have, as well, the dispensary or clinic, the sanatorium, the day and night camps, and accommodation for the indigent advanced cases. Education is one of, if not the greatest, factor in the general treatment of tuberculosis. We frequently hear it said that the patients do not come to the clinics until their disease has become advanced. If the patient will not come to the physician, the only alternative is that the physician must go to the patient. This is only rendered possible through efficient notification.

HYPOCHLORITE TREATMENT OF WATER FOR A TEMPORARY AUXILIARY WATER SUPPLY

BY E. A. JAMES, B.A.Sc.

TOWN ENGINEER, NORTH TORONTO.

In discussing the treatment of public water supplies with hypochlorites, it is not necessary to enter into the question of the efficiency of the process. Its use as a disinfectant has extended over a sufficient length of time and under such variable conditions, to make it possible to draw certain general conclusions as to the advisability of different devices in its application.

The active agent, hypochlorous acid, may be obtained either from hypochlorite of lime or soda. The use of hypochlorite of soda, while preferable on account of greater unit amount efficiency and ease in handling, is not considered practical at the present time, on account of the higher cost in separating the available chlorine by electrolysis and the higher cost of chloride of sodium as compared with chloride of lime in this country, the lowest figure being about 8c. per lb. of available chlorine. Hypochlorite of lime, containing 50 per cent. available chlorine ordinarily known as bleaching powder, may be obtained from a number of firms at about 1½ cents per pound.

The Municipality for North Toronto obtains its water supply by means of shallow wells, from a gravel stratum underlying clay. The wells and pumping station are located in the base of a valley drained by a small stream, which eventually flows into the River Don. This stream flows past the wells and pumphouse at a distance of about 100 feet. The stream water shows constant pollution by the presence of *B. coli*, and has been pronounced unsafe for domestic supply by the Ontario Provincial Board of Health.

The population of North Toronto approximates 5,500, and the amount of water pumped per day is about 200,000 gallons. Under ordinary conditions, the wells are capable of satisfying the domestic supply, but during the summer months the supply is not sufficient for the additional requirements of street watering and garden sprinkling.

There is no question as to the purity of

the well water, its only defect consisting in its characteristic degree of hardness.

During the year (1909) a dam was built across the stream causing the water to pond back for a distance of about one hundred and fifty yards, at an average depth of four feet, allowing the water to pass through a small rough sand and gravel filter, and then into a small underground tank, from whence it was pumped direct into the mains in order to augment the well water supply during the summer months.

Several cases of typhoid followed the introduction of this water, and analysis proved that little or no pathogenic purification resulted from the small filter. The result was that the stream source of supply was discontinued.

Although the arrangements were on foot during 1910 to increase the available quantity of well water, such could not be completed in time to meet the extra summer demand.

A survey of the stream proved its origin in springs from the same gravel stratum as the wells, and the water to be chemically very similar, showing a high degree of hardness, the source of the normal dry weather flow not being more than a mile above the pumping station. The stream is open to cattle and children and several dwellings exist back from the stream provided with cesspools, the drainage from which must eventually reach the stream. The turbidity during dry weather is practically nil, and the bed of the stream is wonderfully free from vegetable growth. The normal discharge is about 180,000 gallons per day, while the velocity of flow is about 60 feet per minute. During rain, turbidity increases rapidly, and after rain decreases also rapidly.

Efficient treatment of this water pointed to slow sand filtration, preceded by sedimentation during periods of turbidity. This, however, was unpracticable because of, (a) length of time required to complete the necessary plant, (b) excessive cost of such a plant as a temporary measure.

The question then asked was, "Do the characteristics of the water allow of disinfection, without preliminary treatment?" Several samples of the water were taken and analyses made, with the result that disinfection was recommended during periods of non-turbidity, and that at other times the water be not used. This incurred no hardship, as during wet weather when turbidity existed, the wells were sufficient for domestic purposes, the roads and gardens not requiring sprinkling.

After experiments were made, it was found that the water required more than one part in 1,000,000 of chlorine to eliminate the colon group of bacteria in 1 c.c. samples. Consequently, the consent of the Provincial authority was obtained for the erection of a temporary plant and its operation, on condition that daily samples of the raw and treated water were submitted to the Provincial Bacteriologist for analysis, and that the standard of efficiency should consist in the elimination of *B. coli* in 1 c.c. samples, and that the treated water should not contain more than 100 total bacteria per c.c.

Two barrels were used in which the strong liquor was held in readiness to be fed into the intake trough which had baffled boards set as usual in such cases. This was added so as to give about .5 parts of chlorine per 1,000,000.

At this rate of application, it would require with chloride of lime containing .33 per cent. of available chlorine as follows:

1.5 lbs. of chloride of lime, 1,000,000 lbs. of water.

1.5 lbs. of chloride of lime, 100,000 gallons of water.

15 lbs. of chloride of lime, 1,000 gallons of water.

In order to make a 1 per cent. solution sufficient for 1,000,000 gallons of water it would require the 15 lbs. of chloride of lime to be mixed with 1,500 lbs. of water or 15 lbs. of lime to 150 gallons of water.

The samples of raw water were taken from the stream pond, and the chlorinated water after treatment, but before it became diluted and mixed with the ordinary well water.

These samples dated respectively July 18th, July 27th and July 30th, show over

100 total bacteria in the treated water with percentage reductions between 80 and 90. In these cases the turbidity was convalescent after rain, and showed slight turbidity in the pond. The water on these dates was really not fit for chlorination without preliminary sedimentation or filtration.

In all, fourteen samples were taken between July 16th and August 6th. Of these, the treated water showed three samples with bacteria above 100 and under 141; three samples over 50 and under 100; three samples over 20 and under 50; five samples over 5 and under 20.

The average number of bacteria in the raw water was 1,565.5 per c.c., in the treated water 54.4 per c.c., and the average reduction efficiency 94 per cent.

If we ignore the three dates on which the water was convalescent, the average number of bacteria in the water was 1,051 per c.c., in the treated water 33 per c.c., and the reduction efficiency 96.8 per cent.

In every sample of the raw water, *B. coli* proved present. In every sample of the treated water *B. coli* proved absent.

One or two complaints were made of a peculiar taste in the water, but, curious to relate, these complaints referred to days in which the water was not chlorinated.

Chemical Analysis of North Toronto Stream Water, Parts in 1,000,000.—

Free Amonia	Albuminoid Ammonia	Oxygen Consumed in 7 hrs.	Chlorine	Hardness
.036	.09	2.2	10	333
Total hardness				333
Temporary				279
Clark's scale, total				23.31
Clark's scale, temporary				19.43

The amount of hypochlorite that may be used seems to depend to a certain degree upon the hardness of the water, the taste of chlorine being apparent in soft water much more quickly than in relatively hard water. If there is any oxidizable matter in the water, such as ferrous carbonate or various organic compounds, it is necessary that enough hypochlorite be used to oxidize these before disinfecting action is obtained. It is, however, not clear what proportion of the organic matter may remain unoxidized and sterilization be effected. This must be developed according to local conditions.

Editorial

[Editorials speaking specially for any one association co-operating with *The Public Health Journal* are not published in this Journal until passed by the publishing committee of that association.—Ed.]

THE FOURTEENTH ANNUAL CONGRESS ON HYGIENE AND DEMOGRAPHY

Following the conventions of the Canadian and American Public Health Associations, during the preceding week, the fifteenth International Congress on Hygiene and Demography will be held this month in Washington from the 23rd to the 28th inclusive.

The first half of the week of the 16th may thus be spent by delegates in Toronto in attendance on the Canadian Public Health Association Convention, the second half being devoted to the convention of the American international body, and the succeeding week in taking advantage of the splendid opportunity of participating for the first time on this continent in the proceedings of a world congress on matters pertaining to the welfare of mankind.

John S. Fulton, Secretary-General of the Fifteenth International Congress of Hygiene and Demography has distributed memoranda concerning the importance of the Congress.

The coming Congress in Washington, he says, is the result of an invitation extended by the President of the United States in pursuance of an Act of Congress approved February 26th, 1907. Following the acceptance of this invitation the United States Department of State addressed invitations through the American Ministers and Ambassadors to all foreign Governments; and it is intimated that all these Governments will be represented by many delegates, acceptances having been received from twenty-four countries, including Canada.

International Congresses on Hygiene and Demography are held at intervals from three to five years, and always on the invitation of a national government. Fourteen such Congresses have already been held, all in European capitals.

As to what the Congresses have done, Dr. Fulton makes answer in stating that they have not only relieved international commerce of quarantine restrictions and other

disabilities due to transmissible diseases, but have improved the practice of hygiene and demography, especially in the countries where they have been held. The Third Congress, in Paris, 1878, dealt largely with sanitation of hospitals and cities. Important reforms followed and the beneficial results continuing to this time were most conspicuous in Paris. The Fourth Congress met at Turin, and the history of municipal hygiene in Italy dates from that Congress. Its effects soon became apparent in the declining death rate in Italian cities. The Fifth Congress, Geneva, 1882, led to the foundation of the Federal Bureau of Health of Switzerland, and to improved sanitary organization in the cantons. The Sixth Congress, The Hague, 1884, started a programme of hygiene for the Dutch colonies, and this is the first chapter in colonial hygiene. The Seventh Congress, Vienna, 1887, led to the demolition of Vienna's overcrowded tenements, the construction of healthy dwellings, the introduction of a pure water supply and eventually to the complete transformation of the city. The Ninth Congress, London, 1891, opened an era of legislation for the health of wage-earners, and, in this respect, England still holds leadership; and so on.

In addition to the attractions of the Congress itself there will be a most interesting Exhibition open from September 16th to October 4th in Washington, which delegates may attend. The exhibition will be divided into the following groups:

Group 1, Vital Statistics and Demography. Group 2, Growth and Nutrition; Food. Group 3, The Hygiene of Infancy and Childhood (inc. Prevention of Infant Mortality and School Hygiene). Group 4, The Physiology and Hygiene of Exercise. Group 5, Housing. Group 6, Industrial and Occupational Hygiene. Group 7, Communicable Disease. Group 8, State and Municipal Hygiene. Group 9, Care of the Sick; Life Saving. Group 10, Hy-

giene of Traffic and Transportation. Group 11, Military, Naval and Tropical Hygiene. Group 12, Sex Hygiene.

Special rates have been arranged from all points to Washington, a very large attendance being looked for.

INTER ALIA

The report on the provisional program for the coming Congress of the Canadian Public Health Association, September 16, 17 and 18, will be found in this issue in our section of Meetings and Reports. A handsome and elaborate regular programme will be distributed to delegates on their arrival in Toronto.

The apparent discovery that typhoid bacilli may be absorbed by plants from soil may eventually play an important part in widening the activities of those officials whose duty it is to conserve the public health. It means that the garden patch, and the truck farm will have to be guarded from infection, just as closely as the water supply, the dairy, the packing-house, the oyster bed and all other sources from which come the things we eat.

And lest we mistake the nature of some social changes going on about us, it is well to remember what Herbert Spencer said of war: that it always increases Government control of things, and—for a time, at least—lessens the freedom of the individual.

All over the civilized world, society is engaged in a new war, a war on mankind's real enemies, the causes of disease. No powder is burned in this war, but it is a military operation, none the less. To hunt mosquitoes out of a city or district requires official control just as much as to hunt out a human enemy. To seek the tubercle bacillus in its secret abiding places and destroy it is as basically a military manoeuvre as to seek out and destroy a band of brigands. It is one of the few truly beneficent wars in which mankind has ever engaged. But we must expect to pay the price.

There are times when sanitary regula-

tions are onerous. There are occasions when officers in the army of health become officious nuisances. Of such, alas, is the kingdom of human nature. But the conquest is worth a hundred times the trouble it will cost, and the citizen who would prove himself a good soldier in the war must learn something of discipline. But we should beware of fads and fancies.

Professors of eugenics for instance are doing good by calling attention to the question of preventing marriage among the degenerate and manifestly unfit, but to preach too much regulation and interference is to cause mischief and harm. Stock farm methods will not go in human societies. Moreover, they are not needed. Human instinct is a better guide—on the whole. The soundest biologists and philosophers, from Aristotle down to Darwin, Spencer and Grant Allen, have recognized this.

Ability may be inherited, but genius is not. Health in the physical sense is not everything, for men and women of very uncertain health have done great service to mankind. A few simple things we can do and are doing, but caution should be urged as to the wider field. Let us demand the marriage certificate in the name of purity and decency. Let us see that the feeble-minded do not multiply too freely. But let us not forget moral beauty, character, intellect, human worth and nobility. To foster these, the environment, individual and social, must be cultivated. Justice, good government, industrial equity, proper education, opportunity—these things make for goodness in the individual and in the body politic.

What eugenics should make sure of is that 90 per cent. of the new science is common sense.

CURRENT PERIODICAL COMMENT AND
WORKING NOTES

Preventive Medicine and the Schools.

"The day is not far distant when even small communities will as soon think of running a school without making provision for instruction on preventive medicine as they would of running it without a principal," declares Dr. George B. Young, Public Health Commissioner of Chicago, in the *University of Wisconsin Bulletin*. He says, in part:

"The vision, the hearing, the speech of pupils, their physical deformities, their mental defects, their nutritional status, all have come to be matters requiring attention by medical inspectors of schools, and justifying correction at the expense of the community if the circumstances make it necessary. We have at last come fairly to understand that if the child is unfitted for general school conditions we must fit the conditions to the child, and so have arrived at the school breakfast, the open air school for the tubercular, and the like.

"To point out the causes of the diseases and defects of school children is only going half the distance," he continues. "We are becoming convinced that the true method is to work for the removal of the conditions which permit these causes to become operative. These underlying conditions almost all arise from the poverty that has its roots in industrial inefficiency, the ignorance that hinders the advance of the poor and the unsocial narrow-mindedness that limits the appreciation by the well-to-do of their duty to their fellow men.

"These things operate in turn to produce bad housing, underfeeding, high infant mortality, blindness, deformity, and insanity."

Max Joseph Von Pettenkofer, Founder of Hygiene.

Preventive medicine, writes Dr. J. A. Husik for *The Press Publishing Co.*, is the order of the day. Prevention of disease is the object of medical science. The world has at last learned it ought to be the first object of civilized peoples to see to it that

no diseases occur instead of looking for cures after those diseases have been foolishly allowed to seize hold of individuals, communities and even whole nations. Be he ever so great who can cure suffering man, pain-wracked woman or child, or the silent and patient suffering beast, that man is greater by far who can teach humanity how never to fall victim to disease, nor suffer sickness or pain.

Hygiene is the science of health. It teaches how to make man's physical surroundings wholesome and healthful, with the end in view that he may know neither disease nor pain, and that he may live hale and hearty, content and happy till the end of his days. The man who founded and built up the science of hygiene was Max Joseph von Pettenkofer.

Max Joseph von Pettenkofer was born in Germany in 1818. At the age of twenty-one he entered the University of Munich to study biology and medicine. He was graduated in 1843. Upon the completion of his regular course of study he devoted himself to special research in the science of chemistry. He worked in several university laboratories and came under the influence of the famous German chemist Liobig. In 1845 he was appointed chemist to the imperial mint at Munich. Here he immediately began to exhibit his inventive genius by discovering a method for the assaying of gold.

In 1847 he was appointed as instructor of medical chemistry at the Munich University, and in 1853 he was made professor of the same branch. As a result of his work in hygiene he was elected professor of hygiene in 1865.

His great work in hygiene consisted in working out the laws relating to the proper ventilation of dwellings and buildings. He was the first to show the importance of fresh air, pure water and the scientific disposal of the sewage of cities. Following his teachings, the City of Munich was turned from a veritable pesthole of typhoid fever to a healthful community where that

scourge is practically unknown. For all these important facts of the science of hygiene the world is indebted to Pettenkofer.

Pettenkofer laid claim to many other discoveries. He showed how to make illuminating gas out of wood. He was the inventor of a process for the restoration of valuable paintings. He studied thoroughly the process of respiration and showed the interchange of gas that takes place during the act of breathing.

In recognition for his services he was raised to the peerage, and the title of von was added to his name in 1883. In 1896 he was the recipient of further honors and the title of "His Excellency" was conferred upon him.

In 1901 he fell a victim to the mental disease called melancholia, and in a fit of great depression shot himself. He died after having made many scientific discoveries in chemistry and after having founded the science of hygiene.

A Plea For the House Fly.

The house fly is not deadly in malice, says a writer in the *New York Times*, or because of himself, but because he carries the dirt which others create, or allow to accumulate. Instead of crying "swat the fly," why not chase the makers of the dirt whose existence makes the fly so deadly? A campaign of this sort ought to appeal even to the instincts of the fly exterminators, since were it not for filth the flies could not either feed or breed. Even those whose hearts bleed for the friendless house fly could not sorrow deeply over the idea of his never being born. To prevent propagation of flies is only another way to prevent their murder, and the prevention of the birth of one fly is to avert the necessity of killing hundreds.

The heartless will still kill the fly whenever able to swat him, we fear, but the kind-hearted and up-to-date sanitarian will prefer to prevent him.

Exaggerating Defectiveness of School Children.

Prof. Thomas D. Wood, of Columbia University, estimates that of the 20,000,000 school children in the United States not less than 75 per cent. are physically defec-

tive. The condition indicated is not so serious as it sounds. "Examination of Prof. Wood's classification of defects," comments the *Philadelphia Bulletin*, "discloses that a large proportion are of the kind that yield readily to treatment, and, while doubtless affecting the health of the pupil to some extent, are not of an alarming nature. Thus it is estimated that 50 per cent., or 10,000,000 children, have defective teeth. About 30 per cent. are said to have enlarged tonsils or adenoids. These conditions indicate the need for the services of dentists and surgeons, but it should be remembered that the standard from which the defective pupils deviate is that of perfection, one to which comparatively few individuals, either children or adults, can ever attain. It is likely that a large percentage of the actual defects in the classes mentioned cause little inconvenience.

"Glancing over Prof. Wood's detailed statement it is easy to gain the impression that the school children of America are deteriorating. One is apt to picture in imagination the red-checked, vigorous youngsters of a former generation as superior in physique to the boys and girls of the present. But in those days there were no sharp-eyed inspectors going about hunting for defects. The mortality tables tell the true story. Fewer children are dying to-day. There is no real ground for discouragement in Prof. Wood's report. But it should serve to emphasize the work that may be done for the protection of our children's health—a duty that rests primarily not upon the school authorities, but upon the parents."

The Russell Sage Foundation.

When Russell Sage died, writes *Fredrick J. Haskin* in the columns of a contemporary, leaving his property to his widow, and declaring her able to carry out his ideas, he left his vast fortune in competent hands. The ten million dollar gift with which Mrs. Sage established the Russell Sage Foundation revealed her purpose of eliminating causes of bad conditions rather than to treat the effects of those conditions. Her gift was direct charity—but a kind of charity which recognizes that an ounce of prevention is worth a pound of cure. It was given with a view

to "the eradication, as far as possible, of the causes of poverty and ignorance."

When Mrs. Sage came into the management of the great estate thousands appealed to her for aid, feeling that a woman's sympathies would respond to their pitiful petitions. But Mrs. Sage wanted her's to be a broader gift; she thought it impossible to reach but a comparatively few by direct charity, while she might reach millions born and millions unborn if she turned her attention to causes rather than permitting her millions to be used to afford only temporary relief.

In a letter written by Mrs. Sage shortly after the charter of the foundation was granted she stated that its scope was not only national, but broad. She announced that it should not undertake to do what now was being done or likely to be done effectively by other agencies or individuals; that its aim should be to take up the larger and more difficult problems, and to take them up in such a way as to enlist as far as possible outside co-operation in their solution.

When the foundation laid out its programme it decided first to make a careful, painstaking, scientific investigation of poverty and its causes. It was held that any problem can be solved only when the exact conditions are understood, and that no one yet had adequately studied the poverty question. With this end in view competent investigators were secured who since have been making minute studies of such instances of poverty as they meet in their work.

The investigator may take a census of the poor he finds on the benches of a city park, inquiring minutely into all the details of the life history of each individual and finally summing up the whole work and attempting to reach a conclusion thereon; or, he may study housing conditions in a big city for the purpose of ascertaining exactly what those conditions are in an attempt to find a solution of the housing problem; or he may, in co-operation with a number of associates, undertake a big social and industrial survey of a great city in the hope of finding out just where the evils are, what they may be, and how they may be remedied, as has been done in Pittsburgh.

The results of all these investigations, which are still being carried forward, have served to give to the world its most definite and accurate knowledge of poverty and its exact causes. The world in general has a smattering knowledge of mosquitoes, but it was not until the scientist laid down the minute distinctions between the yellow fever mosquito and some of his cousins that the prevention of the scourge of the tropics was made possible. The world at large has a rather close and unpleasant knowledge about fleas, but it was not until the microscope and the exact descriptive powers of the entomologist divided them into their respective species that the bacteriologist was able to prove that certain fleas carry the bubonic plague. And so it is hoped that it will be with poverty; that exact knowledge of the different varieties of poverty and the methods of their causation, will lead eventually in finding at least a partial cure.

The school children of the country early enlisted the active interest of the Sage Foundation. It set investigators to work to find out just what the schools of the country are doing for the health of the children, and once this information was gathered it was published and made available to students everywhere. For instance, it was found that in 1911 there were 1,038 cities reporting to the department of child hygiene, and that in only 443 of them is medical inspection to be found. Yet even this showing is a gratifying one when it is stated that less than ten years ago there were only twenty-three cities having such inspection.

The fight against tuberculosis has been aided with funds from the Sage Foundation. When the World's Tuberculosis Congress was held in Washington the foundation helped to finance it, and bore the expense of moving the remarkable exhibition that accompanied it to New York, where the people were given an opportunity to see it. The movement for public recreation also has received much support from the foundation, while the placing out and management of children in institutions has been a problem that has commanded its study and support.

One of the lessons learned from the investigations by the foundation into poverty and ignorance is that there is a serious

need of charity organizations in a great many communities, and it is now seeking to supply this need by encouraging the organization of associations to look after the poor in many cities. Much success has attended this work, and the organizations that have resulted are devoting their efforts as much to the abolition of the causes of poverty as to the relief of specific cases of distress, thus carrying out the purposes Mrs. Sage had in mind in creating the foundation.

There are many lines of inquiry that need to be made so that legislative bodies may have proper information to guide them in enacting legislation for the safeguarding of the interests of the poor. For instance, it is a generally known fact that the people who have to pay the highest rates for life and health insurance are the ones who can least afford to do so—the ones who can get it only on the installment plan of so much per week. Yet there was no definite, scientifically gathered data which would warrant legislative action to correct abuses anywhere to be had. The foundation financed such an inquiry, and it has revealed in a startling way the burdens the poor have to bear for the small protection their insurance affords. Likewise, the whole world has had a general knowledge of the terrific reactions of the loan sharks who lend money on salaries and personal property. But information sufficiently exact for the legislator who would remedy the evils of the business was waiting until the Russell Sage Foundation supported an investigation which has shown up the "ten percenters" in his true character.

The problem of bringing together the man who wants reliable help and the person who is dependable, but out of a job is one upon whose solution not a little poverty must disappear from the country. The Sage Foundation has attacked the proposition, and the probable result will be a chain of free employment agencies across the country which will investigate the records of men seeking work, and give dependable information to employers in need of help, serving as a sort of clearing house for those who have work to be done and those who want to do it.

In its efforts to lay the foundations for scientific aid in the times of a great calam-

ity like the San Francisco earthquake, the foundation has supported same investigators whose duty it has been to study and analyze the work that was done there, with a view to extracting every possible lesson from the relief work and making it available for future catastrophies. In this way it hopes to make every dollar count in those times when dollars are so much needed, and to get the relief work started the moment there is need for it.

One of the most interesting of all the activities of the foundation, has to do with the education of scientific investigators in schools of philanthropy. Such schools are now maintained in New York, Boston, Chicago and St. Louis, and the foundation has aided in the establishment of departments for the training of social investigators. Thus it is intended to make the work of sociological investigation a science and to educate men and women to gather exact data and to apply indicated remedies.

The housing problem in cities is one of the greatest with which the sociologist has to contend. How to provide the poor with decent living conditions in the face of the extremely high cost of living is a question that well might challenge the attention of the best minds of the country. Various experiments have been tried, and worked out. The Russell Sage Foundations not only has been investigating the whole problem, but has been making an important experiment just outside of New York, where homes are built and rented to New Yorkers at fair rental returns. Here again it is found that the people who can least afford to pay highest for what they get have to pay the highest rents in proportion to what they get.

This partial catalogue of the many activities of the Russell Sage Foundation serves to illustrate the breadth and volume of the work being done by it and to show the admirable conception of helpful charity held by Mrs. Sage and those responsible for the carrying forward of the work.

Dentists and Antisepsis.

Dr. John S. Marshall, U.S.A., charges the dental profession, in a recent article in the *Journal of the American Medical Association*, with gross disregard of ordinary methods of antisepsis. Dentists admit that what he charges is true with reference

to some practitioners, but assert that it does not apply to all dentists and that physicians are frequently as careless as dental operators.

Operating rooms in colleges are criticised by Dr. Marshall for the lack of aseptic apparatus. He says that dental students are taught all methods of guarding against the transmission of disease and are frequently not given practical illustrations of the teaching. Many more, he says, forget their teachings as soon as they leave school.

The same instruments are used in the mouths of many patients. To render them aseptic and guard against the transmission of disease, the instruments should be sterilized after the work on each patient is finished. This, says the writer, is seldom done.

"Enameled furniture and zinc painted walls prove of no value if the more important matters of local and personal asepsis are ignored," writes Dr. Marshall. "The charge often made by physicians that tonsillitis, diphtheria and tuberculosis frequently have been transmitted from one patient to another by unclean, septic dental instruments is a shame and a reproach to modern dentistry.

Dangers of Sex Hygiene in Schools.

Maud B. Schram, M.D., writes in the *Rocky Mountain News* that these are days of religious, social and civic unrest. The reformer and philanthropist believes the welfare and peace of the nation, perhaps the world, is dependent upon the universal acceptance of the particular doctrine which he represents. In the present, as in the past generations, every cause has would-be reformers who manifest a "zeal without knowledge." This statement applies to many worthy persons who advocate the teaching of sex hygiene in the public schools, and is made without disparagement of the motives underlying these endeavors.

There can be no refutation of the fact that the confidence of the girls in the classes of sex hygiene has been won insidiously by the appeal to their sense of pleasure through combining the instruction in "folk dancing" with the teaching of sex hygiene. The practice of such methods cannot ultimate in good. No more is there

stability in the teaching that "if the mind is clean the body will be clean." The harlot and pugilist—representing the sensual and the physical, forever disprove such a theory. But a clean, well-ordered mind is reflected in a clean, well-ordered body.

Sex hygiene is the study of anatomy and physiology—the structure and functions—of the organs of sex, combined with the instruction of the care in health and prevention of disease which result from the abuse of the functions of these organs. The delineation of the symptoms of disease resulting from the social evil, the vivid portrayal of the ravages of these diseases on mind and body, will never protect the boy or girl in the hour of temptation. The intelligent classes and the professions contribute their full quota to the list of victims suffering from these social diseases and their sequelae. The last official report of the schools in Germany shows that since the thought of disease was inaugurated in the schools there has been a startling increase of constitutional diseases among children. In some localities the percentage has risen so high as to include more than half of the school children, while among the same classes of children under school age there is less than 10 per cent. It is also significant that these percentages show greater susceptibility among girls.

There can be no controversy that the teaching of biology creates morbid curiosity concerning the so-called mysteries of sex. On the other hand, this knowledge never has, nor never will, afford protection to the young from social evils. A clinic conducted on mammals in the school-room will some no nearer the solution of the problem.

The teaching of sex hygiene in schools opens wide the floodgates for charlatans in sensualism, permitting them to prey upon the minds of the young in which fear of disease has been implanted. To morals of youth no greater menace exists than the quack advertisements of pills and nostrums which allure by promises to protect and cure patients suffering with disease.

There is one point on which all authorities along these lines are united—it is this: If the parents are neglectful about the teaching of these vital subjects to their children, they should be aroused. Parents should begin to teach the truth about the

science of life when the child asks his first question.

Mary S. Garnet, chairman of the Department of Legislation of the National Mothers' Congress, in her annual address, suggests a measure by which important work may be accomplished by transferring the millions of dollars the states now expend in maintaining orphanages for dependent children into a fund for the pensioning of worthy mothers. Is not this a significant admission, after years of experience, that mothers are better guardians of their children than the state?

The Menace of the Bathing Pool.

In the crusade for better sanitation the swimming pool comes in for its share of discussion.

"As ordinarily run, swimming pools are little more than cesspools and clear themselves of bacteria largely on the septic tank principles," says H. F. J. Porter in *The Survey*.

Investigations of public pools for a long period of time at Hamburg, as well as more recently of college pools at Purdue, Brown, Chicago and Yale Universities and the New York public swimming pools, show, he points out, that the impurities produced by bathers are bacterial and chemical foreign matter.

Tests made at the Hamburg pools showed water fresh from the tap contained 57 microbes per cubic centimeter; the same volume after seventy-four persons had bathed contained 1,800; after 494 persons, 64,400 microbes were found in the tank. When tests were taken after 829 had bathed, however, only 154,000 microbes were found, illustrating the septic tank principle, that after a certain point has been reached the septic condition of the water either actually kills the microbes or else they devour each other until the excess is destroyed and an equilibrium representing the maximum impurity that the water can sustain is reached. The very expression of this condition, which actually existed in all pools studied is, it would seem, calculated to arouse alarm as well as disgust.

In all pools some precautions can be used. Previous bathing and the exclusion of persons known to have contagious skin

affections are the first, and these are enforced in few even of the large college pools. Frequent change of water is another essential.

Where water is scarce other methods of purification can partly take the place of change, but there is none which can effectively and permanently keep up with an accumulation of bacteria due to many bathers in the same water.

The quickest and cheapest method of purification, which is used frequently for purifying water supplies, and which is applicable, it would seem, to some extent to river bathing places as well as indoor pools, is hypochloride of calcium, 1 part to 2,000,000 parts water, 20 pounds to 1,000,000 gallons of water.

Reference Guide to Other Journals.

American Journal of Nursing (Vol. XII, No. 11)—"The Appeal of the Insane to the Nursing Profession," by Julia C. Lathrop; "Teaching Sex Hygiene," by Edith M. Hickey; "Shall Attendants be Trained and Registered?" by Grace E. Allison; "Municipal Care of Tuberculosis," by Ellen N. LaMotte; "The Hospital Head Nurse," by Bertha W. Allen; "Nursing Progress in the South," by Agnes C. Hartridge.

American Medical Association, Journal of the, (Vol. LIX, No. 8)—"The Training of the Desirable Practitioner and His Mission," by S. J. Meltzer; "The Addition of a Fifth-Year to the Medical Curriculum," by John M. Dodson; "The Relation Between Practitioner and Investigator in Medicine," by Leo Loeb; "The Injurious Effects of the X-Ray as a Therapeutic Agent," by A. Ravogli. (Vol. LIX, No. 9)—"Prognosis in Chronic Heart Disease as Adversely Affected by Certain Medical Traditions," by Charles Lyman Greene; "The Treatment of Diphtheria-Carriers by Overriding with *Staphylococcus Aureus*," by Lorenz and Mazyek; "Pneumococcus Infection and Immunity," by Rufus Cole; "Puerperal Infection," by Thomas J. Watkins; "Gynecologic Disease in the Insane and its Relationship to the Various Forms of Psychoses," by Frederick J. Tausig.

Busy Man's Canada (Vol. III, No. 1)—"The Canadian Spirit," by Charles R. McCullough; "Charles M. Hays, World-Maker," by Elbert Hubbard.

Canadian Engineer (Vol. XXIII, No. 5)—"How City Planning Bills are to be Paid," by Nelson E. Lewis; "The Use of Copper-Sulphate in Purification of Water Supplies," by George Embrey; "The Production of Chlorine for Water and Sewerage Sterilization," by Joseph Race; "Hypochloride Sterilization in Kansas City," by S. Y. High (Vol. XXIII, No. 26)—"District Heating Business," by A. D. Spencer. (Vol. XXIII, No.

27)—“Some Fallacies and Facts Concerning Engineering Works in Great Britain,” by W. A. Martin. (Vol. XXIII, No. 8)—“Efficiency in Education,” by George D. Hoadley; “Maintenance of Roads and Pavements,” by James Owen; “Heating and Ventilation of a Factory,” by Samuel R. Lewis; “The Relation of the Electrical Engineering to Other Professions,” by Gano Dunn. (Vol. XXIII, No. 9)—“Street Cleaning and Refuse Disposal,” by F. W. W. Doane.

Canadian Journal of Medicine and Surgery (Vol. XXXII, No. 3)—“Etiology and Pathology of Exophthalmic Goitre,” by W. T. Connell.

Canadian Medical Association Journal (Vol. II, No. 8)—“Observations Relating to Diet in Tuberculosis,” by W. B. Kendall; “Some Experiences with Radium,” by G. Sterling Ryerson.

Clinical Medicine (Vol. XIX, No. 8)—“The Treatment of Pellagra,” by J. E. Knight; “The Treatment of Pellagra,” by E. H. Bowling; “Constipation, and How I Treat It,” by Heneage Gibbes; “Gonorrhoea vs. Tobacco, Alcohol and Sexual Intercourse,” by William J. Robinson; “Therapeutic Nihilism and Pulmonary Tuberculosis,” by Beverly Robinson; “Bird Cage Disease,” by Maynard A. Austin; “Sexual Immortality, and Its Significance,” by Elizabeth Hamilton-Muncie; “Phantoms of Beauty,” by Robert Gray.

Critic and Guide (Vol. XV, No. 8)—“Remarks about Hormones and Organotherapy,” by M. Aronson; “The Influence of the Sex Instinct on Human Life,” by Dr. L. G., edited by Dr. W. J. Robinson.

Dietic and Hygienic Gazette (Vol. XXVIII, No. 8)—“Present Status of Hypochlorite Treatment of Water,” by C. C. Young; “That Unnecessary Evil of Constipation,” by Dr. Douglas H. Stewart; “Some Suggestions as to Food,” by Dr. C. P. Farnsworth; “Alcohol as a Remedial Agent,” by Dr. A. L. Benedict; “Diet and Personal Hygiene of the Child,” by Dr. M. Hudson Ackerly.

Fruit Magazine (Vol. V, No. 5)—“Crown and Hairy Root,” by F. E. Jones.

Good Health (Vol. II, No. 8)—“Dental Economics,” by N. S. Coyne; “Some Phases of the Oral Hygiene Campaign,” by W. H. Doherty.

Heating and Ventilating Magazine (Vol. IX, No. 8)—“Rotation of Normal Temperatures,” by William Campbell; “Heating and Ventilating of a Mitten Factory,” by Samuel R. Lewis; “Office Practice in Estimating Heating and Ventilation,” by John D. Small; “Temperature Equivalents of Wind Velocities,” by H. W. Whitten; “Regulating the Flow and Return Temperatures in a Large Hot Water Heating System,” by G. E. Chapman.

Indian Medical Gazette (Vol. XLVII, No. 7)—“Second Clinical Report on the Treatment of Leprosy,” by E. R. Rost; “The Outbreak of Rat-Plague in Suffolk and the Manchurian Epidemic of Human Plague,” by W. C. Hossack; “The Use of Ultra-Violet Rays in the Sterilization of Water,” by W. W. Clemesha; “An Outbreak of Epidemic,” by E. H. V. Hodge.

Journal-Lancet (Vol. XXXII, No. 15)—“The General Practitioner: His Present Status and Future Prospects,” by Christian Johnson; “Health Supervision of Schools,” by J. G. Parsons. (Vol. XXXII, No. 16)—“A Short Visit to Some of the

Hospitals in Germany, Austria, Switzerland and Holland,” by William J. Mayo; “Puerperal Infection,” by C. E. Spicer; “Tuberculosis Among the American Indians,” by Frank H. Creamer; “The Conservation of Health,” by Winslow C. Chambers; “Food Preservatives and Preserved Foods,” by Frank R. Starkey. (288). Careful laboratory experimentation proving how good preservatives inhibit digestion, and clinical data demonstrating that chemical preservatives do more harm in this direction than results from their toxicity; “Tent-Sleeping and Quinine in Hay Fever,” by Henry D. Fulton. (289). Some rational suggestions in the treatment of this disease, with the emphasis placed upon hygiene and inhibition. The quinine and fresh air plan given in detail.

Little Farms Magazine (Vol. I, No. 8)—“A Big Man in a Great Cause,” by Edward H. Gross; “Girls' Agricultural College,” by Elizabeth Murray Coffin; “The Story of a Man Who Did,” by William E. Smythe.

Medecine et de Chirurgie, Le Journal de (VII Annee, No. 8)—“Meningite Sereuse, Oedeme capillaire, et Polynevrite Multiple des Nerfs Gransiens Chez un Juene Fumeur Alcoolique par le Docteur,” par J. N. Roy.

Medical Review of Reviews (Vol. XVIII, No. 8)—“Physical and Mental Training in the Treatment of Nervous Diseases,” by B. E. McKenzie; “Teaching Hygiene for Better Parenthood,” by Thomas D. Wood; “Scientific Medical Inspection at Ellis Island,” by Alfred C. Reed; “The Importance of Early Recognition of Surgical Affections in Children,” by Charles D. Lockwood.

Medical Officer (Vol. VIII, No. 3)—“Some Points in the Management of a Sanatorium for Pulmonary Tuberculosis,” by A. M. Bryce; “The Value of Hospital Isolation in Scarlet Fever,” by M. Hay. (Vol. VIII, No. 4)—“The National Insurance Act and Poor Law,” by J. J. Simpson. (Vol. VIII, No. 5)—“An Unfortunate Dairyman,” by E. Watt.

Merck's Archives (Vol. XIV, No. 8)—“Measles,” by Irving David Steinhardt.

Municipal Journal, The Canadian, (Vol. VIII, No. 8)—“The Value of Town Planning,” by H. R. H. The Duke of Connaught; “Opening Up and Beautifying a City,” by Louis Betz.

Outdoor Life, Journal of the, (Vol. IX, No. 8)—“Employments of Patients after Leaving Sanatoria,” by W. J. Vogeler; “Properly Regulated Rest and Exercise in Pulmonary Tuberculosis,” by Lawrason Brown and F. H. Heise; “Getting a Job,” by Hugo Mock.

Our Dumb Animals (Vol. XLV, No. 3)—“The Achievement of Dogs,” by J. W. Hodge; “The Massachusetts S. P. C. A. Work,” by Francis H. Rowley; “Shall We Save the Egrets?” by Edward Howe Forbush; “Just Peter,” by Ambrosine Salsbury; “The Cat Hospital at Auteuil,” by E. A. Matthews; “Love's Power Over Wild Animals,” by George Whatton James; “Goats as Pets,” by Marshall Saunders.

Practical Medicine (Vol. X, No. 7)—“Vomiting and Its Treatment,” by U. Venkata.

Public Health, American Journal of, (Vol. II, No. 8)—“Municipal Disinfection in New York City as Recently Reorganized,” by M. C. Schroed-

er; "A Titanic Parallel," by Hugh Aruthnot Brown; "A Device for Keeping Garbage Cans in Place," by M. E. Connor; "Tuberculosis and Quarantine," by Alfredo G. Dominguez.

Public Health Reports (Vol. XXVII, No. 31)—"Rabies in Manilla," by Carroll Fox; "Report of a Suspected Case of Typhus Fever at Petersburg, Va.," by Joseph Goldberger. (Vol. XXVII, No. 32)—"How to Poison Rats," by W. C. Rucker. (Vol. XXVII, No. 33)—"The Post Mortem Diagnosis of Plague," by Rupert Blue. (Vol. XXVII, No. 34)—"Active and Passive Immunization Against Plague," by Wade H. Frost.

Prescriber (No. 71, Vol. VI)—"Common Maladies and Their Treatment," by J. Allan.

Royal Army Medical Corps, Journal of the, (Vol. XLX, No. 2)—"John Hunter, Surgeon-General and Inspector-General of Hospitals," by H. A. L. Howell; "Cell-Inclusions in the Blood in Blackwater Fever," Second Note by Sir William Leishman; "Recent Facts as to Enteric Inoculation and the Incidence of Enteric and Paratyphoid Fevers in India," by R. H. Firth; "The Papataci Flies (Phlebotomus) of the Maltese Islands," by R. Newstead; "Shelter Tents," by Captain N. Dunbar Walker.

Sanitary Record (No. 1183, Vol. L)—"Waterworks for Urban and Rural Districts" (continued from page 77), by Henry C. Adams. (No. 1184, Vol. L)—"Waterworks for Urban and Rural Districts" (continued from page 103), by Henry C. Adams. (No. 1185, Vol. L)—"Waterworks for Urban and Rural Districts" (continued from page 127), by Henry C. Adams; "The Proper Disposal of Domestic Wastes in Rural Districts," by John Brook. (No. 1186, Vol. L)—"Waterworks for Urban and Rural Districts" (continued from page 151), by Henry C. Adams; "Fixed Sprays versus Revolving Sprinklers," by Reginald Brown.

School Board Journal, The American, (Vol. XLV, No. 2)—"Can the Administration Department of a School System Serve as a Laboratory for the Vocational Training of Children?" by G. E. Wulffing; "School Architecture," by William

B. Ittner; "What School Facilities Shall Be Provided for Instruction by Means of Motion Picture Machines, Stereopticon Lanterns, Talking Machines, Player Pianos, etc.," by W. H. Ives.

State Medicine, Journal of, (Vol. XX, No. 8)—"Inaugural Address to The Berlin Congress of The Royal Institute of Public Health," by The Earl Beauchamp; "Address to the Section of State Medicine," by Sir T. Clifford Allbutt; "Address to the Section of Municipal Engineering, Architecture and Town Planning," by P. C. Cowan; "Ventilation of Sewers," by T. De Courcy Meade.

South African Medical Record (Vol. X, No. 33)—"School Hours and Physiology," Editorial; "Malaria and Its Prevention, with Special Reference to South Africa," by R. Caldwell. (Vol. X, No. 14)—"The Cape Province Hospital Ordinance," Editorial; "The Scope of Physiology," by W. W. A. Jolly; "Scurvy," by H. A. Spencer.

The Royal Sanitary Institute, Journal of, (Vol. XXXIII, No. 7)—"A Description of the Joint Scheme of Sewerage of Thornton-le-Fylde, Bispham-with-Norbreck, and Carlton," by Arthur Hindle; "Tuberculosis and Sanatoriums under the Insurance Act," by George Adkins; "The Importance of the Natural Feeding of Infants," by Harold Scurfield; "The Increase in Cancer Mortality in England and Wales," by Louis C. Parkes; "The Sewage Pollution of River Mud," by E. L. Dove.

Urology, American Journal of, (Vol. VIII, No. 8)—"The Phenolsulphenophthalein Test in Surgery of the Genito-Urinary Tract," by Lewis E. Schmidt.

Western Municipal News (Vol. VIII, No. 8)—"Practical Sanitation," by W. J. McKay; "Some Problems of Small Towns and Villages," by J. M. Bayne; "What Saskatoon is Doing Towards Beautifying the City," by E. B. Smith; "The Future Cities of Saskatchewan," by R. O. Winnie-Roberts and Malcolm M. Ross; "Public Health," by N. R. Bow.

REVIEWS AND ACKNOWLEDGEMENTS

[Any book reviewed in this department may be obtained direct from the publishers, or from leading booksellers, or through *The Public Health Journal*]

"Bacterial Food Poisoning."

The book under review is a translation of the favorably known work of the same name by Prof. Dr. A. Dieudonne, of Munich, in which the editor has incorporated good descriptions of a number of additional outbreaks of food poisoning, elaborating upon the prophylaxis applicable to American conditions and going more fully into the details of treatment. The translation is arranged under the following headings: Meat Poisoning; Poisoning Through Fish and Molluscs; Poisoning

Through Cheese; Poisoning Through Ice Cream and Puddings; Potato Poisoning; Poisoning Through Canned Goods; Metallic Poisons.—*Bacterial Food Poisoning, a Concise Exposition of the Etiology Bacteriology, Pathology, Symptomatology, Prophylaxis and Treatment of So-called Ptomaine Poisoning*, by Prof. Dr. A. Dieudonne. Translated and edited with additions by Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health, City of New York. Authorized translation. New York, E. B. Treat and Company. Price, \$1.

"An Essay on Hasheesh."

An excellent little monograph under the above title has reached us. The author is Victor Robinson, contributing editor to the *Medical Review of Reviews and Pharmaceutical Chemist* of Columbia University. It is rare to find such an entertaining work of this kind emanating from the medical press and so well worthy of perusal. It deals with the Hasheesh from the historical, chemical, botanical, physiological, therapeutic, pharmacological and physiological view points, the latter most interestingly emphasized.—*An Essay on Hasheesh*. By Victor Robinson, Contributing Editor, *Medical Review of Reviews, Pharmaceutical Chemist, Columbia University, Member of the American Chemical Society, Author of "Pathfinders in Medicine."* *Medical Review of Reviews*. 206 Broadway, New York City. Price 50c. net.

"Handbook on Military Sanitation for Regimental Officers."

Having often been asked by students of his classes to recommend a small book on the subject of Military Sanitation, and failing to find such a book to recommend, Major K. B. Barnett has written the book under review to supply the need. The book deals practically with the subject in seven chapters, including therein: The Definition of Sanitation, etc.; The Cause of Disease; Explanation of Terms; The Chief Preventable Diseases of the Soldier; Water Supplies; Sanitation in Barracks, in Camp, and on the Line of March; The Food of the Soldier, Personal Hygiene, Field Service Sanitary Organization. A scale of diet is given in the appendix and the work is indexed.—*Handbook on Military Sanitation for Regimental Officers*. By Major K. B. Barnett, M.B., Royal Army Medical Corps. With an introduction by Lieut.-General Sir Horace L. Smyth-Dorrien. London, England: Forster, Groom and Co., Ltd., 15 Charing Cross, S.W. Price 2/6.

"The Main Drainage of Towns."

Mr. Taylor intends this work to be a companion to his "Civil Engineering and Practice." He adopts the plan of placing before the reader the successive stages of

a sewage scheme so far as engineering work is concerned, laying special stress upon modern methods of construction in populous districts. The author points out that the rapid growth of towns has repeatedly revealed that forethought would have saved great expense by the adoption of some better designs suited to a prospective increase of area or of population or of both and in this book he seeks to assist engineers in this respect by carefully laying down the principles underlying the art of sanitary engineering.—*The Main Drainage of Towns*. By F. Noel Taylor, Civil Engineer, Member of the Institute of Municipal Engineers, Author of "Civil Engineering Practice." With over 350 illustrations. London, England: Charles Griffin and Company, Limited, Exeter Street, Strand, 1912. Price 12/6 net.

"Time and the Second Generation."

We have been greatly interested in this little work by Dr. Robert J. Ewart, who describes the results of his endeavor to find out whether the characters of a cross, in his own words, say of an ass and a horse with the resultant mule are wholly referable to the unit characters of the sires or grandsires, etc., or whether there is something new which is not directly referable to either. Dr. Ewart derives his data from the community in which he lives, Middlesbrough, a town of a little over 105,000 inhabitants, and having a population originally most cosmopolitan. Dr. Ewart's handling of his subject is unique, and takes into consideration the idea of time as a natural something that actually participates in the change itself just as gravity causes the fall of a heavy body. He remarks that it is curious to note that there is no physical or vital process into which this subtle factor does not enter. He finds, as others have found, and endeavors to elucidate the fact that there is a pertinent connection between the age of the parents at birth and the characterists of the offspring.—*Time and the Second Generation*. By Robert J. Ewart, M.D., Assistant Medical Officer of Health and School Medical Officer, County Borough of Middlesbrough. London, England: 36-38 Whitefriars Street, E. C. Price 1/- net.

"International Clinics."

This is volume 2 of the twenty-second series and deals with the latest advances under the following divisions: Diagnosis and Treatment; Medicine; Pædiatrics; Neurology; Symposium Anæsthesia; Surgery; Obstetrics; Ophthalmology; Otology; Eugenics; State Medicine. The contributors are all authorities in their several lines and the work is suitably illustrated and well indexed.—*International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By leading members of the Medical Profession throughout the world. Edited by Henry W. Catell, A.M., M.D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II, Twenty-second Series. Philadelphia and London: J. B. Lippincott Company. Montreal: J. B. Lippincott Company, Charles Roberts, Manager.*

"The Blues."

The object of this volume is to direct attention to a new and heretofore undescribed variety of nerve exhaustion, which the author designates *Splanchnic Neurasthenia*. This special form of nerve weakness, characterized by paroxysms of depression, is popularly known as "the blues." From the author's large experience, he knows of no variety of neurasthenia which is more amenable to treatment than this splanchnic form. His methods are described in detail and are easily executed. In meeting the demand for a new edition of his work, the author has taken opportunity to thoroughly revise the text and to add a most important chapter on "Augmenting the Tone of the Splanchnic Circulation."—*The Blues (Splanchnic Neurasthenia). By Albert Abrams, A.M., M.D. (Heidelberg), late Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco, Cal. Fourth Edition just Published. Revised and Enlarged. 8vo. 304 pages. Illustrated. Bound in blue cloth. New York City: E. B. Treat and Co., Medical Publishers, 241-243 West 23rd Street. Postpaid, \$1.50.*

"Microbiology."

The editor adopts this name for his book for the reason that the branch of science commonly recognized as Bacteriology has for many years included besides bacterial forms those micro-organisms yielding the same laboratory methods of study and investigation. He intends the work to emphasize the idea that the subject which is treated must be written by those who are specialists in the various departments to which the different sections refer. Dividing the work into three parts the editor has arranged that it deal not only with the identification of pathogenic organisms, but with all micro-organisms concerned in the industry of agriculture. The work is divided into three parts: Part I.—Morphology and Culture of Micro-organisms. Part II.—Physiology of Micro-organisms. Part III.—Applied Microbiology. There are nineteen contributors to the work, leading men in their different departments, including Prof. J. L. Todd, of McGill University and Prof. S. F. Edwards, of the Ontario Agriculture College, have contributed articles.—*Microbiology. A Text-book of Micro-organisms, General and Applied. Edited by Charles E. Marshall, Amherst, Massachusetts; Professor of Microbiology and Director of Graduate School, Massachusetts Agricultural College. With 128 illustrations. Philadelphia: P. Blakiston's Son and Co., 1012 Walnut Street. \$2.50 net.*

Publications Received for Later Attention

"Mouth Hygiene." "The Healthy Baby." "Small Water Supplies." "Abnormal Psychology." "Statistics of Puerperal Fever and Allied Infectious Diseases." "Practical Eugenics." "Baby's Teeth." "A Simple Method of Water Analysis." "Aids to Histology." "The Welcome Photographic Exposure Record and Diary." "Insect Stories." "The Child in the City." "Health in Home and Town." "The New Physiology in Surgical and General Practice."

And receipt of the following publications not mentioned elsewhere in this issue is hereby acknowledged: "The Canadian Teacher" for August; "The Little Farms Magazine" for August; "Monthly Bulletin, Ohio State Board of Health" for August; "Bulletin, City of Winnipeg" for August; "The Rat, the Flea and the Plague," by Dr. Isadore Dyer; "The Educational Review" for August; Provincial and Federal Gazettes, etc.

To the Editor, *The Public Health Journal*,
State Medicine and Sanitary Review:

**Insanitary Conditions of Railway Depots
and Hotel Surroundings.**

Sir,—The Public Acts of 1909, with reference to public health, make it the duty of railway companies to keep passenger coaches warmed and well ventilated, all toilet rooms, water closets, urinals in railway depots, and all outdoor closets at railway stations "clean and in good repair."

Under "villages and cities," the public health laws give the councils of such villages and cities the power of abatement, correction and removal of all nuisances dangerous to life or health. Now, many of the railway companies operating in the State of Michigan are making an honest, efficient effort to comply with the provisions of the law; many village and city councils are trying to get rid of all nuisances menacing the public health. Notwithstanding all these efforts, however, the facts are apparent to any observing person who travels much about the state, that a large per cent. of the depot surroundings are nuisances and a menace to the health of the villages and cities in which they are located, and also to the traveling public, which in the largest measure supports them. Many hotel surroundings are positive nuisances, which should be corrected or the hotels closed. Ask our active, hustling, traveling men if this is not true.

A strict observation of the public health laws of Michigan by the village and city councils would close one-third of all the hotels in the state, in smaller cities and villages, all the hotels. If the laws for the conservation of the public health in this particular situation are right, why not have them enforced? If bad, let us have them repealed.

In the State of Kansas the bedbug nuisance became so annoying that a state law was passed providing for hotel inspectors, and many of the hotels were closed

before the law became effective. In Wisconsin there is a law against the use of the common towel placed upon rollers, and the hotels are observing the law, very carefully, too.

I believe that one of the worst forms of nuisances prevalent to-day is the uncleanly depot and hotel outhouse or closet. Wherever such a nuisance is found the law should be enforced for its correction.

D. E. McClure,

*Assistant Secretary Michigan State Board
of Health.*

Fresh Air and How to Use It.

Sir,—We are sending you herewith attached notice, which is somewhat out of the ordinary and we are, therefore, calling it to your attention through this letter.

We realize that your first impression on reading this notice may be that it is an attempt to get free advertising for a strictly commercial proposition, but I assure you that such is not the case. This book is published as part of the regular educational campaign of the National Association, and it has cost us to print it and publish it practically what we get for the sale of it, namely, \$1.00 per volume. In fact, when we count the volumes that we have to give free to our members and those that we send out for review copies, etc., I very much fear that we will be losing money on this volume.

We would like very much to give it to everybody, free of charge, but the funds of the National Association are so limited that we could not think of doing so. We are, therefore, planning, if we can get back the money we have tied up in this book, a cheap, paper-covered edition of the book, with sufficient advertising in it so that we can sell it for ten cents or less, or even give it away.

The National Association owns outright all of the rights of this book, and no one is getting any royalty from it, nor will they get any royalty from it. We are not trying

to impose upon you by asking for free advertising space in your columns. We, therefore, hope that you will be able to publish this notice, but in case you feel that you cannot, that you will not have an unfavorable opinion of our press service.

The following is the notice:

"Probably not more than one person in every hundred, taking the country as a whole, gets enough fresh air to ward off the ordinary attacks of dangerous infectious and contagious diseases," says Dr. Livingston Farrand, Executive Secretary of the National Association for the Study and Prevention of Tuberculosis, in a statement issued regarding the subject of this bulletin.

"People," continues Dr. Farrand, "fail to get enough fresh air either because their lungs or other respiratory organs are affected, or, more generally, simply because they do not open the windows and doors. For the former class a physician is needed, but for the latter, plain directions on how to live, work, play and sleep in the open air will do more than hospitals and drugs.

"To meet the need of this latter group,—not especially those who are sick but those who are seemingly well,—the National Association has prepared a handbook on "Fresh Air and How to Use It," written by our expert, Dr. Thomas Spees Carrington. This book is designed to prevent tuberculosis by showing those people who have no trace of the disease how to ward off the attack of consumption by living and sleeping in the open air. Failure to get enough fresh air by working and sleeping in poorly ventilated, overcrowded rooms is one of the most prolific causes of tuberculosis and also of a host of other infectious diseases. This free gift of nature is probably the world's best medicine, not only in the treatment, but also in the prevention of disease.

"Our new handbook on this subject tells how anyone can obtain fresh air in the home, the shop, or the schoolroom at a cost ranging anywhere from \$1.00 to \$1,000 or more, according to the elaborateness of the equipment desired."

While we cannot afford to distribute the book itself free of charge, we will send to anyone an illustrated synopsis or summary of it, entitled "Directions for Living and Sleeping in the Open Air," on request at our office, 105 East 22nd Street, New York City.

Philip P. Jacobs,

*Assistant Secretary National Association
for the Study and Prevention of
Tuberculosis.*

Cheap Health Administration.

Sir,—Amidst all this talk of epidemic of smallpox in Quebec and, Montreal typhoid in Ottawa, Toronto and Calgary, it is refreshing to find at least one city with a different showing. I have made inquiries in this city, and I find that at the time of writing there are no cases of smallpox, typhoid, diphtheria or scarlet fever, no infant under twelve months old died during the month of July, and the Isolation Hospital is empty.

The sanitary staff consists of one part-time medical health officer, one sanitary inspector, one visiting health nurse and one Isolation Hospital nurse. The city has a permanent but rapidly growing population of between twenty and twenty-five thousand, and a summer population of two or three thousand engaged upon dock and elevator Construction. The Cost of the Sanitary administration (except scavenging) amounts to less than \$9,000 per annum.

Can any other city beat this record?

*H. White,
Fort William, Ont.*

Meetings and Reports

[Material for this department to appear in any month should be transmitted before the 25th of the preceding month to *The Public Health Journal*, 43 Victoria St., Toronto, Canada.]

DOMESTIC

Provisional Programme of The Canadian Public Health Association Congress.

The programme for the meeting of the Canadian Public Health Association, which will be held in Toronto on Monday, Tuesday and Wednesday, the 16th, 17th and 18th of September next, is being rapidly filled.

The organization of the Annual Conference of Medical Officers of Health for Ontario will take place in connection with this meeting.

The public address will be given on the evening of Monday, September 16th, by Dr. W. A. Evans, of Chicago, who is recognized as one of the foremost public health authorities in America. The president, Dr. Charles A. Hodgetts, medical adviser to the Commission of Conservation, Ottawa, will make his address on Tuesday.

The meetings will be held in the Medical Buildings of the University of Toronto, and the Committee on Arrangements are making special efforts to ensure the success of the social features.

A smoker at the York Club Monday evening follows Dr. Evans' address.

Tuesday, from 4.30 p.m. to 7 p.m., Sir Edmund Osler will give a garden party at "Craigleigh."

Annual Dinner is on Tuesday evening.

A musicale will take place Wednesday evening, courtesy of Col. and Mrs. A. E. Gooderham.

The provisional programme has been arranged as below; sectional meetings to be held on Tuesday, September 17th.

There will be a general meeting of the Association at 10 a.m., Monday, September 16th, followed by a meeting of the Executive Committee at 11 a.m.

Arrangements have been made with the Eastern Canadian Passengers' Association whereby a Standard Certificate may be obtained at any Railroad Station in Canada and the United States entitling the holder to reduced return fare. *When purchasing your ticket ask for a Standard Certificate.*

It is estimated that the attendance at the Congress will be about 2,500.

1.—SECTION OF MILITARY HYGIENE.

J. T. Fotheringham, Lieut.-Col., A.M.C., D.O.D.M.T., chairman.

(a) "*Sanitation of a Besieged City or town.*"—G. Carleton Jones, Col., P.A.M.S., D.G.M.S., Canada.

(b) "*The Sanitation of the Bivouac.*"—D. B. Bentley, Lieut.-Col. A.M.C., District Officer of Health, Ontario.

(c) "*Simple Means for Ensuring Supply of Drinking Water on Active Service.*"—Campbell Laidlaw, Lieut. A.M.C.

(d) "*Some Observations on Sanitation for the Soldier.*"—T. B. Richardson, Major A.M.C.

(e) "*The Militia as a Factor in Public Health.*"—Lorne Drum, Major, P.A.M.S.

2.—SECTION OF MILK INSPECTION.

Andrew R. B. Richmond, V.S., B.V. Sc., chairman.

(a) "*Municipal Milk Inspection in Toronto.*"—G. G. Nasmith, Director of Laboratories, City of Toronto.

(b) "*Municipal Food Inspection.*"—Robert Awde, Chief Food Inspector, Toronto.

(c) "*Dominion Meat Inspection.*"—L. A. Wilson, in charge of Dominion Meat Inspection Staff, Toronto.

(d) "*Municipal Meat Inspection.*"—Andrew R. B. Richmond, Chief of Staff of Veterinary Inspectors, Toronto.

3.—SECTION OF SANITARY ENGINEERS.

T. Aird Murray, C.E., chairman.

(a) "*Toronto Filtration Plant.*"—F. F. Longley, C.E., Toronto.

(b) "*A Complete Sewage Disposal Plant for a Public Institution.*"—T. Lowes, C.E., Toronto.

(c) "*Filtration of Water from an Engineering Point of View.*"—T. Aird Murray, C.E., Toronto.

(d) "*How to Obtain Efficiency from Pressure Filters.*"—H. W. Cowan, C.E., Toronto.

- (e) *Paper*.—R. R. Knight, C.E., Toronto.
 (f) "*The Relation of Water Supply to Typhoid*."—B. G. Michel, C.E.

4.—SECTION OF MEDICAL OFFICERS OF HEALTH.

James Roberts, M.D., Medical Officer of Health, Hamilton, chairman.

(a) "*A Modern Hospital for Communicable Diseases*."—Dr. Chas. J. C. O. Hastings, Medical Officer of Health, Toronto.

(b) "*The International Hygiene Exhibition, Dresden*."—Dr. J. F. Honsberger, Berlin, Ont.

(c) "*Municipal Control of Milk Supplies*."—Dr. Whitelaw, Medical Officer of Health, Edmonton, Alta.

(d) "*The Importance of Trained Sanitary Inspectors*."—Dr. A. J. Douglas, Medical Officer of Health, Winnipeg, Man.

5.—SECTION OF MEDICAL INSPECTION OF SCHOOLS.

Dr. W. E. Struthers, Medical Inspector of Schools, Toronto, chairman.

(a) "*Tuberculosis in Children*."—Dr. J. H. Elliott, Toronto.

(b) "*Nursing Side of Medical Inspection of Schools*."—Miss L. L. Rogers, R.N., Toronto.

(c) *Lantern Slides of the Work of Medical Inspection of Schools in Toronto*.—W. E. Struthers, B.A., M.D., Toronto.

(d) "*The Feeble-Minded Child*."

6.—SECTION OF SOCIAL WORKERS.

Tuesday, Sept. 17th, 9.30 a.m.—12.30 p.m.

Joint Secretaries—Vincent Basevi, Editorial staff, the *News*, Toronto; Dr. W. B. Whyte, Medical Superintendent, Riverdale Hospital, Toronto.

Convener—Helen MacMurchy, Toronto.

(a) "*Prevention of Social Misery*."—J. Howard T. Falk, General Secretary Associated Charities, Winnipeg, Man.

Discussion—

Dr. J. A. Page, Medical Superintendent, Immigration Hospital, Quebec.

Dr. MacAuley, chairman Board of Health, Halifax, N.S.

Mr. J. W. Smith, president Children's Home, Victoria, B.C.

Dr. W. E. Home, Victoria, B.C.

Rufus D. Smith, secretary Charity Organization, Montreal.

Mrs. Smillie, Women's Club, Montreal.

Dr. H. Mullin, Hamilton.

Mr. Edward Gurney, Toronto.

Mr. Jos. W. Bonnier, Recorder of Vital

Statistics to the Quebec Government, Que.

Mr. Rowland Dixon, clerk of Statistics to the Manitoba Government, Winnipeg.

Miss Alice Ravenhill, Shawnegan Lake, B.C.

Mr. G. A. Smith, general supervisor, Toronto Playgrounds Association, Toronto.

Mr. G. Frank Beer, president Toronto Housing Co.

(b) "*The Dentist as a Social Worker*."—Dr. A. W. Thornton, Toronto.

Discussion—

Dr. Albert E. Webster, Toronto.

Mrs. Adam Shortt, Ottawa.

Mr. Joseph Likely, St. John, N.B.

Dr. W. H. Delaney, D.P.H., Quebec, P.Q.

(c) *A Symposium—The Scientific Management of Household Work and Workers. From the Viewpoint of—*

The Mistress—Mrs. L. A. Hamilton, Lorne Park, Ont.

The Maid—Miss Yates, O.A.C., Guelph, Ont.

The Physician—Dr. T. F. McMahon, Toronto.

The Church—Rev. Daniel Strachan, Toronto.

The Settlement—Miss Helm, University Settlement, Montreal.

The University—Miss Cartwright, Lady Principal, St. Hilda's College, Toronto.

Discussion—

Dr. Grace Ritchie England, Montreal.

Professor Stevenson, University of Toronto.

The proceedings will open at 9.30 a.m. and the chair will be taken at 10.00. Members of the Local Committee are requested to attend at 9.30 a.m. to assist in receiving the delegates and organizing the meeting. They are also invited to take part in the General Discussion which will follow the presentation of each topic. Time allotted for papers—twenty minutes. For discussion—from one to ten minutes for each speaker.

The Officers and Members of the Board of Management of all the Benevolent Societies, Government Institutions, Charitable Institutions, and Moral and Social Reform Associations of the City of Toronto, and the

following ladies and gentlemen constitute the local social workers committee:

Miss M. E. T. Addison, Dean of Annesley Hall.
 Prof. W. J. Alexander and Mrs. Alexander.
 Mr. C. J. Atkinson of the Boys' Dominion.
 Mr. J. E. Atkinson and Mrs. Atkinson.
 Miss Boulton, President of the Women's Canadian Club.
 Rev. Peter Bryce, of Earls court, and Mrs. Bryce.
 Mr. George Bryce, Central Neighbourhood House.
 Mr. John Cartwright, Deputy Attorney-General, and Mrs. Cartwright.
 Miss Charteris, Visiting Nurse, Hospital for Sick Children.
 Mr. A. R. Clarke, President of the Toronto Branch Canadian Manufacturers' Association.
 Rev. Archdeacon Cody.
 Mr. John A. Cooper and Mrs. Cooper.
 Prof. A. P. Coleman and Miss Helena Coleman.
 Dr. A. H. U. Colquhoun, President of the Canadian Club.
 Miss Curlette, Vice-President of the University Women's Club.
 Miss Davidson, the Technical High School.
 The Rev. Canon Dixon, of Trinity Church.
 Miss Dyke, Chief of the Tuberculosis Department, Medical Health Department.
 The Rev. Professor Eakin and Mrs. Eakin.
 Miss Elwood, Head Worker, Evangelia Settlement.
 Rev. G. S. Faircloth.
 Rev. W. B. Findlay, Superintendent of the Industrial Farm.
 Miss Clara Flavelle.
 Mr. Kaspar Fraser.
 Miss J. W. Fraser.
 Miss Gladys Gurney.
 Miss Helen Love Hart, S. Christopher House.
 Miss Holman, Nurse-in-Charge, Social Service Department, Toronto General Hospital.
 Mrs. Huestis, President of the Local Council of Women.
 Mr. Milton B. Hunt, the University Settlement.
 Rev. Prof. Jackson and Mrs. Jackson.
 The Chief Rabbi and Mrs. Jacobs.
 Mr. Miller Lash and Mrs. Lash.
 Professor Leathes and Mrs. Leathes.

Prof. G. I. H. Lloyd and Mrs. Lloyd.
 Dr. Mortimer Lyon.
 Mr. Norman Macdonnell.
 Miss Marjory MacMurchy, President Canadian Women's Press Club.
 Mr. Noel Marshall.
 Colonel Mapp and Mrs. Mapp, Salvation Army.
 Mr. Allan McGiffin, President of the Toronto Press Club.
 Mr. J. M. McIntosh, Secretary Toronto Branch Canadian Manufacturers' Association.
 Dr. A. C. McKay, Principal Technical School.
 Professor Alexander McPhedran and Mrs. McPhedran.
 Mr. R. E. Mills, Statistician to the Medical Health Department.
 Rev. Father Minehan.
 Dr. Geo. G. Nasmith, Director of the Laboratories, Medical Health Department.
 Miss Neilson, Tuberculosis Nurse, Medical Health Department.
 Mr. F. Gordon Osler, President Toronto Playground Association.
 Rev. Canon Plumtree, St. James' Rectory.
 Mrs. Plumtree, President of the Club for the Study of Social Science.
 Dr. R. A. Reeve, President of the Academy of Medicine.
 Mr. John Ross Robertson and Mrs. Robertson.
 Mr. Harry Smith, Supervisor C. N. R. Playground.
 Mr. G. T. Somers, President of the Board of Trade.
 Commissioner Starr, of the Juvenile Court.
 Rev. Byron Stauffer.
 Mrs. H. S. Strathy, Regent S. Elizabeth Chapter, D. O. E.
 Mr. Lesslie Thomson.
 Mrs. F. H. Torrington, President of the National Council of Women.
 Prof. Malcolm Wallace and Mrs. Wallace.
 Miss Walsh, Principal of the Bishop Strachan School.
 Mr. G. A. Warburton, General Secretary Y. M. C. A.
 Miss Nora Whitney.
 Mr. D. R. Wilkie.
 Mr. J. S. Willison and Mrs. Willison.

7.—SECTION OF LABORATORY WORKERS.

John A. Amyot, M.D., Toronto, convener.

Paper.—Dr. H. A. Hill, Director Institute of Public Health, London, Ont.

Paper.—Dr. Revell, Edmonton.

Paper.—Dr. G. G. Nasmith, Toronto.

8.—GENERAL SECTION.

(a) *“Diet in Relation to Disease.”*—Dr. H. B. Anderson, Toronto.

Professor V. E. Henderson, Toronto, and Professor Fotheringham will open discussion.

(b) *“How shall Canada Save her People from the Physical and Mental Degeneracy due to Industrialism as seen in the Great Cities of Older Civilization?”*—Dr. P. H. Bryce, Superintendent of Immigration, Ottawa.

(c) *Symposium—“Tuberculosis.”*—Dr. J. H. Elliott, Toronto.

Discussion—

Dr. G. D. Porter, Toronto.

Dr. Harold Parsons, Toronto.

Dr. W. B. Kendall, Muskoka Sanatorium.

Dr. C. D. Parfitt, Gravenhurst.

Miss Dyke, Toronto, and others.

“Prevention of Tuberculosis in the Country.”—Dr. H. G. Roberts, Guelph, Ont.

Paper.—M. D. White, M.D., Medical Sup't. Riverdale Hospital, Toronto.

Paper.—Dr. Fleming, Department of Health, Toronto.

“Hospitals as Factors in Promoting Public Health.”—Dr. Bruce Smith, Inspector of Prisons and Public Charities for Ontario.

“Dust in the House and on the Street.”—Dr. Adam Wright, chairman Ontario Board of Health.

“The Ontario Public Health Act.”—Dr. John W. S. McCullough, Chief Health Officer for Ontario.

(d) *“Open Air Schools for Children.”*—Dr. J. H. Holbrook, Hamilton.

(e) *“The Feeble-Minded.”*—Mr. J. P. Downey, superintendent Asylum for Insane, Orillia.

(f) *Paper.*—Dr. W. T. Shirreff, Medical Officer of Health, Ottawa.

(g) *“A Threatened Outbreak of Typhoid Fever in Fort William, and Means Taken to Successfully Abort It.”*—Dr. R. E. Wodehouse, District Officer of Health, Ontario.

(h) *Paper.*—Dr. H. W. Hill, Director Institute of Public Health, London, Ont.

(i) *“Medical Inspection of Public Schools.”*—Dr. A. P. Reid, Provincial Health Officer of Nova Scotia.

(j) *Symposium—“Communicable Disease.”*

(k) *Paper.*—Dr. H. G. Murray, Owen Sound.

(l) *Housing and Ventilation.*—N. Couchon, C.E., Ottawa.

(m) *“The Value of a Public Health Laboratory to a Municipality.”*—G. G. Nasmith, City Bacteriologist, Toronto.

(n) *The Effects of Immigration on the National Health.*—Will W. Lee, Secretary of Immigration Branch of Y.M.C.A., Quebec.

(o) *“Vitality of Bacilli in Water Supplies.”*—Joseph Race.

(p) *“The Open Window.”*—J. Fleming Goodchild.

“Of What Value are Sanatoria as a Public Health Measure?”—Dr. W. B. Kendall.

“A Federal Public Health Department.”—Dr. J. L. Chabot, M.P., Ottawa.

Canadian Medical Association.

The convention of the Canadian Medical Association in Edmonton was called to order Saturday afternoon, August 10th, at 2 p.m., when business of general interest was taken up. Meetings of the respective sections began on Monday morning following, and were continued till Wednesday. The addresses on Medicine and Surgery were delivered by A. D. Blackader, of Montreal, and A. E. Giles, of London, England, respectively, on the afternoon of Monday, and a symposium on Tumors of the Breast, with special reference to malignancy, was presented, Dr. A. Primrose, Toronto, giving the Surgical, and Dr. S. Pierce, Winnipeg, the Pathological aspect.

A Public Lecture by Dr. Adami, Montreal, was given Tuesday evening, followed by a reception and the Public Lecture by Mr. Sturm, of Chicago, on the Economics of Hospital Planning and Management was given Tuesday afternoon at 4 p.m.

The Canadian Medical Protective Association held a meeting at the close of the afternoon session of the second day.

Among the papers presented at this convention most closely bearing on public health were:

A New Test for Blood and its Comparative Value—Dr. R. H. E. Hardisty, 190 Peel Street, Montreal.

X-ray Diagnosis—Dr. C. V. Lockett, Vancouver.

Address in Medicine—Dr. Blackader, Montreal.

Infectious Diseases—Facts, Fallacies, and Speculations—Dr. H. W. Hill, Minneapolis.

Seven Years of Progress in Ontario Hospitals for Mental Diseases—Dr. E. Ryan, Kingston.

Tuberculosis—Dr. Ogden, Gravenhurst. The Control of Communicable Diseases—Chas. J. Hastings, Toronto.

Medical Inspection of Public School Children—Dr. Helen McMurchy, Toronto.

Flies vs. Health—Dr. J. S. Todd, Montreal.

Control of Smallpox—Dr. T. H. Whitlaw, Edmonton.

The Dresden Exhibition of Hygiene—Dr. Home, Victoria, B.C.

Typhoid Epidemiology or Cholera Infantum—Dr. Jennie Drennan, Rosebank, N.Y.

Economics of Hospital Planning and Management—Mr. Sturm, Chicago.

The Sins of the Father—Dr. J. George Adami, Montreal.

Professor Broadus of the University of Alberta gave an interesting address on the morning of the 14th, "Medicine and English Literature," in which he pointed out that no other profession except the ministry is so close to literature.

Dr. Hugh McCallum, of London, Ont., is the new president of the Canadian Medical Association, Dr. Francis being elected secretary-treasurer. This is a new office created this year and is to be a salaried position. The retiring officers are Dr. Mac-Kid, Calgary, president; Dr. Archibald, secretary, and Dr. Small, treasurer.

vention of the Union of Canadian Municipalities, held in Windsor, Ont., on the 27th, 28th and 29th of August, listened to a number of interesting papers.

A variety of subjects were treated during the sessions, among them being "Electric Franchises," by L. A. Cannon, K.C., of Quebec; "The Operation of Public Utilities in Sherbrooke, by Mayor Herbert, Sherbrooke and "Good Roads and Their Effect on Rural Life and Transportation," by Mayor Spencer of Medicine Hat; Ald. Reginald V. Harris, of Halifax; read a paper on "Exempted Properties in Capital Cities." F. S. Spence, of Toronto, Harbor Commissioner and former controller, spoke on "The Commission Form of Government"; J. A. Clarke of Edmonton, on "Equitable Municipal Taxation"; W. Hepburn of Vancouver, on "Municipal Taxation"; Mayor Hopewell of Ottawa, on "The Georgian Bay Canal"; G. W. Walters of Detroit, on "Moving Picture Shows"; J. A. Boyne of Regina, on "Municipal Progress in the West"; John Perrie of Edmonton, on "Municipal Legislation in Alberta"; F. W. W. Doane of Halifax, on "Cleaning of Water Mains"; A. C. D. Blanchard of Lethbridge, on "Sprinkling Boulevards"; G. A. Harvey of Winnipeg, on "The Price of Cement"; J. W. Cockburn of Winnipeg, on "Winnipeg Hydro-Electric Power Plant"; E. A. Reilly, of Moncton, on "Natural Gas in Moncton and Vicinity"; Mayor Spencer, of Medicine Hat, on "Life and Transportation"; S. Morley Wickett, of Toronto, on "Municipal Government by Commission"; and H. J. Ross, of Montreal, on "Uniform Municipal Accounting and Statistics."

Domestic Notes.

With the election of officials and choice of place for next meeting the Canadian Horticultural Association's convention came to a close on the 8th of August, after three days of afternoon and morning sessions. Peterboro was chosen as the seat for next year's convention. The new officers are as follows:—President, W. Muston, Davisville, Ont.; 1st Vice-President, H. B. Cowan, Peterboro; 2nd Vice-President, George Hopton, Montreal; Secretary-Treasurer, Jules Luck, Montreal. Executive Officers—D. M. Milford, Sherbrooke;

Convention of the Union of Canadian Municipalities.

The delegates to the twelfth annual con-

F. Wise, Peterboro; A. Ferguson, Montreal; J. Graham, Ottawa; A. H. Ewing Woodstock; H. G. Mullis, Brampton; A. Annadale, Toronto; F. S. Chaseman, London; E. I. Mepstead, Ottawa.

Dr. A. S. Estey, Medical Health Officer of Calgary, tendered his resignation on the 10th of last month to the Mayor. His action came as the climax to the general outcry on the part of the press and public against conditions obtaining for some time in the matter of public health. He was condemned by the recent Civic Investigating Committee and was recommended for dismissal, as was also his assistant, Sanitary Inspector Fox. The latter, however, refused to resign and defies the aldermen to give specific instances of his incompetency.

The British Columbia Provincial Board of Health has ruled that no animal shall be slaughtered for food, and no house, barn, shed, or other building or structure shall be used as a slaughter-house within that portion of Esquimalt district as shown on the map accompanying the order, or more particularly described as lying within the following boundaries, namely: On the east, the City of Victoria; on the south and west, Esquimalt Harbor to Parson's Bridge; on the west, a line drawn due north from Parson's Bridge to the northern boundary of Esquimalt District; on the north, the northern boundary of Esquimalt District east to Knockan Hill, thence south to Portage Inlet, and along Portage Inlet to the City of Victoria. Notice is also given that the Sanitary Regulations of the Provincial Board of Health, dated the 30th day of June, 1896, are declared to be in force in the City of Nelson from the 31st day of July, 1912, under authority of sub-section 1 of section 3 of the said regulations; and that sections 9 to 40, inclusive, of the Sanitary Regulations of the Provincial Board of Health, dated the 30th day of June, 1896, are declared to be in force in the City of Port Alberni from the 20th day of June, 1912, under authority of sub-section 1 of section 3 of the said regulations.

In the report on vital statistics presented

by Dr. C. J. Hastings to the Board of Health of Toronto, last month, the Medical Health Officer declared that 68 per cent. of the deaths of infants were caused by the various diseases of nutrition and that the majority of these deaths were preventable. Toronto's death rate was lower for July, 1912, than for July, 1911, on account of the absence of any violent heat wave such as was experienced last year. There were only two deaths from heat, as opposed to 42 last year. The rate per 1,000 population was 12.2 per cent. as opposed to 15 per cent. last July. The improvement in the number of deaths under the head of digestive diseases is attributed by the doctor to the improved milk supply and less severe heat. The rate of contagious diseases suffered a notable decline, when only 21 instead of 31, as last year, died from these causes. Seven of the 10 deaths from diphtheria occurred in the St. Vincent Infants' Home, where there was an epidemic, the causes of which are under a searching investigation. There was a similar epidemic there in February.

His Honor the Lieutenant-Governor of Quebec has been pleased, by order-in-council, to appoint Mr. J. P. L. Bissonnette, of Saint Esprit, County of Montcalm, a member of the Board of Health of the Province of Quebec.

The Toronto Humane Society supplies, free of charge, a dog trough to every citizen who will undertake to keep it at the service of thirsty dogs. This undertaking involves the maintaining of the trough in a state of cleanness and the refilling of it with fresh water every day. Also the trough is to be taken in at the end of the season and painted for use the following year. It is to be kept in front of the house. The dog has plenty of friends in Toronto and large use is certain to be made of this provision of the Humane Society in his behalf.

Advance Notices, Alphabetical.

Canadian Public Health Association 1912 Congress, Toronto, September 16th, 17th and 18th, inclusive, Charles J. C. O. Hastings, M.D., M.H.O., City Hall, Chairman; T. Aird Murray, M.C.S.C.E., Lumsden Building; Duncan Anderson, M.D., 28

Wellesley St., and Dr. Helen MacMurehy, 133 Bloor St. East, Secretaries, Committee for Local Arrangements.

Child Welfare Exhibition, Montreal, October, 1912. The objects are: I. To present evidence of all the various activities—educational, religious, charitable, philanthropic, and medical making for the improvement of conditions of child life, so that their existence and special work may be advertised, their inter-relationship may be recognized and the public be further stimulated to support and advance their endeavors; II. To show the deficiencies in public and private organizations and to suggest remedies for the same, drawn from the experience of other communities, in this way supplementing and extending the work already being accomplished; III. To correlate the endeavors of many existing associations, developing thereby a body of concerted opinion sufficiently strong and influential to bring about the needed improvements in the surroundings and upbringing of the city child. It is proposed that the Exhibition shall have the following departments: 1. The Health of the Child; 2. The Home of the Child; 3. The Education of the Child; 4. The Moral and Reli-

gious Life of the Child; 5. The Recreation of the Child; 6. City Environment and the Child; 7. The Law and the Child; 8. The Social Life of the Child; 9. The Care of the Abnormal Child; 10. Philanthropy and the Child. The Executive Secretaries are: W. H. Atherton, Ph.D., 62 Beaver Hall Hill; Tel., Up 1380; and Rev. J. O. Maurice, L.L.L., 35 Ontario, East; Tel., East 925.

Royal Architectural Institute of Canada, Public Library, Ottawa, October 7th, 1912. Alcyde Chausse, Honorary Secretary, 5 Beaver Hall Square, Montreal.

Saskatchewan Medical Association, Moose Jaw, September 3rd, 4th and 5th., President S. W. Radcliffe, M.D.; Secretary-Treasurer, Arthur Wilson, M.D.

Forestry Association, Canadian. Convention will be held in Victoria, B.C., Sept. 4th-6th. Secretary, James Lawler, Canadian Building, Ottawa.

Royal Architectural Institute of Canada. Annual Assembly will be held at Ottawa, in the Public Library, on 7th October, 1912. Hon. Secretary, Alcide Chausse, 5 Beaver Hall Square, Montreal, Que.

INTERNATIONAL

International Congress on Industrial Accidents.

The third International Medical Congress on Industrial Accidents was held in Dusseldorf from the 6th to the 10th of last month. Previous conferences took place at Liege (1905) and Rome (1909), and the published proceedings of these provided an immense amount of valuable information respecting this important modern branch of medicine and surgery. The questions submitted for discussion this year were exceedingly practical, and such an international exchange of views as was provided should be of material assistance in concentrating and adding to our knowledge in this branch of study. They were as follows:

(1) Comparative study of the Compensation Acts in force in various countries.

(2) Importance of early institution of functional treatment in cases of industrial accident.

(3) Traumatic diseases of the heart and blood vessels.

(4) Traumatism and arthritis deformans.

(5) Productive and aggravating influence of trauma on cancer.

Although these subjects are purely medical and of particular interest to medical referees and medical officers of accident in-

urance companies, the membership of the Congress is not restricted to the profession, but is thrown open to representatives of insurance companies and associations of employers or workpeople.

International Notes.

The sixth Pan-American Congress held its meeting at Lima in August (3rd to 10th) in connection with the Latin-American Medical Congress and the Congress of Hygiene, under the patronage of the President of the Republic of Peru. The work of the Congress was divided among eight sections—(1) anatomy and physiology; (2) bacteriology and parasitology; (3) medicine, including (a) clinical medicine, therapeutics and symptomatology, (b) children's diseases, (c) mental and nervous diseases, criminology and legal medicine, (d) tropical medicine and epidemiology; (4) surgery, including (a) clinical surgery, paediatric surgery, (b) eye, ear, nose and throat, (c) venereal and urinary diseases, dermatology, (d) obstetrics and gynaecology; (5) hygiene, including (a) military and naval hygiene, (b) tuberculosis, (c) health of children, (d) alimentation, (e) city and rural, professional and school hygiene, (f) social and statistical

demography, sanitary legislation, (g) sanitary technology; (6) physics, chemistry, natural history, pharmacology; (7) veterinary medicine; (8) odontology.

What is believed to be a most drastic and at the same time most effective plan for the elimination of "frills" and kindred evils from accident policies was launched at the meeting of the accident and health section of the International Association of Casualty and Surety Underwriters meeting at Old Point Comfort last month. After considerable discussion the following resolution was unanimously adopted: "That the matter of policy changes be referred to the Standing Committee nominated at this convention, and that the companies will adopt such changes in the policy forms as may be recommended by the unanimous vote of the Standing Committee, and that each company deposit with some member of the Standing Committee a proxy or authority to abide by the unanimous action of the Standing Committee, and to make the policy changes so recommended." The committee was instructed to prepare a report and to notify the companies of the effect of this report not later than October 1st next, and that the proposed policy changes shall be effective January 1st, 1913. The new Standing Committee of the accident and health section is as follows: H. R. Woodward, Fidelity and Casualty; W. C. Potter, Preferred Accident; E. S. Lott, United States Casualty; B. A. Page, Travelers, and W. G. Curtis, National Casualty.

For the first time the International Council of Nurses has been accorded Government recognition, the German Ministry for Foreign Affairs having taken a special interest in the Nursing Congress held at Cologne in the beginning of August. The delegates came from every European country, New Zealand, Cuba, Australia, China, and Japan, and made a pilgrimage to the Kaiserwerth Home, which was founded by Friederike and Pastor Fliedner, and

whence Elizabeth Fry, Florence Nightingale, and Agnes Jones all received their impulse towards the work which has made them famous.

Advance Notices, Alphabetical.

American Public Health Association Congress Washington, D.C., September 18th, 19th and 20th, 1912—particulars later.

Chambers of Commerce and Industrial and Commercial Associations, Fifth International Congress of the. Boston, Mass., September 24-28.

Chemistry, Congress on Applied. Washington D.C., September 6-13. Secretary, Bernard C. Hesse, M.D., 25 Broad St., New York.

Congress of Hygiene and Demography, Fifteenth, Washington, D.C., September 23rd to 28th, inclusive, 1912. Dr. Joseph W. Schereschowsky, Director, Dr. John S. Fulton, Secretary General.

Farm Women, First International Congress of Lethbridge, Alberta, October 21-25. Secretary-Treasurer, Eleanor L. Burns, Lethbridge, Alberta.

Geological Congress.—Twelfth Annual Meeting to be held in Canada during the summer of 1913. Secretary, W. S. Lecky, Victoria Memorial Museum, Ottawa.

International Congress of School Hygiene, Buffalo, N.Y., August 25th to 30th, 1913; the fourth but the first held on the American continent.

Labor Legislation, Association for. Zurich, Switzerland, September 10-12. Secretary, Stephen Bauer, Basel, Switzerland.

League of American Municipalities. The next convention of this league will be held in Buffalo, N.Y., and in 1913 it will likely be held in Winnipeg.

Sanitary Congress of American Countries, Fifteenth, Santiago, Chili, November, 1912. Dr. De Rio, President.

Prison Congress, Quinquennial, London, Eng-1915. Secretary, F. Simon Van der Aa, Groningen, Holland.

Relief, Committee on Public and Private. London, Eng., 1915. Secretary, Charles S. Loch, Charity Organization Society, London, Eng.

Roads Congress.—The Third International Roads Congress will be held in London, England, in June, 1913. Secretary, W. Rees Jeffreys, Queen Anne's Chambers, Broadway, Westminster, London, S.W.

Surgeons of North America, Clinical Congress of. Third Congress, Chicago, November 11 to 16. Franklin H. Martin, General Secretary.

Testing Materials, International Association Corps. Sixth Congress, 29 West Twenty-third St., New York City, September 2nd to 7th, inclusive, 1912. B. G. Hesse, Secretary, 25 Broad St., New York City.

Unemployment, International Association for Fight Against. Ghent, Belgium, 1913. American Corresponding Officer, John B. Andrews, 1 Madison Avenue, New York.

UNITED STATES

American Association for Hygiene and Public Baths.

As a result of the conference which has

been held in New York City on the question of municipal baths the American Association for Hygiene and Public Baths

has been organized. Dr. Simon Baruch was elected president. The other officers are: Vice-president, Thomas M. Beadenkoff of Baltimore; treasurer, A. P. Windolf of New York; secretary, William H. Hale of Brooklyn; recording secretary, Mrs. J. Wells Wentworth of New York. The following directors were elected: W. L. Ross of Philadelphia, H. C. McGrath of Boston, Dr. Joseph E. Gichner of Baltimore and Mrs. Frederick Jacobson of Newark. It was decided to hold the next meeting of the organization in Baltimore on May 30 next year.

Part of the conference was devoted to a discussion of what had been accomplished and what could be brought about by a system of public baths. Mr. Hale, of Brooklyn, who is considered an authority on the subject, talked on the extension of the public bath system. He said:

"Extension of the public baths is the keynote of our whole conference. It is significant of awakened interest that we are holding this conference at all, the first of the kind ever held; significant that a world conference of bath officials has already been called to convene at The Hague this summer. All the world is learning this lesson—that we must provide baths for the masses; health, comfort, sanitation demand this.

"We pay millions upon millions in erecting and equipping palaces of education and we do well, but what is education without health and what is more conducive to health than personal cleanliness? The swimming pools are found to have an immediate effect in reducing the death rate of localities in which they are opened. It is said that statistics prove this in London, where many of these pools are already in operation.

"Over all the buildings should be the roof gardens, which have been found so conducive to health, and especially is this true of the Coney Island bath, where the fresh ocean breezes will infuse new life and vigor into the multitude of people who can be accommodated on that great expanse.

"Mr. Beadenkoff of Baltimore spoke on portable baths, that is, baths so constructed that they may be moved from one

part of the city to another. W. L. Ross of Philadelphia went into the subject of a laundry as an adjunct to a public bath and Mrs. Wentworth told of an investigation she had made in connection with baths in public schools. She told a story which amused the delegates. She learned when she began her investigation, she said, that young foreigners were afraid to enter the public baths. But once they learned that it was a good thing for them they soon crowded the public bath houses. If they could not get a public bath house they took the next best thing. One day a complaint was made that the water in a tenement could not be used. An inspector from the Tenement House Department went to the building. He climbed to the roof. When he got there he heard shouts of joy. Several boys were using the water tank for a swimming pool."

In closing the meeting a speech was made by Dr. Baruch, which was applauded by the delegates. He said:

"Cleanliness is the chief element in sanitation. Until recent years the important physiological truth that personal cleanliness is an important factor in the maintenance of bodily functions appears to have been lost sight of by the public authorities."

Dr. Baruch traced the history of public bathing from the time of the Romans, saying that there was practically no municipal provision for personal cleanliness except in the United States. The river baths which were supplied by municipalities were refreshing but not sanitary.

"I do not wish to be understood as objecting to river baths," Dr. Baruch said. "They have their uses, but they do not clean the bather. That municipalities are in duty bound to provide the means for cleansing the soiled bodies of the working people free of expense has been my propaganda for twenty-five years. I have said, 'Health is wealth; frequent bathing promotes health.' This simple sentence may be safely made an axiom of political economy and thus be a guide to municipal authorities. I have contended that these baths should be as free as the parks; access to their health giving water should be free and unobstructed as entrance into the health bringing air of the parks."

American Medical Association.

In an address before the American Medical Association meeting recently in Atlantic City, Michael M. Davis, Jr., director of the Boston Dispensary, made the statement that at least 225,000 persons, or one-third of the population of Boston, are recipients of medical charity from the out-patient departments and dispensaries in Boston. This work is growing, he said, owing to the increasing public demands for better care of the health of the masses of people.

"The three cities of Boston, Chicago and New York," he said, "have a combined population of 7,622,751, and it is estimated that 45 per cent. of them are receiving dispensary aid. In Boston and New York the estimates indicate that the proportion is not less than one-third. In these three cities the out-patient departments and reputable dispensaries are providing medical service for fully 2,500,000 people and are expending annually at least \$1,500,000. In the country as a whole millions of dollars are spent in the treatment of patients. Has one hundred dollars been spent in studying the results of the treatment, in testing methods and in framing standards by which to estimate achievements in relation to expense?"

"The general method of an efficiency test is to investigate work done in relation to efforts expended; or, in other words, to compare results with cost. In the case of an out-patient department this means selecting a group of patients according to any method that does not involve bias, and seeing what happens to these patients as the outcome of their visits to the clinics. The results achieved are from one standpoint, primarily medical, but our point of view must include results as well as medical, if we are to judge out-patient efficiency aright. In reference to an individual patient this means that he is not to be considered merely as a disease; that is, as a heart, liver or a broken leg, as he sometimes is to a specialist. He must be looked upon as a human being, a member of society, and our results are to be judged by the improvement which we produce in his health, working efficiency, or, I might say more broadly, his living efficiency as a member of a family."

The speaker then discussed two methods for studying efficiency, basing them in part on tests made at the Boston Dispensary. The simpler method is solely statistical. Successful treatment under given clinical conditions would normally require a certain number of visits for each disease; it might be one, it might be twenty, it would vary with the diagnosis. "Of course there would also be differences between patients," he said, "but if we use sufficiently large numbers to reduce the influence of individual peculiarities we render it possible to average our figures and secure results of considerable interest. Tests by this method will enable us ultimately to set certain standards to which a clinic devoted to certain diseases should conform, if it is to do good work. We shall find a minimum average number of clinic visits per patient necessary to secure successful treatment. I am now pursuing, with the co-operation of a physician in charge of a large children's out-patient clinic, a series of studies along this line with a view that we may understand about the number of visits and about the amount of time that needs to be spent on the average patient in that clinic to secure good results.

"The second method of making an efficiency test I may call the personal or intensive method. According to this plan we interview the patient in the clinic and at home and obtain facts about his life, his family conditions, etc. We also study the medical records. We visit the patient at home after he has been treated in the clinic and thus have a complete history of the case showing three points: (1) the medical and social problem which the patient brought with him at his first visit, (2) the diagnosis and treatment which he received, (3) the outcome of his treatment as judged by the clinical record itself and by home visits made after treatment has been given.

"Circumstances that most diminish the efficiency of an out-patient department are the failure of the patients to return for treatment. 'He never came back' is the common complaint. To meet this we have a follow-up system. Improved records which tell automatically when patients should return are valuable aids

here, but social workers with a medico-social training are still more helpful. The physician has, as a rule, neither the training nor the time to grapple with the conditions of poverty, industry and personality which lie behind a large proportion of the diseases of out-patients. Unless they are dealt with, however, neither patient nor physician can expect to get satisfactory results and there is a good reason why the patient does not come back.

"The growing public demand for more and better out-patient work faces the institutions with the dilemma of either failing to elevate their service or of raising large sums from private philanthropy or from municipalities. For these increased funds we need to be able to go to charitable givers, to city councils, or to legislatures with figures to back us, as well as hopes.

Re-forestration and conservation of the woodlands of the country was advocated by the American Medical Association at the final sessions of their sixty-third annual convention. A resolution embodying points brought out by President Jacobi, of New York, in which it was declared that such work on the part of the Federal Government would be the only preventative against future devastation of huge sections of the country, similar to the recent disasters along the Mississippi, was ultimately adopted.

Another resolution, which was considered and then referred over until next year, when truer representation of facts can be submitted, asked that the Federal Department dealing with inter-state commerce question, secure the enactment of laws forcing the payment of a revenue by all trade houses dealing in opium and side products between states.

A third resolution asked for the creation of a National Board of Health and passed only after a warm debate. The physicians backing the measure downed the opposition, whose argument had been that the resolution might be misinterpreted by the public at large, by declaring that the move was taken as citizens with the welfare of the country at heart and not as professional men.

In the section on ophthalmology, Dr.

John A. Donovan, of Butte, Mont., declared the sight of the nation's marksmen is the real defense of the country in time of war. He called on eye specialists to assist in the work of preventing injury or accident to the eyes of the riflemen in the army, navy, and state militia. The hookworm must shoulder some of the responsibility for eye trouble in the opinion of Dr. F. P. Calhoun, of Atlanta.

Typhoid fever is at last being successfully checked through anti-typhoid inoculation in the opinion of experts who appeared before the section on public health. In a paper read by Dr. Leslie H. Spooner, of Boston, it was shown the danger to nurses and others who come in direct contact with patients suffering from typhoid has been practically eliminated by the treatment.

Dr. M. L. Ravitch, of Louisville, in the section on dermatology, made a plea for earlier diagnosis of pellagra, as it presents a most serious problem in the southern states. He favored the protozoan theory as the most plausible one with regard to the origin of the disease, the transmission being through migratory birds.

Dr. John A. Witherspoon, of Nashville, Tenn., was elected president of the association by the house of delegates, which looks after the business of the organization.

Minneapolis was chosen as the meeting place for 1913, in June.

United States Notes.

Dr. P. M. Hall, Health Commissioner of Minneapolis, has issued a sweeping order to sanitary inspectors which spells the doom of 9,000 of the 17,000 vaults in Minneapolis and also a great number of cess-pools. Every property owner who can make sewer connections will be ordered to do so and every sanitary inspector will be charged with the duty of seeing that this order is carried out in his district.

A bill for the physical examination of brides and grooms before marriage, offered in the 1911 Legislature of Wisconsin by Senator G.E. Hoyt, a physician, and never

reported out of committee, will be reintroduced in the 1913 session. The measure was fostered by the State Board of Health, which will assume a like responsibility next winter. Less than a year after this bill had been smothered, Dean Walter T. Sumner, of Chicago, gained widespread attention by announcing his determination not to marry couples in the future who do not come provided with health certificates given after examination by competent physicians. Fortified with this example, the State Board of Health will press the new bill for passage.

The last monthly report of Colonel Gorgas, the chief sanitary officer of the Panama Canal zone, is interesting as indicating that rabies in animals has been as completely obliterated as many of the diseases of human beings. The disease in the canal zone appeared among animals early in 1908 or late in 1907. The affection was introduced from the United States. It is evident that with proper sanitary regulations this affection, which so often results fatally among human beings and causes suffering and fatality among animals, may be entirely stamped out. The power of sanitary regulations over every phase of disease becomes strikingly manifest where, as at Panama, efficient control can be secured by the sanitary authorities.

The Michigan State Board of Health is investigating sanitary condition of depots throughout the State. The campaign is being carried on through the local health officials.

The Alabama State Board of Health is co-operating with the State Agricultural Department in arranging the operation of the farmer's exhibit train which will be run through the State, stopping at all important points. The Board of Health will have representatives on the train to distribute health literature to the farmers and their families and these representatives will also make a special study of health conditions in each community.

The State Board of Health in Indiana has made it compulsory for every saloon-

keeper who sets up a free lunch to provide each patron with an individual spoon, knife and fork. Besides this, there must be glass cases or other covers to keep off the flies and dust. The old times when Mr. Fly could swarm in every place where food for human beings was stored or prepared, from butcher shops and grocery stores and kitchens to the dining-room itself, have departed from Indiana at least.

Headache powders are blamed for an increase in deaths from heart failure in St. Paul by Howard Lankester, Health Commissioner. Since 1896 the annual deaths from heart failure have increased from 86 to 246 in the past year.

Over 700 farmers of Ford and adjacent counties in Kansas have signed a petition protesting against the ruling of the Kansas Board of Health, pronouncing wheat containing one and one-half pound of weed seed adulterated. The petition's presentation has been delayed because of the intense interests. The farmers call the ruling an outrage.

Advance Notices, Alphabetical.

American Association for the Advancement of Science, Cleveland, Ohio, December 30, 1912, to January 4, 1913.

American Hospital Association, Detroit, September 24-27, inclusive, 1912.

American Institute of Architects, Washington, D.C., during December, 1912.

Charities, National Conference of Catholic Washington, D.C., September 22-26. Secretary, Rev. Dr. William J. Kerby, Catholic University, Washington, D.C.

Infant Mortality, American Association for Study and Prevention of. Cleveland, Ohio, Oct. 2-5. Executive Secretary, Gertrude B. Knipp, Medical and Chirurgical Faculty Building, 1211 Cathedral St., Baltimore, Md.

Municipal Improvement, American society on. Dallas, Texas, November 12-16. Secretary, A. Prescott Folwell, 50 Union Square, New York.

National Dental Association, Washington, D.C., September 10-13, inclusive, 1912.

Pellagra, National Association for the Study of. Columbia, S.C., October 3-4. Information may be secured from Dr. J. W. Babcock, Columbia, S.C.

Red Cross, American, Washington, D.C. December. Secretary, Charles L. Magee, Washington, D.C.

Road Builders' Association. Ninth annual convention, Cincinnati, December 3, 4, 5 and 6, 1912. The Secretary, 150 Nassau St., New York City.

Road Builders Association, ninth annual convention, Cincinnati, December, 3rd, 4th, 5th and 6th,

1912. The Secretary, 150 Nassau St., New York City.

THE EMPIRE AND THE WORLD ABROAD

Congress of the Royal Institute of Public Health.

The Congress of the Royal Institute of Public Health was recently held in Berlin, Germany, and for the first time outside the United Kingdom. The reasons why the 1912 meeting was held in the German capital are twofold. In the first place, the members wished to see the institutions established by the Germans for the promotion of hygiene, to compare notes with German hygienists and men of science on the methods adopted to improve the well-being of the people, and on the results achieved, and, if possible, to collect material that might serve to aid them in their own work at home. In the second place, the members hoped that their visit would, by enabling a large number of men actively engaged in public life in the two countries to make each other's acquaintance, assist in the movement whose aim is to bring about a better understanding between the two nations.

Emphasis was therefore laid on this hope by Earl Beauchamp, the First Commissioner of Works, in his inaugural address as president of the institute. "Our objects are scientific," the president stated; "but it would be impossible for me to let this opportunity go by without expressing the hearty desire of the British people for friendly relations with this great country." The speaker referred to England's indebtedness to Germany in the domain of applied hygiene, and added: "The British people have much to learn from the great Teutonic nation in all matters of scientific inquiry, and a peaceful rivalry in subjects such as these is, I hope, the only rivalry that will ever separate the two nations."

Expression was also given to the same hopes and sentiments, but in a more enthusiastic manner, at the banquet arranged by the City of Berlin in honor of the Congress, at the official Congress banquet, and on other occasions when the members of the institute met a large number of their German confreres. In proposing the toast

of "The Institute" at the Congress banquet, his Excellency, Professor Dr. von Schjerning, chief of the medical corps of the German army, said the members of the Royal Institute had taken a wise step in coming to Berlin themselves, for anyone who really wants to know what another nation is doing and what its feelings are must make a personal visit, and mix with the other people.

The work accomplished at this Congress was enormous. Upwards of 130 papers were read, in English or in German, and about 20 most important institutions inspected, not to speak of banquets, excursions, and ordinary sight-seeing.

The whole of the Herrenhaus, the Prussian House of Lords, was placed at the disposal of the Royal Institute for the purposes of its Congress, and everything was done on the German side that possibly could be done to make the Congress a success, from both a scientific and from a social point of view.

Royal Sanitary Institute Congress.

The Royal Sanitary Institute's twenty-seventh annual Congress was held at York, England, last month. His Royal Highness Prince Arthur of Connaught, K.G., patron of the Congress, opening the Health Exhibition on that day at 3 p.m. The Most Rev. His Grace the Lord Archbishop of York acted as President of the Congress.

The programme for the week was most interesting, including lectures to the Congress by Professor Karl Pearson, M.A., LL.B., F.R.S., on "Eugenics and the Public Health," and Professor Henry R. Kenwood, M.B., D.P.H., F.R.S.E., on "The Healthy Home."

More than 250 authorities, including foreign and colonial Governments, County Councils, County Boroughs and other Sanitary Authorities, Universities, and Societies were represented by delegates to the Congress. The Institute has over 4,000 members and associates.

Local arrangements were in the hands of an influential Local Committee, presid-

ed over by the Right Hon. the Lord Mayor of York, with the Town Clerk, the Medical Officer of Health, and the City Engineer as Local Hon. Secretary.

The chief details of the programme, as carried out, are given below:

Saturday, July 27th.—3 p.m.: Opening of the Health Exhibition in the Exhibition Buildings by H.R.H. Prince Arthur of Connaught, K.G.

Sunday, July 28th.—Special services in the Cathedral and other churches, full particulars of which will be given in the local programme.

Monday, July 29th.—1 p.m.: Reception of members and delegates in the Mansion House by the Right Hon. the Lord Mayor. 1.30 p.m.: Public luncheon in the Guildhall (tickets 3s. 6d.). 3 p.m.: Visits to the Minister, St. William's College, King's Manor House, St. Mary's Abbey Ruins, and "The Retreat" Asylum. 8 p.m.: Inaugural address to the Congress in the Festival Concert Hall by the Most Rev. His Grace the Lord Archbishop of York.

Tuesday, July 30th.—10 a.m.: Meetings of Section—(A) Sanitary Science and Preventive Medicine, in the Museum; (C) Domestic Hygiene, in the Exhibition Buildings; Conferences of municipal representatives in the Guildhall, and of Engineers and Surveyors in the Exhibition Buildings. 2.30 p.m.: Steamer excursion to Naburn Locks, the Archbishop's Palace, and visits of inspection to New Earswick model village and other public works. 8 p.m.: Lecture to the Congress in the Festival Concert Hall by Professor Karl Pearson, M.A., LL.B., F.R.S., on "Eugenics and Public Health."

Wednesday, July 31st.—10 a.m.: Meetings of Sections—(A) Sanitary Science and Preventive Medicine, in the Museum; (E) Industrial Hygiene, in the Exhibition Buildings; Conference of Sanitary Inspectors, in the Exhibition Buildings. 2.30 p.m.: Visits of inspection of public works. 2.30 p.m.: Garden party at Messrs. Rowntree's Cocoa Works. 8 p.m.: Conversation and reception in the Assembly Rooms, at the invitation of the Right Hon. the Lord Mayor of York.

Thursday, August 1st.—8.15 to 9.40 a.m.: National Temperance League breakfast in Assembly Rooms. The President of the League, the Very Rev. the Hon. J.

W. Leigh, D.D., Dean of Hereford, in the chair. Excursions to Ripon and Fountains Abbey, Harrogate and Knaresborough, Richmond Castle (Swaledale), Helmsley and Rievaulx Abbey, Doncaster model colliery villages, Scarborough and Whitby. 7.30 p.m.: Popular lecture in the Festival Concert Hall by Professor H. R. Kenwood, M.B., D.P.H., F.R.S.E., on "The Healthy Home." Councillor J. B. Inglis, Sheriff of York, in the chair.

Friday, August 2nd.—10 a.m.: Meetings of Sections—(B) Engineering and Architecture, in the Museum; (D) Hygiene of Infancy and Childhood, in the Exhibition Buildings; Conference of Medical Officers of Health, in the Exhibition Buildings. 2.30 p.m.: Excursion to Selby Abbey and Gateforth Hall Sanatorium, and visits of inspection of public works and ancient buildings. 3.30 p.m.: Garden party at Grays Court, York, at the invitation of Mr. and Mrs. Edwin Gray. 5.30 p.m.: Organ recital, in the Cathedral. 8 p.m.: Congress dinner, in the Assembly Rooms (tickets 7s. 6d. each). The president, the Most Rev. His Grace the Lord Archbishop of York, in the chair.

Saturday, August 3rd.—10 a.m.: Meetings of Sections—(B) Engineering and Architecture, in the Museum; Conference of Veterinary Inspectors, in the Exhibition Buildings. 1 p.m.: Closing meeting in the City Council Chamber.

The following privileges, which might be advantageously adopted at Congresses in America, were granted to members and delegates on production of their Congress tickets: Free travelling on Corporation tramways; free use of political and other clubs; free use of golf courses of York, Fulford, Knavesmire, and Strensall Clubs; inspection of various institutions and public buildings.

Public Health in Queensland.

The Queensland Health Act Amendment Act of 1911, which was assented to on December 31st, 1911, and a copy of which has been forwarded us from Queensland for notice, contains some clauses so noteworthy that some reference must be made to them. The bulk of the clauses relate to food, but a certain number deal with infectious diseases, and others with such important matters as registration of private hospitals

and nurses. Some reference will be made to each of these, but it is principally to the infectious diseases sections that it is desired to draw attention, and amongst these mainly to those relating to venereal diseases. In the first of these sections power is given to the Commissioner by order to declare that in any area or areas any venereal disease named in the order shall be regarded as a disease to which certain requirements affecting infectious diseases shall apply. Thereupon every medical practitioner "forthwith upon becoming aware" that any person upon whom he is attending is suffering from venereal disease shall notify the case upon a prescribed form to the Commissioner, or shall be liable to a penalty if he fails to do so. Only medical men are to be allowed to attend upon or treat persons suffering from these diseases; anyone else doing so is liable to a heavy penalty or imprisonment. Certain chemists, if specially permitted by the Commissioner, may sell or prescribe drugs or approved proprietary medicines to sufferers from the disease. Persons administering or assisting in administering the sections relating to venereal diseases are bound under penalty to preserve and aid in preserving secrecy with regard to matters coming to their knowledge thereunder. Regulations may be made by the Commissioner for, among other things, the provision of gratuitous treatment at hospitals and otherwise for venereal diseases; for the establishment of special dispensaries; requiring that prostitutes in certain places shall submit themselves for periodical examination by a Medical Officer; for the examination of persons suspected of being infected, and for requiring such persons to submit themselves for examination at specified times and places; and for prescribing penalties for breaches of the regulations.

In a further section it is provided that if two medical practitioners certify in writing that a person is suffering from venereal disease and likely to convey infection, a police magistrate may order his detention in a hospital or elsewhere for a period not exceeding two weeks for investigations, bacteriological and otherwise, to be made. If at the end of this period he is still believed to be infectious, the Governor in Council, on the recommendation of the Commissioner, may order his detention for

as long as he is infectious. The order of the Governor is sufficient warrant for the arrest and detention of the person named in the order. If the person is in prison, the Visiting Justice may make the order for detention and the period named in the order may extend beyond the term of imprisonment. Persons who knowingly infect others with venereal disease are liable to a penalty of £50 or imprisonment for six months. Prostitutes behaving riotously or indecently in a public place or soliciting or importuning any person in a public place within the view or hearing of any person therein are deemed to be vagrants, and liable to the penalties named above. Male persons living on the earnings of prostitutes and soliciting for them or occupying or residing in a house frequented by them are to be similarly dealt with. In the case of women the sentence of the Court may be imprisonment as above or detention in an approved institution for not more than twelve months, but the execution of the sentence may be suspended on certain conditions. If the conditions are disobeyed, the woman may be arrested and the sentence may be put in force.

In the food sections, not only foods, but drugs, preservatives, cooking utensils, beer, and aerated waters, etc., are dealt with. In connection with preservatives and disinfectants, it may be noted that the Commissioner has power to forbid the sale of any article as such. The sale of cooking utensils containing lead, of toys, wall papers, etc., containing arsenic, of boots and shoes with soles made of cardboard, of woollen goods containing less than 90 per cent. of wood and of tubed feeding bottles for infant foods, is, it may be mentioned, forbidden.

A most interesting section is that which gives the Commissioner power, on a second conviction, to publish the name of an offender against the sections relating to food and drugs, in the *Queensland Gazette* and to post particulars on his place of business for twenty-one days. Newspapers may republish the notification in the *Gazette* without being liable in an action.

As to registration of private hospitals and nurses, it is almost sufficient to state that the Act requires that this shall be carried out. In the case of the hospitals, the kinds of premises to be registered are

described, viz., general, private, and lying-in. Nurses are grouped as general, mental, and midwifery. The qualifications necessary for registration are described, and the fact that in hospitals subject to certain Hospitals Acts preference will be given to registered nurses in making appointments is noted.

From the short description given above it will be seen that many of the matters regarding which legislative provision is made are such as have been the subject of comment time after time both in this and other professional journals. The necessity of making venereal diseases notifiable and of requiring the registration of private hospitals, and for the protection of the public and more especially of the nurses, the registration of nurses has been repeatedly pointed out. Apparently not the slightest attention has been given to these matters by the Imperial Parliament. Queensland, more wide awake and go-ahead, has seen the wisdom of taking steps, and is now well in advance of the Motherland. It is to be hoped that we shall soon be on a level, if not ahead, of Queensland in this and other matters.

Notes of Empire and World Abroad.

For nearly fifty years Octavia Hill, who passed away last month in London, England, labored for the welfare of the poor of that city. A member of the Royal Commission on the Poor Laws, the ruling passion of her long and useful life was to provide decent and sanitary dwellings for the poor, without destruction of self-respect or thrifty initiative.

The text of the British Rural Cottages Bill recently issued, seeks to establish a department of the local government board to be called the Rural Housing Department, which shall consist of three commissioners, one of whom shall have the qualifications of a medical officer of health, another experienced in the erection of cottage dwellings in rural areas, and another possessed of a knowledge of agricultural conditions. The duties of the commissioners will be to ascertain the

extent to which there is accommodation for cottages in rural areas, or would be a demand if suitable land for the provision of cottage accommodation were available at reasonable terms; and they may cooperate with public bodies or may make inquiries and take such steps as they may think fit in this respect.

The Local Government Board, London, England, has issued a circular to the councils of boroughs and urban and rural districts relative to the notification of cerebrospinal fever and acute poliomyelitis, or inflammation of the grey matter of the spinal cord. It is pointed out that in response to the circular of December 12 last, relative to these diseases, many local authorities have taken steps to make these diseases notifiable, but this action has not been taken universally. The Board are advised that more general action is now desirable, and they have, therefore, decided to require general notification of these diseases by means of an order, under Section 130 of the Public Health Act, 1875, so that all cases may at once be brought to the notice of the public health authorities.

The Congress of the Chambers of Commerce of the British Empire adopted at the meeting this year the proposal of the Toronto Board of Trade in favor of preferential trade within the British Empire by 122 votes against 9. Fifty-eight Chambers abstained from voting. The next Congress is to be held at Toronto in 1915.

Advance Notices, Alphabetical.

Chambers of Commerce of the British Empire, Toronto, Ontario, in 1915.

The Royal Sanitary Institute, Henry Saxon Snell Prize.—This prize, consisting of 50 guineas and the silver medal of the Royal Sanitary Institute is offered, 1912, for an essay on "Suggestions for Improvements in the Ventilating, Lighting, Heating and Water Supply Appliances for an Operating Room and Its Accessory Rooms of 400 Beds" (No Students). For conditions of the competition applications should be made to the Secretary of the Secretary of the Royal Sanitary Institute, 90 Buckingham Road, London, S. W., England.