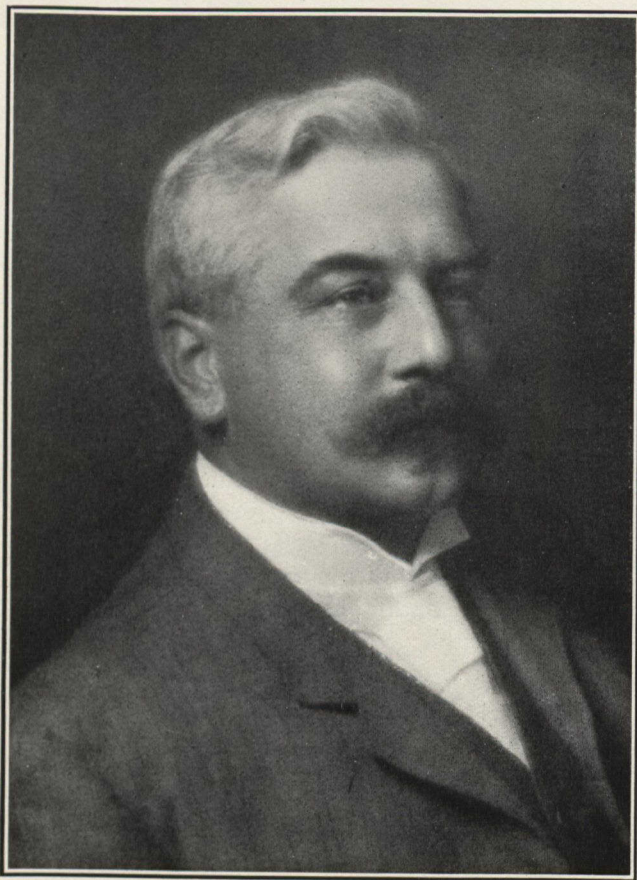


PAGES

MISSING

Broadly speaking, then, the conditions essential to a real education, are: stimulating, healthful, moral surroundings for the child everywhere and every day; less politics and meddling, more of true science and art of education in the average school; small classes in which each child may be really educated as an individual human being; well educated teachers in every grade, and a strong professional spirit in the whole teaching staff; genuine and unflagging cooperation on the part of the fathers and mothers; and much more generous support from the public to whom the public schools belong.

—James Phinney Munroe.



PROFESSOR J. GEO. ADAMI

Whose article, "Child Welfare Exhibitions and Their Value" appears in this number.

The
Public Health Journal

State Medicine and Sanitary Review

VOL. III

TORONTO, CANADA, JULY, 1912.

No. 7

Special Articles

**THE MORE IMPORTANT CAUSES UNDERLYING THE
HEAVY INFANTILE DEATH RATE IN LARGE CITIES
AND THE BENEFITS TO BE DERIVED FROM THE
ESTABLISHMENT OF MILK DEPOTS**

BY A. D. BLACKADER, B.A., M.D.

PROFESSOR OF PHARMACOLOGY AND THERAPEUTICS, AND OF DISEASES OF CHILDREN,
MCGILL UNIVERSITY.

Of the many problems that occupy the attention of those interested in our public health and in the conservation of our national vitality, no subject has a greater claim for earnest study and thought than the appalling waste of life which occurs in all large cities during early infancy.

All physicians recognize that infancy is a period when the hold on life is feeblest, when depressing influences of all kinds prove most disastrous, and when the imperfectly developed digestive functions of the infant under the double strain of maintaining growth as well as nutrition, are most liable to be disturbed on the slightest provocation. The important changes which take place at birth, and the rapid development which afterwards ensues, are both fraught with special danger even to the healthy infant. Many, however, have to contend with the added weakness of hereditary disease, prematurity, and congenital defects. In all countries, therefore, even under favorable conditions the mortality of early infancy is a heavy one.

In England fourteen out of every hundred born die before the close of the first year; in France 22, in Italy and many parts of Germany the number reaches 25. In rural districts the death toll is much lighter than in large cities where, though among the well-to-do skillful care and sanitation greatly reduce the mortality, yet where in the poor and more congested districts, unsanitary conditions double and treble the death rate.

In the Province of Quebec out of every one hundred children born, eighteen die before the close of the first year of life; in the Province of Ontario, 15 per 100 only. In New York City, at the beginning of this century, the death rate was 26 per 100 born, but improved sanitation and a better milk supply have brought down this percentage to 18. Indeed, in all the large cities of both England and the United States the mortality rates of twenty years ago have been greatly reduced. Montreal still lags far behind. Out of every hundred children born in this city, 32 die

before the end of their first year, and out of every hundred deaths at all ages occurring in this city, 53 are children under five years of age, and of these about 70 per cent. are under the age of twelve months. In 1910 more than 4,500 infants under one year of age, died in this city.

Comparing this terrible mortality with that due to intemperance, to tuberculosis, or to all the infectious diseases put together, the death roll of the latter appears small.

Are these facts not sufficiently startling, or have we grown callous, saying to ourselves, "they are only babies," or do we perhaps go further and with certain pseudo-scientists regard this high mortality as simply a case of the elimination of the unfit? History everywhere belies such a proposition, for many of the brightest names in story are those who have been delicate babies reared only by the arduous care of loving mothers in healthy surroundings. Sir Isaac Newton is said to have weighed only four pounds at birth and to have been kept alive during the early months of life with the greatest difficulty.

The national loss, however, does not end with the long line of white hearses which deposit their tiny contents in our cemeteries. The unsanitary household conditions and the improper feeding which lead to the high death rate, lead also to a marked impairment of vitality in those infants who escape death's sickle; an impairment manifested by an increased liability to disease, by an incapacity in youth to make the best of life's chances, and in after life by a great diminution of earning capacity. Those who aim at attaining a maximum of national vigor must begin their efforts by improving the conditions which surround the cradle.

Only recently has a philanthropic public, aroused by loud clarion notes from many leaders in our profession, become conscious of the duties and responsibilities which those who know, and those who have, owe to their more ignorant and poverty-stricken fellow-citizens. Even politicians, municipal, provincial, and federal, have awakened to the loss sustained by the country in this slaughter of the innocents. In the United States during the past three years a large and influential association has been formed with branches throughout every

State in the Union for the express purpose of studying the underlying causes and of bringing into action all measures which may help to prevent this unnecessary infantile mortality.

At the outset we must admit that the problem is a complicated one and has a close association with many other problems of great civic interest and importance, such as improvement in the sanitation of our towns and cities; the better housing of the laboring classes; the purity of our drinking water; the purity of our milk supply; the prevention of the spread of infectious diseases of all kinds, and the suppression as far as possible of immorality.

If we appeal to our civic statisticians for the causes which give rise to this heavy death toll, we shall be presented with an array of figures such as the following:

Gastro-intestinal diseases, 28 per cent.; marasmus and prematurity, 25.5 per cent.; acute respiratory diseases, 18.5 per cent.; congenital troubles, malformations, 5.8 per cent.; acute infectious diseases, 5.4 per cent.; convulsions, 3.4 per cent.; tuberculosis, 2 per cent.; syphilis, 1.2 per cent.; all others, 10.2 per cent.

Such a classification may be of value to the physician as indicating tendencies to disease, but to the general public who desire to help, it is of no service. We must search for the causes which lie deeper and of which disease in general is but the manifestation.

Holt, the eminent New York pediatricist, writes: "All who practise medicine among children and all who study the question of infantile mortality are struck with the marked difference in the death rate of the children of the poor and those of the rich. Clay estimates that in England among the higher classes the mortality is only 10%, in the middle classes 20%, among the laboring classes 30%. This difference is most striking in the case of acute intestinal disease. Halle states that of 170 cases investigated in Gratz during 1903-04, 161 developed among the poor, 9 among the well-to-do, and none among the rich. It is evident that in infancy money puts at the service of the infant the utmost resources of science, the best advice, the best food, and the best surroundings, and these are in many cases sufficient to ward off the Destroyer."

To relieve or even greatly to diminish infantile mortality the basic conditions of poverty and ignorance must be attacked. Ignorance in mothers of the imperative wants of their infants is in my experience the most powerful of all the causes which contribute to this excessive mortality. To have a fair chance for life a young infant demands its mother's milk and not some patent food, demands its mother's care, and not that of a hireling, and demands pure air and general cleanliness in its person and surroundings. These demands are so primitive and yet so imperative that every effort must be made by the family and by the parish or state, to see that the baby obtains them. For the state should recognize that every mother who brings a child into the world has done the state a service, and that it is a duty to see that the young life is given a fair chance at the outset.

Unquestionably the great majority of failures arise from improper feeding. Mother's milk is the only perfect food and, therefore, the only suitable food for the infant. To have recourse without absolute necessity to artificial feeding is in a large number of cases to court disaster. It is often forgotten, however, that for most mothers it is an essential condition for the successful nursing of their infants, that they themselves should have sufficient nourishing food, sufficient sleep, freedom from excessive worry and a certain amount of outdoor exercise; large quantities of tea and beer play no part as an efficient food. Such conditions are as a rule easily obtainable by the well-to-do, but what about the poor mother, not infrequently with a large family and living in one or two badly-ventilated and badly-lighted rooms? It is often wonderful how they succeed at all. Mothers who have to work to supplement a husband's earnings are in a poor plight, and those who have to stand the abuse and cruelty of drunken husbands are in a still worse case.

In those conditions in which artificial feeding is necessary it is of the greatest importance that a food be supplied which will closely resemble the infant's natural food, mother's breast milk; at the same time it must be free from deleterious substances and be digestible by the infant's stomach. With very few instances cow's milk, modified to suit the age and diges-

tive capacity of the infant, is our best substitute, but only milk that is pure, fresh, and free from contamination by harmful micro-organisms, is suitable for an infant's food.

Unsanitary conditions in the home and its surroundings exert a most depressing effect, both upon the mother and upon the infant. Defective sanitation in our streets and lanes; impure air in overcrowded rooms, and domestic uncleanness are conditions which add heavily to the death rate. On the other hand, mere density of population, although it has some, has comparatively little effect, for in the houses of the Peabody Donation Fund, in London, England, which are generally crowded, and in which the individual rooms are not large, the infantile death rate is much lower than in the surrounding districts, and often does not reach ten per 100 born.

To enable us in Canada to study the question accurately and intelligently a more perfect registration of births and deaths is absolutely necessary. This registration to be effective must be prompt. In many cases much assistance can be rendered if the fact of a baby's existence is promptly recorded. The experience of other cities and countries has shown conclusively the value of compulsory registration of births within 24 hours: Only in this way among the poor and ignorant can adequate care and attention be given to both mother and child, and incidentally can many cases of blindness be prevented.

Even with a more perfect registration, which I hope we shall have shortly in Montreal, no one but a visionary can persuade himself that the underlying conditions to which I have referred are easy of relief. It is, however, greatly in our favor that there are few mothers who are not extremely desirous for their children's welfare, and who will not willingly deprive themselves of many comforts, aye of health itself, in the endeavor to succor their infant. Faults on their side are almost entirely due to poverty, bad advice, and ignorance. The lines along which a campaign to overcome these depressing conditions should be undertaken have been well laid out by enthusiastic workers both in England and America, and support has been obtained both from private philanthropy and municipal funds.

The chief points to be aimed at are as follows:

1. The instruction of mothers regarding the care and feeding of young infants, and especially as to the importance of maintaining breast feeding if at all practicable. This instruction may be given by the distribution of pamphlets and by conferences, and still more efficiently by the regular visitation of the home by a tactful, intelligent nurse who has received special training.

2. The strict enforcement of all municipal regulations ensuring good ventilation, effective sunlight, and more perfect sanitary methods in the houses of even the very poor. It is a monstrous crime that landlords are permitted in this city to rent as living apartments, rooms that are dark and unsanitary in every respect.

3. The maintenance of all streets, yards, and lanes in a clean sanitary condition. All garbage receptacles must be kept efficiently covered and their contents must be removed at short intervals, especially in warm weather, thus preventing the breeding of flies, a great source of contamination for all infant supplies, to say nothing more. All open spaces where infants can be given outings should be kept cleanly and as free from dust as possible.

4. A supply of pure milk for the infant's use must be brought within the reach of the very poorest. While all milk entering within the city limits should be tested for its purity, its freshness, and for the extent of its contamination by bacteria, and all that does not come up to a certain standard should be forbidden to be distributed, yet for very young infants still more is demanded. Not only should all milk given to them be very fresh and pure and obtained from dairies where the most careful sanitary precautions are taken, but in many instances the milk must be modified and rendered suitable to the digestive powers of the individual infant. This demands the establishment of milk depots in the various wards or parishes of the city under the charge of competent nurses, or better still under the superintendence of an enthusiastic physician with competent nurses to assist him.

In such milk depots not only is suitable milk supplied for the infant, but the mother is encouraged, instructed, and as-

sisted to look after the infant herself. At a recent conference on infant mortality in New Haven, Mr. Homer Folks, speaking of the results obtained in the various infant institutions established by philanthropists, insisted that no asylum or infant hospital can do what a loving instructed mother, even although very poor, can accomplish for her young infant. Under the most favorable circumstances it is seldom that more than 50% of the infants in institutions survive their second or third year. Dr. Woods Hutchinson writes: "The best and most paying job that any community can set a mother at is that of raising her own children in health to the highest state of efficiency and intelligence. When the father fails to support his family the state should come in with pecuniary assistance, and either the state or philanthropic associations should show the mother how properly to care for her infant."

Much charitable and philanthropic work has been expended in this city in attempts to effect some improvement along the above lines. Certainly our infant asylums are sufficiently numerous but our death rate continues. As physicians we have discussed in our societies the causes and the means of preventing this excessive infant death rate, but I am afraid our statistics have shown little alteration. For the past fifteen years the Hygiene Committee of the Local Council of Women has instituted health talks for mothers in the various quarters of the city, and some years ago a pure milk league was started by a few physicians with the assistance of a small grant from the city. Under their direction milk depots were established in the more congested wards of the city during the summer months, at which two to three hundred babies received a daily supply of pure and suitably modified milk, and much good was done. Unfortunately the work was dropped for want of effective assistance from the city and from the charitable public of Montreal.

During the past year at the solicitation of a Committee of the Local Council of Women, the city placed the sum of \$4,500 at the disposal of a small committee to undertake the establishment of milk depots in those wards of the city where the conditions were worst and where most good could be done. In all, seven were opened in various French districts and five in the

English. The attendance has varied from thirty to more than one hundred daily at each station. It is only a beginning and it is hoped that if the grant be continued and increased, much more can be accomplished.

It is the aim of these milk depots, first to obtain fresh milk from clean dairies in which both the equipment and all the employees are under regular careful inspection. The milk thus obtained is to be furnished at cost price to pregnant women, to nursing mothers, and to children old enough to take whole milk. It is also supplied for the use of young infants, but mothers will be taught the simpler methods of modification at home, and in a few cases where deemed necessary carefully modified milk from a well-equipped laboratory will be supplied at slightly increased prices. No milk will be furnished for sick babies without a request or a prescription from the attending physician, as it is felt that milk depots should not be converted into medical dispensaries. Milk will be furnished healthy babies only after proof that the mother is unable to supply breast milk in sufficient quantity and every effort should be made to conserve and increase what she may have. In cases in which the breast supply is sufficient, but the mother on account of poverty is obliged to earn her own living, an effort will be made to supply funds so as to enable her to nurse her infant at home.

For babies who require altogether artificial food a suitable modified milk will be supplied at cost or below cost price. Ice, if necessary, is also to be supplied so that the milk may be kept cool. Inexpensive ice boxes will be kept in each milk depot and can be supplied to those requiring them at cost price.

Mothers who secure milk from the depot will be required to attend weekly and have their babies weighed, and also to attend conferences or addresses. With the assistance of nurses, and under the superintendence of a physician, an effort will be made to supply instruction to young mothers in the management of their babies. It is hoped that these depots may also be instrumental in conveying a certain amount of instruction to dairymen and to the public generally as to the value of good milk and the mode of obtaining it. In all these ways it is expected that such milk depots will be active centres of education for the distribution of a more perfect knowledge of all the conditions which tend to the infant's welfare. It is a great and necessary work and demands of those who would help it on much enthusiasm, much tact and patience, and a considerable knowledge of how to care for young infants.

We have already proof in our city of the great value of this work by the excellent results obtained in one of our wards by the well directed efforts of Dr. Severin Lachapelle and the Rev. Mr. Lepailleur.

CHILD WELFARE EXHIBITIONS AND THEIR VALUE

BY J. G. ADAMI, M.D., F.R.S.

PROFESSOR OF PATHOLOGY, MCGILL UNIVERSITY, AND CONJOINT PRESIDENT OF THE MONTREAL CHILD WELFARE EXHIBITION.

It was well stated by one of the speakers at the brilliant and remarkable inaugural meeting of this Association, that for progress to be made in matters of public health, for the Government to enact and carry out laws and regulations tending towards an improved hygiene, we must depend not upon the opinions of experts—although these may initiate advance—but upon the establishment of a sound public opinion; upon familiarizing the man in the street, and the mother in the home, with

the need for reform and the means whereby reform may be brought about. Once public sympathy in any cause is thoroughly aroused the Government must inevitably take action. It is the people that lead the Government, and not the Government that leads the people.

It follows, therefore, that promotion of public health demands in the first place the making popular of knowledge of improved conditions, and of the means whereby defects and abuses may be cor-

rected. It is thus a matter of first importance to determine how such popularization of a knowledge of sound hygiene may best be brought about. Regarding this, we are learning by experience. It has taken us long years to gain the experience, and, looking backward, we can recognize successive steps in the campaign. Thus, first, in the early Victorian era we find the publication of articles by experts in the great quarterly magazines, with the hope of influencing the cultured higher classes and, more particularly, the members of the Legislature; next, the establishment of associations of experts and their followers among the thoughtful members of the community, bodies for example, like the Institute of Public Health, and the American Public Health Association. Following closely upon this came, in England at least, the establishment in certain centres of popular lectures in which matters of hygiene and physiology might be sandwiched in between addresses upon the "Chemistry of the Candle," and of the latest discoveries in Egypt. I well remember attending lectures of such a course in my boyhood, given in the North of England close upon forty years ago. This was undoubtedly a distinct step forward in interesting the masses, but a yet greater step forward has been made during the last fifteen years in obtaining the cordial co-operation of the daily press, and in this way disseminating widely a knowledge of personal and public hygiene.

But as we have learned from direct experience in Montreal, over and above all these methods is the holding of Health Exhibitions. The active interest taken by the people and by the civic authorities here in Montreal in the campaign against tuberculosis, for example, dates undoubtedly from the Tuberculosis and Health Exhibition held a few years ago, an exhibition which was thrown open freely to the public for ten days, and was visited by close upon 60,000 citizens, men, women and children. The advantages of such exhibitions are obvious. There are a few who are not interested in the matter of their own personal health, who are not curious to see the latest new thing bearing upon healthier conditions of life; few again, who have not a curiosity to learn by easy methods something about the

workings of their body and about disease and its prevention. The most extraordinary and most successful exhibition held last year in Europe was the Health Exhibition, which was open for some six months in Dresden. It was admirably conducted, and its various pavilions and halls covered a huge territory; it was visited by hundreds of thousands of people from all over Europe. Time and again during the days I was there I found the various halls packed with an eager and interested throng. Nor have I met anyone who went or found himself at Dresden this summer, who has not freely declared that it was the most fascinating and illuminating exhibition he had ever visited.

It is a principle absolutely established in teaching, that facts when reaching the brain through the one channel of either hearing, or seeing a written page, do not impress the mind or become fixed therein with the same sureness, as when both ear and eye are employed, or when not the written statement or description but the facts themselves are actually brought within the experience of the observer; or thirdly, when in place of abstract figures, descriptive pictures or illustrative diagrams are employed. The graphic representation of a condition is very much more impressive than any amount of reading or study of columns of figures. Nothing, for example, appears to have impressed the minds of visitors to the Chicago Exhibition more than a little model which was there represented. Every intelligent man and woman has at least a vague knowledge that the infantile mortality in the congested districts of our great cities is higher than it ought to be. How terribly high it is, seems to have been brought home to every one by this little model showing a procession of infants parading before the eye of the spectator, with above them the overhanging sickle of Death, the sickle descending and cutting of every third child. Exhibitions of this nature make an ineradicable impression, they are never forgotten.

And in this connection it must be emphasized that the member of the community who thinks most upon and remembers the lesson taught by an exhibition of this nature, is the susceptible school child. It is easier to influence the open mind of the growing individual to recog-

INFANTILE MORTALITY 1908

IN TEN FOREIGN AND FIVE CANADIAN CITIES

RATE PER 1000

PARIS	116
HAMILTON	158
TORONTO	159
LONDON CANADA	173
ROME	184
BUENOS AYRES	209
MADRID	218
OTTAWA	224
LONDON	225
NEW YORK	226
VIENNA	257
LIVERPOOL	272
ST. PETERSBURG	281
BERLIN	285
MONTREAL	375

To Illustrate Prof. J. Geo. Adami's Paper: "Child Welfare Exhibitions and Their Value."

nize the defects of old habits and methods, and to carry out what reason tells them is a right and acceptable mode of action, than it is to persuade the adult, hardened by custom. This has been abundantly noted in connection with every tuberculosis and health exhibition. The novelty of new facts appeals to the child; he talks over the matter at home, and time and again his lively enthusiasm for what is obviously right and reasonable, as opposed to the old-time and wrong method, impresses the needed change in home conditions.

But what is of deeper importance in connection with the holding of exhibitions of this nature, is the effect produced upon the workers and those through whose efforts the exhibition is brought together. In every great city there are very numerous associations dealing with one or other phase of child welfare; some with the broader ground of civic improvement and amelioration of the health and living conditions of the community at large; others from a moral aspect study the protection of the child and the upbringing of the defective or delinquent members of the community; others care for the homeless and the orphan; others for the sick; others again superintend education; and yet others interest themselves in the healthy activities and recreations of the child outside of school hours. I have not here, nearly exhausted the list. Each of these bodies in its enthusiasm runs the danger of becoming isolated, and the greater the number of these organizations, the less is apt to be their individual influence, on account of the very division thus brought about among those earnestly seeking after the welfare of the child. A child welfare exhibition focusses all these individual efforts. Not merely does it bring before the public the admirable work that is being accomplished by these various associations, but it unites all of them in loyal co-operation. That co-operation is essential for success, and what is more, this active co-operation demonstrates practically the remarkable influence upon the community at large brought about by the combined efforts and combined influence of numerous associations. The eyes of the public are opened to the extraordinary amount of work that is being performed in our midst by the various philanthropic work-

ers, and the workers on their part come to realize the enormous increase in the effectiveness of individual activities when those—instead of being isolated—are supported and backed by the cordial co-operation of workers along other lines, who have this in common with them, that they are seeking the uplift and the well-being of those who are to be the new generation of citizens.

This, at least, has been the experience in connection with the Tuberculosis Exhibition held here a few years ago. Tuberculosis covers a very wide field, and in the holding of that exhibition it was necessary to ask—and there was received—the cordial co-operation of a large number of bodies doing good work here in Montreal in the caring for the sick. Certainly from that exhibition we date a heartier co-operation here in Montreal between our many benevolent associations. A child welfare exhibition would bring together a still larger number of bodies, French and English, and would assuredly inspire these with a cordial desire for mutual help and co-ordinate influences that can but be for the good of our community. And in taking steps to hold a child welfare exhibition next autumn, it has been this co-operation of numerous associations, French and English, that we hope to achieve. We are confident that it will be a revelation to the ordinary public to see how much is here being accomplished for the child; what a mass of effort there is in our community for the betterment of conditions in existence, and also I must add, how much remains to be done in many directions to ameliorate the conditions of life in over half a million people.

But over and above this we can be absolutely assured that the seed here sown will germinate and bear good fruit. That has been the experience of those cities in the States which during the last year have held these child welfare exhibitions. At Chicago, from the demonstration there given of what was being accomplished in other cities to provide bathing accommodation in the hot summer months for the children, and of what might be done along the magnificent lake front of that great city, within four weeks the City Council passed a scheme for providing such bathing accommodation. In Kansas City, also, the exhibition demonstrating the condition

of life of the shop girls in the stores of that city, led the proprietors of those stores voluntarily within a fortnight to introduce regulations materially improving the conditions of work within their stores. I might quote abundant examples of the influence on the individual as upon civic authorities.

The exhibition must be a census or survey of conditions of life in the community, must provide, in a way hitherto unprovided, succinct data of the utmost value to all interested in civic conditions.

Thus, in short, we propose to appeal to, and interest all classes of the community, from the City Council and those in authority, down to the occupier of the poorest tenement. We propose to interest the

father, the mother, and the child, to rouse public opinion, and while affording an interesting survey of what is already being accomplished, to expose openly the loss we suffer through waste, neglect, and preventable disease. And in doing this we have a wider outlook for good than in this one city. We hope that our endeavors will afford the nucleus, and more than that, of an exhibition which later may be at the disposal of other cities in the Dominion. Already, indeed, we are being beset with enquiries from these other cities of the Dominion, so that we are preparing material which will throw light on conditions not merely in Montreal, but throughout our Dominion, and in this way we believe that we are really carrying on a work of national importance.

SCHOOL BUILDINGS

BY CHARLES P. BOND, F.R.A.I.C., TORONTO.

I have been asked to write an article on school buildings, a big subject and one on which many authorities have expressed their views. I shall, however, endeavor only to give in condensed form the chief or vital points pertaining to school work.

Before starting on the actual building, I would like to say a few words in connection with the usual course followed by the average school committee. When a new school has to be built, they usually put in an advertisement, "Plans wanted," or "Architects look," thinking, no doubt, that they will catch the eye of some good man. The good men see them without doubt, but fail to see why they should give up valuable time in presenting to the committee something which they will not pay for, as in nine cases out of ten a local man gets the job, and it is hardly reasonable to suppose that all local men can be the best. Therefore, the good men have learned to leave these competitions alone.

Committees should decide to call in one architect who they know to be capable, and place the building in his hands, and the result will be satisfactory; and let me say, never engage an architect who offers to do work for less than another. Architects who resort to this means of getting work can be classed as either "young and inexperienced," or "has beens," or "dishonest," who will seek the balance of full

fee by indirect and crooked methods. And no fair-minded and honest committee should be willing to take advantage of such offer and accept services for nothing.

We will now say a few words as regards the site.

There are very few towns that are unable to secure ample area of ground for the school. One must always have in mind that abundance of fresh air is a necessity, that clear unobstructed light is of vital importance, and that absence of dust and noise are things to be sought. Also, that the site be preferably higher than the street, as low lots are not particularly healthy, and are difficult to drain properly.

Now, with these remarks, we may consider the building itself. Externally the building should express, by its general character, the purpose for which it is erected. It should be simple and dignified and built for permanence and endurance. If possible, all schools should be fireproof, but, unfortunately, very few are so built, and yet with concrete construction this can be done with very small increase of cost over the ordinary method, and I cannot see how school boards can read of the awful loss of life that occurs once in a while and still adhere to the old way. No saving in school construction can compensate for the loss of one little life.

The next and most important of all things is the interior of the building. First of all we have the halls and corridors. These should be bright and airy and should be at least 10 feet wide in the ordinary size school, having we will say 8 or 10 rooms. The stairs, of which there should always be two, should be cut off from the halls if practicable with glass partitions, or encased in brick walls so as to avoid draughts and direct cold from entering corridors, besides giving, in case of fire, safe means of escape.

The stair treads should never exceed 7 inches, and from 6 inches to 6½ inches is much better practice. Stairs should be not less than 5 feet wide. The handrails should be plain and smooth, of hardwood, so as to permit easy grasp with the hand. There should always be a landing half way in the stairs, which should be well lighted with windows.

We now come to the class-rooms. These vary in size somewhat, according to the number of pupils, but according to the latest authorities no teacher should be asked to look after a greater number than 48, and this should be a definite number. These can be accommodated in a room 24 x 32, with a 13 foot ceiling, thereby giving each pupil 205½ cubic feet of air space, which is just 5½ cubic feet more than is frequently recommended. There is also another reason for adopting this size of room, viz., cost of construction, which is quite worth taking advantage of. The lighting of the class-room is also an important factor. This should without any question be placed on the left of the pupils. Large glass areas with small divisions are preferable, so as to secure the largest possible diffusion of light throughout the room. The separate windows, with brick piers between, causing very noticeable shadows, should not be tolerated. The sills should be 3 feet or 4 feet above the floor, so that children cannot see out when sitting down. The top of the window should come as close to the ceiling as possible, say 6 inches, not more. The glass area should be at least one-quarter of the floor area, and when the lighting is from one side only, I would not recommend any other system of lighting.

Window shades should be adjustable fixtures, so that the light may be secured from the top or bottom as required.

Ceilings can be covered to very good advantage with metal, of which many very pleasing stamped designs can be had. This is preferable to plaster on account of the latter's cracking tendency.

Blackboards should be 2 feet 6 inches from the floor in high schools, and in primary schools 2 feet 2 inches. The top of board should not be more than 6 feet 6 inches from the floor, and each board should have a chalk trough at least 3 inches wide. In some of the expensive schools these have vent ducts attached to them, and the dust is drawn away. Slate boards are by far the most satisfactory, although I have constructed them with cement and they are giving good satisfaction. Boards should be placed on two walls only, viz., in front and to the right, and to be absolutely correct should be kept 2 feet away from the corners.

If money will allow or a further grant can be obtained, I would advise using for a dado in rooms and halls some good patent plastic material which hardens in a short time and is seamless, and can be made in various colors. Wood used for this purpose is not satisfactory as it is full of joints and therefore holds dust and plaster, being very damagable, is useless unless protected with strong covering. The walls above the dado should be tinted a suitable shade, so as to get away from the glaze of the white finish.

Glossy surfaces should never be used.

The floors throughout in moderate-cost buildings cannot be better covered than with one of our natural hardwoods, but it must be from a good manufacturer, otherwise it will open up considerably and make objectionable dust receptacles.

Off each class-room should be separate cloak rooms for the different sexes. Each should have two doors, and these should both face in the class-room, so that all pupils will be under the observation of the teacher. Each cloak room should be well supplied with hooks, etc., and be well ventilated.

Regarding the doors between halls and class-rooms, some authorities advise having them open out, so that in the event of panic there would be no chance of all jamming against it. Others advise opening the door in, as in case of fire the teacher has full control and can take time to get proper order, but with the fire drill

that is in vogue in all schools, and if not should be, there can be little danger of panic and loss of control, so I think the former way of swinging the door is the best, and the Ontario Educational Department in their book of school requirements state that all doors must swing in this way.

One thing I might have mentioned when discussing the halls is that for very little extra cost every school could be supplied with a dust chute in each corridor, so that all sweepings can be dropped direct to the basement, instead of being carried from floor to floor. I have used them, and they are found to be eminently satisfactory. The opening for these chutes should be close to the floor and be supplied with a door.

If financially possible, I would advocate the installation of vacuum cleaner machines in all schools in preference to the dust chutes. The cost is not great, the labor of sweeping is entirely eliminated, and the efficiency of machine cleaning is one hundred per cent better.

On each floor, placed in a central position in halls, should be a small wash sink room, so that the janitor can draw water and empty his scrubbing pail without having to go to the basement, as is so frequently the case, and by placing in the basement a small jacket heater and boiler there can always be an abundance of hot water.

If at all possible all schools should have provision made for a principal's and teachers' room or rooms.

Also, in each hall should be provided a drinking fountain for the convenience of the pupils, placed in as central a position as possible, some to be of the bubbler pattern.

Every school should be provided with recreation and play rooms, unfortunately the cost invariably prohibits these being above ground, so the basement is utilized for the purpose. These rooms, one for boys and one for girls, should be separated, but should be in close touch with the respective lavatories. They should be well lighted and should be 9 feet or 10 feet high at least.

The lavatories should be fitted up in the most sanitary way possible. There are many very excellent fittings now made for the purpose. The floors should be of some

non-absorbent material. The lavatory should be ventilated in same manner as other portions of the building.

We now arrive at the all important point of school construction, namely, the heating and ventilation which is a many-sided question, as cost of running, installation and efficiency have to be considered, and after all efficiency is the goal to be aimed at.

The mechanical device for obtaining proper ventilation is without doubt the only positive method of securing the desired end, but unfortunately this is usually beyond the funds of the average school committee, so invariably the gravity principal is employed. I have with very good success used a system which reduces the coal consumption to a minimum by having the air used for ventilation purposes brought in direct from outside and pass over the hot interior surfaces of the boiler, thereby utilizing heat that in other systems is thrown away, besides having to generate more power to heat coils which are placed below the vent flues in a chamber constructed for the purpose.

The actual heating or warming of classrooms, etc., is done by placing direct heating radiators in the various rooms. This keeps the temperature up to the desired point, but in addition to this in each room there are two flues, one for supplying warm fresh air, placed about seven feet above the floor, and the other placed near the floor to carry off the fould and vitiated air.

The vent ducts should run up and through the roof, where the air is released.

In most cases new school buildings have flat roofs, and a very sensible roof it is, as many dollars are saved thereby.

It is also now generally conceded that school buildings should not be more than two storeys in height, and this is wise, as after anyone has climbed two flights of stairs, a third becomes a decided effort.

I trust a few readers will be able to gather some benefit from the above, but as the subject is one on which many articles and books have been written, it can be readily understood that to condense the subject and yet keep in sufficient material to make an article of practical value is somewhat a difficult problem, when one considers the varied wants of the numerous localities.

MUNICIPAL MEAT INSPECTION

BY T. E. MUNCE,

DEPUTY STATE VETERINARIAN, HARRISBURG, PA.

Some of you may wonder, especially those of you who are engaged in general practice, why the question of meat inspection is given such a prominent place each year on our program. There are various reasons for keeping the subject before the members and having matters pertaining thereto discussed at our meetings. It is now generally recognized that in order for an individual to properly fill the position of meat inspector (I refer now to a position of independent responsibility) he should be a qualified veterinarian. If then it is necessary, in order to properly fill such a position, to have, among other things, adequate veterinary training, the subject of meat inspection should be a part of our program.

This is not, however, to my mind, the most important reason for keeping the subject alive by frequent discussions at the meetings. If meat inspection, in order to be properly carried on, comes within the jurisdiction of veterinarians, then, most assuredly, they should see that the consuming public in their respective localities is adequately safeguarded against unwholesome meats. This, like all other similar matters, can best be done—in fact, can only be done—by carefully educating the public so that the need of inspection may be made manifest.

The State meat inspection service has been trying, in so far as it is possible, to co-operate with the Federal meat inspection service. In fact, broadly speaking, we might regard the State inspection an auxiliary to the Federal inspection. A number of our municipalities have provided for local meat inspection, some of which are independent of the State, while others have adopted ordinances in accordance with what is known as the State Meat Inspection Law of 1907, and are co-operating with the State Live Stock Sanitary Board. We are of the opinion that in order to render the best possible service in protecting the public against diseased and unwholesome meats the various local municipal meat inspection services should co-operate with and be an auxiliary to the

State service, just as the State is to the Federal service. Working, then, with this end in view, the question arises, How are we going to proceed so that the system will be uniform and all localities of the State adequately protected? In our judgment, the only practical solution is for the cities and towns to provide local inspection with municipal slaughter houses. This is not by any means a new scheme, but, on the other hand, it has been tried out, not only in this country, but in various countries of the Old World, and with great success, not only from a financial point of view, but other ways.

Unfortunately, the butchers, in some localities at least, have been unfairly dealt with by the local officials adopting ordinances and regulations which forbid the erection and operation of a slaughter house within the borough or city limits. On account of this, the only thing for the butcher to do is to go outside, away from the city water and sewer connection, both of which are very necessary, and build his slaughter house. In such cases he usually selects a site some backwoods, perhaps near a spring, where he can get enough water to wash the carcass, but seldom sufficient to properly cleanse the slaughter room. Again, he has to contend with the question of proper drainage and disposal of his refuse and offal. Operating under such conditions, there is always a temptation to keep hogs to eat the offal and refuse, which is not only unsanitary, but is expensive in a great many cases, on account of the hogs developing such diseases as cholera, tuberculosis, etc. It is not uncommon to find in offal-fed hogs echinococcus cysts in the liver, to say nothing of other serious conditions traceable to this filthy practice. Experience has shown that if clean, wholesome meats and meat products are to be produced and placed upon the market, it is absolutely necessary for the slaughtering to be done and the meats prepared and stored under favorable conditions. In other words, not a building located in the rural districts and in a ravine or hollow, with practically no water and drainage,

and often, too, on leased land, but treat the abattoir the same as any respectable and important municipal utility—issue the owners a permit to build within the city or town, so that they can get safe and proper sewer connection and within reach of the city water line, both of which are indispensable—then require them to keep the establishment and surroundings clean. Our records show that the rural slaughter houses are, as a whole, more unsanitary than those located in the cities and borough; the reason being as stated above—lack of proper facilities for keeping them clean. By all means be consistent in the matter and do not expect or demand from the butcher a wholesome product which he has been forced to prepare under unfavorable conditions.

In order to give those of you who are not familiar with what the cities of other countries are doing in regard to municipal slaughter houses, I quote, in part, from a report from Amsterdam, Holland: Consul F. M. Mahin says that a municipal abattoir is not only feasible, but absolutely necessary, and that the city abattoir is one of the largest and most important enterprises. The buildings comprise two slaughter houses for cattle, a slaughter house for hogs and one for horses, three stables for cattle and three each for hogs and horses. There are other buildings also for the treatment of waste and hog hair, blood drying, tripe boiling, a forge, the sterilization of meat, a laboratory for microscopic examination and an administration office. In addition to the above, a space is provided for a cattle market, cafe and stables for horses and vehicles. The latter would not be regarded as necessary in this country and could be dispensed with. The total surface covered by the buildings and cattle market exceeds 100,000 square yards. All the slaughtering of animals for food in Amsterdam must be done there. Some meat slaughtered elsewhere is brought to the city, but it must be examined at the city slaughter house and be stamped the same as meat slaughtered there. All condemned meat is rendered into fertilizer, as is required in this country. The slaughtering is not done by the city, but by the livestock owners, who pay for the use of the abattoir sixty-four (64) cents for each steer, cow or horse; thirty-four (34) cents for each fat calf or hog, and ten (10)

cents for each sheep, young calf or goat. A charge is made of about one-fifth (1/5) of a cent a pound for beef and pork not slaughtered there and about one-tenth (1/10) of a cent a pound for other meat. The meat is carried from the abattoir to the shops in specially arranged wagons. About 151,000 animals are slaughtered annually. The capital invested in the grounds and buildings of this abattoir is \$1,200,000. The operating expenses were about \$50,000 and the total receipts about \$89,000—a profit of \$39,000.

Berne, Switzerland, last summer decided to build a new municipal abattoir to cost several hundred thousand dollars, advertising for bids. This shows what faith the people of that city have in such an enterprise.

Passing eastward, we find ourselves placed in an even more ridiculous predicament, when we learn of the municipal abattoir at Shanghai, China, with its concrete floors and brick walls, and which is kept scrupulously clean at all times. The cost of slaughtering here is: Ox, eighty-five (85) cents; sheep, ten (10) cents; calf, twenty-five (25) cents, and pig, twenty (20) cents, with an additional charge from five to twenty cents if killed inside of regular hours.

Jumping from China to South America, we find Uruguay proposes passing a law authorizing the issuing of bonds to build and operate a state abattoir. Working homeward, we next hear that the health officials of Toronto, Canada, are agitating the erection of a municipal abattoir, so that the slaughtering may be centralized. The Board of Health of Berlin, Ontario, Canada, has taken steps to have erected a public abattoir and to require all meats to be inspected. If time would permit, I might cite many more cities in other countries that have adopted this plan as the only feasible solution for handling this important question.

I am delighted to be able to say here today that a few of what certainly must be regarded as more progressive towns and cities of our own country have come to realize that to continue to permit the slaughter of animals under unfavorable conditions, such as is being done in many places in every State in the Union, is to sanction a system that is considered obsolete in most foreign countries, and at the

same time gives encouragement to methods which jeopardize the health of a large portion of our people.

The first town in the United States of which we have knowledge of having provided a municipal slaughter house is Paris, Tex., in 1909. The plant cost about \$10,000 and was met by issuing bonds. It is the purpose of the officials to run the plant without a profit. The charges for slaughtering are as follows: Cattle, \$1.25 each; hogs, sheep and calves, 75 cents; the livestock owner receiving the hide, liver, head, caul, tail and brain. The offal, blood, etc., goes to the city. The charge includes refrigeration for a period of five days, and delivery is made to the local shops free of charge. In case the carcass remains over five days, a charge of 10 cents is made for each additional day. The inspector (veterinarian) receives \$1,200 a year salary.

I had hoped to be able to give you an up-to-date statement showing the financial side of this proposition, as well as that of those I am about to refer to, but on account of conditions arising over which I had no control I was unable to write for same in time to include them in this paper.

The first six months of operation, however, showed receipts to average \$701 per month, with the average monthly expenses of \$562, giving an average profit per month of \$139. We understand that since then the receipts pay the running expenses of the plant, the interest on the bonds, and also provide a sinking fund to meet the bonds when they mature.

Beaumont, another up-to-date town in the same State, according to recent advices, has taken steps to supply a public abattoir. Still another southwestern city that has led the way in municipal progress along this line is Little Rock, Ark. Here an arrangement has been made with the owners, we understand, of two establishments, one located on the west end of the city, the other on the east side, for the slaughtering of all animals and preparation of meats sold within the city, Federal inspected meat excepted.

In addition to the cities named, the officials of the following places have taken steps to supply municipal abattoir facilities, building and owning the plant or arranging with private owners for the use of the plant in every instance; hence the

animals must be slaughtered under municipal inspection: Demopolis and Birmingham, Ala.; Knoxville and Nashville (\$75,000), Tenn.; Louisville, Ky.; Charlestown (\$10,000) and Columbia (\$40,000), S.C.; New Orleans, La.; Bridgeport, Conn., and Buffalo, N.Y.

There may be other towns which have made similar provisions; the above, however, comprises all places of which we have knowledge at this time. While we regret exceedingly that the name of a Pennsylvania town is not on the roll of honor, yet we need not be entirely ashamed or disheartened, for the reason that a number of our municipalities have established a system of meat inspection, some of which are exceptionally good.

During the past year the Borough of Bristol has adopted an ordinance which requires all meats sold within the borough to be inspected and stamped by either a Federal, State or local inspector. This ordinance comes nearer than any other in the State, of which we have knowledge, to the municipal abattoir requirements. (We have reason to feel that the time is not far distant when we shall see in this enterprising town a public abattoir, and one of which we will all be proud.) Recent unofficial advices indicate that Philadelphia, the metropolis of our great State, will before long be supplied with public abattoirs, at which all slaughtering will be done under inspection.

Meat inspection in Pennsylvania, especially municipal inspection, has been, as you all know, going on for some years, yet it is but in its infancy. We are just beginning to become awakened to its possibilities, and those who have given the subject attention realize that the next few years are bound to bring marked improvement, especially with reference to facilities for carrying on municipal inspection.

The municipal owned or controlled slaughter house has come to stay. It has been proven a success, when viewed from all sides interested. It has been demonstrated that by assembling all animals to be slaughtered at a central point, or in the case of a large city, several convenient points, where adequate facilities are provided that the slaughtering can be done and the necessary refrigeration furnished with less expense to the butcher than were each butcher to undertake to furnish his

own facilities. In addition to being a convenience and financial saving to the butchers, the public abattoir, from a sanitary point of view, is a success as much as it is a necessity, to say nothing of the enterprise being a safe municipal business proposition.

Public sentiment must be aroused and the people made to understand this im-

portant question, especially the officials of our local municipalities, and the many economic and hygienic advantages of such a system for handling local inspection pointed out, so that the more safe and up-to-date methods may be installed. This done, it will be but a surprisingly short time until many of our Pennsylvania towns will have a place on the roll of honor.

HOW TO GET AND KEEP COMPETENT HEALTH OFFICERS: THE SANITARY INSPECTOR

BY THOMAS WATSON, A.R.S.I., LOND.,

PROVINCIAL SANITARY INSPECTOR FOR SASKATCHEWAN.

The Sanitary Inspector is an official whose worth is coming to be recognized on this continent. His designation is so varied in its application that it is extremely difficult to distinguish the genus—in one place we find him as the Inspector of Nuisances, in another, the Health Inspector, while in yet another he is designated the Sanitary Engineer. While, perhaps, Sanitary Inspector is not the most euphonious title, yet when all is considered it seems to fit more nearly to the work he has to perform as an official whose duties are primarily that of inspecting the many matters of individual and public conditions that need abatement and remedial action for the preservation of the public health. He might even be called the Preventive Officer without question, as, by whatever cognomen he is styled all his training is along the line of prevention, prevention of everything that will advance disease and retard the preservation of life. Some of the designations given him are confusing, and lead the public to get him mixed up with the Medical Officer of Health, and this is a good reason why the term Sanitary Inspector is the better one. By whatever name he may be known, he is even yet looked upon by very many, even by some members of health boards, as himself a "nuisance," and pestilent fellow. His business is largely that of fault-finding, prying into conditions that upset use and wont, exposing unsanitary sore places and things that have been considered good enough for years, and, worst of all, insisting that change and improvement of a radical nature must be made in the interest of all citizens.

His office is no sinecure, and his very persistency in effecting remedies for the public good is sometimes his own undoing. He can be no respecter of persons if he is to "hold his job," but yet is at the mercy of the framers of by-laws for carrying out their own creations of legal provisions.

How often is his usefulness made abortive by the ignorance of the laymen forming councils and boards of health? How little are his duties understood, or his knowledge of his profession appreciated? Or with what contempt is he treated when he suggests methods of dealing with problems in his own department of the public service, on which he is best qualified to advise. Is he consulted on the application of principles of which he has made a study to gain the position he holds? Alas, no, he is too often side-tracked and his opinions ignored, and other officials called in whose training and experience in no way fits them to be practical advisers on the question under consideration. Why does this occur? Simply because he and his work is not known to the great bulk of the men who form our municipal and health boards. Too often he is looked upon merely as a foreman scavenger, good enough to superintend the cleansing branch of work, and to carry out the instructions of the Medical Officer in such duties as posting infectious disease placards.

But, he is coming to his own. The work of inspection is being recognized as of the greatest importance in the gathering of information which is to lead to the proper and efficient arrest of causes which affect seriously the general public's moral and

physical health. Inspection is the basis of every branch of public health work, whether it be statistical, analytical or epidemiological. The data collected and supplied by the field inspector is of the greatest importance to the chemist or bacteriologist in arriving at a true conclusion from his analysis.

That this work requires highly trained men is evident, and this is to be largely the work of the Sanitary Inspector.

What then is required of the men who are to act as inspectors, and what must they know to fit them for so important duties? Where are they to be found, and how trained? This might be answered in various ways, but let us take those of them we already have and ascertain what training they have had to entitle them to be called Sanitary Inspectors. What are the requirements necessary to qualify for such an office? It may seem superfluous to specify the subjects of knowledge laid down in the curriculum of studies to obtain a certificate of competency to fit one for the duties, yet such is necessary to dispel the ignorance that obtains regarding the duties of a qualified inspector. Some of the subjects on which candidates are examined may be gathered from a perusal of the syllabus here given:—

(a) A knowledge of the Acts and Model By-laws relating to the duties of a Sanitary Inspector.

(b) Of what constitutes a nuisance—methods of inspection of dwellings, cellar dwellings, dairies, milkshops, markets, slaughterhouses, cowsheds, and nuisances especially connected with trade and manufactures.

(c) The physical characteristics of good drinking water, the various ways in which it may be polluted, by drainage to supply works or in houses, and the means of preventing pollution—methods of supply.

(d) The characteristics of good and bad food, such as meat, fish, milk and vegetables.

(e) The sale of Food and Drugs Acts.

(f) The regulations affecting persons suffering or recovering from infectious diseases and some knowledge of such diseases—the principles of ventilation and warming and simple methods of ventilating rooms—measurement of cubic space.

(g) Infection and disinfection—methods of disinfection.

(h) A knowledge of the general duties of the office and methods of keeping the necessary books and records—writing and spelling.

(i) The proper conditions of good drainage—sewerage and drainage—sewage disposal—the advantages and disadvantages of various sanitary appliances for houses—inspection of Builders' and Plumbers' work—Scavenging and Disposal of Refuse.

All this and a great deal more is he who would aspire to become a sanitary inspector required to be conversant with before he would be warranted in making application for appointment to perform the actual duties of the office. Nor is the examination a superficial one, but is of such a searching and practical nature that no mere crammer can hope to successfully pass. It might be said no one man could ever be proficient in all the branches of knowledge as above briefly detailed, but he who is in love with his work, and who by practice and experience is allowed freedom of action, and encouraged in it, can well undertake and efficiently perform them all. Systematic organization and personal superintendence and method, with some clerical assistance, has enabled many an inspector to faithfully and efficiently carry out all the sanitary and health duties of a community numbering 10,000 persons.

As the work of sanitation and hygiene become better understood and appreciated by those governing the public services, and their listening to and following the advice of such officials as medical officers of health and sanitary inspectors in matters pertaining to such offices, the better will the public service be benefited. Specialization in branches of sanitary work will become more and more imperative, as the value of field inspection is demonstrated. Indeed, there are few inspectors who do not specialize or become more interested and efficient in some branch of their work, so that in the multitudinous duties of the office of the general inspector some specific department unconsciously enlists his special attention and studies. It is only natural that this should follow, after he has had practice in executing the duties recurring from time to time. This development from a general practitioner in his profession to that of a specialist is a sure indication that he has found his forte, and is a

guarantee of successful service in his chosen branch of work. Not only so, but the fact that he is conversant with an inspector's general duties fits him all the better for his specific work.

Already specialists are in the field, such as food inspectors, dairy inspectors, smoke nuisance inspectors, and others, but without a general knowledge of sanitation they would be only one-sided men.

In Britain and some other European countries no one can qualify for the Meat or Food inspector's certificate without having that of the sanitary inspector and serving at least one year as such to some sanitary authority. In those older countries it has been recognized that special training is necessary to fit men for such important work, and governmental approval and recognition has been accorded to diplomas obtained from and granted by certain examining sanitary associations. This is how Sanitary Inspectors are obtained.

So well has the British Government been satisfied with the qualifications and worth of the men certified as competent by such examining bodies, that it exercises a paternal vigilance over them by ensuring them a certain fixity of tenure of office. The Local Government Board of England is the supreme health authority of that country, and by contributing a moiety of the emoluments of sanitary inspectors retains an interest, by the keeping in office of competent officials. This is how Sanitary Inspectors are kept.

Why should some similar arrangement not be inaugurated on this continent, so that the office of sanitary inspector may be raised to the position it deserves, and its holders attain to their rightful place as advisers in their own jurisdiction to those by whom they are employed? In a matter of such vital importance to the well-being of communities as the prevention of disease, it is surely worth the consideration

of State, Provincial and even Federal authorities to institute means to get, train, protect and hold men for the work.

Although this paper is written on the Canadian side of the line, may it not be worthy of consideration by our cousins to the South? Reciprocity even might be possible.

There are evidences that in Canada the problem of the conservation of the public health is seriously attracting the attention of the ruling powers—may it be consummated by a rational and national unifying of health ordinances for the general public weal.

Sanitary inspectors in this land, although comparatively limited in numbers and separated by distance from frequent intercourse for the exchange of sanitary views, and discussion of matters affecting their interests and official improvement, are taking steps to amend this want, by seeking association.* When a workable scheme of federation of the scattered units is accomplished, the various municipal and provincial health authorities will be invited to extend their sympathy and patronage to the association. The benefits accruing from such interchange of opinions on subjects of interest such as would be read and discussed would be of educational value to all concerned.

The time may not yet have come for uniform opinions on the very varied subjects to be dealt with, but opportunities for discussion with experimental and practical demonstrations, will go a long way towards a oneness of mind and treatment. The proverbial, but true saying, that doctor's differ, holds good among others than medical men, but the researches being undertaken, and the results obtained in the field of practical sanitary science, are gradually reducing to definite surety many problems which have hitherto been complex and doubtful.

WHAT THE FEDERAL GOVERNMENT MIGHT DO TO ASSIST IN THE CONTROL OF TUBERCULOSIS

BY D. MACDOUGALL KING, M.B., OTTAWA.

In a paper having for its object a reform in the general measures for the prevention of tuberculosis, statements may appear which might seem to reflect on

the campaign which has been, and is being so nobly and disinterestedly waged by the Dominion Anti-tuberculosis Association, but let me

*As a section of the Canadian Public Health Association.

state at the outset that if deficiencies or short-comings in our present campaign are brought to light, these are mentioned not in a spirit of criticism but purely from a belief that strength often lies in a careful recognition of existing weaknesses.

Indeed the Dominion Anti-tuberculosis Association speaks for itself, not in words but in works. When one considers the great amount of literature that has been distributed, the hundreds of lectures delivered, the local societies organized, the stimulus to activity in the many centres where sanitoriums have been built, or are about to be built, when one considers that the whole country from Atlantic to Pacific has been covered by the Dominion Anti-tuberculosis Association, and when one looks at the results, one cannot help wondering how so much has been accomplished with the yearly allowance the Association has been granted for the financing of its undertakings. If the Association has any deficiencies or short-comings it is clearly not from lack of energy or enthusiasm, not from lack of masterly guidance, but from a lack of financial support wherewith to launch into the greater schemes, to develop the more thorough measures.

It has been the policy of the Dominion Anti-tuberculosis Association to remain the executor of the Government's anti-tuberculosis funds, and the difficulty has ever existed that the Government has been unable to appreciate the enormity of the work to be accomplished. Is it not reasonable to suppose that could the Government be induced to become the executor of its own anti-tuberculosis funds it would soon be brought to a keener appreciation of what is necessary in the warfare against tuberculosis? Is it not also reasonable to suppose that, with the Government as an executive body, a strongly influential society like the Dominion Anti-tuberculosis Association, acting in an advisory capacity, could bring home to the Government the needs of the country in a more forcible manner and could gain for the Dominion a more effective campaign than it has been possible to conduct in the past?

It has been conceded that the Federal Government ought to take some part in the fight against tuberculosis, but because of inopportune suggestions such as, that the

Government should erect sanitoriums and grant a per capita allowance, etc., which suggestions have been continually advocated from many quarters, nothing has as yet been realized. Why should not the Government make a start in a small way with an educational propaganda? It would be work that in no way conflicts with the help being given by the Provincial Governments, and it would be as much in harmony with the provisions of the British North America Act as is the technical education of the farmer, as carried on by the Federal Department of Agriculture. Further, we all know what a vast field exists for development, and when once that field has been fully developed, no criticism could hold against the Government for failing to take its share in the work of prevention of tuberculosis.

Under the central responsible business management of a Government Department it is fair to suppose that it would be possible to conduct a more expeditious campaign than under an elective executive, the members of which are scattered over the Dominion, and whose meetings in consequence must necessarily be curtailed in time and frequency.

As has been hinted, there is a negative side to our present campaign, and although stringency of finance is in large part responsible, nevertheless it may be conceived that Departmental control would tend to overcome some of the difficulties.

Let me enumerate in a few words some of the considerations which are forced upon the attention of one seeking economic efficiency in dealing with the problem of tuberculosis from a national standpoint.

1. There is no recognized authority to appeal to, from which absolutely reliable information, on matters pertaining to tuberculosis, can be received, and as a result various localities are spending a great deal of time and money in ill-advised schemes which do not give the results which the same energy and money properly directed would yield.

2. The general practitioner of medicine, being an extremely busy man, unfortunately is unable, in many instances, to devote the time he should to the anti-tuberculosis society of his municipality, and as a result laymen are forced to take the matter in their own hands and do their best, unguided by any scientific advice

and unable to gain such of real value except with the expenditure of much time and money.

3. A great deal of literature, good, bad, and indifferent, has been written on the economic problems of tuberculosis. Any one volume contains but a small part of what is essential to make it practical as a work of reference for a municipality applying for advice. Consequently individuals who in the past have applied to the Dominion Anti-tuberculosis Association for advice on the building of sanitoriums or hospitals for advanced tubercular cases have been referred to several voluminous books, on which much time and patience may be spent without deriving complete information.

4. Anti-tuberculosis societies in many localities are doing good work, but there is a lack of convergence towards the one focus and unfortunately sometimes the desire for eclat and local development blinds the workers to the real object of their work. In other words some societies work at cross purposes with other societies in order to gain advantage for themselves. As an instance let me mention the action of the authorities of one prominent sanitorium, who, when hearing that the anti-tuberculosis society of another locality was thinking of building a sanitorium of its own, went to the locality of that society and canvassed the ground in order to gain support for their own institution.

5. The secretary of the Dominion Anti-tuberculosis Association has visited many localities and has done excellent work in organizing societies. Some of these are doing good work, but others, after the first blush of enthusiasm, have waned in their efforts, owing to the fact that the lecturer is forced to leave them after a brief visit, and without any detailed constructive scheme being laid before them, other than the treatment of the disease in their homes and a series of sanitorium plans; the societies in consequence grow cold from lack of initiative and that tangible something which forms the goal towards which to work.

6. Labor organizations not knowing what is done in other countries, to protect themselves from the disease have no idea as to what course they might take both in prophylactic and curative measures.

The same point would also apply to the employers of labor.

7. Some localities are doing much bungling and wasting much money in building sanitoriums and advanced case hospitals which on completion are found to lack in some essential consideration. For example, in one of the prominent Canadian Sanitoriums it was found on completion that the whole upper storey was useless to accommodate patients because the air space provided was inadequate according to the law governing ventilation of public buildings. Further the idea of providing for a nurses' dining room had never been thought of during the construction of the building. In another sanitorium it was found on completion of the building that no provision for ventilation had been made other than the doors and windows, and further there was no authority to which to appeal to ascertain whether such ventilation was all that was necessary or not.

It is here worthy of note that at least ten sanitoriums or advanced-case hospitals are about to be constructed in different parts of Canada at the present time.

8. In nearly all, if not in every instance, where a locality has built a sanitorium or hospital for advanced cases, it has been necessary for such locality to undergo the expense of sending a commissioner a considerable distance to visit other sanitoriums in order to get particulars regarding plans, expenses, equipment and staff. In some instances the sanitoriums visited proved to be by no means desirable models.

9. A sanitorium or hospital for advanced cases has had in the past practically to learn by experience what staff was necessary to conduct the institution economically, and in some cases great difficulties have been encountered through the wide differences in the estimated and actual cost of management.

As meeting these difficulties and at the same time carrying out an active campaign let us imagine a Federal Government Department, starting in a small way with an organizing secretary, one or more lecturers, and two or three stenographers or clerks. The work of the Anti-tuberculosis branch might then be outlined as follows:

1. The gathering together of the best literature on the Economics of Tubercu-

losis and the extraction therefrom of the concise and practical facts which would be necessary to enable correct information to be given to all parties applying for advice.

2. The carrying on of correspondence with all individuals, societies, or municipalities seeking advice on questions pertaining to the economics of tuberculosis. If uninformed on any question the Department would make it its business to secure correct information from the proper authority.

3. The drafting of a uniform constitution for all anti-tuberculosis societies with a series of instructions which would bring the greatest results for the least expenditure of time and money, and the winning of the co-operation of these organizations. The advantage of thus having all, or as many societies as possible, working towards a common end, is obvious.

4. The issuing of circulars each quarter or half year to anti-tuberculosis societies outlining an effective campaign for them to carry out during an allotted time and giving them the assistance of any new ideas and suggestions which the Department should be ever on the alert to obtain. The stimulus of such circulars could not fail to enliven such societies as lag in their efforts from lack of initiative.

5. The issuing to Canadian physicians and anti-tuberculosis dispensaries, leaflets prepared for tubercular patients, having due regard for the prerogatives of the physician and containing careful instructions calculated to prevent the dissemination of the disease. Such leaflets would save the physician much time and trouble with his tubercular cases and in an economical way would reach the destination most desired.

6. Literature for the general public on the avoidance, danger, etc., of tuberculosis and printed in the various languages, could, if it were thought expedient, be furnished through the agency of the various anti-tuberculosis societies, but this would no doubt mean much expenditure for very trifling results.

7. The monthly preparation, for the Labor Gazette and other official publications reaching the working classes, of short articles dealing with anti-tuberculosis work as carried out by labor organizations in other countries, and giving practical suggestions for the organization of the work

among the trade unions of Canada. Also notes to the tradesmen and employers in the trades which are particularly open to tuberculosis, and directions for the avoidance of the disease.

8. An annual crusade by publishing in every newspaper possible throughout the Dominion a series of well-written articles dealing with tuberculosis in the light in which the public ought to view it.

9. The supplying or loaning of, to localities anxious to build:

(a) A set of correct plans and photographs of the most modern and at the same time most economical sanitoriums or advanced-case hospitals of either a large, medium, or small construction.

(b) A very close estimate of the cost of building and maintaining.

(c) Particulars as to the staffs which would most efficiently and economically run such sanitoriums and the precise duties of each member of the staffs.

10. The registration of applicants for technical positions in sanitoriums or advanced-case hospitals with a view to assisting new sanitoriums and hospitals in organizing their staffs.

11. The assisting of localities which are contemplating the erection of a sanitorium or hospital for advanced tubercular cases, by sending the lecturer or secretary of the Department to talk over the situation and advise with a view to making the best use of the money to be spent and avoiding blunders.

It might be expected that in time the Department would see the wisdom of adding to the staff an architect who would act in an advisory capacity with all localities anticipating the erection of a sanitorium or advanced-case hospital.

12. The organization by the lecturer of new anti-tuberculosis societies in the centres not covered at the present time, and the revisitation by the lecturer of such societies as are lagging in the work with a view to creating renewed enthusiasm.

13. The delivering of addresses to labor organizations, lodges, church societies, and any body of men or women likely to be made co-operators in the work. The lecturer's campaign should be systematically mapped out for the whole year in order to prevent duplication of the work or travel. Further, the Department should by correspondence partially organize each

district to be visited with the view to insuring a good reception for the lecturer.

14. The tabulation of the work done by each of the provinces and the collection of such statistics as would be necessary to demonstrate where anti-tuberculosis effort is most necessary.

15. The organization, if possible, of a uniform code of statistics among the provinces in order to make a classification of tuberculosis under employment, with the view of furthering legislation to protect the individual in certain industries.

16. The collection of material necessary to form one or several exhibitions (composed of photographs, maps, charts, models and lantern slides) which could be constantly kept in use through the agency of anti-tuberculosis societies to educate the public.

The value of a Department carefully conducted along these lines is apparent. The much felt need of an authority to which the municipalities might apply for information and advice would be overcome. The guiding hand of the Department would prevent one society from taking advantage of another. The laymen being able to secure information from the Department would to a considerable degree be independent of medical men in the obtaining of advice and could thereby conduct their business unhampered by delays. The lecturer of the Department would be able at the close of his lecture to supply his audience with a constitution and refer them to the Department for all further advice. That municipalities would be glad to accept and make use of information

supplied by the Department is assured by the fact, that in the past various localities, in many parts of the Dominion, have applied to the Dominion Anti-tuberculosis Association for advice, and this without any advertisement on the part of the Association to the effect that information could be supplied.

The interest of the societies would be kept active by the Department's stimulating circulars. The co-operation of the labor organizations would be won, thus creating a new and important asset in the warfare against tuberculosis. The money to be spent by the municipalities on tuberculosis work would be put to the best advantage and the time and money would be saved which to-day is expended by individual localities on:

(a) Securing general information as to the wisest course to pursue in attempting to stamp out the disease.

(b) The cost of individual architectural plans for each separate sanatorium.

(c) Sending a commissioner away to secure information relating to architectural plans, the required equipment, staff, duties of staff, and maintenance of the institution.

The provinces or municipalities knowing beforehand what expenditure was going to be incurred, and knowing that much of the expenditure which had been borne in the past by other localities could be avoided, would be much encouraged to launch into schemes which at present they are afraid to undertake, not knowing where the venture will end.

TOWN PLANNING FROM AN ARCHITECT'S POINT OF VIEW

BY COLBORNE P. MEREDITH, F.R.A.I.C., OTTAWA.

An Architectural Problem.—In approaching the subject of town planning from an architect's point of view, you will permit me, I am sure, to say that town planning is essentially an architectural problem. Granted that the co-operation of the sanitarian, the engineer and the sociologist is absolutely essential to the evolution of any scheme for the betterment of our towns and cities, I submit that once

such co-operation is obtained and the vast array of facts and figures arising therefrom is available, it devolves upon the architect, by reason of his technical and artistic ability, to marshal these facts and figures into a workmanlike solution. On this point may I here quote the excellent suggestions for town planning promoters issued by the Royal Institute of British Architects.

Suggestions to Town Planners.—"The

working out of the exact form in which the requirements can be satisfied so as to produce a fine city is a function of the creative imagination, and it can only be properly performed by one who has had the architectural training necessary to enable him to adjust the proportions of the many parts, so as to place the different buildings, and group them upon the ground in relation to each other, that when erected they may compose properly. For the design of the town plan the architecturally trained mind is as essential as for the design of a single building, for the work consists in an applying upon wider field, and with greater scope, the same principles which govern the designing of individual buildings. The appreciation of the relation of masses and voids, the apprehension of the right points for emphasis, and the power to combine into one creation many different parts by bringing them into harmonious proportion, are equally required in the field of town planning if there is to be produced that rhythm in the plan, and that spacious breadth of ordered elevation in the groups of buildings which so largely constitute the beauty and grandeur of cities."

The Architectural Point of View.—In order for me to deal with my subject from the point of view expressed in the title of this paper, it will be well to ask, what is an architect?—for the key to what a man thinks is what a man is. An architect is firstly an artist, secondly, he is a constructional authority, and, thirdly, he is a business man. I will briefly endeavor to show how I think town planning appeals to the many sided activities of my much berated profession. In doing so I will reverse the order in which I have endeavored to enumerate the professional functions, and will treat of the business man first.

From the Business Standpoint.—From the business side town planning appeals to an architect because of its basic principle of economic efficiency. Any arrangement which tends to the conservation of human thought, time, energy of life is good. This statement cannot be refuted. Town planning does all of these things. It, therefore, must also be good.

Town Planning Saves Money.—Town planning saves money. This statement is so obvious that it hardly needs illustration or proof, but if the latter were needed it can be very easily supplied by the comple-

mentary statement, that, lack of town planning costs money. We all know that vast sums of public money are now being spent in an endeavor to rectify the errors which lack of foresight has handed down to us. And with this appreciation of the waste of public funds, must there not also come a realization of the woeful waste of human life which has attended this most unholy heritage. Land overcrowding, with its attendant slum evils, is the result of economic conditions which would never arise if a proper system of grading and planning districts obtained. The insane idea for a super-concentration of population is often but the outcome of a lack of transit facilities.

Garden Suburbs.—Town planning must consider all these points. It does not of necessity imply building in the grand manner. This, the most democratic of modern arts, embraces all grades of habitation from the palace to the hovel. If you require tangible evidences of its broad utilities I would direct your attention to the town and garden suburbs which are being evolved in the old country, as a reply to the insistent demands for something better in regard to housing conditions. Here you have a rational communistic spirit developed to its full. The hitherto unalienable right of every man to do as he pleases with his own is no longer allowed to go unchallenged, and thus we have the spectacle of restrictive legislation voluntarily imposed, and voluntarily accepted, with a result which challenges criticism. True that in some instances the movement has been accompanied by certain weird essays in ethics and diet, but in the main, we see that at the bottom it is a great uplift towards better conditions.

From the Constructional Standpoint.—The town planning movement appeals to the architect in his constructional faculty by reason of its simplification of the problems of construction. Such problems in crowded areas often entirely divorce the art of architecture and the science of building; in fact I would even go so far as to say that the great part of so-called city architecture to-day is merely building. The problem of erecting monstrous structures on inadequate bases is brought about entirely by our irrational system of land overcrowding. Therefore, a town plan which makes better architecture possible

appeals directly to that constructional faculty which is a part of an architect's nature.

From the Artistic Standpoint.—Thirdly, town planning appeals to an architect from its artistic side, and probably this appeal is stronger than either of the others.

Haphazard Growth.—The horrible examples of haphazard growth which occur in so many of our Canadian cities need not be brought before your notice. They are so self-evident that every thinking man must at some time or other have been distracted by them. But here I may insist that in Canada we have the very conditions favorable to the production of town and city plans which shall directly comply with our social and physical needs. Unhampered by historical associations, we have in the newest towns and the smallest cities a free hand. What is going to be our heritage to posterity?

Our Opportunity.—Our Canadian towns are spread before us like a gigantic piece of scenic canvas. On that canvas we are to paint the story of our life and of our age, expressed in materials that will endure. Are we to go down to posterity as a sordid generation of mammon seekers, or shall we write large upon the annals of history that spirit of communal well-being from which only a great nation can arise? It is ours to answer!

Divergence of Opinion.—I am aware that in addressing a gathering of sanitarians my views of this subject may be divergent from those of my hearers. But I would ask you never to forget that man's material needs and sanitary requirements, important as they undoubtedly are, do not suffice to completely satisfy his cravings and aspirations. There is needed the leavening touch of art and beauty, and this little leaven will increase tenfold the value of the material part of his existence.

William Morris said in this connection:—"Beauty, which is what is meant by art, using the word in its widest sense, is, I contend, no mere accident of human life which people can take or leave as they choose, but a positive necessity of life, if we are to live as nature meant us to. That is, unless we are content to be less than men."

Rapid Growth.—The past decade has been remarkable by reason of the extraordinary and rapid growth of our cities and towns. We can all remember the green

fields of our childhood, now gathered into the maw of the real estate and property speculator. How much of this development has taken place under adequate technical supervision? I venture to say that nine-tenths of the areas which have been developed during the past ten years have been laid out with no further idea than the desire to obtain the greatest number of building lots on a limited area. This is not planning for the future. It is not even doing the best for the present.

Legal Authority Needed.—What we need in Canada is some measure which will give legal authority to municipalities to efficiently control the development of land beyond their borders. Sooner or later the smaller municipalities are absorbed in the larger, and then the latter have, at enormous expense, to commence remodelling roads in order to fit in with a satisfactory general scheme: all for the lack of control in the first place.

The English Town Planning Act.—In England the splendid town planning act which has recently passed into law gives the municipal authorities full control over the development of the districts surrounding towns and cities. If such a measure can be passed in England, with tradition and fixity as its natural enemies, why cannot we in Canada go as far, or even further? Here we have no remains of a dim antiquity to rear their heads at every step on the march of progress. Our lands are practically in the virgin state. We have the additional opportunities of the observation of the mistakes of others. We go forward with our eyes open. Whither are we leading?

Town Planning an Expression of Life.—A town or a city is the expression of the life of its inhabitants. Its public buildings should be grouped to give due prominence to the dominant note of administration and government. Its transit terminals should likewise be expressed in an adequate manner. In these particulars alone how far do we find Canadian cities have considered the relative importance of the patchwork, versus the whole cloth methods of designing cities. The idea of the grouping of public buildings, or to use the newly coined term, the formation of a civic centre, is so manifestly an economical solution of the problems of administration that one would think it would appeal and suggest

itself instinctively to the great body of the public at large. But how many instances can we find in Canada where such a system has been adopted? And quite apart from the economic advantages of such an arrangement, think of the added architectural dignity and emphasis which is possible by reason of the massing of such buildings. Even where the buildings are quite small an effect of dignity can be secured by grouping, that would be impossible if such buildings were detached and isolated.

Railway Stations. — Then in regard to our railway stations. Are they not generally in the meanest and most impossible situations? The railroad is a big factor in the life of any city, and its entrance should be the subject of grave consideration. The railway station of to-day corresponds with the city portal of the old cities. Should we not endeavor to make it and its surroundings a thing of beauty and meaning rather than a conglomeration of shacks and sheds?

Our Duty Clear. — Rays of hope are already dawning, and the awakening interest which is evident in this matter is one of the most encouraging signs of the times. When we consider that small towns are coming into existence in the west almost at the rate of one a day, there should come a feeling that we as a nation are neglecting our duties if we do not make some effort to guide their plans in the right direction. With practically unlimited ground on which to develop our schemes we have

also practically unlimited opportunities. In the case of our older cities and towns the problems of reconstruction are naturally more difficult, but any neglect to set right such mistakes now will surely only further complicate and enhance the gravity of the situation in the future.

Individuality. — It may be said that it is impossible to lay out a plan having individual interest in the early stages of town making, but all town sites have a local character of their own, differing somewhat from all the others, and it should be the aim of the town planner to retain and blend in with his scheme all the natural features and beauties which exist, accepting contours and seeking to solve the problem of their best development, instead of working on the unpractical rule of thumb gridiron system.

In this paper I have endeavored to briefly summarize some of the problems of this subject as they present themselves to-day. I do not claim to have more than touched upon the fringe of this vast matter, that would be impossible within the limits of a short paper. My last word will be to ask you, as men of science, to remember that true greatness in town planning will not spring from merely scientific solutions of the problem, any more than it can properly arise from a mere artistic solution. The facts of the scientist and the romance of the artist must blend into a great harmonious whole. Such harmony, coupled with an awakening public interest, will ensure the success of this movement and the gratitude of posterity.

Among the Special Articles for later publication in *The Public Health Journal*, are: "Rehousing in Canada," by W. D. Lighthall; "Modern Public Health Teaching and Practice in Relation to the Control of Tuberculosis," by F. F. Wesbrook; "Pre-Vocational Education," by Helena Holley; "Municipal Food Inspection," by P. B. Tustin; "Methods Adopted by the City of Saskatoon for the Purification of Domestic Water Supply," by George T. Clark; "False Starts in Municipal Sanitation," by A. C. D. Blanchard; "The Statistics of Housing and Co-partnership," by Percy E. Hobbs; "Municipal Powers in Dealing with Town Planning Schemes," by Rickson A. Outhet; "Hypochlorite Treatment of Water for a Temporary Auxiliary Supply," by E. A. James.

Editorial

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

INTER ALIA

There are two classes specially dangerous to the public health. The first of these are the faddists, who are always running after some new thing either in diet or in novel remedies for diseases and the other the fossils who cling tenaciously to antediluvian notions in sanitation and hygiene, and who look with suspicion and distrust on every advance suggested by science. Such organizations as the Canadian and American public health associations and the associations for the prevention of tuberculosis stand between the two. They discount the extravagances of the one and counteract the pernicious tendencies of the other. By lectures and training classes they are in position to spread physiological knowledge among the people and expound the laws of health. Action like this on the part of such organizations is greatly needed; we do not believe that faddism in medical matters was ever more rampant than at the present moment, and as far as we are able to judge, it is most prevalent among the fortunate and richer classes.

Reasonable embitterment has been engendered in England by the forcible feeding of imprisoned suffragettes, who, as a last resort against "tyrannical treatment," declared a hunger strike while in jail. This condition of affairs was reflected later in the House of Commons when George Lansbury, a socialist member, denounced Premier Asquith and the Government, and, again, when one of the imprisoned women threw herself down two flights of stairs: "A padded room," remarks a Toronto daily editorially, "is the place for this type of paranoiac."

Does it not seem strange that the spirit of British fair play lies largely dormant when legislative equality is sought by British womanhood, and, strange to-day that there is an editorial writer in Canada, him-

self so apparently paranoiac as to misapply the disease, with which he seems afflicted, to those advocates of a cause against the justice of which there is no argument—to those who have undoubtedly been bullied into the "objectionable measures," for which they have been jailed; measures which to one who reasons out the matter are as logical as they may be severe.

We hear much nowadays of occupational diseases and there are those who can recite lists of diseases peculiar to every calling, whether in open air, in factory, in mine, in office or in study. The inference unexpressed is that any activity whatsoever induces some disease and that if one would escape disease one should be able to eschew work.

There are occupational diseases, many of which can be ameliorated or eradicated by proper legislation in sanitation; and reform along this line should not abate. The great majority of us, however, are likely to die from diseases induced by the manner of our diversion rather than the manner in which we earn our livelihood. Indeed, in many of our lives the only ordered thing is the occupation, the only hours of proper functioning, save those passed in sleep, the hours passed in work. Yet the uses of leisure properly ordered, are manifold—retirement, social intercourse, amusement, even frivolity. In this respect man has been compared to a tree. If trees are too close to each other, their roots intertwining, their branches mingling, there is not a full harmonious development of any one of them. But if a tree stands too far apart from its brethren it suffers the disadvantages of isolation without the protection of companionship from sun, wind and rain.—The whole art of living, of health, of happiness, of self-culture, is contained in a proper balance, in equilibrium attained by judicious appropriation of opposite forces.

CURRENT PERIODICAL COMMENT AND WORKING NOTES

Observations on the Range of Flight of Flies.

C. Gordon Hewitt, D.Sc., F.E.S., Dominion Entomologist, writes as follows in *No. 66 of Reports to the Local Government Board*, London, England:

The importance of accurate information with regard to the distance that flies can travel, either by their own exertions or with the aid of the wind, is realized by those who have under consideration the question of the carriage of infection by these insects and also of the danger and nuisance due to the proximity of breeding places. Attention was called to this question in my monograph on *M. domestica* (1909, pp. 364-365) where the discovery of *M. domestica* 1½ to 2 miles from any house or likely breeding place was recorded and also the occurrence of *M. domestica* at an altitude of 80 feet above the ground. Reference was made to Dr. M. B. Arnold's experiments in 1906 in which three hundred flies were caught and marked with a spot of white enamel on the back of the thorax; these were liberated and five were recaptured at distances varying from 30 to 190 yards from the point of liberation.

An extensive series of experiments were more recently made by Dr. Monckton Copeman and Messrs. F. M. Howlett and Gordon Merriman and recorded in Report No. 4 of this series of reports on "Flies as carriers of infection." These experiments were carried out in the neighborhood of a small village, Postwick in Norfolk, where an unusual plague of flies were experienced. The flies to the number of several hundreds at a time were caught in a net and were marked by being placed in a paper bag containing finely powdered colored chalk of which that of a yellow color was found to afford the best results. After liberation they were recovered from human habitations at various periods within forty-eight hours, and at distances ranging from 300 to 1,700 yards from the point of liberation, the location apparently depending, to a considerable extent, upon the direction of

the prevailing winds. The locality in which these experiments were carried out was of a rural character and consisted of open country.

Dr. Howard records an experiment of J. S. Hine, who caught 350 flies and marked them with gold enamel before liberation. Flies so marked were observed about dwellings from 20 to 40 rods (600 to 1,200 yards) from the point of liberation up to the third day. Hine states: "It appears most likely that the distance flies may travel to reach dwellings is controlled by circumstances. Almost any reasonable distance may be covered by a fly under compulsion to reach food or shelter. When these are close at hand the insect is not compelled to go far and, consequently, does not do so." The experiments recorded in this paper, however, show that flies will travel a considerable distance even where houses occur. The same author also mentions that Prof. S. A. Forbes had experiments carried out in which it was shown that marked flies spread naturally for at least a quarter of a mile.

In view of the results of these experiments it seemed advisable that others should be carried out under city conditions, where so many factors are present which may affect the flies' ability and desire to travel. The following is an account of a short though interesting series of experiments which were carried out in the City of Ottawa, Ont., under my direction, by Mr. G. E. Sanders, B.S.A., Field Officer of the Division of Entomology, who also devised the excellent method of marking the flies.

Locality of Experiments.—By way of introduction it may be remarked that an important reason for the choice of the locality in which these experiments were carried out was that the results might be useful as indicating whether the presence of a smallpox hospital on the island upon which the flies were liberated constituted a menace to the public health of the neighboring district.

The point of liberation of the flies was on Porters Island, a small island, about 1,100 feet long, lying in the Rideau River, which runs through a part of the city and is a tributary to the Ottawa River, which it joins a short distance further along its course. The surrounding district forms a portion of the north-eastern part of the city and consists chiefly, especially on the northern side of the river which is known as New Edinburgh, of working-class dwelling houses. On this island, which is connected with the bank by a small bridge, smallpox cases are isolated in a small wooden house used as a hospital, or in tents. The land rises gently from the river on the southern side.

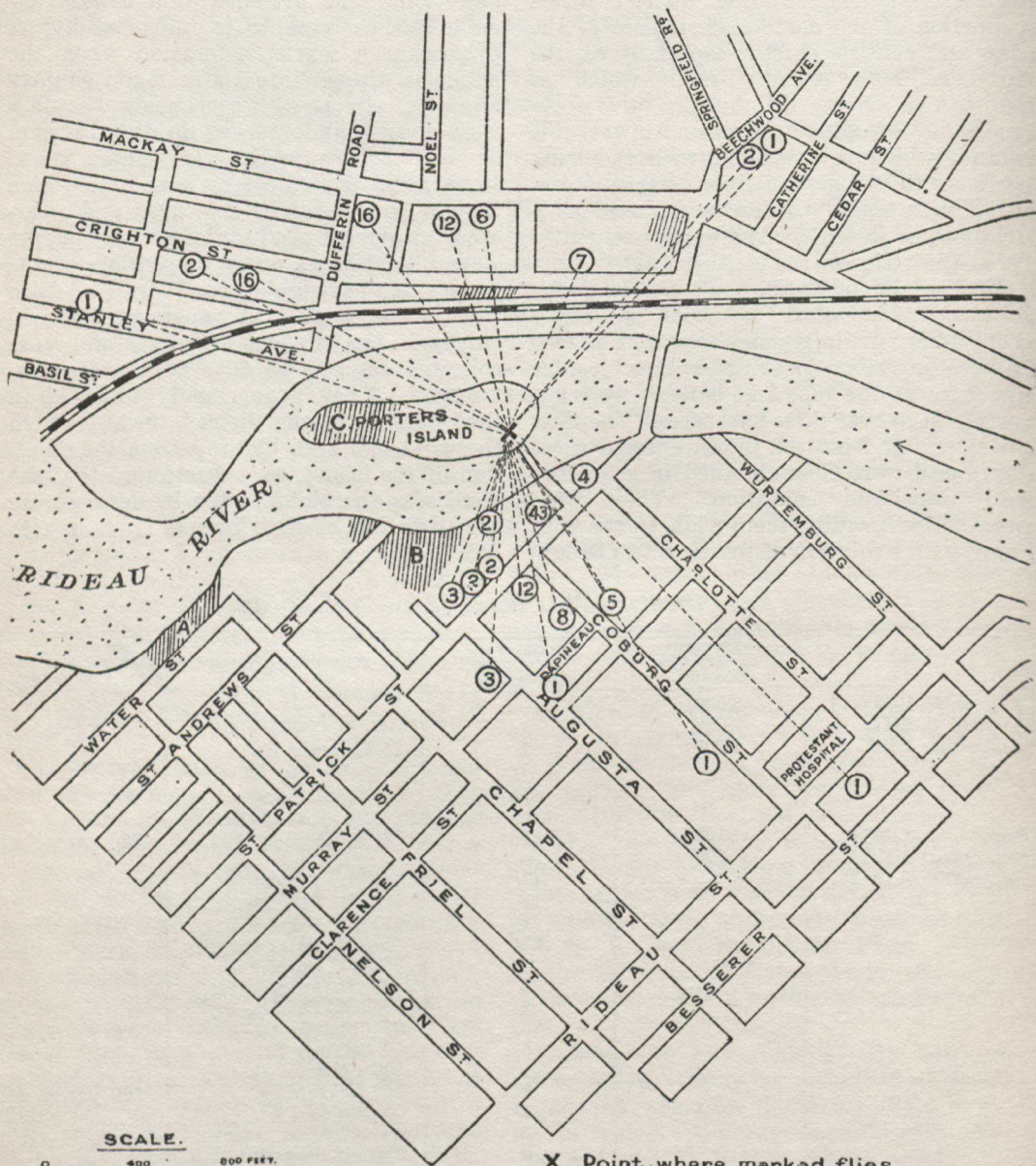
Method of obtaining and marking the Flies.—Stable refuse, in which the larvæ were found in large numbers, was placed in breeding boxes, provided with a circular aperture at the top, and balloon fly traps were placed over these apertures. The flies, on emerging from the pupæ, entered these cages and were thus obtained in a healthy and uninjured condition. They were marked by spraying them while in the wire cages with a solution of rosolic acid (Rosau-

rin or methyl-aurin $C_{20}H_{16}O_3$) in 10 per cent. alcohol, applied by means of a fine spray. This method of marking insects was devised by Mr. Sanders, who first used it in experiments with ants. It is simple and harmless and reliable as a means of detection. The presence of a marked fly on a sticky fly-paper is indicated by its producing a scarlet coloration when the paper is dipped into water made slightly alkaline. In these experiments the flies were reared and marked in the Division of Entomology, which is situated about three miles from Porters Island, to which they were carried in the cages and liberated on arrival. "Tanglefoot" fly-papers were placed in as many as possible of the houses in the neighboring district on both sides of the river. The papers were placed chiefly in the kitchens of houses and were collected one or two days after being distributed. They were usually collected in that portion of the district toward which the wind had been blowing from the direction of the island, as it was found that the wind was the chief factor in determining the direction of distribution from day to day.

Experiments:—Flies liberated on Porters Island.

Date.	Number of marked flies liberated.	Number of marked flies recovered.	Place of Recovery.	Distance in straight line from point of liberation.
August 29, 1911.....	8,000	—	—	
August 30, 1911.....	4,000	1	647 St. Patrick St.	180 yards.
September 1, 1911....	1,000	1	35 Cobourg St.	
		1	106 Cobourg St.	600 yards.
		2 marked flies observed.	37 Cobourg St.	
September 3, 1911....	100	1	—St. Patrick St.	
September 6, 1911....	500	—	38 Beechwood Ave.	520 yards.
September 7, 1911....	—	43	—	
		12	647 St. Patrick St.	
		4	612 St. Patrick St.	
		21	681 St. Patrick St.	
		3	619 St. Patrick St.	
		2	565 St. Patrick St.	
		2	559 St. Patrick St.	
		2	553 St. Patrick St.	
		5	35 Cobourg St.	
		8	19 Cobourg St.	
		1	106 Cobourg St.	
		1	608 Rideau St.	700 yards.
		1	55 Augusta St.	
		3	4a Anglesea Square.	
		6	355 Mackay St.	
		12	337 Mackay St.	
		16	305 Mackay St.	
		7	316 Crichton St.	
		16	197 Crichton St.	
		2	143 Crichton St.	
		2	134 Beechwood Ave.	
		1	— Stanley Ave.	600 yards.

MAP OF PORTION OF THE CITY OF OTTAWA, TO ILLUSTRATE DR HEWITT'S PAPER ON "OBSERVATIONS ON THE RANGE OF FLIGHT OF FLIES".



X. Point where marked flies were liberated.
 Shaded portions A.B.C. etc. indicate breeding places of flies.

[The number in circles indicates the points at which the flies were captured and the number of flies captured. The isolation hospital is situated a few yards from the point of liberation (X) on Porters Island.]

As will be seen from the dates given, these experiments extended over a short time only, having been terminated by the advent of a period of cold weather which checked the flies' activity. Nevertheless they are of value as indicating the possibilities in the way of the range under normal city conditions. There is no doubt that given the necessary conditions with regard to wind and elevation above the ground the range would be considerably greater than was actually found in these experiments. The greatest range of flight obtained in these experiments, namely, 700 yards, represents an actual flight of considerably greater distance than is represented by a straight line from the place of liberation to the point of capture.

Chief Breeding Places of Flies in the District.—The chief breeding places on a large scale are shown on the map as shaded areas. The western extremity of Porters Island was used as a garbage dump (C) until June, 1911, this being about 170 yards from the isolation tents and hospital. Between the end of Water Street and the Rideau River garbage was being dumped (A), a large proportion of which consisted of stable refuse (horse manure). At this place, which is about 530 yards from the hospital, flies were found breeding in considerable numbers. At the foot of St. Andrew Street, adjoining the river and about 270 yards from the hospital, about 100 tons of horse manure and compost had been dumped (B). There were in addition numerous breeding places apart from an unusually large number of unprotected heaps of horse manure in stable yards. Consequently, flies were extremely abundant on the island and throughout the district.

The Relation of the Range of Flight of Flies to the Situation of the Isolation Hospital.—The significance of the question of the range of flight of flies as bearing upon the position and protection of isolation hospitals is too obvious to require further explanation. In the present instance Porters Island is used for the isolation of smallpox cases. The hospital consists of a wooden house capable of accommodating a few cases only; during a slight epidemic which occurred in the past summer cases were isolated in tents. There was no possibility of protecting the patients from the attentions of flies, or of mosquitoes which also occur-

red in enormous numbers and may be even more potent than flies as carriers of the causative organism of smallpox, whatever it may be.

Isolation hospitals should be carefully screened in hot weather, and every effort made to prevent the access of flies either to patients or to infective matter, especially as so little effort is made at present to protect food and infants from the attentions of flies.

A Pioneer in Sanitation.

Amongst the Pepys manuscripts, says *The Builder* (London, England), preserved at Magdalene College, Cambridge, and calendared in the latest volume issued by the Historical Manuscripts Commission, there is a remarkable paper on the sanitation of London written in Italian by one Alessandro Riccardy. It is undated, but from the dates of the other documents amongst which it appears must have been composed in the early part of the seventeenth century. As Mr. E. K. Purnell, M.A., who edits the volume, remarks, the paper is obviously "much in advance of the times." The following is a summarised translation of the curious document:—

Knowing the importance of good air, and having great affection for London, he wishes to put forward an easy plan for keeping that city free from the filth which affects its air. The Romans took great care in this matter, as do the Venetians now.

The situation of London, especially in the part of the royal palace, makes this easy, but a stop should be put to the washing of clothes and of flesh, and of other businesses of the kitchen.

As is shown by his model, all the aqueducts of the houses, those of the wells and those of the kitchens, terminate in a receptacle in the most convenient part of the courtyard. Rain may be allowed to go uncovered to the said receptacle or through the streets, as is usual, but the water of the wells and that of the kitchen, in order to avoid constant damp and smell in the house, must disappear in the same spot—that is to say, in the kitchen, and at the foot of the wells there will be made a hole into which the water will pour; from this a little underground channel will carry the water, by its own weight, to the

receptacle; that this channel may never be blocked the aperture must be the breadth of four fingers, with a small iron grating at the top, having holes the size of a finger and no more, so that the channel cannot fail to carry anything which passes. Doing the same for the well, the water both of this and of the kitchen will be carried to the receptacle, which will be a stone cistern, 1 foot underground, more or less, a square of $1\frac{1}{2}$ ft. or 2 ft., according to the house. It will incline towards the street, with a mouth 6 in. square, to which mouth will be joined a channel of the same size, which will go to the street, carrying the water by its weight. The exit of the cistern to the channel will have an iron grating, as above, and the cistern will be covered by a stone pierced in the centre with a hole large enough to take a ball of shoemaker's wax, with five or six smaller holes rounded at discretion, to carry the rain water from the house, which will be directed to that place. If the channel, as it leaves the house, is near a neighbor's channel, they may be joined, to save the expense, from the wall of the house to the stream in the street. All streets will have an underground sewer into which the channels of the houses will go, the said sewers being 18 in. wide and the same height, more or less. If the channel of one street discharges into that of another, the latter must be larger. Thus will be carried underground the foul water, instead of being in the streets, and it will pass into the river. Whether the water of the springs ought to go underground or be allowed to take their ordinary course is a matter for the physicians.

The water running through the streets will be clear, not mixing with the kitchen water, but this also might go underground at small expense.

In Italy and elsewhere beasts are not slaughtered near the places of sale, but the butchers have fixed slaughter-places, generally on the river and somewhat above it.

At Antwerp house refuse has to be put at street corners or crossways, whence it is removed by carts. It would be better to put it in a corner of the house to await the cart.

The cost of the channels is estimated at 10d. per rod for the house channels and 28d. per rod for the public channel, taking the cost of bricks to be two ducats per

1,000. Existing lead channels can be used for other purposes; existing stone channels will serve the purpose. The expense of the street work should be found by the master of houses contributing to the Chamber of the Commonalty of London, or the latter should borrow at 15 per cent., and assess the total cost proportionately among the householders.

Every summer on a fixed day these channels should be flushed.

Arrangements should also be made to secure enough water in mill ditches; a sluice should control the flow of water into the ditch below the mill, which should be cleaned every five years and kept in repair by the millers. Common ditches also must be repaired every five years. In Tuscany such work is the duty of specially-appointed resident men.

As to the ditch which is situated almost in the middle of London, above the Cathedral Church, towards the Court [the Fleet], this comes from outside London, and has three bridges. If the houses which are upon the ditch have foundations so deep that the water cannot harm them, the ditch may be deep enough for the water of the river to come up to the third bridge. Nothing but water should be thrown into the ditch, and at its mouth should be a lock, without prejudice to the boats, so that the ditch may be flushed. This scheme assumes the houses on the ditch to have deep foundations.

Alternatively, the ditch should be deepened and the dirt thrown aside; then a frame should be made to the ditch, going down deep, the earth being thrown at the side mostly where the houses are, raising a wall of 3 ft. or 4 ft., as at Venice. Thus the adjoining houses might turn their sewers into it, subject to orders given by the city, forbidding any filth to be thrown there, and requiring that it should be put in order every five years.

If called upon, for the benefit of the city, he will gladly do in her service whatever he can.

Ventilation of Sleeping Cars.

John F. Norton, instructor at the Massachusetts Institute of Technology, has recently published in *Science Prospectus*, a brief review of conditions of health related

to ventilation in Pullmans and in public buildings. Outlining the conditions in a parlor car, he notes that most uncomfortable hours are spent in a berth closed by green curtains, which shut out whatever little air we think there may be in the aisle. At the end of the journey there is often a headache and at least a very dull feeling. "We blame the ventilation of the sleeping car for all the discomfort and ill effects of traveling."

Mr. Norton goes into the question quite systematically and finds out what we are breathing. In this he arrives at the conclusions determined by others, including Angus Smith, who shut himself in a room, remaining there with a lighted candle till the candle went out for lack of oxygen, that the carbon dioxide up to this limit at least produces no ill effects. Like the bacterial content of milk, the content of carbon dioxide is taken as a measure of the purity of the air, although not itself harmful. Another consideration is that of "crowd poisoning," the idea that organic matter from individuals is harmful to others in the room. It has been shown, however, that these minute floatings are not poisonous, and while they may have marked odors, the real quantity involved is excessively small.

The items actually of consequence in this discomfort it proves to be are temperature and humidity. "These factors affect the rate of removal of heat from our bodies and it is this heat that makes us uncomfortable," writes Mr. Norton. Humidity must be maintained within certain rather narrow limits, and temperature affects the individual in ways related to the humidity. To be comfortable the heat must be carried away from the body at a certain rate and this is dependent on humidity, temperature and motion, the latter being necessary continually to supply other air.

Mr. Norton then considers the different systems of ventilation in use in railway cars. First there is the old type of cars with no provision other than the deck windows in the monitor of the roof. This is surprisingly efficient in regard to the ventilation, especially when the car is moving at high speeds, but the circulation is very uneven and drafts are produced. The type of ventilators in general use in Pullman cars is of the injector principle. Air

is forced through a duct on the top of the cars, and this by suction draws the air from the car through different apertures. It is estimated that such a system as is usually installed should change the air in the car every four minutes. No inlets are provided for the air, which leaks in through casings of doors and windows. The Pennsylvania uses a system of ducts which catch the air, carry it down under the car, where it is heated and delivered to the car through pipes beneath the seats. This system is supposed to change the air completely in three or four minutes.

In these systems there is one common difficulty, that they work in proportion to the speed of the car and do very little when at a standstill. Those who are obliged to spend three or four hours in a car at a terminal before it has started are particularly affected by the conditions of stagnant air. For these times it has been suggested that fans be installed. Mr. Crowder's investigations of the quality of the air in Pullmans, in which samples of the air were taken from different parts of the car, in occupied and unoccupied berth spaces, in motion and at rest, with the result as published by him that even when standing still the contamination of the air is not sufficient to be dangerous to the public health. The stuffy feeling that is associated with these cars, then, according to Mr. Norton, must be looked for in the relations of temperature to humidity and motion. The main difficulty is in the lack of means for controlling the humidity, and to-day no acceptable way of doing this seems to exist. But so long as attention is directed to it as the crux of the problem, it will doubtless be solved in the near future. It is evident that here as in the schoolhouse and the home, the question of proper humidity is the essential one under present conditions.

An Opinion on Tonsil Surgery.

Removal of tonsils, which has been a familiar practice among surgeons for many years, is condemned by Dr. John N. Mackenzie in the current number of the *Maryland Medical Journal*. Dr. Mackenzie is a professor in Johns Hopkins University and is laryngologist to the Johns Hopkins Hospital Baltimore. He calls the wholesale

destruction of tonsils "a massacre of innocent organs" and does not hesitate to give a long list of evil effects which are consequent upon the removal or destruction of tonsils.

Dr. Mackenzie says that he has not always been the defender of the tonsil. "I too in my earlier days," he says, "have fallen by the way. Indeed, it was once facetiously said that the street in front of my office was paved with the tubinated bones of my victims."

He goes on to remark that there is a host of conditions which warrant the more or less complete destruction of the tonsil.

"My contention is simply this," he adds, "that in selecting our cases for operation we should be guided by a sane and safe conservatism and common sense and not be carried away by those who, by their precedent and example are fast bringing our specialty into disrepute in the eyes of thoughtful and honorable men."

English Decision on Odors.

The people of a part of the south side of Chicago do not feel kindly toward the stockyards, remarks Dr. W. A. Evans in the *Chicago Tribune*. Though they have built two or three miles away, they find there are times when the stockyards odors reach out, like a long arm, and gather them into the stockyards circle, a circle whose radius is the length of the smell. The people involved cherish resentment not only against the yards and the packing houses, but also against the health department. For it is to that bureau they look for relief.

The difficulty under which the department works is illustrated by an experience in Montrose, England. The nuisance there is due to a guano factory. The Medical Officer for June, 1912, tells of the failure of the health officer, Dr. Connon, to have the guano-makers punished for causing a nuisance through offensive odors. The evidence showed a state of facts almost identical with those in Chicago.

At the trial the state proved the odors were a nuisance, and that they emanated from the factory. The defense proved they had installed proper apparatus for the control of the odors. It was admitted that if the condensers were kept cool enough

odors would not arise. The judicial officer held that the prosecution must prove that the defendants neglected to make full use of the facilities for controlling the odors—that they did not keep the condensers cool. This the prosecution could not do. It did not have enough inspectors to make such proof. The guano works won.

Some American courts are just as technical. Perhaps they are right. Certainly it is the tendency of the times in the interpretation of health department laws. The loosely drawn health ordinances of the ordinary town will not withstand the test of the present tendency of court decisions. Such ordinances are seldom tested, because they are generally dead letters except in times of strong public sentiment, at which times they are not contested because everybody bows to the majesty of an aroused public.

At length departments become more continuously active, city councils must re-frame health ordinances to meet this tendency of the courts. A great increase of the cost of inspection is entailed, but if the courts say it must be, it must be.

It would look as if, the nuisance being proved, the ability of cool condensers to prevent nuisance being proved, no more was required. But that is for the court to determine. It might be well to remember this decision the next time the stockyards hits you in the nose and you, in turn, feel like hitting the health department

What Stockholders Can Do.

In *The Survey*, Dr. Alice Hamilton, chief investigator of occupational diseases for the United States Government, tells an interesting and significant story of one stockholder, Mrs. Joseph T. Bowes of Chicago, who brought about remarkable improvements and reforms at the great Pullman works by appealing to the managers of the company, putting facts before them, and showing them that modern methods of protection and prevention are economical as well as humane.

Mrs. Bowen, before the passage of the Illinois law for the prevention of occupational diseases, caused an investigation to be made of the accident and sickness records at Pullman. She became satisfied that conditions were not what they should

be and that correction was possible. As a result of her efforts the corporation has not only fully complied with the law, but bettered the instructions of the state statutes. The company employs five physicians where it had but one; it employs nurses to help the physicians; it has changed the conditions of work where dust menaces health. It has furnished respirators and instituted a system of medical examination. It has fully conceded the wisdom of taking measures for the prevention of sickness and accident, and welcomes suggestions for further improvement.

Not all stockholders are as influential as Mrs. Bowen, but what she has done so completely others can do less completely. As Dr. Hamilton says, her success shows that officers and managers are reasonable and just men, and that when facts are called to their attention in a rational, business-like way they will do the right and expedient thing.

The Poison of Malaria.

Usually the poisons secreted by microscopic germs cannot be produced without their aid in the chemist's laboratory. The announcement in *The Journal of Experimental Medicine* that Dr. Wade H. Brown of the University of North Carolina has identified as hematin, which can be artificially produced, the pigment secreted by the parasite of malaria, is unique. Dr. Brown extracted from the red blood corpuscles of the rabbit, the dog, and the ox, solutions of hematin which, when injected into the veins of a rabbit, were followed by the classical symptoms of ague, fever and sweating, which have been observed for centuries in malarial patients. The advantage of being enabled to make pure extracts of the poison is that definite amounts may be injected into animals used for experimentation, affording an exact basis for the observance of symptoms and the study of the degrees of tolerance they acquire to its action. Not inconceivably, a specific more potent than quinine in destroying the infection, and more harmless to the patient, may be evolved as a result of such experiments.

Quinine and quicksilver are the only specifics for diseases discovered in the his-

tory of empirical medicine. That there may be more than one specific for a disease has been recently proved by Prof. Ehrlich, who has provided by deliberate experiment, and with sure prevision, a more efficient substitute for quicksilver in an important group of blood diseases. Quinine cured the Countess El Cinchon in 1640. A killer of the malarial protozoa, less harmful to the human tissues than quinine and more deadly to their parasitic enemy, as dynamite is more destructive than spears and javelins, may now be perfected to supersede the remedy found by chance.

Public Health Education.

Enlightened public opinion is the most potent force toward better public health and sanitation. Physicians will succeed in their campaign for prevention of disease in proportion to the understanding of the value of health measures by the public and its co-operation to secure them.

The Journal of the American Medical Association recently commented on the desirability of more co-operation between physicians and churches in public health education. The Men and Religion Forward Movement, which has caused a nationwide sensation, has not restricted its activities to purely religious matters. Various social problems have been attacked; for example, a careful analysis of conditions in various cities that resulted in recommendations for improved sewerage and quarantine systems, protection of milk-supply, organizations of health departments, better opportunities for harmless recreation, improved garbage collection, etc.

In many cities excellent results followed the work. The fundamental basis was a survey of actual conditions, that is, the tabulation of all the ascertainable facts in the case before taking action. This is merely touching on the medical phase of this movement. Its chief work, of course, was religious, but the movement seemed to attack the human problem in all its ramifications—spiritual, social, physical—and to recommend improvements wherever it was thought wise.

It is evident that the element of public education on health conditions is working. Great improvements in the sanitation and

hygiene of the American people are due in short order as soon as the public is awakened to the possibilities.

Tarring Roads.

The Sanitary Record points out that road authorities in whose districts there exist protected trout streams find that their endeavors to cope with the dust nuisance are attended with considerable difficulty. They are appealed to, as in the case of the Berkshire County Council, by users of the roads to deal with the dust trouble by tarring them, whilst from the same district they are threatened with litigation in the event of any damage being caused to the fishery. The Berkshire County Council are attempting to evade litigation by instructing their surveyor not to tar the roads where a possibility exists of injury to the fisheries, and of the two evils have concluded that this step is the lesser. But the road users, on the other hand, have a good right to complain, for they conclude that they should be considered in preference to the fisheries. We have no information as to the material which the Berkshire County Council have used or propose to use for tarring their roads. If crude tar be used, then fish poisoning with its use is usually inevitable. On the other hand, if distilled or refined tar, or some of the admirable proprietary tar compounds, be used, then there is no evidence that fish poisoning has been traced to their use. It would appear that in the adoption of such a compound there lies safety for road authorities and fishery owners."

Past, Present and Future Sanitation.

In continuing his outline of the new public health, Dr. Hibbert W. Hill of the State Board of Health of Minnesota, notes in *The Journal-Lancet* the past, present and future of public sanitation. The past was an era of general sanitation, a strenuous campaign of universal clearing-up, "an orgy of sweeping, burning, scrubbing; an ecstasy of dirt-destruction—individual household and municipal." Here there was distinctly no difference made between routes of infection and sources. The pres-

ent is an era of specific sanitation. The practice is to analyze deliberately the particular outbreak of disease concerned; speedily to determine the route of the infection actually responsible; and promptly to abolish and block that route. The future is to be a supervision of sources, with work accomplished before the diseases set out upon their routes; plainly and directly, prevention, the stitch in time that saves not the nine merely of the proverb, for the philosophers who compiled the proverb were not bacteriologists and did not realize its possibilities, but saves thousands.

In the past a typhoid epidemic was met by a vigorous attack on dirt, damp cellars, dust, disorder; on garbage, manure, dead animals, weeds, defective plumbing, and stagnant pools. Cobwebs were cleared away, windows opened to let in the blessed sunshine; preachers preached cleanliness; teachers taught bathing, and health officers limed alleys and whitewashed outhouses. "We know now," says Dr. Hill, whose articles are set forth in *The Journal-Lancet*, "that typhoid infection is carried by water, food, flies, milk and contact, and that general cleaning-up cannot remove infection from polluted water mains or purify a contaminated milk supply, and cannot stop the eating of infected food or eliminate much contact infection."

The present era of specific sanitation began about ten years ago. There were recognized certain routes, one of which is the responsible one. To find this it is the custom to flood the stricken community with inspectors, analyze the water supply, investigate the milk, go through the markets, delve into the provision stores, estimate the number of flies, survey the back alleys, examine the mortality tables and, in fact, study all the data pertaining to the community. Under such a quest, costly and spasmodic, the guilty route can hardly hope to escape detection, especially since every year or two brings into the matter some hitherto unknown route, such as for example the typhoid carrier. These methods are scientific, logical and exhaustive, but laborious and exceedingly slow. They are, however, a-killing the tree by nipping its branches from ladders instead of by boldly cutting it down. Dr. Hill parallels the older ways by suggesting a hunter who is commissioned to find a certain sheep-killing

wolf. He throws an enormous number of men into the mountains within wolf journey of the sheep, and takes up every wolf trail to see whether it leads to the sheep. The method of the future may similarly be paralleled by supposing the hunter to go to the sheepfold and follow out the one and only wolf trail to the den in the mountains.

The work of to-day neglects for a moment the route; it goes to the bedside and so carries on its fight that the spread of infection shall stop here. Then from the patient there is followed back the route to the source, and the source once found it may be stopped. But in the following of the routes they are seen to be of two general classes, public and private, and in them two or three kinds of cases, the known, the missed and the carriers. "Were the ability to find public routes of infection in water, food, fly and milk outbreaks the only value of epidemiology," writes Dr. Hill, "its services would have no value in the great mass of infectious disease, for the great mass arises chiefly by contact"; it is its ability to find missed cases, light cases not having the services of the physician and consequently not reported, and the carriers that makes epidemiology the pivotal factor of modern public health. It furnishes means, with the aid of true detective principles, to locate the important private routes of infection, which are to-day the important ones.

Cows and Housing.

The cows supplying milk to Toronto are, in most cases, better housed and fed than many of the citizens of Toronto. So says Dr. Hastings, M.H.O., in the *Bulletin of the Toronto Department of Health*. Recently, the *Bulletin* says, one of the dairy farms supplying certified milk to Toronto was visited by the director of the laboratory. The cows were housed in a large, bright, well-ventilated stable, with cement floor, and plenty of clean sawdust for bedding. Each cow had a drinking fountain at its head, and the stable was as clean as hose, broom, and scrubbers could make it. For three hours in the middle of the day the cows had been out to pasture on the new grass. When brought back, they were all cleaned in the following manner, just as they are before each milking: Each cow was taken in turn by a man equipped with

a pail of warm water and a cloth, and washed and wiped off until there was no evidence of dirt. Even the tail was carefully cleaned, so that no dirt could be flecked into the milk during the process of milking. Special attention was paid to cleaning the udder, and the legs of the animal were washed down with a hose. Fresh, clean sawdust was then sprinkled in the cow stalls, and the udders were afterwards wiped dry with clean towels, a fresh towel being used for each cow.

The animals were then milked, the milk immediately chilled in ice water, bottled, the bottles packed in ice, and immediately delivered to the city. By such means only, the bacterial count of the milk can be kept within the limit of 10,000 per c.c. (quarter teaspoonful) demanded by the regulations for certified milk. In other words, cleanliness and cold are essential to the production of milk of a low bacterial count, and conversely we know that a high bacterial count means dirt and warm milk.

Certified milk, when held at a low temperature, will keep for a week without souring. Ordinary milk, drawn from the cow in the early morning, not cooled, and brought into the city by wagon, is frequently sour when it reaches the city. This illustrates how clean milk is obtained from a dairy herd kept and housed under ideal conditions.

Dr. Hastings wants householders to be careful to clean all milk bottles returned to the milkmen. "If a bottle is left uncleaned, so that the milk dries on the glass, it is extremely difficult for the milkman to get it cleaned, and yet if it is not properly cleaned he is fined," he says. Dr. Hastings says also that the law compels householders to clean bottles before returning them, and such bottles must not be used for other purposes.

Reference Guide to Other Journals.

American Journal of Clinical Medicine (Vol. XIX, No. 6)—"Medical Photography," by Malcolm Dean Miller; "No Marriage License Without a Physician's Certificate of Freedom from Venereal and Mental Disease," by Wm. J. Robinson; "Electrotherapeutics for the General Practitioner," by Homer C. Bennett.

American Journal of Nursing (Vol. VII, No. 9)—"The Habit Poisons," by C. E. S. Webster.

American Journal of Public Health (Vol. II, No. 6)—"The Methods of Accounting in Collection of City Waste," by P. M. Hall; "Standard Form for Statistics of Municipal Refuse," by

Samuel A. Greeley; "The Development of a Municipal Laboratory," by George E. Bolling; "Statistics Regarding the Increased Number of Throat Infections in Boston, February, 1912," by Wm. Pearce Coues; "Typhoid Fever in New York City, Together with a Discussion of the Methods Found Serviceable in Studying its Occurrence" by Charles F. Bolduan.

American Journal of Urology (Vol. VIII, No. 6)—"Progress in the Therapy of Gonorrhœa," by Wilhelm Karo.

American Medicine (Vol. VII, No. 5)—"Diphtheria Epidemics and the Public School," by A. W. Colcord; "Insufficient Disinfectants," by J. Ainslie Walker; "An Attempt to Cope with the Economical Problems within the Practice of Medicine," by Oscar Botter; "Permanent Mounts of Microscopic Preparations," by J. R. Williams.

Canadian Medical Association Journal (Vol. II, No. 6)—"The Effect of Anatomical and Immunological Data Upon our Conception of the Tuberculous," by Alfred H. Caulfeild; "Our Present Attitude Toward Tuberculosis," by C. D. Parfitt; "Housing Conditions in Canada," by Mrs. W. R. Lang; "Rheumatism in the Children of Vancouver and District," by Harold Dyer.

Canadian Municipal Journal (Vol. XIII, No. 6)—"Housing Conditions in Small Towns," by Elmer E. Forbes.

Canadian Practitioner and Review (Vol. XXXVI, No. 6)—"Some Aspects of Neurology to General Practice," by Wm. Aldren Turner.

Colliery Guardian (Vol. CIII, No. 2080)—"The Cause and Prevention of Miner's Nystagmus," by T. Lister Llewellyn.

Critic and Guide (Vol. XV No. 6)—"The Future of Medical Practice," by G. Merrill Hawkins; "The Evolution of Superstitions," by Joseph F. Rinn; "On Quackery and the Most Effectual Means of Checking its Dangerous Progress," by Aliquis.

Dominion Medical Monthly (Vol. XXVIII, No. 6)—"Personal Recollections of Lord Lister," by F. LeM. Grasset.

Fruit Magazine (Vol. V, No. 3)—"Practical Irrigation," by H. Thornber.

Heating and Ventilating Magazine (Vol. IX, No. 6)—"Neutral Zone in Heating and Ventilating," by L. Biro.

Indian Medical Gazette (Vol. XLVII, No. 4)—"Vital Statistics," by May Charles Milne.

Journal-Lancet (Vol. XXXII, No. 11)—"Suggestions to Medical Examiners for Life Insurance," by Henry Wireman; (Vol. XXXII, No. 12)—"The New Public Health," 6th paper, by H. W. Hill.

Journal of the Outdoor Life (Vol. IX, No. 6)—"Taking the Cure in Summer," by Edward Cummings; "Fresh Air Schools," by Jay Perkins.

Journal of the Royal Army Medical Corps (Vol. XVIII, No. 6)—"The Papataci Flies of the Maltese Islands," by R. Newstead; "Note on the Bacteriological Examination of Indian Water Supplies," by Major R. W. Clements; "Practical Hints on Marching and Health on Active Service," by G. Fahey.

Journal of the Royal Sanitary Institute (Vol. XXXII, No. 5)—"Combined Hot Water and

Electricity Supply for Private Houses," by R. Herzfeld; "The Berlin Sewage Farms," by H. Alfred Roechling.

Journal of State Medicine (Vol. XX, No. 6)—"Sur la Vaccination Antityphique," par H. Vincent.

Le Journal de Medecine et de Chirurgie (VIIe Annee, No. 6)—"Valeur Actuelle de la Therapeutique Antituberculeuse," par Louis Renon; "Empilo Pratique et Indications de l'Heliotherapie dans la Tuberculose Pulmonaire," par la Dr. Minelle; "Diagnostic Clinique de la Tuberculose Renale," par G. Pillet; "L'Epilepsie: Considerations Generales," par Prof. Castaigne.

Medical Council (Vol. XVII, No. 6)—"Diagnosis of Tuberculosis in the Poor," by S. A. Savitz; "The Absurdity of Venereal Registration," by N. MacArtney; "Sex Predetermination," by J. F. Potter; "Reporting Cases of Venereal Infection," by F. H. Todd.

Medical Officer (Vol. VII, No. 22)—"The Birmingham Open Air School," by G. A. Auden; "Studies in Air and Contact Infection in a Fever Hospital," by C. V. Chapin; "Spinal Curvature in School Children," by J. Kerr; "A Modification of the Milne Method of Treatment of Scarlet Fever," by A. E. R. Weaver; "A County Council Housing Scheme," by T. E. Hill; (Vol. VII, No. 23)—"The Influence of Defects of Vision in Relation to the Mental and Physical Development of the Child," by N. Bishop Harman; "The Development of the Public Health Service," by A. Harris.

Medical Review of Reviews (Vol. XVIII, No. 6)—"On Occupational Diseases of the Eye," by Ward A. Holden; "Gonorrhœa and Marriage," by Wm. J. Robinson; "Social Diagnosis," by Michael M. Davis.

O. A. C. Review (Vol. XXIV, No. 9)—"The Science of Living," concluded, by Tennyson D. Jarvis; "The Relation Between Structure and Habit in Birds," by E. W. Calvert; "Influence of Nature in Molding a Woman's Character," by O. K. Scott; "The Woman upon the Farm," by H. M. Breese.

Oral Health (Vol. II, No. 6)—"The Oral Hygiene Institute in Chicago," by F. F. Molt.

Our Dumb Animals (Vol. XLV, No. 1)—"The Humane Movement," by Jefferson Butler.

Public Health Reports (Vol. XXVII, No. 22)—"Studies on the Virus of Typhus," by Joseph Goldberger and John F. Anderson; (Vol. XXVII, No. 25)—"Diphtheria in Manila," by Carroll Fox; "Notes on Mosquito Eradication," by George W. McCoy.

School Board Journal, American (Vol. XLIV, No. 6)—"Problems of Educational Administration," by Nicholas Murray Butler; "The Illumination of School Buildings," by Van Rensselaer Lansingh.

The Sanitary Record (No. 1175, Vol. XLIX)—"Progress in Canada in Biological Methods of Sewage Disposal," by Willis Chipman; (No. 1178, Vol. XLIX)—"The Use of Copper Sulphate in Purifying Water Supplies," by George Embrey.

Western Municipal News (Vol. VII, No. 6)—"Water and Sewerage Systems," by G. H. Alt-ham.

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*]

"Immunity."

Because the study of immunity is no longer of merely theoretical interest nor of purely scientific importance, this work by Jules Citron should have a large number of readers. It serves a practical purpose in that it constitutes a text book passing in review various methods of immunity diagnosis, considering particularly those relating to tuberculosis and syphilis. It has been the author's aim to present his subject in such a way that the general medical man, although but slightly acquainted with laboratory work, could learn the details of the various reactions and their significance. In selecting the different methods, Dr. Citron has taken up those used by the clinic for diagnostic, therapeutic or prophylactic purposes, including, in addition, certain fundamental questions on immunity which, although perhaps at present only of theoretical interest may soon, as he points out, become of practical importance. The work is suitably illustrated and indexed.—*Immunity: Methods of Diagnosis for Practical Application. By Jules Citron, Assistant at the University Clinic of Berlin. Translated from the German and edited by A. L. Garbet, M.D., Assistant Pathologist, German Hospital, New York. 27 illustrations, two colored plates and eight charts. 209 pages. Philadelphia: P. Blackiston's Son and Co., 1012 Walnut Street.*

"False Modesty."

Dr. Lowrey has become well known as the author of books on sexual hygiene which have received the endorsement of leading medical, educational and religious authorities. "False Modesty" is his latest. The book is a sequel to his recent series of articles on the white slave traffic and is designed to bring facts to the attention of fathers and mothers that they may see the necessity for early and proper instruction for both boys and girls in matters pertaining to sex. The seven chapter headings are as follows: Results of Ignorance; The Virgin's Sacrifice; The Father's Duty to His Son; Rural Pitfalls; Woman's Inhumanity to Woman; Homeless Girls;

Teaching the Science of Motherhood; and, the Coming Educational Reform.—*False Modesty, That Protects Vice by Ignorance. By E. B. Lowrey, M.D. Chicago: Forbes and Co. 50c.*

"Home Nurse's Handbook of Practical Nursing."

Charlotte A. Aikens writes well and gives to the women of the home, in the "Home Nurse's Handbook of Practical Nursing," a volume dealing with home nursing as distinct from the elaborate technique of hospital practice—designed as a guide to the home girl or woman who seriously desires to fit herself to do her best for her own family and as a working text book for the practical nurse or trained attendant who desires to be a useful helper to the physician in home sickness. The author gives special attention to the care of babies and maternity nursing, believing that such teaching is most essential for the young girl. The first step, she points out, towards attaining a better and more intelligent motherhood for American babies is to train girls in the elements of public hygiene and proper care of the sick. The author assumes in writing this book that her readers have had some previous instruction in the elements of physiology and hygiene.—*Home Nurse's Handbook of Practical Nursing. A Manual for use in home nursing classes, in young women's Christian associations, in schools for girls and young women, and a working text book for mothers, "practical" nurses, trained attendants, and all who have the responsibility of the home care of the sick. By Charlotte A. Aikens. 12 mo. of 276 pages. Illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Toronto: The J. F. Hartz Co., Limited. Cloth. \$1.50 net.*

"The Alphabet of the National Insurance Act."

Medical health officers and others will find this little book by C. G. Moran a time saving work of reference which may be thoroughly relied upon. It is more than an index, containing, as it does, references

and cross references in abundance; and in testing it we have not failed to find, with little trouble, the precise reference we desired.—*The Alphabet of the National Insurance Act, 1911.* By C. G. Moran, Inner Temple, Barrister-at-Law. 164 pages. London: Methuen and Co., Limited. 36 Essex Street, W.C.

“Public Health Chemistry and Bacteriology.”

The author, Dr. McKail, has based this book on notes prepared by himself for his classes while teaching. The book will therefore be found of a most practical nature. It is intended to assist in and supplement actual laboratory teaching not to supercede it. The subject is taken up in two parts, Public Health Chemistry and Public Health Bacteriology. There is a very useful appendix giving the regulations for the diploma in public health, preservatives in milk and cream, and bovine and human types of tubercle bacilli. The work consists of 409 pages indexed.—*Public Health Chemistry and Bacteriology. A Hand Book for D. P. H. Students,* by David McKail, M.D. (Glasg.), D.P.H. (Camb.), F.R.F.P.S.G., Lecturer of Public Health and Forensic Medicine, St. Mungo's College, Glasgow; Lecturer on Hygiene to Nurses, Glasgow Royal Infirmary; Assistant Lecturer on School Hygiene to Teachers in Training, Glasgow Provincial Committee; Examiner in Public Health for the D.P.H., Scottish Conjoint Board; Part-time School Doctor, Glasgow School Board. Bristol: John Wright and Sons, Limited. London: Simpkin, Marshall, Hamilton, Kent and Co., Limited. 6s 6d.

“The Science of Hygiene.”

In this new revised edition of Dr. Pakes standard work on hygiene it is pointed out that the book is intended for the use of students who are working for a diploma in public health. All the practical laboratory work apart from the bacteriological methods required by D.P.H. students is contained in this volume. There are eighty helpful illustrations and the book is fully indexed.—*The Science of Hygiene.* By W. C. C. Pakes, D.P.H. (Camb.), F.I.C., Late Demonstrator of Sanitary Science and

Bacteriologist to Guy's Hospital, etc., etc. New Revised Edition by A. T. Nankivell, M.D. (State Medicine), B.S. (Lond.), D.P.H. (Camb.), etc., Demonstrator of Public Health, King's College, University of London. London: Methuen and Co., Limited, 36 Essex St. 5s.

“Smoke.”

The authors point out that the increasing interest taken in the smoke problem in its relation to health, to the growth of vegetation, and to the disintegration of the stone work of ancient buildings have urged them to the compilation under review, and it is hoped that the facts given may enable smoke abatement societies and others interested in the suppression of smoke to appeal with additional force and greater success than has hitherto attended their efforts to the central authority as well as to the general public. The subject is discussed under the following headings: The Solid Products of Combustion; Gaseous Impurities; Town Fog; The Dispersal of Soot; while the appendix discusses: The Influence of Coal Smoke Upon Health; Analyses and Manurial Value of Soot; Analyses of Leeds Rain Water and The Soot-Fall of London. The book is well illustrated and fully indexed.—*Smoke: A Study of Town Air.* By Julius B. Cohen, Ph.D., B.Sc., F.R.S., Professor of Organic Chemistry in the University of Leeds, and Arthur G. Ruston, B.A., B.Sc. Science Tutor in the Department of Agriculture, University of Leeds. London: Edward Arnold, 41 and 43 Maddox St. 5s net.

“Sewage Sludge.”

We agree with the preface of this work that with the rapidly increasing number of sewage treatment plants in the United States and Canada and the development of new methods those interested in the subject will appreciate this valuable contribution to our literature on sludge. The experiments and observations of the authors have been painstaking and extended and carried on under such favorable circumstances as to enable them to speak with exceptional authority on the subject. Part one is a consideration of the treatment and utilization of sludge, by Alexander Ellsner. Part two takes up the drying of sludge; part

three, the results of the operation of some of the mechanical sewage clarification plants; and part four, sludge treatment in the United States.—*Sewage Sludge. Treatment and Utilization of Sludge*, by Dr. Spillner. Translated by Kenneth and Rose S. Allen. *Operation of Mechanical Sewage Plants by Dr. Spillner and W. Blunk*, Translated by Emil Kuichling, M. Am. Soc. C. E., Consulting Engineer. *Sludge Treatment in the United States*, by Kenneth Allen, M. Am. Soc. C. E., Engineer, Metropolitan Sewerage Commission of New York. New York: McGraw-Hill Book Co., 239 West 39th St., \$2.50.

“Psychotherapy.”

Dr. James J. Walsh in this book leads us to believe that much of his time has been devoted to psychological research. He shows that psychotherapy is the practice of teaching the sick by influencing the mental life but, draws a distinction between psychotherapy and psychiatry, and demonstrates that the study of what might be called this new branch of therapeutics is by no means the exclusive property of alienists. The author naturally touches upon psychotherapy as related to religion. The work is divided into four parts, the first part dealing with psychotherapy and the history of medicine; the second part with general psychotherapeutics, and the third part with special psychotherapy, *i.e.*, in connection with the digestive tract, cardiotherapy, respiratory diseases, psychotherapy in the joints and muscular system; followed by gynæcological psychotherapy; psychotherapy in obstetrics; in genito-urinary diseases; in skin diseases; in diseases of the ductless glands; in organic nervous diseases and neurosis. The fourth part considers disorders of the psyche—included under psycho-neurosis disorders of the mind, disorders of the will and psychotherapy in surgery.—*Psychotherapy. Including the History of the Year on Mental Influence. Practical and Impractical in Healing and the Principles for the Application of Energies Derived from the Mind and the Treatment of Diseases*. By James J. Walsh, M.D., Ph.D., Dean and Professor of Functional Nervous Diseases and of the History of Medicine at Fordham University School of Medicine,

and on Psychology at the Cathedral College, New York; Fellow of the New York Academy of Medicine; Member A.M.A., A.A.S.; New York State Medical Society; German Society for the History of Medicine and the Physical Sciences, New Orleans; Parish Medical Society; St. Louis Medical History Club, Etc. New York and London: D. Appleton & Co.

“Health and Disease in Relation to Marriage and the Married State.”

This work is a translation from the German and a good translation. The author omits no portion of the original work, but leaves it to the judgment of the reader to eliminate what he considers superfluous. The present movement towards public health in relation to marriage and the married state receives a strong impulse by the publication of this volume which has comparatively recently appeared in German. Of the twenty-seven chapters in which health and disease in relation to marriage has been discussed by some of the most notable physicians and clinicians of Germany, the following can be specially pointed out: Inherited and Congenital Diseases and Predispositions to Disease; Consanguinity and Marriage; Sexual Hygiene; Occupational Injuries in Relation to Marriage; Gonorrhœal Diseases in Relation to Marriage. This last chapter being chapter xiv of the series is by Professor Neisser, the discoverer of the gonococcus bearing his name. We believe that every physician should study this treatise carefully and spread the truths contained in it to the best of his ability.—*Health and Disease in Relation to Marriage and the Married State*. Edited by Dr. H. Senator and Dr. S. Kaminer. The only authorized translation from the German into the English language. By J. Dulberg, M.D., of Manchester, England. New York: Rebman and Co., 1123 Broadway. \$5.00.

“Social Problems: Their Treatment, Past, Present and Future.”

This is a lecture delivered at the Galton Laboratory for National Eugenics in March last. It is published with six plates and in a form handy for distribution. It is issued by the Department of Applied Statistics,

University College, London, being number five of Questions of the Day and of the Fray.—*Social Problems: Their Treatment Past, Present, and Future. A lecture delivered at the Galton Laboratory for National Eugenics, March 19th, 1912, by Karl Pearson, F.R.S., Galton Professor of Eugenics, with 6 plates. London: Dulau and Co., Ltd., 37 Soho Square W. 1s.*

“The Care of the Skin and Hair.”

The author dedicates this book to his wife “without whose patience and indulgence such excursions as these were impossible.” He undertakes to consider the skin and its commoner disorders in a way that everyone of intelligence should understand, both personally and as a part of one’s general knowledge. The author says distinctly, however, that his aim is to write a book chiefly on the hygiene of the skin, not a book on self treatment of skin diseases and certainly not one to foster the mischievous habit of self medication. The book is fully indexed.—*The Care of the Skin and Hair. By Wm. Allen Pusey, A.M., M.D., Prof. of Dermatology, in the University of Illinois. New York and London: D. Appleton and Co.*

“Tuberculosis, Heredity and Environment.”

Karl Pearson discusses in a most attractive way, in number eight of the Eugenics Laboratory Lecture Series, the question of tuberculosis, heredity and environment; this work being another very useful publication by the Galton Laboratory for National Eugenics at the University of London. The pamphlet is suitably illustrated.—*Tuberculosis, Heredity and Environment. By Karl Pearson, F.A.S. Galton Professor of Eugenics, University of London. London: Dulau and Co., Ltd., 37 Soho Square W. 1s net.*

“Manual of Public Health Law.”

This book will be found useful to students preparing for various English public examinations, the regulations for which include the law relating to public health, and, to those qualifying for such positions as

medical officer of health, inspector of nuisances and sanitary inspector; the purpose of the book being to provide a guide and the outline of statutes which bear on the subject of public health. The various statutes of course necessarily are dealt with in a condensed form. The work is indexed.—*A Manual of Public Health Law. By Bert-ram Jacobs, of the Inner Temple and South Wales Circuit, Barrister-at-Law. London: Sweet and Maxwell, 3 Chancery Lane, W. C. 7s 6d.*

“Sewage Disposal.”

Mr. Fuller’s aim has been to record the more important recent developments in the field of sewage disposal and to give the present status of both theory and practice. The author has for about twenty-five years been intimately associated with this branch of sanitary work. He has acted as adviser and builder in the installation of many notable plants. His book is the impress of this wide experience. Mr. Fuller has recorded and brought to date the fundamental principles and practice. In addition he has made a careful digest of the leading decisions, records and results throughout the country. It is a practical, comprehensive treatise, written from the viewpoint of the operator of disposal works. It compares methods and processes, giving efficiencies, costs and conditions for operation. It is a work which, with its material on cost, design and construction, and the underlying chemical, biological and physical conditions, should be of particular value to the engineer who has to lay out works, either for the dispersion of sewage in large bodies of water or for clarification, filtration or sterilization. The description of practical accomplishments should be especially valuable at a time when medical authorities have a tendency to favor complete sewage purification regardless of the need or cost of such a project. The work is divided into four parts, Part I. discussing the composition of sewage and the behavior of bacterial and biochemical processes in the decomposition of sewage. Part II. is devoted to a recital of American experiences in the disposal of sewage by dilution in inland streams, lakes, tidal estuaries and oceans. Part III. covers preparatory arrangements for the treatment of sewage, screening, settling tanks, septic

tanks, electrolytic treatment, etc. Part IV. records present practice in filtration; describes aeration, sterilization and ozonization processes; and gives a summary of costs and efficiencies.—*Sewage Disposal*. By George W. Fuller, Consulting Engineer and Sanitary Expert, Member of the American Society of Civil Engineers, the American Institute of Consulting Engineers, the American Society of Mechanical Engineers, the American Chemical Society, the Society of American Bacteriologists, the American Public Health Association, etc. New York: McGraw-Hill Book Co., 239 West 39th St. London: 6 Bowverie St., E.C. \$6.00.

light of the Lysin theory. Sahli writes from the outlook of his clinic at Berne and the book will be found cosmopolitan in its views.—*Sahli's Tuberculin Treatment. Including a Discussion of the Nature and Action of Tuberculin and of Immunity to Tuberculosis*. By Dr. Hermann Sahli, Professor of Medicine in the University of Berne, Director of the Medical Clinic. Translated from the third German edition by Wilfrid B. Christopherson. With an introductory note by Egbert Morland, M.B. and B.Sc., London, M.D. Berne. London: John Bale, Sons & Danielsson, Ltd., Oxford House, 83-91 Great Titchfield St., Oxford Street, W. 7/6.

“Improvement of Rural Schools.”

“The Improvement of Rural Schools” considers the question in four chapters—The Problem, More Money, Better Organization and Better Supervision. An outline or a condensation follows and the chapters are interspersed with a number of maps. The little book is compact and valuable with its vivid statement of rural school conditions and forcible arguments for greater funds, consolidation and centralization of schools and better supervision.—*The Improvement of Rural Schools*. By Ellwood P. Cubbley, Professor of Education, Leland Stanford Junior University. Boston, New York and Chicago: Houghton Mifflin Co. 35c.

“Sahli's Tuberculin Treatment.”

Tuberculin treatment is taken up in two parts in this work, the practical and the theoretical. In the practical part general principles are given with technique, suitability of various tuberculous conditions for tuberculin treatment, results of general tuberculin treatment and other applications of tuberculin. In the second part the chemical nature of tuberculin and the differences between the various tuberculins are discussed together with the nature of tuberculin reactions, the theory of tuberculin diagnosis, natural immunity to tuberculosis, treatment of tuberculosis in general and the problem of immunization against tuberculosis by tuberculin in the

“The Sexual Life of Woman.”

Dedicating this book to his only son, Franz Kisch, M.D., as a token of affection, the author, Professor E. Heinrich Kisch, points out that the sexual life of woman—the appearance of the first indications of sexual activity, the development of that activity and its culmination in sexual maturity, the decline of that activity and its ultimate extinction in sexual death—the entire process of the most perfect work of natural creation—has throughout all ages kindled the inspiration of poets, aroused the enthusiasm of artists, and supplied thinkers with inexhaustible material for reflection. Professor Kisch discusses the sexual life of woman both in relation to the female genital organs, and in relation to feminine organism as a whole; in relation both to the physical and to the mental development of the individual; and in relation alike to the state of health and to the processes of disease. The work is unique, not only because it is authoritative and so complete, but because it is, at the same time, sympathetic and shows the deep understanding of the physician who has come in close contact, by virtue of his calling with women of all classes, of all kinds, and in the course of many years. Professor Kisch displays also a refreshing familiarity with literature concerning women; and the work may be taken as a reliable guide regarding the many problems with which the physician may be confronted.—*The Sexual Life of Woman in Its Physiological, Pathological and Hygienic Aspects*. By E. Heinrich Kisch, M.D., Professor of the German Medical Faculty of the Uni-

versity of Prague; Physician to the Hospital and Spa of Marienbad; Member of the Board of Health, etc. Only authorized translation into the English language from the German by M. Eden Paul, M.D. With 97 illustrations in the text. New York: Rebman Company, 1123 Broadway. \$5.00.

"Light Therapeutics."

Any book by Dr. J. H. Kellogg will receive the most serious attention of the physician. "Light Therapeutics" is written with the same facility for convincing expression of views and that display of familiarity with the world's work that is characteristic of the author. Dr. Kellogg does not claim for his book the position of an exhaustive treatise on the subject of light therapeutics, but intends it rather to serve as a practical manual for the clinical use of the electric light bath in its various forms, and in its various applications, general and local. At the same time he makes a successful effort to correlate the electric light bath to those other forms of rational physiotherapy which naturally and profitably associate themselves with this newest of physical curative measures. There are eight chapters interspersed with numerous illustrations, dealing with the physics of light, the physiologic effects of light, the therapeutics of light, effects of heat and cold, and their use in therapeutic combination, technique of light applications, phototherapy plus hydrotherapy, clinical phototherapy and phototherapeutic appliances. The volume consists of 217 pages and is indexed.—*Light Therapeutics. A Practical Manual of Phototherapy for the Student and Practitioner. With Special Reference to the Incandescent Electric-Light Bath. By J. H. Kellogg, M.D., Member of the British Gynecological Society, the International Periodical Congress of Gynecology and Obstetrics, American and British Associations for the Advancement of Science, the Societe d'Hygiene of France, American Society of Microscopists, American Climatological Society, American Medical Association, Michigan State Medical Society, Superintendent of the Battle Creek (Mich.) Sanitarium. Battle Creek, Mich.: The Good Health Publishing Co. \$2.50.*

"Whence and Whither."

In this small book of some sixty pages, the author presents to the world, in his own words, his "struggle for a comprehension of life." The book might be taken as a rather cursory interpretation of the writings of the Spencer school of philosophers; dealing, as it does, with the origin of man, the progress of man, the progress of the soul or religion, and the progress of civilization; whether Dr. Neil's interpretation will be accepted by many of his readers is another question.—*Whence and Whither or The Evolution of Life. By Thomas F. Neil, B.S., M.D. Formerly Superintendent of Blair County Hospital for Insane. Altoona, Pa.: Mirror Printing Co.*

Publications Received for Later Attention

"The School." Bacteria as Friends and Foes of the Dairy Farmer." "Text Book of Hygiene for Teachers." "The Coming Revolution." "Hereditry." "Plant-Animals." "Links with the Past." "Wanderings of Peoples." "Primitive Animals." "The Moral Life." "Prehistoric Man." "Earth Worms and Their Allies." "Modern Methods in Nursing." "The Montesorri Method." "Further Researches into Induced Cell Reproduction of Cancer." "Transfusion of Life." "Sleep and Digestion." "Problems of Boy Life." "New Demands in Education." "A Guide to Prevention of Disease and to the Preservation of Health." "Progressive Medicine." "Dr. Goodkin, Eminent English Specialist."

And receipt of the following publications not mentioned elsewhere in this issue is hereby acknowledged: "The Busy Man's Canada" (for June). "The Educational Review (Vol. XXVI. No. 1). "Educational Record" (Vol. XXX. No. 5). "Rush Medical College Seventieth Annual Announcement" (Vol. XII, No. 4). "Conservation" (Vol. I, No. 4). "The Fifteenth International Congress on Hygiene and Demography." "Report of the Department of Public Health of the City of Winnipeg" (for year ending 31st December, 1911). "The Purity Advocate" Vol. XI. No. 2). "Provincial Health Officer's Report, 1911, of the Province of Nova Scotia (Nineteenth Annual Report). "The Prescriber" (Vol. VI. No. 69). "The Canadian Teacher" (Vol. XVI. No. 12). "Plumbers, Gas and Steam Fitters Journal" (June). "Report of "Commission of Conservation of Canada" (Third Annual Report). "Monthly Bulletin, New York State Department of Health" (Vol. VII. No. 5). "Annual Report of the Medical Officer of Health and School Medical Officer, 1911," Royal Leamington, Spa. "Health Bulletin of the Department of Health, Toronto" (June). Provincial and Federal Gazettes, etc.

Open Mail

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

An Opinion Concerning The Public Health Journal.

Sir,—A copy of your excellent journal for June is at hand. It contains many interesting and instructive articles.

I am particularly interested in the paper of J. Ransom Gardiner on "Town Planning from a Sanitary Standpoint." In this paper the writer has touched upon the vital weaknesses of American society, one which, I am happy to say, is being remedied. Disraeli was right when he said: "Public health is the foundation upon which rests the happiness of the people and the power of the state."

Mr. Gardiner demonstrates that this "power and happiness" is an architectural problem, at least largely so. The slum is the antithesis of architecture. One is health, beauty, and moral environments; the other, weakness, disease and decadence.

Victor Hugo said: "Abolish the cavern of ignorance and you destroy the lair of crime." It is ignorance, selfishness and greed that permits the slum to exist in the 20th century. Under proper architectural environments there can be no slums. In the large American cities the slum is the menace of our liberty. They are infernos in summer and cold storages in winter. They are dominated by rats, fleas, and flies, dust, dirt and deviltry. As places of filth are breeding places for flies, typhoid fever carriers, so the slum is the breeding place for disease and crime. The congestion of the ignorant, miserable, the low-idealized and irresponsible in our city slums is a shame to our Americanism and a menace to the progress of the world. When the true spirit of progress and philanthropy actuates the governing authority of our cities we shall have no more slums. This is the keynote of Mr. Gardiner's paper. The Women's Clubs in Michigan are working for a physical and

civic cleanliness in our cities and are doing a great work, achieving much too. We shall make greater progress when we have home rule for cities and villages. When we study and enforce architectural regulations. An environment of beauty, cleanliness and healthfulness, is our best teacher.

Parks and playgrounds are far better safeguards of health than doctors and undertakers. Preventive medicine is cheaper and better than curative medicine.

The rural problem will be settled right when we have formed rural high schools, with larger school grounds and a large social centre room. In one we shall teach the elements of agriculture, in the other develop a true rural sociology. With a township high school will come good roads, architecturally constructed farm homes and school buildings. When city boys and girls have access to parks and playgrounds, when our city authorities plan out towns "on sound, sanitary lines" the slum will no longer exist a menace to our civilization.

D. E. McClure,

Assistant Secretary, State Board of Health,
Michigan.

Another Opinion Concerning The Public Health Journal.

Sir,—The writer, who has just received your June issue, wishes to take this opportunity to congratulate you on producing what he considers to be one of the most interesting and valuable journals published. I doubt whether there is any journal which is attempting to do more good work than *The Public Health Journal*, and it is a pleasure to receive it every month.

We trust you will grow and prosper as you deserve to.

With fraternal greetings,

Frederic H. Robinson.

Editor, *Medical Review of Reviews*.

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

Report of Quebec Quarantine Station.

In a report to the Minister of Agriculture, Dr. G. G. Martineau, of the quarantine station, Grosse Isle, Quebec, states that the year ended March 31, 1912, has been a bad one as far as quarantinable disease is concerned. Six passenger vessels arrived in quarantine with smallpox on board, two with cholera, and one with typhus fever. Two births and seven deaths occurred in the hospital during the year. The doctor announces that two very uncommon cases have made an appearance, cholera and typhus fever.

Three hundred and sixty-seven vessels underwent quarantine inspection during the year ending March 31, 1912, a decrease of eleven as compared with last year, due to labor strikes in Great Britain during the summer. The total number of passengers examined was 193,313, an increase in the year of 15,146. Infectious or contagious disease was reported or discovered at the quarantine station in every passenger boat sailing to that port on one or more occasions with the exception of two, and the patients transferred from vessels to hospitals were 102.

Report of Toronto's M. H. O.

Dr. Hastings, Medical Health Officer, has reported to the Toronto Board of Health that he accepts full responsibility for the emptying of dirty milk down the sewer, which some milk dealers have complained about. The facts were, the milk, on being tested, showed unmistakable signs of contamination, and was totally unfit for human consumption, so he thought it was the wisest course to have it destroyed. If anyone felt aggrieved they could take the matter to the courts. The Health Department would welcome the opportunity to expose the filthy condition of the milk. The department had a very simple device for ascertaining if milk was pure or not. A sample is drawn from a suspected can by

a small pump, the mouth of which is covered by a cotton wool disc. This gathers up the impurities.

The producers whose milk had been confiscated had been shown the exhibits, which astonished them. They were desirous to get the milk back so that it might be fed to hogs, but as they could give no guarantee that it would not be sold, the request was refused. To overcome this difficulty in future and to prevent dirty milk from being used for other than stock feed, all milk condemned will be colored with a harmless pink dye. The can will be labeled "Condemned," and returned to the producer. The board approved this action, and adopted the doctor's monthly report.

It was also reported that the department had prepared plans for an inexpensive experimental plant at the Morley Avenue sewage disposal works and to ascertain by actual tests what it will cost to purify the sewage. It is expected to have this in operation within a month.

During the first six months of the year over 200 carcasses of animals and over 3,000 pounds of parts of carcasses slaughtered for food have been condemned and confiscated. Nearly 2,000 loaves of bread were seized for being short in weight. In addition, large quantities of fruit and vegetables were also condemned, which, Dr. Hastings said, was ample proof that the inspectors were doing their duty.

Canadian National Housing Association.

The first steps toward the formation of a National Housing Association for Canada similar to the National Housing Association of the United States and the National Housing Council of Great Britain were taken at a conference between representatives of the Toronto Housing Company and the Hamilton Housing Committee at the Commercial Club, Hamilton, last month. It is proposed that the body to be organized shall carry on educational

work and supply information to local organizations in the various cities of the Dominion.

The board of directors of the Toronto Housing Company and the executive committee of the Hamilton body were appointed a provisional committee to foster the movement, and were instructed to ask the District Labor Council to name representatives to co-operate with them. Mr. G. Frank Beers, chairman of the Toronto company, was elected convener of the provisional committee, W. S. B. Armstrong, secretary, and Mr. Corregal, of Hamilton, treasurer. The provisional committee will make arrangements to hold in the fall a housing convention, preferably as a section of the Canadian Public Health Association Congress on September 16th, 17th, and 18th, to which delegates from Canadian cities and experts from Britain, the United States, and Germany will be invited.

Amendments to the Nova Scotia Injurious Insect Pest and Plant Disease Act, 1911.

The Governor-in-Council at Halifax under the provisions of the Injurious Insect Pest and Plant Disease Act, 1911, has been pleased to make the following regulations, in addition to those heretofore made under said Act.

1. (1) Where any inspector finds living San Jose Scale present on any trees, he may order the immediate destruction of such trees and such order shall be carried out under the supervision of the inspector and in such manner as he may direct.

(2) Any inspector may himself destroy any trees which he finds infested as aforesaid.

(3) Any order for destruction made hereunder may include the destruction of any trees which in the opinion of the inspector, by reason of their proximity to trees having thereon living scale, may have become infested.

Canadian Motherhood Association.

At a meeting of the Canadian Motherhood Protective Association, held on June 24th last at Guild Hall, McGill street, Montreal, a general plan of the aims and objects of the organization, which was formed just recently, was submitted, but

no business was transacted, as, owing to a misunderstanding, only a small number of the members attended. The primary object of the association is to furnish a home for both mothers and fatherless children at a small expense, to take the place of sending children to a neighbor's house, where in many instances they do not receive proper care, a practice which is of necessity indulged in by many mothers who work out during the day. The mothers will be instructed in domestic science in order that they may be better qualified to support themselves, and a "Labor Bureau" to aid them in securing employment will be established.

The proposed Montreal institution will not be in any sense a charitable one, as provision is being made to make it self-supporting. A laundry will be operated in connection with it, and each inmate will contribute towards its support, according to her means. The building itself will consist of a general dormitory, in which each mother will have a dining room, kitchen and bedroom, or rooms, depending on the number and age of the children. Only widows and deserted wives will be admitted to the home, and each must have references from reliable parties. The girl-mother and the mother who, although living with her husband, has to help provide for the home, will be admitted under certain conditions only. It is also intended to form a medical board to look after the health of the inmates.

The home is to be started in Montreal in a small way at 1322 Danforth avenue, and it is proposed to extend it to various portions of the city as the demand for accommodation grows. Commissioner J. E. Starr, of the Children's Court, in a letter to Mrs. J. Rowan Ellsworth, who is one of the prime movers in connection with the project, expressed the opinion that such an institution was greatly needed in Toronto, and pledged his support. Many prominent Toronto women are also interested in it, and the outlook is very bright. Definite action will be taken at the next meeting.

The Alberta Public Health Act.

Under the provisions of The Public Health Act, His Honor the Lieutenant-

Governor, by and with the advice of the Executive Council, has been pleased to order that the following changes and additions be made to the Regulations under The Public Health Act, in accordance with Section 7, Chapter 17, of the Statutes of Alberta, 1910:

1. By inserting after the word "cough" in the fourth line of sub-regulation 9, regulation 1, the following words: "in its acute stage."

2. By striking out the period after the word "scabies" in the fourth line of sub-regulation 9, regulation 1, and adding the word "itch" and bracketing same.

3. By inserting after sub-regulation 13, regulation 1, the following sub-regulation: "(14) 'Notifiable Disease' shall mean any disease, the occurrence of which shall be made known to the Provincial Board or Local Board, as prescribed in these regulations, and shall include smallpox, chicken-pox, diphtheria, scarlet fever, typhoid fever, measles, German measles, whooping cough, mumps, puerperal fever, ophthalmia-neonatorum, pulmonary tuberculosis, glanders, cholera, erysipelas, anthrax, bubonic plague, hydrophobia, polio-myelitis (infantile paralysis) cerebro-spinal meningitis and such other disease as the Provincial Board may declare."

4. By striking out the words "infectious and contagious" in the third line of regulation 6 and substituting therefor the word "notifiable."

5. By inserting after the word "disease" in the fourth line of regulation 6 the following words: "other than those diseases mentioned in regulation 18."

6. By inserting the word "with" in the third line of regulation 16 the following words: "any of the following notifiable diseases, namely:"

7. By striking out the misspelled word "ophthalmia" and substituting the correct one "ophthalmia" where it occurs in the fifth line of regulation 16 and the fifth line of regulation 17.

8. By inserting after the word "ascertains" in the first line of regulation 17 the following words: "or has reason to suspect."

9. By inserting after the word "with" in the second line of regulation 17 the following words: "any of the following notifiable diseases, namely:"

10. By striking out the words "measles, German measles" in the third line of regulation 19, the second line of regulation 20, the third and fourth lines of sub-regulation 3, regulation 21, and in the second line of sub-regulation 5, regulation 21, and substituting therefor the word "polio-myelitis."

11. By inserting after the word "a" in the first line of regulation 20 the following words: "householder ascertains or has reason to suspect that a."

12. By striking out the words "or the physician in attendance" from (b) of sub-regulation 3, regulation 21.

13. By striking out the words "or exposed to" in the first line of sub-regulation 5, regulation 21, and the words "attending physician" in the sixth line of the same sub-regulation.

14. By repealing sub-regulation 6 of regulation 21.

15. By repealing regulation 22 and substituting therefor the following regulation:

"(22) Whenever a case of measles, German measles, anthrax, glanders, typhoid fever, mumps or whooping cough in its acute stage occurs in any house, such house shall be placed under 'Modified Quarantine.'"

16. By inserting after the word "of" in the third line of regulation 23 the words "measles, German measles," and after the word "mumps" in the same line the word "or."

17. By striking out the words "or polio-myelitis" (infantile paralysis) in the fourth line of regulation 23.

18. By striking out the word "direction" in the third line of the proviso of regulation 24 and substituting therefor the word "discretion."

19. By striking out the word "shall" in the second line of regulation 43 and substituting therefor the word "may."

20. By inserting after the word "of" in the first line of regulation 63, after the word "any" in the second line of regulation 64, after the article "a" in the second line of regulation 65 and after the word "any" in the third line of regulation 66, the following words: "communicable or."

20a. By adding to regulation 69 after the period following the word "inocula-

tion" in the last line thereof the following: "The certificate mentioned in schedule L shall be valid only for three months from date of issue. The certificate mentioned in schedule M shall be valid only for twelve months from date of issue."

21. By adding to regulation 69 the following sub-regulations:

"(a) The parent or guardian of any pupil who has been refused admittance to any school for non-compliance with regulation 68, shall cause said pupil to be vaccinated within fifteen days after said refusal, and the parent or guardian who fails to comply with this regulation shall be guilty of an offence under these regulations:

"Provided that no such parent or guardian shall be liable to punishment if he produces the certificate mentioned in regulation 69.

"(b) In any prosecution under regulation 69 (a) a certificate purporting to be signed by the teacher who refused any pupil admittance under regulation 68, certifying to such refusal and the date thereof, shall be received in any court as conclusive evidence of said refusal and of the date thereof."

22. By adding to regulation 125 as sub-regulations (2), (3), (4), (5) and (6), the following:

"(2) If the medical officer of health of any city or town, upon due examination, is satisfied that any house has for any reason become or is unfit for the purpose for which it is used, or that it has become a nuisance or is in any way a menace to the health of any occupant thereof or of any person residing in the vicinity thereof, the medical officer of health of the city or town wherein the same is situate may issue a notice addressed to the owner of such premises or the agent or person in charge of the same, or any of them, requiring such premises to be put in proper sanitary condition, including the addition and installation of proper sanitary appliances within a stated time, and pending such alterations the local board may require the occupants thereof to quit the premises within such time as the board may deem reasonable.

"(3) If the owner, agent or occupant refuses or neglects to comply with the terms of any such notice, the medical officer

of health may, either before or after the occupants have left such premises, affix to the house placards declaring the same to be unfit for occupation and forbidding the use of the same.

"(4) Any owner, agent or person renting or allowing to be occupied, or any person occupying any such house or part thereof after the posting of a placard declaring the same unfit for occupation and forbidding the use of the same without the consent of the local board, which consent shall not be given until such house has been so altered and cleansed or repaired as to make it fit for habitation to the satisfaction of the board, shall be liable to a penalty of not less than five dollars per day and not more than twenty dollars for each day the same is rented, allowed to be occupied or occupied, and in default of payment to imprisonment not exceeding thirty days.

"(5) In default of the owner of such premises complying with the requirements of the notice of the local board, the said board may, if it deems advisable, cause such premises to be properly cleansed, make sewer and water connections therewith, instal appropriate plumbing therein or make such alterations thereto, as shall be necessary to put such premises in sanitary condition, at the expense of the owner, and if necessary for such purpose said board may remove or cause to be removed the occupants thereof forcibly.

"(6) Every privy or privy pit situate on premises abutting on any street along which a water main and a sewer are laid, shall be removed or abolished and said pit filled in by the owner. In the event of the owner failing for the space of ten days after service upon him of a notice from the medical officer of health to remove or abolish the same and to fill in the pit, the local board of health shall forthwith cause the same to be done at the expense of the owner."

23. By adding the following as regulation 249 (a):

(a) Any person other than those mentioned in regulation 249 who signs, issues or authorizes any written or printed permit, order, warrant, certificate or other document mentioned in said regulation shall be guilty of an offence under these regulations."

24. By adding the words "is suffering from....." after the blank space following the word "at" in the fourth line of schedule L.

Domestic Notes.

A warning that unless they mend their ways some thirty per cent. of the Toronto milk dealers would lose their license, has been sent out in a circular letter by Dr. G. G. Nasmith, Director of Toronto Municipal Laboratories.

Dr. W. Egerton George, of Haileybury, has been appointed the officer in charge of Ontario Health District No. 6, the more easterly of the two New Ontario districts. He will have his headquarters at North Bay and will have jurisdiction in the districts of Parry Sound, Sudbury, Nipissing, and Temiskaming.

At the opening of the first Toronto open air school which has for its goal the restoration of health to the fifty anaemic children under its charge, Dr. W. E. Struthers, Chief Medical School Inspector, pointed out to the School Board the good that may be accomplished by this venture. The Board of Education this year provides everything in connection with the school except food; this latter item being covered by subscription.

The annual meeting of the Canadian Business Women's Club was held on the evening of Tuesday, June 4th, in Toronto, the meeting completing the second year of the club which is now composed of some 200 members. The object of the club is to foster the spirit of true patriotism among business women, to secure for its members the opportunity of hearing prominent speakers to afford the means for studying literature, science and art, and for discussion of the public questions of the day, and to provide social intercourse as a means of uniting them more closely.

Dr. John W. S. McCullough, Chief Health Officer for Ontario and Vice-President of the Canadian Public Health Association, has arranged that the annual conference of Medical Officers of Health of Ontario take place in conjunction with the Congress of the Canadian Public Health

Association on September 16th, 17th, and 18th of this year.

Advance Notices, Alphabetical.

Canadian Industrial Exhibition Association, Winnipeg, July 10-20, inclusive, 1912.

Canadian Medical Association, annual meeting, Edmonton, Alta., August 10th to 14th, 1912. E. W. Archibald, M.D., General Secretary. This will be the 45th annual meeting. It is expected that the first day, being Saturday, will be devoted to business. The scientific part of the programme will begin on Monday and occupy three days—Monday, Tuesday and Wednesday. At the conclusion of the meeting the G. T. P. offers an excursion to the famous Yellow Head Pass. While it was at first thought that one day of the meeting should be spent in Calgary, that idea has been abandoned. A visit to Calgary may precede or follow the meeting in Edmonton. Everything goes to show that a splendid programme of papers will be ready, and the proverbial hospitality of the West is shown in the numerous arrangements already made for the amusement and the comfort of the visiting members. As to the railway rates, the Standard Convention Certificate Plan will be in force from all points in Canada, that is, the rate will be single fare plus 25 cents for the return trip. Members are urged to ask from their local station agent for the Standard Convention Certificate which will be honored for ticket for return trip. It is necessary that a certain number of certificates be secured before the rate can be valid. It would be wise also to secure sleeping car reservations early. Those members who desire to go on to the coast, or return by one of the United States routes can secure summer tourist rates which are very low. The meeting in Edmonton offers an excellent opportunity to men in the East of seeing the West economically and at one of the most favorable times of the year.

Canadian National Exhibition, Toronto, August 24th to September 9th, inclusive, 1912.

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 MacMurchy, 133 Bloor St. East, Secretaries, Committee for Local Arrangements; particulars later.

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 Religious 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.

Saskatchewan Medical Association, Moose Jaw, September 3rd, 4th and 5th., President S. W.

Radeliffe, M.D.; Secretary-Treasurer, Arthur Wilson, M.D.

Union of Canadian Municipalities, Windsor, Ont., City Hall, twelfth annual convention, August 27th, 28th and 29th. W. D. Lighthall, Hon. Secretary-Treasurer. Some of the subjects which will receive special attention at the Convention are: The Price of Cement; Distribution of the Cost of Subways and other Railway Crossings; Water Powers in General and Georgian Bay Canal Water Powers; Uniform Municipal Statistics; Electric Franchises; Health and Mortality; Sewer System; Filtration of Drinking Water; Commission Government.

INTERNATIONAL

American Waterworks Association.

At the June convention the American Waterworks Association was asked to foster the bill now before the United States Congress establishing a National Board of Health, and to endeavor to get engineers on the board.

The committee investigating the subject reported that its idea was that the movement is as much a question for waterworks engineers to consider as of medicine and surgery. The chief interest lies in the pollution of streams.

The report also recommended the association aiding in the fight because it will give them a chance to have the board as much in the hands of the engineers as the doctors. Under the existing laws the prevention of spreading diseases through the streams cannot be controlled, and the only way to control it is by a national board of health, according to the way the committee thinks.

The Committee on Permanent Headquarters recommended that they be established in the United Engineering building, in Thirty-eighth street, in New York.

Despite the fact that four cities entered the race for the honor of holding the 1913 convention, Minneapolis was an easy winner. Richmond, Va., was the only city to give Minneapolis a close race, losing by but eleven votes. Erie, Pa., and Baltimore, Md., asked for the meeting, but failed to come near the leaders.

The officials for the ensuing year were chosen at the same session. True to the custom followed since the organization of the association, President Milne, of St. Catharines, Ont., retired and was succeed-

ed by First Vice-President Dow R. Gwinn, of Terre Haute, Ind. The other officers moved up a notch and are as follows: Robert J. Thomas, Lowell, Mass., first vice-president; John A. Affleck, of Harrisburg, Pa., second vice-president; George G. Earl, New Orleans, La., third vice-president; Theodore A. Leisen, Louisville, fourth vice-president, and Charles R. Henderson, Davenport, Ia., fifth vice-president.

Mr. Henderson was the only man who did not already hold office. The custom calls for the fifth vice-president to advance one office each year until he finally reaches the head of the association and retires. John M. Diven, of Troy, N. Y., was re-elected secretary for the fifteenth time. The members of the finance committee are H. E. Keeler, of Chicago; Leonard Metcalf, of Boston, and Leslie C. Smith, of Cleveland.

American Conference of Charities and Correction.

A result of the meeting in Cleveland, June 12th to 19th, of the Association of Charities and Corrections is that the name of the association has been constitutionally changed, from National Conference of Charities and Correction, to American Conference of Charities and Correction, the scope to embrace the United States and Canada. Seattle has been decided upon for the next annual meeting.

One of the first addresses of the congress was that of Dr. J. T. Gilmour, warden of the Toronto Central Prison, who spoke to a sectional meeting on "Courts and Prisons." An advocate for farm work and life in the open, as the first of reme-

dies for the delinquent, Dr. Gilmour made an eloquent plea for same.

In connection with farm life for offenders, Mrs. O'Sullivan, superintendent of the Mercer Reformatory of Toronto, said: "If sunshine, trees and flowers are good for men, why should they not be also beneficial for women?" To apply the labor of women delinquents to the dairy or fruit farm, would be a step in the direction of betterment in every way."

Interesting papers on the dance problem were given by Joseph Lee, chairman of committee on housing and recreation, and Charles H. Israels, of New York. Both speakers held that in the present state of society, people must dance, and the duty of the public was to see that conditions be maintained such as will militate against any harmful results.

The problems relating to standards of living and labor were discussed by the first experts in the continent. The platform which the Committee on Standards of Living and Labor is seeking to enforce, as shown by various speakers at the Conference of Charities and Correction, includes a living wage, minimum wage commissions, wage publicity, the eight-hour day, a six-day week, restrictions on night work, standardized inspection of trade conditions, more taxes to be transferred from dwellings to lands, to lower rents, and clauses relating to tenement labor and other local conditions.

Fifty-eight speakers were on the programme to have place either at the general or subsessions of the Congress. Canada was represented by Samuel Arnold, secretary Associated Charities, Toronto; Lucy W. Brookings, Montreal; Alfred Coyell, city relief officer, Toronto; Wm. Duncan, superintendent Children's Aid Society, Toronto; Mrs. Wm. Duncan, lady superintendent Children's Aid, Toronto; Eunice H. Dyke, Health Department, Toronto; Edith C. Elwood, Evangelia Settlement, Toronto; J. H. McMenemy, Hamilton; Nulton B. Hunt, University of Toronto, Settlement; J. Howard Falk, Winnipeg; J. J. Graham, Juvenile Court, Toronto; Elizabeth B. Neufeld, Toronto; Rufus D. Smith, Montreal; Mrs. Emma O'Sullivan, superintendent Mercer Reformatory, Toronto; Katherine M. Wright, Evangelia Settlement, Toronto.

International Notes.

At the sessions of the General Federation of Women's Clubs which met in San Francisco on June 25th, the Owen bill to create a national bureau of health in the United States was approved and a resolution recorded favoring uniform marriage and divorce laws. It was decided that the general Federation Bulletin published at Troy, N. Y., should continue as the official organ of the federation.

At the annual meeting of the American Federation of Sex Hygiene, held at Atlantic City on Monday, June 3rd, previous work of the Executive Committee was taken up and plans made for the future of the movement. There were a number of addresses by prominent men and women including Dr. Edward Jackson, of Denver, who spoke on "The Proper Teaching With Regard to Sex"; George R. Dodson, of St. Louis, "Our Problem, A Survey and a Forecast"; Dr. Bertha Van Hussen, of Chicago, on "The Work of Women in the Problem of Sex Hygiene"; Professor Thomas M. Baillet, of New York University, on "Sex Instruction as Determined by Age."

From June 4th to 8th the International Association of Factory Inspectors met in Washington. Among the prominent speakers were E. D. Davies, General Factory Inspector of Illinois; Dr. Harold K. Gibson, Medical Director of Illinois Department of Factory Inspection; Samuel A. Harbor, John Fitzsimmons, and President Taft. Membership in the association is made up of general factory inspectors, their assistants and others interested in the enforcement of laws for the protection of life. The meeting discussed among other things, child labor, relation of labor and capital, wage scales, regulation of hygiene, ventilation and sanitation, fire escapes and general factory instruction and occupational diseases.

Advance Notices, Alphabetical.

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

Baths and School Baths, International Conference on People's. Scheveningen (The Hague), last week in August. General Secretary, A. M. Douwes Dekker, The Hague.

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.

Industrial Accident, Third International Congress on. Dusseldorf from 6th to 10th August, 1912. Professor Linliger, Elizabeth St., Elizabeth, Str. 63 Dusseldorf, General Secretary.

International Association of Medical Museums and International Congress of Medicine, Conjoint Meeting, London, England. August 6th to 12th, inclusive, 1913, under the patronage of His Most Gracious Majesty George V., and Presidency of Sir Thomas Barlow. Dr. N. P. Harringham, Hon. General Secretary; Dr. Thursfield and Dr. Woodwork, of St. Bartholomew's Hospital, and Dr. Kettle, of the Cancer Research Hospital, Local Secretaries.

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

International Eugenic Congress, London, England, July 24th to 30th, 1912. Address the Hon. Secretary, 6 York Buildings, Adelphi, London, England.

International Marine Congress, Philadelphia, July, 1912. This Congress met last year in Brus-

sels, and when the United States authorities extended an invitation to the Congress to meet in Philadelphia, 1912, they, at the same time, invited the Canadian Government to assist in carrying out the honors of the North American Continent. The party will, therefore, be taken over by the Canadian Government at Port Arthur after the Philadelphia meeting, and will go to Montreal, stopping on the way at Owen Sound, Toronto, Kingston, and other lake ports.

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.

Milan Sanitary Engineering Exhibition, Milan, Italy, April to July, 1912, under patronage of the Royal Italian Society of Hygiene. To encourage and reward every progressive effort in the field of practical hygiene as applied to civil engineering and architecture.

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.

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

UNITED STATES

The President of the American Medical Association and Patent Medicines.

Denunciation of patent medicines and censure of physicians who prescribe them, rather than depend upon their own medical knowledge, characterized an address delivered recently before the Medical Club of Philadelphia by Dr. John A. Witherspoon, president-elect of the American Medical Association.

"Fifteen chemists," he said, "have undertaken for us an investigation of all proprietary medicines. The profession is too great to be dictated to by manufacturers of these concoctions. I would not disturb the legitimate drug trade, but I am tired of seeing doctors prescribing these concoctions, of which they know nothing. A doctor who has not the intelligence and knowledge to make out his own prescriptions is unfit to practice medicine."

Doctor Witherspoon referred to Philadelphia as the "mother of American medi-

cine." He said that ten years ago there were 168 medical colleges in this country, forty or fifty of which have since ceased to exist, and others are tottering.

"I believe," he went on, "that any good school of medicine is worthy, but in some sections of the country efforts are being made to teach medicine without proper facilities. Human life is too precious to tamper with or place in the hands of incapable men or institutions.

"This is the age of preventive medicine, and an immense amount of good has already been accomplished. But physicians should unite to educate the public in the prevention of disease, for only with the co-operation of the public can it be brought about."

Indiana Model Fly Ordinance.

The Indiana State Board of Health recommends the following fly ordinance for adoption:

Whereas, It is commonly known that flies are very dangerous carriers of filth, filth poisons and disease germs, that they are born in filth and are a constant threat against the health, happiness and prosperity of the people; therefore,

Section 1. Be it ordained by the Mayor and Council of the City of that it shall be unlawful for any person, firm or corporation to suffer or permit or have upon their premises, whether owned or leased by them, any one or more of the following unsanitary fly-producing, disease-causing conditions, to wit: (1) Animal manure in any quantity which is not securely protected from flies; (2) privies, vaults, cesspools, pits or like places, which are not securely protected from flies; (3) garbage in any quantity which is not securely protected from flies; (4) trash, litter, rags or anything whatsoever in which flies may breed or multiply.

Section 2. It shall be the duty of the Chief of Police or City Marshal and Health Officers, upon learning in any way whatsoever of the existence of one or more of the unlawful conditions described in Section 1 of this ordinance, to notify the offender in writing upon order blanks provided by the City Clerk, to remove or abate said unlawful conditions, stating the shortest reasonable time for such removal or abatement. In the event of the refusal or neglect on the part of the notified offender to obey such order, the Chief of Police or Health Officer shall inform the Street Commissioner upon a blank provided by the City Clerk, and it shall then be the duty of said Street Commissioner, and he shall have power and authority, to remove and abate the reported unlawful conditions; and he shall keep an accurate account of the cost and expenses thereof, which shall be paid from the city treasury upon the sworn vouchers of the Street Commissioner, and said cost and expenses shall be a lien upon the property and shall be collected by law as taxes are collected and duly paid into the city treasury.

Section 3. Any person, firm or corporation found guilty of having created or suffered to exist on premises either owned or leased by them any one or more of the unlawful conditions named in Section

1 of this ordinance shall be punished by a fine of not less than \$5 or more than \$50.

Section 4. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed; and whereas an emergency exists, this ordinance shall be in effect on and immediately after its passage.

Tenth Annual Conference of State and Territorial Health Authorities With the Public Health and Marine Hospital Service, Washington, June 1, 1912.

The tenth annual conference of the State and Territorial health authorities of the United States with the Public Health and Marine-Hospital Service, provided for by section 7 of an Act of Congress approved July 1, 1902, was held in Washington, June 1, 1912.

The following resolutions were adopted by the conference:

In order to make available to the health authorities of the States, Territories, and insular possessions of the United States, for their use and guidance in the protection of their respective communities, information regarding the prevalence and geographic distribution of certain diseases and the occurrence of outbreaks, be it resolved:

1. That the health authorities of the States, Territories and insular possessions of the United States, including the District of Columbia, shall notify the Surgeon-General of the Public Health and Marine-Hospital Service immediately by telegraph (collect) and letter upon the occurrence of a case or cases of cholera, yellow fever, typhus fever, plague, or Rocky Mountain spotted or tick fever, giving the number and location of cases, and that said authorities shall render monthly reports of the number of cases notified of smallpox, leprosy, scarlet fever, measles, diphtheria, typhoid fever, poliomyelitis, cerebrospinal meningitis, dysentery, Rocky Mountain spotted or tick fever, and other diseases notifiable in their respective jurisdictions; said monthly reports to be made on or before the 20th day of each month for the preceding calendar month, and to give the distribution of cases of smallpox, leprosy,

poliomyelitis, cerebrospinal meningitis, Rocky Mountain spotted or tick fever, and typhoid fever, by counties, or by counties and cities, or by towns (townships), or by towns (townships) and cities; and that when in a State one or more cities are excepted by statute, charter, or otherwise from reporting the occurrence of the notifiable diseases to the State Department of Health, and the State report therefore is exclusive of cases occurring in such cities, the cities thus excluded shall be enumerated.

2. That upon the occurrence of an unusual outbreak, or in the event of a sudden increase in the number of cases of smallpox, scarlet fever, diphtheria, typhoid fever, poliomyelitis, cerebrospinal meningitis, or Rocky Mountain spotted or tick fever in any locality, the Surgeon-General of the Public Health and Marine Hospital Service shall be immediately notified by telegraph (collect) and letter of such unusual outbreak or sudden increase.

3. That in the primary notification of smallpox to local health authorities the date when the patient was last vaccinated and whether the disease is of the benign or virulent type shall be stated; that in all outbreaks of smallpox in which one or more deaths occur a report of such data as can be obtained regarding the origin of the first case or cases and the history of the outbreak shall be made to the Surgeon-General after the subsidence of said outbreak; that all reports of cases of smallpox made by the State or other health authorities to the Surgeon-General shall be divided into four classes:

(a) Those vaccinated within a period of seven years preceding the attack.

(b) Those whose last vaccination occurred more than seven years antedating the attack.

(c) Those who have never been successfully vaccinated.

(d) Those in which no definite history is to be obtained.

4. That in reporting the occurrence of cases of leprosy such data as it is possible to obtain regarding the patient's history shall be given.

5. That the Surgeon-General shall, under the direction of the Secretary of the Treasury, pursuant to section 4, of an

Act approved Feb. 15, 1893, entitled "An Act granting the Marine-Hospital Service," compile and publish the reports forwarded in compliance with the foregoing in the Public Health Reports for the information of the health authorities of the several States, Territories and insular possessions, including the District of Columbia.

Resolved, That the United States Public Health and Marine-Hospital Service Hygienic Laboratory Standard Method for the determination of the phenol coefficient of disinfectants be recommended to the several State Boards of Health as the standard method; that all regulations regarding disinfectants be based upon this standard; and that the phenol coefficient be required to be stated on the label of each package containing such disinfectant.

Resolved, That a committee be appointed to recommend a working plan for the control of typhoid fever and practical measures which can be generally enforced for the prevention of this disease.

Resolved, That all cases of typhoid fever should be placed in properly constructed and conducted hospitals, unless it be possible to isolate the patient at home with a trained nurse in charge.

Resolved, That the Surgeon-General appoint a committee to report further on the subject of cerebrospinal meningitis at the next meeting.

Carnegie Foundation Report on Medical Education in Europe.

Abraham Flexner, acting for the Carnegie Foundation for the Advancement of Teaching, has completed an elaborate report on "Medical Education in Europe," as the result of painstaking investigations carried out under his direction.

Henry S. Pritchett, president of the Foundation, has written an introductory chapter constituting a drastic arraignment of the medical institutions in America. His conclusions, of course, are based on Mr. Flexner's report, which indicates a startling contrast between the fundamental principles underlying the educational systems of Europe and America. These contrasts are nearly all to the disadvantage of the latter.

It will be recalled that in July, 1910, Mr. Flexner made a report to the Carnegie Foundation on medical education in the United States and Canada, which not only dealt with the conditions of the medical schools in the two countries, but also attempted an analysis of the problem of medical education. The revelations of institutional inefficiency in that report created a tremendous sensation, not only in educational centres throughout the world, but among the general public.

At that time a reduction in the number of medical schools was recommended by both Mr. Pritchett and Mr. Flexner, with a corresponding elevation of the standards of the remaining institutions. Other wide reforms were urged. In this connection, Mr. Pritchett made this statement at the time:

"If these fundamental principles can be made clear to the people of the United States and Canada, and to those who govern the colleges and the universities, we may confidently expect that the next ten years will see a very much smaller number of medical schools in this country, but a greatly increased efficiency in medical education, and that during the same period medical education will become rightly articulated with, and rightly related to, the general educational system of the whole country."

Wide publicity of a summary of the report of 1910 evidently did make these fundamental principles clear to the people and to those who govern the colleges and universities, for in the last two years a comparatively large number of cheap institutions calling themselves "medical colleges" have gone out of business. In other instances, several small institutions have merged their interests and, as a unit, furnished the basis of sounder medical teaching.

But the present conditions in general are not satisfactory, and are condemned in the severest terms in the present report. For instance, the declaration is made by Mr. Pritchett that three-fourths of the medical schools in America would be driven out of existence if the lowest terms upon which medical schools can exist abroad were applied to this country.

While Mr. Flexner's detailed report will be read with great profit by educators and the trustees of all institutions of learning, the deductions drawn by Mr. Pritchett are of equal, if not greater, interest to the general public. For this reason extracts from his introductory summary will take precedence in the present consideration of this vital subject. This significant avowal stands out in Mr. Pritchett's statement:

"But scandals in medical education exist in America alone. In no foreign country is a medical school to be found whose students do not learn anatomy in the dissecting room and disease by the study of sick people. It has remained for the United States and Canada to confer annually the degree of Doctor of Medicine upon, and to admit to practice, hundreds who have learned anatomy from quiz-compend, and whose acquaintance with disease is derived not from the study of the sick, but from the study of textbooks.

"These scandalous conditions are, it is true, less widespread to-day than they were a decade ago; yet they are still to be found in almost all sections of the country, even in the most cultivated. The State of Massachusetts tolerates in the City of Boston, the State of New York tolerates in the City of New York, the State of Illinois tolerates in the City of Chicago, the State of Missouri tolerates in St. Louis, the State of California tolerates in San Francisco, so-called medical schools that pretend to train doctors, despite the fact that they are almost totally without clinical facilities.

"In no European country is it possible to find an educational farce of this description. There every school has adequate clinical resources under complete control. If the lowest terms upon which a medical school can exist abroad were applied to America, three-fourths of our existing schools would be closed at once. And, let me add, the remaining fourth would be easily and entirely adequate to our need.

"Managers of feeble medical enterprises in our country pretend that they are making great sacrifices for the public good. This hypocritical pretense ought not to be permitted longer to damage the public interest. No medical school that lacks

proper facilities has any other motive than the selfish advantage of those that carry it on; and no civilized country except America at this day allows such enterprises to impose upon the public."

Mr. Pritchett explains that the present report is intended to give not a detailed account of the separate schools existing in Germany, France and England, but rather a picture of contemporary medical education in these countries. The study, therefore, is based upon an examination of representative medical schools and institutions in each country, not upon the examination of every medical establishment. For this reason no attempt is made to include a separate inventory of every school in the several countries discussed. The writer continues:

"It may be added that while the primary object of this study is the benefit of medical education in America and in Canada, it was, nevertheless, impossible to treat matters of universal interest from a local and National standpoint. That which makes for the highest interest of medical science and for the true advancement of humanity through this science is common to the whole world. While the work was undertaken in the desire to improve the conditions that now exist in the United States and in Canada, it has been written from the standpoint of the advancement of medical science throughout the world. As the detailed chapters will show, there is to be found in the teaching and in the practice of the older European countries much that these newer transatlantic nations may study to their advantage, and perhaps even imitate. It is equally clear from such a careful examination as has here been made that newer countries may profit by the mistakes that have been made, or by unexpected developments that have occurred, in the experience of older nations. To-day in medicine, as in all other large human interests, the world is in reality one, and it is a backward and narrowed national view which fails to take to heart both the successes and the failures of other nations."

Mr. Pritchett insists that whether medical education is dealt with by the layman, by the medical teacher, or by the practising physician, it still remains true that it

is at bottom an educational, not a medical, matter. Here is his explanation:

"Considering, therefore, the medical school in the countries under discussion from this point of view, the most striking fact that emerges from this study is the absolute dependence of professional teaching in medicine upon the general educational system of the country itself. If one admits that professional education is primarily a question of education, this result must necessarily follow; but that admission has not generally been made. One nation after another has undertaken to erect its professional schools upon the frailest foundations of general education. It is not too much to say that the result has been in every such instance a failure. This does not mean that such a system may not bring forth from time to time great practitioners.

"It happens in the United States and Canada now and again that a brilliant practitioner emerges from a most inefficient and even disreputable medical school. The genius will under almost any conditions work out his salvation, but a system of education is to be judged not by its occasional brilliant successes, but by the general level of performance of those whom it undertakes to train. No one who faces the evidence brought together in these two reports can doubt the conclusion that in those countries in which the elementary and secondary school system is weak, the general level of professional education is low. Under such conditions brilliant practitioners of one profession or another occasionally arise—they will arise under any system; but the average of training will be low, and the professions will be overcrowded with a large proportion of ill-prepared men, who drag down ideals and gain their livelihood at the public expense.

"Of the soundness of this conclusion there can be no more striking example than is furnished by a comparison between Germany on the one hand and America and England on the other. For the general high level of German professional training the German secondary school is mainly responsible. A sound and well-conceived system of elementary and secondary schools is a necessary precondition

to generally good professional training; one may go even further and affirm unreservedly that any nation that undertakes to prepare men for the professions upon any other basis will, in the long run, impose upon its citizens great and unnecessary hardships.

"A comparison of the conditions in the countries here studied throws light upon the precise kind of secondary education which should be provided for intending physicians. The medical curriculum, extended as it is in Europe over five years, has reached the limits of its capacity; it can contain no more. Exactly the same process has gone on in medicine as has taken place in the training of engineers. In fact, experienced in these two kinds of technical education during the last fifty years has been strikingly similar. Most naturally the medical school and the engineering school have endeavored to include in their teaching some knowledge of the new sciences developed in the last half century and of their application. As a result, the burden devolved upon students of medicine and of engineering has grown enormously.

"Their respective curricula have been formed almost altogether by accretion, something more being constantly put in, little or nothing taken out. As a result, both the medical student and the engineering student are called upon to carry not only a heavier load, but a load made up of more parts. Each now flies from one task to another at such a pace that little time is left for thorough preparation or for serious consideration. Consequently, there is a growing disposition to neglect the great underlying fundamental studies.

"Twenty-five years ago, the medical student could even include in his curriculum a certain number of literary studies. These have been omitted, to be sure, but he is still expected in most schools to find time for elementary chemistry, elementary physics, and elementary biology. It is clear that educationally we have come almost to an impasse, that the load not only cannot be increased, but that for the sake of good teaching it must be lightened and simplified.

"The medical student and the engineering student must each have a timely oppor-

tunity to ground himself in fundamental studies and to learn how to think, how to observe, how to apply. Every pedagogical consideration, therefore, points to the conclusion that the elementary underlying sciences must be learned by the student of medicine and of engineering before he enrolls himself in the professional school. A youth of twenty, in America of twenty-two, who has spent fourteen years or more in preparation, ought surely to find the time for chemistry, physics, and biology in so long a preparatory period.

"A wide variation of attitude toward this question in the countries under consideration is clearly set forth in the report. Strong as is the system of secondary schools in Germany, and the even development of German medical education is mainly due to this, it still remains true that the German boy may enter the medical school, if he so desires, almost entirely without knowledge of the fundamental sciences and with the expectation of gaining that knowledge in the medical school itself. How unsatisfactory this is from the point of view of sound teaching has already been alluded to. The practical disadvantages entailed are set forth fully in the chapter dealing with this topic.

"This question is warmly discussed in America to-day. Should the boy who undertakes the study of medicine be expected before entering the medical school to have obtained an elementary knowledge of chemistry, physics and biology? Very interesting statements have recently appeared in educational journals, calling attention to the fact that students who lack this preparation appear to have made quite as good a showing in certain medical schools as those who have it. Without going too far into an analysis of the facts that are advanced in support of this connection it needs to be said that even were this true it is beside the mark.

"It still remains true that the youth who has not pursued these fundamental sciences does in the medical school an entirely different thing from the one who has been properly trained in them. Teachers of medicine readily admit that for students who have really mastered their elementary physics and chemistry

and biology, medical education becomes a wholly different thing from what it is for those who have not gained that foundation, not only because the man so trained can begin at a different point, but also because he is familiar with scientific concepts, scientific nomenclature, and scientific methods of reasoning.

"Even if we may assume that students enter the study of medicine properly trained in the fundamental sciences, the problem of the curriculum is a serious one. The report shows a general tendency toward overburdening. The question naturally arises, What ought the course of study of a technical or professional school to accomplish? The medical school cannot turn out finished doctors; it cannot teach all that it is important for the practitioner to know. Under these circumstances, it does best to accept frankly certain limitations, and so to train its students that they will be disposed subsequently to remedy their own deficiencies.

"Inclination of this kind appears most likely to result from a training that prescribes only the indispensable minimum, requiring in addition more thorough performance in a few directions and leaving opportunity for still further effort to those of greater energy, interest, or ability. The attitude of the German university on this point is thoroughly to be commended. Every medical faculty in Germany offers more in every department than the undergraduate student can achieve; every student is encouraged to exert himself beyond the average or the minimum in some direction or other. It is therefore not surprising that active progress beyond the point to which his education brought him is generally characteristic of the German physician.

"Those interested in the development of right educational methods will read with interest the discussion of the function of the clinical teacher. It has come to be generally conceded that not only must the basic sciences of chemistry, physics, and biology be taught by those who are primarily teachers and who give their whole time to teaching and research, but also that the more definitely medical sciences of anatomy, physiology, pathology, and bacteriology must be represented by

specialists. It has not been so generally granted that the clinical teacher must also be primarily a man who devotes his life to teaching and to research.

"This reform is the next great step to be taken in the improvement of medical education in America and Great Britain. In Germany only has it heretofore found recognition, and to this fact, next to the development of an orderly and efficient system of secondary schools, is to be attributed the high level of German medical science and medical teaching. With the more general acceptance of the view that medical education is education not a professional incident, the conception of the clinical teacher must undergo the change here alluded to. The teaching of clinical medicine and surgery will then cease to be a side issue in the life of a busy practitioner; it will propose to itself the same objects and conform to the same standards and ideals as the teaching of any other subject of equal importance."

Turning aside from the consideration of the explicitly educational aspects of the report, Mr. Pritchett calls attention to certain lessons which it carries for those dealing with medical education in its humanitarian and social relations. Not only is the whole world to-day bound together in the discussion of all questions of scientific, educational, and social progress, the writer says, but also the people of a given nation are bound together by their common interest in such questions. Education, in any nation, he asserts, is one thing, not a series of separate and unrelated things. Under modern social conditions a nation will, therefore, inevitably lack not only industrial power, but also social contentment and efficiency, if it fails to conceive its various educational difficulties as fundamentally a single problem to be worked out by institutions related in the most vital way to each other, and representing together a national conception of progress and betterment.

The writer refers to the fact that the physician enters more intimately into individual and family life than anyone, not excepting the priest, and adds:

"While the average intelligent man appreciates this fact in a dim way, as a practical rule of conduct he entirely ignores

it. He chooses his physician with very little more care than he chooses his coachman. It seldom occurs to him to inquire what was his previous training and what have been his opportunities. He does not concern himself with the question as to whether he is an educated man. He takes his physician on the recommendation of a friend, or on the basis of accidental acquaintance, and the notion that he should inquire in advance as to the fitness of the physician and as to the quality of his training rarely enters his mind. Moreover, the ordinary citizen fails to appreciate his individual responsibility for the betterment of the profession itself.

"The future improvement of the profession in such countries as the United States and Canada depends to a large extent upon the awakening of the mass of citizens to the importance of their own attitude toward this great profession; for while the progress of medical science will continue to depend primarily on those who are connected with the profession, the elevation of the level of medical practice depends in very large measure upon the intelligence of the average citizen with respect to professional training and upon his willingness to assume some responsibility in the matter.

"The following general considerations, suggested by the two reports that have been issued by this Foundation, are, in my judgment, of enormous importance to all classes of citizens. First of all, these studies have served to emphasize, particularly in the United States and Canada, the fact that medicine is a profession, not a trade. Not only is it a profession, but it is one of such enormous importance to society, carrying with it such opportunities for good or ill, that modern society is compelled to regard it as a quasi-public profession. It is not possible to allow complete freedom of choice to any who may choose to enter it. Society is compelled to insist that those who enter it shall qualify themselves for its quasi-public responsibilities and opportunities."

The difficulty experienced by young and struggling physicians in this country in attaching themselves to hospitals calls forth this criticism:

"There is another point which I desire to commend to the attention of hospital trustees. This report establishes the fact that well-trained young physicians find no difficulty in attaching themselves to the retinue of hospital staff surgeons in Germany, and thus procuring for themselves the opportunity to carry on active scientific work. In America, this is practically impossible. Members of the hospital staff retain for themselves all the opportunities that the institution affords; if they are too busy with practice or too indifferent to science to use the material, clinical and other, it is wasted.

"We witness, then, this strange anomaly—an American graduate in medicine can, for the asking, obtain the entree to the clinics of Berlin, Vienna, or Munich; but in his own country, the doors of the hospital are closed in his face! It is not a pleasant task to disclose the reason back of this unwise policy. To some extent, at least, it is due to the fact that hospital physicians engrossed in practice are unwilling that their prestige should be lessened by the scientific achievements of younger men working in their wards. The laymen in control of hospitals could easily break up this selfish and unprogressive attitude, by insisting that hospital opportunities do not exist for the professional benefit of the visiting staff.

"The unwillingness of the hospital trustee in America to permit the resources of the hospital to be used for medical education arises partly out of the fact that he has not yet outgrown the idea that the hospital is intended only to help the man who happens at the moment to be ill. A hundred years ago this was the case, but to-day all disease is approached from an entirely different standpoint. Every physician, every medical school, every hospital, must deal with disease not only with the idea of assisting and bringing back to health the patient who is stricken, but also in the interest of all other individuals and of the community itself.

"The patient must be used, with all due regard to his own interest, to resolve the problem of disease, and to prevent the recurrence in the community of the illness with which he has been stricken. This attitude toward medicine has not yet be-

come common among hospital trustees of the United States and Canada. They are still disposed to consider that they have done their full duty when they have given to the patients within their wards skilful medical attention and careful nursing. As a matter of fact, this is only the beginning of their duties, and no hospital can serve either its own patients or its own community more efficiently than by opening its facilities in the fullest way to a rightly conducted medical school. In order that their facilities may be thus used, the staff of the hospital must be chosen by the university on the ground of ability to teach and to investigate, as well as to practice, not by the Board of Trustees upon other grounds.

"No hospital can suffer by giving this privilege to a rightly conducted university medical school. The prosperity of German medicine and the eminence of the German hospital are, as the report demonstrates, due to the acceptance of this point of view and all that it implies."

Throughout his report, Mr. Flexner emphasizes the fact that clinical teaching is the backbone of medical education in Europe. In Germany, this teaching is in the form of the demonstrative lecture; in Great Britain the clinical education is the actual and continuous participation of the student in the care of the sick. In both countries, of course, the students are armed with an introductory knowledge of the underlying sciences.

United States Notes.

After many years of effort physicians among the membership of the Medical Society of New Jersey have been successful in having one general session of the annual convention devoted exclusively to a symposium on child life. On June 12th this symposium resulted in bringing out facts concerning the responsibilities of the schools. It was contended that the state is the rightful guardian of the health, the welfare, the morals and, in fact, the success or failure of the child in future. Officers elected for the ensuing year were: President, Morton L. Wilson, Elizabeth; 1st Vice-President, Enoch Hollingshead, Pemberton; 2nd Vice-President, Frank D. Gray, Jersey City; 3rd

Vice-President, Wm. J. Chandler, South Orange; Corresponding Secretary, Harry A. Stout, Wenonah; Treasurer, Archibald Mercer, Newark; and Recording Secretary, Thomas Gray, East Orange.

The new law which obliges substitution of paper towels for the old-fashioned roller towel in the schools of Springfield, Mass., went into effect on June 1st.

The old-fashioned helpful, motherly practical nurse will be compelled to secure a new name if the plan of the American Nurses' National Association, in session last month, to make the use of the title "nurse" unlawful except for the trained attendant, goes into effect. The recommendation came through Miss Grace Allison, of Cleveland, Ohio, who denounced the untrained nurse. Plans were arranged at the meeting for a co-operative National Visiting Nurses' Association.

The success of the open air school has been established in Los Angeles, where forty-nine of such institutions are in operation and more are contemplated by the authorities. Los Angeles has now the largest number of outdoor institutions of this kind of any city in the world.

The second annual meeting of the North Carolina Officers' Association took place in Hendersville on Monday, June 17th. The programme included short, three to five minutes, reports from the health officers of the counties in the state as to what work had been accomplished in their respective counties during the past year.

The University of Kansas has arranged to grant hereafter the Degree of Doctor of Public Health. The University holds annually a summer school for Kansas physicians and health officers at which lectures are delivered by medical officers of the United States Public Health and Marine Hospital Service, and other well-known scientific men.

Chicago is giving deserved credit to Miss Anna Murphy for effectually clean-

ing up its stock yards district. Miss Murphy secured her position in competition. She had a meagre appropriation, but, like a good housewife, she made it go round. She first cleaned up the alleys, then whitewashed the fences. Next she established and strictly enforced regulation for care of garbage. Finally she piled the refuse from the alleys in the water-soaked streets, which were then covered with ashes and gravel and the stock yards had a new highway built without cost as an incident to cleaning the ward.

At the eighty-first annual commencement of Wesleyan University at Middletown, Conn., held on June 19th, the degree of doctor of laws was conferred upon Dr. Amos J. Givens, proprietor of Givens Sanitarium for Nervous Diseases at Stamford, Conn.

Chicago this summer has five open air schools for children in poor health. The Chicago method of operation provides for the furnishing of transportation and food by the Anti-Tuberculosis Society while the Board of Education provides tables, tents, chairs, cots, dining-room equipment and medical attendance. The estimated cost in Chicago has been figured out at \$3.00 per week.

Co-incident with the recent installation of Dr. J. J. O'Connell as Health Officer of the Port of New York, came the new regulation for the examination of steerage passengers only in the day time. Dr. O'Connell is of the opinion that medical examinations for the eye and throat troubles cannot be made properly in artificial light.

At the annual meeting of the National Children's Home Society on June 20th, 21st and 22nd, Dr. Wm. Healey pointed out that an examination of a child's teeth and gums is the most important point of examination to determine whether or not a homeless child can adapt itself to a better and higher environment than that in which it has been accustomed to live. The aim, he said, was to be able to tell at

a very early age in just what part of its mentality a child was defective and to be able to correct that defect while the child was still at an impressionable age.

State Pure Food Commissioner George T. Bradley has inaugurated a campaign against the alleged filthy manner in which ice is handled at the replenishing stations along the Colorado routes of the various inter-state trains.

The Missouri State Board of Health in co-operation with county and municipal health boards, has divided the state into seven health districts with the view of bringing about more effective health work in the administration of laws effecting the work of those bodies.

St. Joseph, Mo., has obtained a free dental clinic through a meeting of the Federation of Women's Clubs.

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.

Municipal League, Annual Meeting of the National, Los Angeles, Cal., July 8-12. Secretary, Clinton Rogers Woodruff, 121 South Broad Street, Philadelphia, Pa.

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

National Education Association, Chicago, July 6-12, inclusive, 1912.

National Irrigation Congress, Salt Lake City, Utah, July 12-27, 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.

THE EMPIRE AND THE WORLD ABROAD

Report of British Commission on Tuberculosis Treatment.

The British Government some time ago appointed a commission to investigate the treatment of tuberculosis, particularly in hospitals or sanatoria. The commission's report just published is strong in its endorsement of the sanatorium system. It does not urge that all patients should be sent to such institutions, recognizing that the virtue of private administration by the same methods is in many cases possible, and in some preferable. But insistence is placed on the fact that the treatment should be made available to all persons suffering from tubercular ailments, and to that end the sanatoria should be provided. In addition dispensaries are recommended as receiving homes, centres of diagnosis and general information bureaux as well as agencies for curative treatment. These, the commission thinks, should be provided for city population at the rate of one for every 150,000 or 200,000, and for smaller numbers in rural population. For the United Kingdom the establishment of 225 to 300 of these dispensaries is recommended. The commission admits that treatment in sanatoria has not always been up to the mark. It attributes this to neglect of early symptoms through public ignorance of their promptest treatment. Further shortcomings are classed under the head of unsuitable cases admitted and subjected to continuous treatment. Lack of proper care after leaving the institutions is also put down as a fault, and additionally the inability of having always expert physicians and the consequent administration of sanatoria more as homes than as therapeutic institutions. These unfavorable conditions, however, the report continues, are being abated, and as this is so the efficiency of sanatorium treatment is increasing and is gaining a wider recognition.

The Agenda Club.

The increasing interest taken by the British public in the national health is manifested in a new form. A remarkably successful organization, called the

"Agenda Club" (things to be done), was founded last year by a group of engineers for the purpose of improving the national health of Great Britain.

The means adopted are exceedingly practical, for example, kinetograph films are exhibited showing: (1) How to dust a room. (2) How to wash a baby. (3) How rats spread disease. (4) What unfiltered water contains. (5) The right and wrong kind of girl to marry.

Local committees have been formed all over the country at places having an aggregate population of 3,000,000 for the purpose of giving synchronized attention to problems of public health in and through any agency, official, public or private, which at any point touches the problem of health.

The object is not only to combat ignorance and apathy among the poor and ignorant, but to win the intelligent support of citizens for the constructive work of health officers and school medical officers.

It is proposed to collect not money, but services, to this end, and in a thousand ways along the lines of each one's profession or opportunities, and to drive home the concrete statistical facts of the waste of national health and life—tragical facts of death and disease, hopeful facts as to what has been accomplished and what can be accomplished. The results achieved are already far beyond the highest expectation of the club.

The latest project is the establishment of what is called the "National Health Week," and this has been taken up all over the country. In a considerable number of churches of all creeds the affinity of cleanliness to godliness and other hygienic points were emphasized on a recent Sunday.

One preacher contrasted the loss of 1,600 lives of the Titanic with the 50,000 preventable annual deaths from tuberculosis. Another referred to the fact that out of 1,000,000 children born in a year 106,000 died before they were a year old and that many of these deaths could have been prevented.

British National Association for the Prevention of Infantile Mortality and Promotion of Welfare of Children Under School Age.

"In no country in the world has greater progress been made in combating infantile mortality during the past four years than in Great Britain and Ireland," said Mr. John Burns last month at a meeting organized for the purpose of forming a British national association for the prevention of infantile mortality and the promotion of the welfare of children under school age; the resolution moved by Mr. Burns agreeing to form the association was carried.

Referring to the previous conferences that have been held on the subject, Mr. Burns said that in the six years they had been at work the rate of infantile mortality had diminished from the relatively high figure of 145 per thousand to 106 per thousand. Apart from the saving of 50,000 baby lives, another result was a lower damage rate for the survivors.

A variety of causes contributing to the lessening of the infantile death-rate were cited by Mr. Burns, who referred to the utility of the Notification of Births Act, 1907, which he said had now been adopted by 315 local authorities, representing more than half the total population of England and Wales. Three years hence he believed they would have a maximum infantile mortality of 100 per thousand.

There was one thing to which, without comment, he would call the attention of the Eugenic Society. He found there was no aristocracy in birth or at birth. He meant by that that if they took five social groups in the vast community of London they would find some very remarkable results—that, whether the mothers were in Bermondsey or Belgravia, Mayfair or Shoreditch, in the first week of the babies' life infant mortality was the same in the rich as in the poor district. In the second and third weeks the change was small, and even in the fourth the difference in the rate was only that between 36 and 32 per thousand. At three months there was a difference of 46 to 60, and at twelve months of 78 and 122.

A high infantile mortality was not due, in his judgment, to racial inferiority of

the poor; he believed that the pre-natal virility of the women of the working class was as good as ever. They had to devise some method by which poor mothers would be able to stay longer from their work and have a happier and more pleasant time.

The time had arrived when they ought to spend less on special schools and on swagger motor ambulances and many other things of a palliative character, and concentrate on the mothers and the child during the period of the children's lives from birth to seven years.

The Second British National Conference on Prevention of Destitution.

The second British national conference on the prevention of destitution was held last month.

Sectional meetings were held on public health, education, housing, unemployment, and industrial regulation, and crime and inebrity. Delegates from all parts of the kingdom were present, and a number of distinguished sociologists took part in the proceedings.

The inaugural address was delivered by the Bishop of Oxford, who urged the divorce of charity from religion as a means of raising the value of religion in the eyes of the workers, and ensuring a greater efficiency in the distribution of aid.

In the housing section a discussion was opened by Mr. Henry Vivian, who presided in the absence of Earl Grey, on "Town Planning and Housing from the Imperial Standpoint."

Town planning as a science should take the place of the happy-go-lucky methods of the past. Private interests must be so regulated that they harmonize with public welfare.

The town dweller must be made healthy and work out his own salvation. The electric car and the motor 'bus, by extending the area of living for great cities, would aid in the change. But they were handicapped by many authorities with conflicting interests.

Mr. Vivian urged a central controlling body, which should temper the autonomy of local authorities. The tenement was a bad standard for the working man's

home. The individual home with the individual garden was the nursery of that individuality of character essential to a great nation.

In the Public Health Section there was an interesting discussion on the medical treatment of children under school age.

Dr. Bygott said most authorities entirely lost sight of a child after it was a year old, and did not meet it again until its arrival at school at an age which varied from three to five years. During the time that it learned to talk and walk it was quite uncared for, except by its mother, who was generally an unskilled maid-of-all-work. Some improved care for young children was absolutely necessary for the prosperity of the nation.

The South African Medical Congress.

The 13th South African Medical Congress was held at the Carlton Hotel, Johannesburg, recently. Sir Kendal Franks, who presided, said there was probably scarcely a country in the world which more required a strong, efficient, and energetic Department of Public Health than did South Africa. In the first place, they were faced with several large problems, which would require the best energies of the most vigorous experts to solve, and, in the next place, the administration of public health was in a most disgraceful condition. The whole profession had laid before the Government what, in its opinion, was the remedy. The Government promised to bring in a Public Health Bill for the Union—and it did. This Bill was another instance of keeping its promise to the ear and breaking to the hope. They pleaded that there were already too many portfolios. There had been a Medical Officer of Health in each of the colonies prior to Union, and in Natal there had also been a Board of Health. Under the new Bill these would all be abolished, and Clause 6 provided that in any existing law, wherever the term Medical Officer, Health Officer, or Board of Health was used, should, after the passing of this Bill, be read the Minister of the Interior. Then Clause 7 allowed the Governor-General to appoint a Medical Officer of Health for the Union, with so many Assistant Medical Of-

ficers of Health and Additional Medical Officers of Health as he might deem necessary. There was no cohesion among all these. They were all advisers to the Minister of the Interior and independent of each other. Such a system, Sir Kendal maintained, was bound to lead to inefficiency and confusion.

Tuberculosis in European Armies.

According to the statistics gathered by M. Poulle, a French deputy, concerning the prevalence of consumption in European armies the rate of tubercular cases per thousand from 1903 to 1907 works out as follows: Italy 1.73, Bavaria 1.89, Germany 1.91, England 2.50, Russia 3.64, Austria 3.72, Belgium 4.60, Roumania 4.91, France 6.72, Spain, 7.32.

Since 1888, in France, there has been a large increase in the number of tubercular cases in the army, yet curiously enough a corresponding proportionate decrease in the number of deaths.

In 1909, no fewer than 7,500 conscripts were exempted from service because of tubercular complaints, and another 2,500 were rejected because of their weak condition.

It has been ascertained in those countries where consumption is found in the army that the disease is only prevalent among recruits, and is seldom found among the older soldiers. The sudden development of mild cases of the white plague that are so frequent amongst recruits is easily accounted for. Young men are taken away from a sedentary life, perhaps as clerks, to active work in the open air. The first effect on those who have the tuberculous taint is to increase the activity of the latent microbe. The result is that those who cannot fight down the trouble are killed. The rest are soon cured by the process known as auto-inoculation. Nature asserts herself by killing the unfit and curing the fit. Nevertheless there is always the danger of infection.

Energetic action is being taken by the French Minister of War to campaign against the spread of consumption among the young men of France, who should come to their military service in good

health, if they are going to be of any use to the Republic.

Notes of Empire and World Abroad.

Professor Blanchard, of the Paris Faculty of Medicine, has started a fresh campaign against the housefly. It was Professor Blanchard who made the proposal adopted by the Paris Perfect of Police for the suppression of hand bills in consideration of the theory that they transmit dangerous microbes.

A physician employed in an advisory capacity by the Sandow Sanitarium of London, England, has been stricken from the register by the General Medical Council, because he was so employed. The Sandow Institute is one devoted to physical culture.

The Cape Medical Council, South Africa, recently passed a resolution drawing the attention of the Government to the danger of employing laymen in the operation of vaccination which demanded medical knowledge both as regarded the technique of the operation and the elimination of unsuitable cases.

Advance Notices, Alphabetical.

British Medical Association, Liverpool, England, July 14th to 23rd, 1912.

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

Congress of the Universities of the Empire, London, England, July 2nd, 3rd, 4th and 5th, 1912. Fifty-one universities have arranged to send representatives; and among the questions proposed to be discussed by them are the following: University Organization; Universities in Their Relation to Teachers and Undergraduate Students; Universities in Their Relation to Post-graduate Research Work; Universities in Their Relation to Schools and to Agencies for Higher Education. Other subjects for discussion will probably be: Whether any Common Understanding Will Be Possible Among the Universities of the Empire as to the Extent to Which They Could Recognize Each Other's Entrance Examinations; The Desirability of Increased Facilities for Post-Graduate Study; The Possibility of Some Plan of Interchange of Professors; What Could be Done by Universities in Regard to After Careers of Students, and the whole question of the Financial Support Given from Public Sources to Universities. Inquiries with regard to the Congress should be addressed to Dr. R. D. Roberts, at the Congress Office, University of London, South Kensington, London, England.

Imperial Conference of Teachers' Associations.—London, England, July 12-16, 1912.

Royal Institute of Public Health.—The Council of the Royal Institute of Public Health have accepted an invitation from the Chief Burgomaster of Berlin to hold their 1912 Congress in that city, from Thursday, July 25th, to Sunday, July 28th, inclusive. A Local General Arrangement Committee has been formed, consisting of representatives of the Royal Ministry of the Interior, the Imperial Board of Health, the City of Berlin, the medical officers of the Headquarters Staffs of the Army and Navy, the University of Berlin, the medical and hygienic societies of Berlin, and other societies, to promote the success of the meeting. The Congress will be under the presidency of Lord Beauchamp, his Majesty's First Commissioner of Works, and will be conducted in the following sections: State Medicine, President, Sir T. Clifford Allbutt, Regius Professor of Medicine in the University of Cambridge; Bacteriology and Comparative Pathology, President, Professor G. Sims Woodhead, Professor of Pathology in the University of Cambridge; Child Study and School Hygiene, President, Sir James Crichton-Browne, Lord Chancellor's Visitor in Lunacy; Military, Colonial and Naval, President, Sir Donald Ross, Professor of Tropical Medicine in the University of Liverpool; Municipal Engineering, Architecture and Town Planning, President, Mr. P. C. Cowan, Chief Engineer of the Local Government Board, Ireland. Facilities will be afforded for visits to be made to the various public health and educational institutions in Boston and other places.

Royal Sanitary Institute, Congress and Exhibition, York, England, July 29th to August 3rd, 1912. President, Most Rev. His Grace the Lord Archbishop of York; E. White Wallis, Secretary, 90 Buckingham Palace Rd., London, England.

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.

Western Canada Irrigation Association. Sixth annual convention Kelowna, Okanagan Valley, B.C., August 13, 14, 15 and 16, 1912. Secretary, Norman S. Rankin, P.O. Box 1317, Calgary.

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.

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.

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