PAGES MISSING

The sternest and bitterest opposition to intelligent physical culture and rational hours of work, to the purchase of parks and playgrounds and the granting of reasonable holidays, comes from the class whose boast is that they started as barefoot country boys, who hate physical exercise of all sorts as a badge of servitude and degradation, and who propose to hug to their bosoms their hard-won privilege of "day-long blessed idleness" from muscular toil, while at the same time insisting that the rising generation shall pass through the same treadmill as they did.—Woods Hutchinson



JOHN W. S. McCULLOUGH, M.D.

Chief Officer of Health for Ontario, and President-Elect of the
Canadian Public Health Association.

Che

Public Kealth Journal

State Medicine and Sanitary Review

VOL. III

TORONTO, CANADA, OCTOBER, 1912

No. 10

Special Articles

A SURVEY OF PUBLIC HEALTH

BY CHARLES A. HODGETTS, M.D., C. M., L.R.C.P., D.P.H., F.R.S.I. MEDICAL ADVISOR, THE COMMISSION OF CONSERVATION, OTTAWA.

The pages of history are writ large with lessons of how empire after empire has fallen through physical degeneration and all its attendant evils, consequent upon the ignoring of laws which are to-day called the simple laws of health. The only difference between the people of earlier times and ourselves is that they knew not these laws and, therefore, heeded them not; while we of to-day know but do not observe them. Upon every hand there is the evidence that we are in many respects following in their footsteps, and, as a proof of this, it is not necessary for us to go to the older portions of this Empire. It is to be found in the most recently settled portions of Canada. while physical defects and their attendant social evils are in evidence in the rising generation even of this proud city in which we meet to-day. In simple words we are not observing the laws of hygiene and posterity will have to suffer the consequences.

Fortunate it is that, during the past three quarters of a century, there has gradually evolved from the science of medicine the science of hygiene; the former has been mainly curative of disease, while the latter has for its highest object the prevention of disease, the prolongation of life, the putting off of death until the last possible moment, thus perfecting man's environment, so that his powers of vital resistance may not be weakened by the inroads of diseaseproducing organisms.

In the evolution of the science of hygiene the thoughts and minds of the members of the medical profession have been directed more and more to the prevention of sickness; indeed, the trend of modern medical practice has ever been in the direction of minimizing man's danger against his great unseen foe—disease.

But, while studying the cause and effect and endeavoring to find the remedy, there has always been the urgent necessity for the physician to render succor and aid to alleviate man's suffering. Therefore, in the popular mind every physician is considered a sanitarian. The sooner the public become educated to the fact that curative medicine and preventive medicine or hygiene are not the same, the better for the progress of public health.

It may as well be clearly understood that, so far as the licensing body in the Province of Ontario is concerned, the College of Physicians and Surgeons (that august body) does not deem it essential that a student at his final examination be required to show any evidence of a knowledge of hygiene, which to-day is the most important branch of medicine. It is diffi-

cult to understand the devious ways of this peculiar body. From their action, however, it is clearly evident that they have not risen to a realization of the fact that the primary object of the practice of medicine is to prevent disease rather than to cure sickness.

The paths leading from Hippocrates to Jenner were dark and the ways were devious, but great is the army of Æsculapians who have added each their quota to the solution of the problem of how to prevent disease, and, as a result of their united contributions, we can point with pride to victories achieved, all of which have prolonged life and benefited mankind generally.

In order rightly to comprehend the present and intelligently anticipate the future of "state medicine" it is necessary to briefly review the past and thus learn of the evolution of public health matters generally.

From earliest times the maintenance of the health has ever been the subject of man's care. Indeed, we may go further and say that in the Mosaic code there is evidence of the fact that man believed it to be the wish of the Almighty that he should preserve his body in health, for in that law are given minute directions for the cleanliness of the person, the purifying of houses, the exclusion of those suffering from contagious diseases and the care to be exercised in the selection of food. These and many other health questions were made a matter of religion and are considered as such by the orthodox Jew of to-day.

Subsequently, the Greeks and Romans, with a view to the improvement of their bodily condition, devoted themselves to physical culture. The Romans understood better than we do on this continent today the necessity for pure water supplies for their cities and the value of sewers and the proper disposal of sewage. Indeed, the Roman statesmen were the first to appoint district officers of health, assigning them according to population and charging them with duties which were chiefly those of public health.

With the advent of so-called Christianity, the Rabbinical laws were ignored, as apparently was the injunction of St. Paul—"Ye are the temple of God, if any man

defile the temple of God, him shall God destroy; for the temple of God is holy which temple ye are,"-and we find the monks and friars devoting themselves to acts of mercy and charity by instituting hospitals for the care of the sick, but failing to impress upon the people the necessity for a proper care of the person and the obesrvance of even the most rudimentary of health laws whereby their environment could be bettered. Disease came to be regarded as a fetish, while epidemics were but manifestations of the wrath of a Divine This attitude of mind was one that parallels that which obtained in the days of savagery-and it might here be added that there is more than sufficient evidence to show that, even in what are considered intelligent quarters, a similar superstition prevails to-day. I have even heard mutterings of it in the legislative halls of Canada, and, unfortunately, the public press is not free from suspicion.

In Great Britain in mediæval times, conditions were no better, and the general insanitary state of London is well known. At the time of the first outbreak of cholera. 1831-2, the state of sanitary conditions was deplorable, and, notwithstanding the terrible effects of this scourge, it was not until the passing of the Public Health Act of 1858 and the establishment of a Public Health Department with Dr. Simon as first medical officer, that material progress was This enactment. made in that country. was brought about by the earnest work of a devoted band of men and women under the leadership of Sir Edwin Chadwick Eight years later, in 1866, a still further advance was made by the passing of the Sanitary or Public Health Act. It was not, however, until 1872 that the law made it compulsory for municipal authorities to appoint a medical officer of health; although Liverpool had appointed one in 1847, just a quarter of a century earlier and the metropolis of London had followed in 1855. In the year 1872 the counties were divided into rural and urban districts. Hitherto there had been in the main only parish districts. In 1888, sixteen years later, county councils were authorized to appoint county officers of health, the act being made obligatory twenty-one years later with the introduction of the Housing and Town Planning Act.

SPECIAL ARTICLES.

While not wishing in any way to detract from the studies made in the realm of preventive medicine by foreign workers, it is not making too strong a claim to say that the most practical public health work has been done in Great Britain by men who were confronted with problems of disease consequent upon the rapid industrial development of that country. Suddenly, as it were, the environment of the people was changed from that of rural life to one attended with all the evils incident to and consequent upon a rapid and chaotic growth of towns and cities. The opportunities for study and research were many, but the methods whereby opinions were formed and conclusions reached were along lines the most difficult, and it was not until the chemist Pasteur led the way into the realm of microscopic plant life and the surgeon Lister worked on the intricacies of how to destroy these minute and unseen enemies of mankind, that the greatest progress was made in the realm of hygiene.

It will certainly be acknowledged that, considering the great importance of the subject of public health, covering as it does the individual and his environment, the centre of Empire has moved slowly though progressively forward during the last half century. Yet notwithstanding the progress made we find evidence of the inefficiency of the laws to inadequately meet the requirements of Great Britain at the time of its greatest danger. This was demonstrated at a time when physical fitness of the highest degree was required by the government to meet the demands of war. Director General of the Medical Services in reporting on physical fitness of men offering themselves for enlistment at that time showed that 77 per cent. of the estimated population were urban residents and about 25 per cent. of these, some six million, were unable to rear their children under conditions favorable to health and physical fitness.

In referring to this deterioration, an eminent English authority says there is "no escape from the conclusion that the proportion of lads and youths physically unfit is alarming," and he adds, evidently viewing the subject from its most important standpoint:

"If this be true of the lads, is there any ground for hoping that the physical condition of their sisters is better? They are exposed to exactly the same injurious conditions, often in an aggravated form and there can be no doubt that their physical development suffers to at least an equal extent," and he continues: "We need women to be healthy mothers of robust children ''

This brief reference applies to but one aspect of health conditions in Great Britain, but as environment is just what health laws, imperfectly applied by reason of local exigencies make it, we can roughly estimate the results achieved in that part of the Empire where the government has no competent central health bureau or department vested with power to enforce what is right and proper in the interests of the people.

It is only fair and proper to say that where the local machinery is the best the results achieved are the best, but, as a chain is no stronger than the strength of its weakest link, so it is with the national question of health. In these days of migration and rapid communication it becomes essential, yes imperative, in the interests of the nation, that public health administration should become centralized by a wise and proper combination of existing authorities, the central or federal authority maintaining the highest degree of efficiency by an oversight and by a directing and co-ordinating influence of the provincial authorities.

Canada has entered upon the race for national existence, a link in the chain of those nations which compose the greatest earth-girdling composite Empire which has ever been known. Each portion of this great Empire is to-day laying the foundations of the Greater Britain in order to ensure its perpetutiy, and to this end the attention of governments and of the people themselves is being directed to many of the important factors entering into this, to us, great empire-building problem of the twentieth centry. For instance, we are considering from an imperial point of view such problems as those of commerce, tariffs, and particularly the two great preventives of that international disease commonly known as "war," but more accurately described as "hell." I refer to the navy and the army, for which we are willing to tax ourselves, some in one way, some in another, and all for the sake of maintaining imperial peace and unity. But with all this bluster and fuss, with all this very unnecessary display of patriotism and imperialism, what are any of the governments which are fussing and fuming in an endeavor to weld this chain of Empire together doing in a systematic manner for that prime essential of Empire—the people themselves and their physical environment

Important and essential as are all the subjects under consideration, and difficult as many of them are of solution, the one which is the raison d'etre of them all—the one for early and constant study—the one most difficult of all to handle has never as yet been considered.

That it has not been lost sight of by some of the leading minds in imperialistic matters is quite evidenced by the public utterances of Lord Rosebery and Rt. Hon. Joseph Chamberlain. Lord Rosebery has cautioned Britain that an empire in itself is of "but very little use without an Imperial race," and Chamberlain, referring to the fact that the work of this century is the consolidation of our Empire, has asserted, very positively, that public health is the greatest of all the subjects to be considered and worked out. Being seized with the enormity of the issue at stake, he asks: "How are we to fulfill the task which Providence has laid upon our shoulders, a greater task than has ever been imposed upon any nation, a task which we are now fulfilling not with success, but the greatness of which may fill even the boldest of us with some anxiety?"

It is to a consideration of how Canada can do its share in this the greatest task of Empire, the perpetuating of an Imperial race, that the subject of public health is presented to this association which represents the health interest of the Dominion of Canada. I do not imply that the problems I have mentioned are capable of immediate or even early solution, but simply that in the excitement and enthusiasm over the grosser and materialistic and, I might add, the political aspects of life, we should not forget the essential.

From what has been said it will be seen that the history of public health in Canada is, in the main, but a repetition of the

progress of the work in Great Britain. We have followed them like sheep-though a long way off-instead of profiting by their errors, we have not enacted legislation for preventing what we know by their experience can be prevented. The reason for this is not difficult to find; our people are ignorant of health laws; our municipal councillors, as a rule, live for no higher object than to maintain their civic office by voting along those lines which will secure the greatest return of votes; in short, our politicians are not statesmen. Indeed, a statesman is now a rara avis, for our legislators have no more brains or judgment beyond the referendum, which is simply the cloaca maxima into which too often the recommendations of a statesman are precipitated by the politician who plays on the ignorance of the average citizen to accomplish his nefarious ends.

We have before us the evidence that bad town planning and housing lead inevitably to increased municipal expenditure, and, therefore, higher taxes. We know that under inefficient legislation, bad housing conditions grow up and continue and that owing to these evil environments, disease. crime, immorality and poverty resulting in physical degeneration inevitably result. Yet here we are planning towns by the hundred each year, building, rather I should say, throwing together houses, and. worse than all, permitting a foreign element to live in worse conditions than would be permitted in their own country; and there is no legislature in Canada which has a statesman within its walls of the calibre to propose a bill which will (in my judgment) adequately meet this alarming and awful situation.

Sufficient has been indicated to show that, as a nation, Canada has a long way to travel yet before the claim can be advanced that it is doing its share to produce a virile race leave alone the still more important questions of maintaining its virility.

Some of our provinces have good health laws. In a few instances the central provincial authority maintains a strong grip on municipal authorities and rightly so, for of all the opponents of even the most simple health laws I can state that municipal councils are the most prominent. They require, in many instances, the dis-

play by the central authority of the strong hand, although not necessarily its use. It is in the highest degree essential that health laws should be brought into harmony as well as the laws relating to the collection and tabulating of vital statistics. provincial health bureau or department must be efficiently equipped with expert officers at the head of each of the many sub-divisions of public health work. These include sanitarians, epidemiologists, bacteriologists, chemists, sanitary engineers, lawyers and architects. The laboratories and plants of each provincial branch of public health service must be fitted out and maintained and operated in such a manner as only to carry on routine work, but to assist in experimental and research work. Both of these are essential to the maintenance of the highest standards of hygiene. This has been very clearly stated by an eminent lay writer upon the subject of state organization. He says: "It should be a part of the organization of a civilized state to have a public health service of well paid, highly educated men distributed over the country and closely co-related with public research departments, and a reserve of specialists, who would be ready and eager to face dangers and to sacrifice themselves for honor and social necessity as soldiers and sailors." Have any of our provinces attained to this degree of proficiency as yet? Some are moving toward it, while others again are not even with the main body but are, sad to say, trailing along in the rear.

But, from what has already been said, you will see that I consider health is not only a matter for municipal and provincial consideration and action, but that it should also be dealt with by each national government. We in Canada have much to gain by a study of the health laws and organization of the German Empire, for although the situation is not the same there as here, yet it is parallel to it. Prior to 1867 the German Empire did not exist, but, owing to political exigencies, it was brought out of chaos a national unit. The national department of health of the Empire co-operating with and co-ordinating the work of each of the several states composing the nation.

In Japan on the other hand we have a striking example of the national government relegating to itself the control and

direction of health matters appertaining to the people generally. The laws of this country are models and are well worthy of careful study by our federal government. The reasons why a national government should give attention—direct attention—to public health under a bureau in which would be considered all matters relating to the life and well being of the people, is that of all departments of national life none more urgently requires the widest possible field of study and action than that of public health. Health depends on the relation of the human frame to its environment, animate and inanimate. It is essential to discover the limits of this relationship before we can understand the cause The study of health of its disturbance. and disease, therefore, must extend to the whole animal and vegetable creation, and this work can be more efficiently and economically done by a national government which has at its command resources which are not possible to a province or state. It can also, by reason of its central power or authority, serve to co-ordinate and, at the same time, co-operate with the several provincial authorities.

We have problems to study and solve which are big with import to the people of this nation. Only one will be referred to at this time, and that is the influence which the foreign population will have upon the race. We have been receiving on our shores a large number of emigrants from Europe. For some time these people came almost without let or hindrance. Then the federal government took a step forward and instituted what is commonly known as the medical inspection of immigrants. How far it answers the requirements of an adequate medical inspection need not here be stated, but if the people of this country, if the provincial governments of this Dominion, are satisfied with a medical examination of several hundred persons often speaking a foreign language which is conducted in a few hours by one or two medical men, then all that can be said is that they are facing a danger which I believe will show itself in the near future if it is not already manifesting itself. It must be remembered that the nation is like an insurance company; it accepts as a risk the life of each man, woman and child passed as fit at the port of entry. This question is one which is worthy of more immediate direct attention by the governments of Canada than may at first seem apparent. We want men and women, but they should now be "hand picked" rather than "screened" as is at present the case.

This matter in itself is sufficient argument for the establishment of a federal bureau of health whereby all branches of public health would be co-ordinated.

The recommendation of the President of the United States when urging upon the members of Congress for the second time the creation of a federal department of health in that country, was to this effect: "In my message of last year I recommended the creation of a bureau of health, in which should be embraced all those government agencies outside of the War and Navy Departments, which are now directed toward the preservation of public health or exercise functions germane to that subject. I renew the recommendation"

This country, the United States, is already in possession of a well equipped public health laboratory operated by the Publie Health and Marine Hospital Service with its staff of well trained officers, and, in this respect, is far ahead of Great Britain, which, in fact, has no national service in any way approaching it either in work or in results. Prior to 1902 the laboratory had been devoted almost entirely to research in pathology and bacteriology. Its work was, however, extended in that year to medical zoology, pharmacology and chemistry. Its facilities have since been extended to sanitary officers on the request of state health authorities; the making of public health investigations by the staff and the supervision of viruses, serums and toxins and the issuance of most important sanitary bulletins. We have in this branch of the Federal service of the United States an example which should be followed out and improved upon in each of the nations of this great empire.

While each nation within the Empire is engaged in the setting in order of this important branch of governmental service, there remains yet to be gradually evolved a scheme for the co-ordination of the same upon Imperial lines, some scheme whereby an intelligent conspectus of the whole

problem can be made. The opportunities, the unusual advantages, afforded by this great Empire for the study of disease under the ever changing conditions of climate, race and environment, are unique. Never before in the world's history has such opportunity been offered; and the responsibility for action rests heavily upon us to-day, for, unless we do act, the fabric of Imperialism is but an empty myth. Disraeli correctly said sanitary reform is the foundation for every other national reform -and in the earnest endeavor which is manifesting itself in every nation of this composite empire for a strengthening and unifying of the essential elements of the good government sought for, it is necessarv that each nation should not neglect that which is paramount, that which will advance the highest and best interests of Imperial citizenship. As the healthy body. like the mathematical whole, is equal to the sum of all its parts, and the health of the whole can only derive from and depend on these, so it is with the units composing this Empire. The course of the Empire's life is decided by the weakest portion of that chain. The call then is to the people of Canada, the municipalities of Canada, the governments of Canada, to see to it that, by the co-ordination of all health forces in one homogeneous organism and by the adoption and enforcement of the most advanced health measures, this Dominion fulfils its duty in the providing of men and women physically fit to enable us to hold our own in that chain of nations, so that, in the commercial struggle, which is not likely to become less strenuous as years pass by, this Empire shall ever hold its own and fulfil the destiny for which it was intended.

The part to be played by each member of our national health association is not an unimportant one. It must be our constant aim to educate public opinion, to foster the spread of hygienic knowledge to the boys and girls of this country, for, though the children of to-day, they will be the men and women of to-morrow, and it is through them that national and imperial success will come. If we are but earnest, active and true, we can content ourselves that our work is good, and big with far reaching results in adding to the sum of human happiness and the comfort of mankind. To the

most humble in the field of hygiene as well as to those most prominently engaged in the work, I would say: "Remember that it is your high privilege to prevent disease, to diminish and, as far as possible, banish sickness and suffering, to reduce mortality and prolong life, and that in so doing you are rendering to the Empire a public service and strengthening the foundations upon which its perpetuity depends."

THE OPEN AIR SCHOOL MOVEMENT, 1904-1912

BY A. J. GREENE.

HEAD MASTER BIRLEY HOUSE OPEN AIR SCHOOL, FOREST HILL, LONDON, S.E. ENGLAND.

In presenting to you this paper on the above subject, which will deal principally with the work in London, I feel I must first extend my grateful thanks to your Dr. Struthers for the opportunity he has afforded me of getting in touch with those interested in this work in the Premier Colony.

Let me, in the first place, present to you a resume of the movement since Germany

set the ball rolling in 1904.

In that year it was decided to start an "Open Air Recovery School" at Charlottenberg, for the instruction of those children, who were physically debilitated.

These were children suffering from various forms of incipient disease, anaemia, etc. For such physically unfit, the ordinary school room was thought to be most undesirable; that open air treatment, careful supervision, good feeding, and instruction by improved methods and surroundings should be substituted; that the ordinary school curriculum should give place to one more adapted to the outdoor conditions.

The spot chosen for this experiment was in a pine forest on the outskirts of Berlin,

and near Charlottenberg.

The necessary buildings were erected, and the sum of £1,600 was voted by the education authority to carry out this work.

Ninety-five children were chosen, but this was afterwards increased to 120.

The classes contained 25 pupils, principally anaemic children and those suffering from the lighter forms of pulmonary, heart and scrofulous diseases.

Children suffering from acute or infectious diseases were not allowed to attend.

The results of the first period of the Open Air School, which lasted for three months, were eminently satisfactory, but it was found, however, that this period was

not sufficient to make any real difference in the child's condition.

It was found that many of those who had apparently received great benefits from their three months' sojourn in the "open air" fell back into the old condition on their return to ordinary school. It was, therefore, decided to extend the session in 1905 to six months, and in 1906 to eight months; the difficulty of suitably heating the school rooms, during the winter months, being the stumbling block in the way of a continuance throughout the year.

Extension of the Movement.—1906 saw the opening of two other "Open Air" schools, in Mulhauser, and Gladback, while in 1907 a similar school was opened at Elberfeld. Since this time many of the large industrial towns in Germany have followed the lead, by providing themselves

with this new type of school.

The Movement in London.—It was in 1907, mainly owing to the efforts of Dr. Frederick Rose, the assistant educational adviser to the L. C. C., who had closely studied the German schools, and to Mr. Ernest Gray, that the London County Council decided to experiment with a school to be held at Bostall, near Woolwich, on ground very kindly offered to them by the Royal Arsenal Co-operative Society. This land consisted of a recreation ground and a wood.

The Board of Education were prepared to certify the school under the Defective and Epileptic Act (1899), and forthwith the school opened in July of 1907, and continued for a period of three months. It would appear to be necessary here to state the conditions under which the children were chosen for attendance at this school.

Medical inspection in schools was unknown, at that time, and, consequently, the head teachers of the neighboring boroughs, were asked to nominate such children as would, in their opinion, benefit by "Open Air" treatment. Two hundred and seventy-two children were nominated from the boroughs of Woolwich and Greenwich, and of these the Council's Medical Officer chose 100.

The results proved the experiment to be an undoubted success, but as in Charlottenberg the period was found to be too short.

As a result of the 1907 experiment three schools were opened in 1908, situated in various parts of London, and at the same time it was decided to extend the session to five months. These schools opened in June and closed at the end of October.

A brief description of these sites might be welcome as affording an idea as to what is required.

- 1. Birley House "Open Air" School.—
 Forest Hill, London, S.E., is situated on a high background, 300 feet above sea level, adjoining Horniman's Park and Museum. The house, a large private residence, facing south, stands in grounds about one acre in extent, and is sheltered on the north and east by an avenue of trees. The garden is on a gentle slope and well stocked with fruit trees
- 2. Montpelier House, Kentish Town, London, N., stood in about 2½ acres of ground, well wooded, with a plentiful supply of trees, shrubs, and climbing plants. The basement of the house contained a large wash-house and cooper, and it was, therefore, possible to give each child two hot baths weekly.
- 3. Shrewsbury House, now Shooker's Hill Open Air School, Woolwich, has, perhaps, the best site of the three schools. It comprises 3½ acres of meadowland, situated on the top of Shooker's Hill, about 400 feet above sea level. There is, however, no residence attached to this site, and the children attend at Plum Lane Council School for meals to be served.

These schools opened in June, 1908, and accommodated 75 children each.

The staff consisted, in each case, of a head master, three assistant teachers, a trained nurse, a cook, and a cook's helper, and a caretaker.

A medical officer was attached to each school, and attended weekly, for the examination of the children.

The school buildings were of the Doecker Shed type, for class-room work in wet weather, and desks, deck chairs for afternoon rest, manual and gardening tools were supplied.

In 1909, the session was extended to seven months.

In 1910 to nine months at my own school, and in 1911 we remained open for the full year.

Since the London Council made this, the first move in England, other authorities have followed, and "Open Air" Schools are now established in Bradford, Halifax, Liverpool, Manchester, Birmingham, Sheffield, etc.

I have thus briefly summarized the work in the "Open Air" Schools movement to date, and having borne with me thus far, I dare to trust that you will allow me to give a graphic description of my own school, Birley House Open Air School, Forest Hill, S.E., England, with its methods of procedure, schemes of work, etc.

The motto of each open air school should be, I think:

- "Mens sana in corpore sano." and its object twofold.
- 1. Restoration to Health.—This must, of course, be the primary object and to that end, nine hours daily in the open air, good regular breathing, constant care and attention, and two hours' sleep each afternoon, will produce this effect.
- 2. If this is to be the only object, then the need of the Open Air School ceases to exist, for all this could be done either in the sanitorium, or at a convalescent home; but our object being to keep directly in touch with our motto, we must needs, while doing all to cure the ailment, yet carry out such a course of instruction, that the child on its return to the ordinary school, may with improved health, become more capable of assimilating and benefitting by the instruction there given.

It is, therefore, necessary that the curriculum of the school should be so based that this object is attained.

The children attending this school, numbering about ninety pupils, boys and girls, are drawn from a very wide area, namely, from Vauxhall along the south bank of the Thames to Deptford. This district em-

braces many of the slum areas of South London.

They travel to school by the L. C. C. tram service, one branch of which, fortunately, passes the school. The Education Committee pay the fares of these children. By travelling before 8 a.m., workman's tickets can be obtained. These cost 2d. only (return) for any distance.

The school session is from 9 a.m. to 6 p.m., and on Saturday from 9 a.m. to 4 p.m.

The following is a time of the day's work:

9-9.30. Breakfast — milk, porridge or bread and milk.

9.30-10. Scripture.

10-10.30. Practical arithmetic.

10.30-10.50. Recreation and lunch — bread and butter in summer.

10.50-11.20—Nature study, geography, history on different days (two lessons per week).

11.20-11.30. Breathing exercise and drill.

11.30-12. Drawing, painting, composition, singing (2 lessons per week).

12-12.30. Organized games — cricket, football, basketball, Morris dances, and old English games.

12-12.45 Preparation for dinner — washing, etc.

12.45-1.30. Dinner, 1st course—joints beef and mutton, fish, meat, puddings and two vegetables. 2nd course—fruit puddings and pies, milk pudding and fruit stewed.

1.30-315. Sleep on hammock chairs.

3.15-3.30. Packing chairs, etc.

3.30-3.40. Breathing exercises and drill.

3.40-4.50. Manual work — gardening, simple woodwork, metal work, cardboard work, basket work, raffia, clay modelling.

4.50-5.15. Reading and literature.

5.15-5.25. Preparation for tea—washing, etc.

5.25-6.00. Tea—bread and butter (currant, brown and white) with jam, cake and fruit alternately during the week, milk, with tea or chocolate.

At six o'clock the children return to their

homes by "special car."

Our desire is that the life should be of a communal kind, and to this end monitors are chosen to serve the meals, regulate the table manners, and conduct of those under their charge. A girl and boy monitor presides over each table and are known as the mother and father of that table.

By this means the staff, who take their meals with the children are relieved of the task of keeping order, and supervision by them is reduced to a minimum.

Our meals are served in an open shed constructed by the lads as part of their manual work. This shed is 36 feet by 18 feet by 11 feet, span roof, canvas covered, and has a floor of racks each 6 feet by 3 feet. During the winter a curtain is placed four feet from the ground to protect from wind.

The "Rest" shelter is also a canvas covered structure 36 feet by 18 feet by 10 feet, with a flooring of racks.

The Doecker shed supplied by the Council is used during the wet season only. It is a building 60 feet by 18 feet by 12 feet, span roof, closed on three sides. The front open side facing the south. During the winter months two-thirds of this front is closed by the sliding glass partition (constructed in the school) which can be easily removed on fine days.

No heating apparatus was found to be necessary for the shelters during last winter—the first the school was open—but on cold days the children were wrapped in blankets and did their work as usual. Clogs with leather uppers were provided for winter use and for use during gardening lessons.

It has not been found necessary to use the house for lessons on any occasion during the past three years. The children become quite acclimatized to the outdoor conditions and it seems that constant exposure has so hardened their bodies that they can endure with pleasure even the rigor of wintry weather.

The house is used for the preparation of food, storerooms and accommodation of caretaker. The children are bathed once per week and a special room is kept for this tubbing.

During the hot summer weather this is done out on the lawn. A curtain being placed in the necessary position for this.

I must now refer you back to our motto: "Mens sana in corpore sano."

and with this in front of you and the knowledge of our efforts to attain the first of our objects, you will, I trust, bear with me whilst I place before you certain of our practical schemes of work to attain to our second object, namely, the awakening of intelligence in the child.

If I give these schemes in too great detail you must pardon, but my object will be to show the gradual development.

General Scheme of Work.—In view of the fact that our children are drawn in the main from the slum areas of South London, we are endeavoring to inculcate into the children's minds an idea of Colonization, and this is the basis on which all our schemes of work hinge.

We are sanguine enough to hope, that with renewed health and vigor they may eventually become tired of their "slum life," and wish in time to get away into a freer, healthier air.

Our gardening, drawing, and manual schemes are so arranged as to include a miniature scheme of colonization.

A waste portion of the garden, overgrown with small shrubs and rank growth has been cleared. Trees have been cut down and their roots "grubbed" out. On this reclaimed land seed beds have been set out. A small farm of six fields—each one rod square—has been plotted out and a rotation of crops sown. Roots (turnips and potatoes), barley, cabbages, wheat, oats. Each of these six fields will be fenced differently, namely: Chestnut fencing, barbed wire, twisted wire, bar fencing, rustic fencing, Canadian fencing.

A log hut 6 feet by 4 feet has been constructed and furnished. Attached to this will be a model dairy. The space around the log hut or farmyard is to be occupied by a three-stall stable, a wagon shed, a barn, a pig sty, a hen roost, a dog kennel and a pump.

All these models are made to scale by the lads in their simple woodwork lessons. Thus the homestead, farm premises, and farm are complete, and the food supplies of the colonist assured.

This work is followed by another side of the colonial life often forgotten by the would-be colonist. I refer to the industrial side of colonial life. Our geography lessons work towards this end. Establishment of an Industrial Colony.—In this scheme heaps of metallic ore, namely, iron, copper, lead, coal, stone, and gold quartz are secreted under the bushes in various parts of the garden. The class as colonists are to go out prospecting. Each child is given a flag and a diligent search is to be made to find such minerals as will be of value.

Should their search be successful, the finder must stake his claim by planting his flag in the heap of mineral.

The lucky prospectors register their claims with the teacher, and, if accepted, are made *Captains of Industry* as a reward for their observations. The child who finds the iron ore is the iron master, coal, coal mine owner, etc.

These captains of industry, with the cooperation of the teacher, then remove the various heaps of minerals to one place in the garden in order that the whole scheme may be centralized.

These minerals are then secreted under heaps of clay 6 feet by 4 feet by 2 feet. This operation is necessary for the future boring to find the minerals.

The next step is the employment of miners. The captains of industry each get into communication with the Secretary of a Labor Exchange, which has been previously established in the class and request that he will advertise through his agency for coal miners, lead miners, iron miners, copper miners, stone quarry men, and gold diggers.

These advertisements are posted up and the class reply accepting work in whichever sphere they choose. These replies are handed by the Secretary of the Exchange (who keeps a record of the applications made) to the various mine owners, who choose their workmen. These workmen with their leaders then repair to that section of the centre where their special mineral is supposed to exist, and, with a simple boring apparatus — constructed in the school—they bore into the mound of clay. The mineral is eventually discovered, the shaft sunk and lined with golden syrup tins, from which tops and bottoms have been cut away.

A simple winding apparatus is next required and made, and by this the various minerals are brought to the surface—coal

from the colliery, iron ore, copper ore, lead ore from the respective mines.

The next step in the evolution is to lead the miners to realize that having obtained the raw material their work must come to a standstill, unless this raw material is worked. To do this they quickly realize that coal will be an absolute necessity to them. With this knowledge the various mine owners make overtures to the colliery owner for an interchange of commodities, and to carry forward this exchange some means of conveyance is necessary.

A simple aerial railway was constructed but this was not effective and so it was decided to build a railway. To do this plate layers, coach builders, engine drivers, etc., were needed. The Labor Exchange was again sought and the workmen employed. When this line of communication becomes an accomplished fact and the interchange of commodities takes place, the need of factories, furnaces, etc., arises, and builders are needed. Stone will have to be brought from the quarries.

In this way the whole of the children are given an interest in the scheme, by becoming working units in the industrial centre.

An amusing sequel to this came to my notice a few weeks ago. Certain boys I saw were wearing cardboard buttons in the lapels of their coats. On enquiry I found they were trade union buttons, denoting to which they belonged. This was quite off their own bats, but I mention it to show the keenness with which they take to the work.

To Continue.—With the erection of the furnaces, factories, etc., the concrete portion of the work ceases. The manufactured articles produced in imagination at these factories must be tabulated, and, where possible, miniature replicas obtained. These are then conveyed by rail from our industrial centre to a River Birley (which is being constructed by the smaller children) on which Port London, with the necessary bridges, docks, etc., will find a place, and from which a fleet of trading vessels will take our manufactured articles for distribution.

Thus our scheme of *Colonization* seems complete in that it starts with the breaking up of the soil and ends with the distribution of manufactured goods.

To you this scheme may appear ethereal, but I can assure you if no further success attend it than the keen interest the children take in the development of the scheme, the making of their rude huts, and factories, the various machines, trucks, etc., and the initiative they show in improving early attempts—it has more than paid as a subject in our educational work.

I do not wish to weary you further with other schemes of work, but if you can tolerate a little more I will briefly summarize them.

Our pratical arithmetic scheme is devised to allow free scope in the above scheme. We endeavor to do away with the too free use of a foot ruler, as soon as possible, by making the children use the average length of their "span" for measuring short distances and by the average "pace" for longer distances.

Areas and cubic contents are worked by the garden plots, garden paths, etc., in one case and by the spreading of gravel cinders, etc., in the other.

Average: by taking records of sunshine, temperature (maximum and minimum), rainfall, etc.

Profit and loss: by the results obtained from the garden plots. In this the cost of gardening edging, manure, seeds, etc., is carefully noted by each gardener and the produce from the plot priced and sold for table use. In this way he works out practically the result of his labors.

The scheme for gardening is worked in co-relation with the colonist's farm, 7 large plots, 20 feet by 5 feet, are set aside for the production of plants, giving us our food supplies thus:—

- 2 plots show food roots.
- 1 plot shows food stems.
- 1 plot shows food leaves.
- 1 plot shows food seeds.
- 1 plot shows food herbs.
- 1 plot shows food grains.

We have the other plots for climbing plants, sleeping plants, creeping plants, perenials, annuals, the pea and its cousins, members of the cross family, etc., etc.

The nature study scheme hinges on the gardening in that a practical operation in the garden is followed by a nature study lesson, as for instance:

Tilling and manuring:

The using of tools—The earthworm and its work.

Seeds appear:

Placing of scarcrows—The birds of the garden.

Liming lettuce—The snail and bug.

Placing sticks for elimbers—Study of elimbing plants.

Flowers appear:

Experiments in pollination—The bee and its work.

The handwork scheme is many-sided, basket work, raffia work, simple woodwork, cardboard work, etc. These are all used in the production of articles for our industrial centre.

In the making of trucks, factories, etc., the first models are made in cardboard, from the children's drawings any defects can then be overcome, when the next step, the making of the same model in wood is attempted.

A general scheme of manual work is attempted and in this the lads have built a garden frame 15 feet by 6 feet. The bricklaying, frames of wood, and the glazing were all carried out by them. A garden roller has been constructed, made from a large drain pipe filled with concrete, and gas barrel used for the handle. A sundial finds a place in our garden, as a result of this scheme. A nature study pond was one of our first attempts; the lads puddling laying the concrete and cementing this to make it watertight. It was found that during the hot summer weather the carrying of water for the gardening purposes from the house entailed heavy labor on the children. To obviate this, about 300 feet of old gas barrel was purchased and by tapping the main water supply we were able to get a plentiful supply through these pipes for our needs, direct on the garden plots.

Colonial maps are made on a large scale in cement, clay and sand. Dramatic history forms part of our curriculum. The children make the dresses in needlework lessons, and scenes from Ancient, British, Roman, Danish and Norman history are depicted. In this way the history becomes a living thing, and not so many dull facts and dates to be memorized. Cave dwellers and lake dwellers make their habitations and live the life of the people they depict.

It is found impossible to allow the girls to enter fully into the domestic side of the school life, on account of the fact that so much of the time would have to be spent in the kitchen. Our desire being that the children should be in the open air during the whole of the time they are at school. Certain works, however, are carried out by the children. Potatoes, beans, cabbages, etc., are prepared (out of doors), for the next day's meal. Plates, spoons, knives and forks are washed and cleaned, and in this way the children help.

In closing my paper I would like to point out that the results physically, mentally and morally are distinctly satisfactory.

To prove these let me give you quotations from various reports:

1. Medical Officer.—"On admission the children presented a miserable and uncared for appearance and as the weather was cold and windy, and many of them were suffering from common colds, it was difficult to imagine a more wretched looking class. They came from very poor districts and most of them were badly clothed and dirty."

The medical officer's report on same children 12 months afterwards:

"There can be little doubt as to the beneficial results to the children from attending the school. A person has only to see the brightness and general contentment of these children now, as compared with their former apathy and often sullen resentment towards the open air life, to realize that such a experience as this is for them of great educational value."

The Council Inspector reports.—

"The spirit of happiness and enthusiasm with which the children engage in their numerous activities has been productive of very gratifying mental and physical results."

Morally, the children improve beyond knowledge in their behavior. The healthy body has given not only a healthy mind, but a healthy character. The teachers become quite enthusiastic over the improvement in brightness, alertness, and intelligence. In these schools the free discipline brings out a more orderly, attentive, unselfish child and corporal punishment is reduced to a minimum.

THE ONTARIO PUBLIC HEALTH ACT

BY JOHN W. S. McCULLOUGH, M.D.,

CHIEF OFFICER OF HEALTH FOR ONTARIO, AND PRESIDENT-ELECT, CANADIAN PUBLIC HEALTH ASSOCIATION.

The Public Health Act of the Province of Ontario revised by the Legislature of the present year may briefly be considered under its chief headings:

First, Organization.—This embraces a Provincial Board of seven members who meet at intervals of three months and act chiefly in an advisory capacity. The Secretary or Chief Officer is the executive officer of the Board and possesses in the interval between meetings all the powers of the Board. There is a Chief Inspector and Sanitary Officer, and the Province (which embraces an area of some three hundred thousand square miles) is divided into districts, to each of which is attached a medical officer. These officers are at the present time being trained for the practical duties of their work.

There are three laboratory centres—one each at Toronto, Kingston, and Londonand arrangements are being made for increased facilities for the examination of diphtheria cultures, blood samples (widal test) and sputum by distribution to the various Medical Officers of Health in the eight or nine hundred municipalities of Ontario of supplies of sputum bottles, culture tubes and slides, from whom these may readily be procured by physicians. The physicians may have examinations made for diagnostic purposes free of charge at any of the centres named. In the same manner, examinations of water supplies are made for municipalities or individuals free of cost when the samples are sent in properly sterilized containers (which are supplied through the M.O.H.).

Local Boards of Health in the various municipalities are continued, places of 4,000 and over having five members and municipalities of a smaller population, three members. The Medical Officer of Health becomes a member of the Local Board, and its executive officer. His tenure of office is made more secure by the enactment that he may not be dismissed except for cause and with the consent of the Provincial Board. This condition and the fact that municipalities are required to

pay a reasonable salary—and also the expenses of the Medical Officer of Health to the Annual Conference of Health Officers—will, it is hoped, have the effect of increasing the value and efficiency of such officers and be in the interest of public health generally.

Isolation Hospitals, Etc.

The second topic dealt with by the Act is the important one of Isolation Hospitals and Communicable Diseases. The plans of these hospitals, their equipment, etc., will become more uniform and satisfactory since they are required to be approved by the Board. Provision is made for arbitration in case a dispute arises over the establishment of such a hospital by one municipality in another municipality. The local board is given the control of such institutions and they must be maintained in accordance with the Provincial Board's requirements.

The care and control of communicable disease is definitely defined, not only by the Act, but by the regulations made thereunder. Tuberculosis is added to the list of notifiable diseases and the regulations provide for more easy and safe transportation of bodies dead of the various communicable diseases.

Treatment of Indigents.

As long as the writer can remember, it has been the privilege of the local physician to treat without any remuneration the poor of the community. It is to the credit of the medical profession that almost without exception our members have never shirked this duty. When, however, as I am certain most of you have observed, the municipality contributes to the wants of this class for other necessities by paying their bills to the grocer, coal man, etc., it seemed but fair that the physician should not be singled out as the only philanthropist in the community, so the Health Act provides that in cases when indigent persons are not provided for in a hospital, the municipality shall contract with some qualified practitioner for their care in case of injury or illness. In this way the whole community will, as seems but right, have the opportunity and pleasure of assuming its share of this duty.

Nuisances.

This is a large and growing question. It is not always the easiest task to define just what a nuisance is, so the Act (relying upon the usual good sense of the Medical Officer of Health) assigns to him that duty and defines what must be done to remedy the conditions complained of.

Offensive Trades, Inspection of Lodging Houses and Dairies, all come within the purview of the Act. In respect to lodging houses, one important provision increases the necessary air space from 400 to 600 cubic feet and gives the Medical Officer of Health power to close and placard a house which in his judgment is unfit for human habitation.

Municipal Abattoirs.

The power given to municipalities to establish abattoirs wherein animals may be slaughtered under competent inspection is of the greatest necessity, from the fact that various diseases may be transmitted from animals to man. The Act provides that where such an abattoir has been established by a municipality and an inspector appointed in accordance with the Act, no meat shall be offered for sale or sold therein unless it has first been inspected and bears the stamp of the municipal, Provincial or Dominion meat inspector.

The old Public Health Act contained a by-law, known as "Schedule B.", which automatically was in force in every municipality. This by-law, which outlines a law suitable in a general way to most municipalities, has been revised and may not be amended by municipalities except with the consent of the Provincial Board.

The large unorganized areas of the Province are continued under the direct supervision of the Board. Two District Officers and a Sanitary Inspector are assigned for this territory and special regulations are in force therein for the protection of the employees of lumber, mining and construction camps, and for the suppression and prevention of communicable disease in these regions.

Some of the cities and towns of the Province have had their share of typhoid fever

By far, the greater proportion of these epidemics have arisen from the culpability of the municipal authorities in respect to proper water supplies and the disposal of sewage. It usually requires two or three epidemics of this disease, and a large death rate, to arouse the public to a sense of its danger. Nothing, I regret to say, seems to arouse the majority of the members of a municipal council—except the fear of defeat at an election. Within the last two years there have been in one city of the Province at least 2,500 cases of typhoid fever due to bad water, and the council of this municipality have only recently taken the preliminary steps to procure a good supply-and then only when they found that the present Public Health Act was strong enough to force them to do

In respect to water supplies and sewage disposal, the entire control of these matters is placed in the hands of the Provincial Board. The plans, specifications and all details must be submitted and approved. The approval must be cited in the by-law to raise money for these purposes. If the Provincial Board certifies that improvements of this character are necessary, it is not necessary to take a vote of the people for such purposes. My attention has been called to a statement by the solicitor of a certain city, who gives a contrary opinion in respect to this Section (96) of the Act. The best reply to this is that several municipalities have already taken advantage of this portion of the Act and the debenture solicitors have accepted the Board's certificate. Further, the Act gives the Board power to enforce the improvement, repair and maintenance of any existing water works or sewerage system.

The day of the reckless pollution of the magnificent streams and lakes of the Province is drawing to an end. Already, every municipality has been notified to take steps to properly dispose of its sewage. It will take years to attain our ideals of this condition, but an early beginning is at least gratifying. No one, it seems to me, has a right to pollute a stream to the disadvantage of his neighbor below him, and, if a municipality is liable for damages for defective streets and sidewalks, it should be held equally liable if it knowingly supplies poisoned water to its citizens.

THE REMOVAL AND DISPOSAL OF HOUSE GARBAGE IN ITS RELATION TO PUBLIC HEALTH

BY RAY R. KNIGHT, C.E.

For the purposes of this paper the term "house garbage" must be understood to include all waste refuse matter discharged in the domestic economy of an inhabited dwelling. The term does not include sewage, either solid or liquid, which must be

considered separately.

Garbage is comprised largely of effete organic matter both vegetable and animal in character, potato skins and such like. fish and meat remnants and bones, scraping from food plates, discarded tins, bottles and crockery, ashes, etc., in fact practically all the rubbish which must be got rid of and which can be swept or emptied into what is generally known as the scullery or rubbish pail.

The organic matters peculiar to garbage consisting largely of carbohydrates if left alone will decompose by fermentative or putrefactive processes and resolve themselves into their basic elementary forms. This is natures method of resolving all inert organic matter, so that it can again assume those forms which allow of its re-

use in building up new life.

Natures method, however, cannot be recommended for municipal communities unless artificially assisted, and certain conditions of effect kept within regulated bound.

Garbage is naturally destroyed by decomposition. It is also incidentally partly destroyed by street dogs as in Constantinople, by birds of prey in India, and by rats in many parts of Europe. It may be trenched into the ground and covered over. where natural processes are relied upon under certain atmospheric conditions. The recognized artificial method however, which is most effective for the immediate destruction of garbage is by fire, either at the kitchen grate or the municipal destructor.

It is obvious that methods of disposal of garbage must be limited somewhat by economic and local conditions. The question of ultimate disposal is perhaps not of such great importance to health as the cleanly and immediate removal from the neighborhood of the dwelling. The first step in dealing with the question of garbage must relate then to the effective removal. No matter how small a community, even in the case of a single house located in the prairie, the immediate removal of organic filth from the house environment is important. In Canada we have presented the fact that typhoid is generally more prevalent and the mortality rate greater in small towns and communities than in the larger towns and cities. One hundred cases of typhoid in a well-known and advertised city causes alarm and general anxiety, whereas, a rate of typhoid even ten times greater in a village community will pass unnoticed. This is true of lumber camps, small settlements, etc., where little or no care is taken in the removal of garbage apart from throwing it outside the domicile.

It is therefore apparent in treating a subject such as this, that arguments and conclusions which may apply to city life for economic and efficient disposal of refuse must necessarily be modified in their relations to small communities.

The small town must necessarily adopt as efficient means for the removal of its garbage as the city as far as relates to the presence of decomposing matter in its midst, but on the other hand it is obvious that the child town has not grown to that extent when it can contemplate all the modern and scientific methods for complete destruction, and must for some period of its early life depend upon natural methods for disposal. The point, however, for the smaller communities is the question of control of these matters.

It would appear convenient to classify this subject under the following heads:

(a) The practical and economical removal of collected garbage to a point at some relatively safe distance from the inhabited area.

(b) The final disposal of such collected garbage in relation to camps, villages, and small towns, which are so placed that they cannot undertake any large expenditure either in capital or maintenance.

(c) The final disposal of such collected garbage in relation to towns and cities

Presented before the Inaugural Canadian Public Health Association Congress, Section of Engineers and Architects, at Montreal and revised for *The Public Health Journal*.

which can meet the necessary expenditure for scientific and effective disposal.

Under the heading (a): the practice and even the desire for the removal of waste garbage from immediate personal contact is an instinctive attribute which is common to most animals and perhaps obtains less attention from many of the "genus homo" than even from the domestic cat. There is no doubt that people generally require to be educated and constantly reminded of the value of cleanliness. Especially is this so in newly settled countries where the vastness and freedom of surroundings tend to personal carelessness.

In order to give the most satisfactory and ideal results it would be necessary to provide a daily removal of house refuse from the premises. This, however, is a practical impossibility on grounds of expense so that garbage has necessarily to be stored temporarily near the house for a period varying according to the frequency or otherwise of collection. In any case a weekly collection at least should obtain and in the summer months if posible collections should be made twice a week. For the purpose of storage, a receptacle of some sort has to be provided and a capacity of two or three cubic feet is considered sufficient for each dwelling. This receptacle should be constructed of impervious material, galvanized iron is good, and it should be covered, watertight, weathertight, and ventilated. The practice adopted in some Western cities of providing approved receptacles free of charge, and under by-law compelling householders to maintain them in an efficient state, is an excellent one, and is a distinct step in the right direction. The provision of shoots from flats from upper floors to the ground should be prohibited as they provide an enormous contaminating surface. Receptacles for house refuse should be situated as remote as is convenient from the house, and in any case so arranged that flies cannot gain access to the contents.

The contents should also be kept as dry as possible to prevent fermentation as it is an acknowledged fact that the production of offensive gases due to fermentation is avoided if moisture is absent. It is, therefore, important to educate the householder with regard to this. All matter put into the receptacles should be as dry as pos-

sible, all waste vegetable matters should be well strained and all slops prevented from entering. The removal of refuse is often restricted on grounds of expense. This should not be so, in fact, the more frequent the removal the higher the hygienic efficiency attained. In any case the removal of garbage should be undertaken directly by the authorities as distinct from the contract system. Better supervision is possible and negligence and graft are not likely to influence the matter.

Numerous schemes for the systematic collection and removal of house refuse have been devised and tried, but that involving the house to house visitation of the scavenger or collector is most prevalent to-day and is perhaps the most efficient.

Two schemes may be worth mentioning for the purpose of comparison. Each has its advantages and disadvantages which will be pointed out.

In England and especially in the boroughs within the County of London the following system was adopted, but has been discarded in favor of house to house collection in a great many instances.

Cards with a large "D" printed on are distributed to the householder by the local authorities and on the back of the cards the householder is advised of the day and approximate time of collection. If the "bin" or receptacle requires emptying the card is exhibited in a conspicuous place and the collector calls and removes the refuse. The advantage of this system is purely an economical one as time is saved in making unnecessary calls. The objections, however, are numerous. Householders are sometimes forgetful, in such cases the card is forgotten and the bin remains full and overflowing until the next collection time (if the lapse of memory has passed). Other householders are lazy or careless and neglect to exhibit the card and put up with the inconvenience of an overfull receptacle. In fact there are many circumstances which render this scheme an insanitary one, and large accumulations of refuse upon the premises result. It is quite common in places where the "D" card system is in vogue to see the card always in the window whether or not it is the collection day, and this probably is the best method of ensuring proper attention although not at all an ornamental one.

In the other scheme the householder is advised by postcard notice, of the day and approximate hour of collection and is required to deposit the receptacle containing the refuse upon the edge of the sidewalk at the time stated. The collectors empty the bins and leave them on the sidewalk for the householders to return to the rear of This scheme has a great the premises. economical advantage as there is little time lost in collection. The presence of the receptacle in the front of the house is objectionable so that householders are careful to be prompt in their attentions to their part of the undertaking. There are sanitary objections to this scheme, for instance, uncovered receptacles are prey to dogs, the rag-and-bone man searches the contents and spills them, the wind carries lighter articles, and the householders indolence also plays its part. The ordinary receptacle which contains two cubic feet of refuse is too heavy for the average woman to carry so that the refuse is placed in small wooden boxes and the galvanized iron bin discard-This accounts for the variety of uncovered receptacles one sees where this system of removal is in use.

To facilitate the sanitary removal of house refuse, provision should be made in the planning of modern towns for rear reserves which form what is known as secondary means of access at the back of all houses. It is, however, necessary these back subsidiary streets should be paved and kept properly scavenged or they form an additional nuisance. It is probably impossible to expect this in fast growing cities and these reserves are scarcely necessary when semi-detached or detached houses are built. In the case of terraced houses they are essential so as to avoid the necessity of taking the refuse through the With the provision of these rear reserves, however, the location of the receptacle may be remote from the house. The practice adopted in many towns of sprinkling the emptied bin with a disinfectant powder is to be commended.

Carts or vans for the collection of refuse should be constructed in such a manner, that they are wind and rain proof during use. They should be provided with wind guards to prevent the distribution of light articles whilst loading is going on. They should also be watertight to prevent the

spilling of liquid refuse on to the streets.

Under the heading lettered (b): the disposal of garbage in connection with the camp, the village, or small town, is of great importance especially in this country which is subject to heat and moisture conditions conducive to putrefactive and fly nuisances. If the garbage cannot be burnt it must be buried. It must be placed in such a location and under such conditions that both the aesthetic and the fly nuisance are avoided. The common method is to adopt nuisance grounds or areas. These are located at less or greater distances from the inhabited area. It is difficult as a rule however to find any particular location which does not present either a practical or sentimental objection or nuisance to some one. The practice is to cart garbage to these areas, dump it on the surface, provide no covering, and simply let the organic matters rot under exposure to sun and moisture. It is obvious that this practice is based on the simple idea of removing a nuisance to some point at which it will prove less objectionable than in the immediate vicinity and rely upon nature's method of reduction.

Is it too much to ask that the nuisance area be trenched by hand or machine every spring, the excavated earth thrown to one side and when a load of garbage is delivered it be discharged into the trench and the earth thrown over it? By this means nature's method can be followed and the odour and fly nuisance entirely obviated. If this trenching method is adopted there is no reason why privy excreta contents can not be dealt with along with the ordinary house garbage.

With regard to the camp it is acknowledged that this is the only efficient method of meeting the question, and the host of house flies which dominate a camp mess room can be practically avoided by proper care requiring little labor.

The presence of house flies is absolute proof of exposed and neglected filth. The nuisance ground is as a rule the house fly germinating nidus.

Under heading (c) the final disposal of town refuse has to be dealt with.

In towns and cities the practice of dumping into hollows is prohibitive from a sanitary point of view, dumping on to nuisance areas also becomes impossible owing to the large quantities of refuse which have to be dealt with. Brickmakers near cities will sometimes take the refuse and screen it for the burning material contained, but the residue is often left lying about or is filled into disused pits and becomes a nuisance or even if it is burned in the open as is often the case the products of slow combustion create a nuisance. Cities near the sea adopt the method of barging and dumping in the sea. The lighter articles, however, float and it is difficult to locate a dump where tides and currents will not deposit these articles on the adjoining shores.

Sorting refuse for its useful components has been carried out in England, but these businesses have been discontinued as not financially successful. In this process. paper and rags are sorted for paper making, small paper and light refuse for cardboard making, tins and iron for scrap, bones and animals and vegetable matter for manure, bottles and glass for re-melting and crockery, stones, etc., for road bottom-Carried out in the strictest manner such a process gives rise to bad smells and cannot be considered in any way a sanitary method of disposal. In the United States, however, such methods have been and are adopted with more or less satisfactory results.

Reduction of refuse is a practice which has been adopted in the United States of America and has been recently reported favorably upon for Toronto. Grease and manurial compounds are abstracted and the rubbish disposed of by incineration, the ashes being dumped.

The reduction process requires separate receptacles for ashes, garbage, and rubbish. Sorting stations are also necessary to abstract from the garbage and rubbish any useful components. These sorting stations are located in the city and also sidings and loading depots for the removal of matters to the reduction plant outside the city limits. Incinerators are located at the sorting stations to deal with the rubbish. This process is not so much a sanitary as a financial one. The sorting of garbage within the city limits is wrong in the first instance and should be discouraged. In the U.S.A. it is claimed that no nuisance complaints have been made where this process is in operation, but the report of an

American expert on the refuse disposal question for Toronto advises that the reduction plant be located ten miles outside the city limits. This must carry with it the admission that local nuisances do exist. and, in fact, the fly nuisance must be encouraged where refuse is present in any quantity. It is poor argument that owing to cheapness of power due to the Hydro Electric or other means, incincerators with boilers would be useless and uneconomical. It may be true, but it is no reason why an insanitary method with the promise of financial benefits should be adopted. The solution should be incineration, and leave out the boilers. The only sanitary method of disposal of house refuse for cities and larger towns is incineration or destruction by fire in a modern high temperature destructor plant.

A properly equipped and managed plant will ensure complete combustion of the refuse, it will give a residue free from nocuous and organic matters and in accomplishing this it will create no nuisance. The design of incinerators, furnaces, destructors or whatever name is given is an engineering problem. Taking into consideration the complex nature of the material to be disposed of it is a proposition which demands the expert attention of experienced engineers, especially with regard to local conditions.

Up to the present time trials have been made with almost every conceivable form of plant, and errors from time to time have been corrected. The refuse destructor has been in use now for about 50 years, and like all mechanical contrivances has passed through a great many changes. Even today almost every plant that is erected has some improvement upon its predecessor embodied in it. It is outside the scope of this paper to review the progress of refuse destruction or to go into the technical differences between the various patterns of destructors now on the markets.

It may be well to point out that there are two types of destructor, namely, the separate cell type and the continuous cell type. The former consists of a set of cells or furnaces each one having a separate flue connecting it with the combustion flue, in the latter a series of cells are connected, one with the other, the gases from which travel to one common combustion flue.

These are again divided, according to the manner in which they are fed with the refuse, into "top feed," "back or front feed," and "direct feed." In the first the refuse is tipped from the carts into a large hopper and shoveled or poked through a hole in the top of the furnace, in the second the refuse is tipped into a hopper and is fed by fork or shovel into the furnace. In the last the refuse is tipped directly into the furnace from the cart without any handling at all.

The ruling principles which should govern the construction and working of an incinerator, with a view to complete incineration with no attendant smells or offenses and the emission from the chimney of a clear vapor free from dust are as follows:

Sufficient, but not excessive furnace accommodation should be provided to deal with all refuse as soon as it arrives.

Storage of refuse on the premises should be avoided unless in closed bins.

Refuse should be tipped directly into the furnace and should not be handled by the men if possible.

Refuse when tipped into the cell should rest upon a drying hearth, the vapors arising passing through incandescent gases.

All emission of vapors from the cells should be prevented.

Regular cycles of clinkering (that is withdrawing the fires) and feeding should be observed so that the gases from a new fire will be burnt by those from incandescent fires.

No fire should be clinkered until every particle of combustible material is burnt.

Hot air or superheated steam blast should be used in order to produce high temperature and to accelerate burning.

A temperature of 1,500 deg. to 2,000 deg. Fah. should be maintained in the combustion flue.

Too much steam should not be evaporated at the expense of good chimney emission or efficient burning, and the position of the boiler should be such that the cooling effect produced should take place after the complete combustion of the gases. All dust should be removed by bafflers, catchers or pockets before the gases are allowed up the chimney.

Furnaces should be kept burning slowly during the night and slack times, care being taken to prevent improper combustion.

All gases should finally be emitted from a chimney 60 to 100 feet high.

Clinkers when drawn from the furnaces should not be quenched with water, but allowed to cool in cooling chambers or in the yard as the sulphurous anhydride and sulphuretted hydrogen produced are objectionable.

The resultants from destruction of refuse by fire are clinker, iron depleted of tin from cans, broken stoneware and crockery from the cells, fine ash from the ash pits under the cells and fine dust from the flues and dust arresters. The whole of this residue is free from impurity and can be disposed of by dumping. Clinker, however, is useful for road bottoming.

The amount of house refuse produced by inhabitants varies greatly with each locality. It is estimated, however, that 0.4 to 0.6 ton (short) per annum is produced per head. This is a wide range and necessarily so on account of the huge differences which exist in actual practice.

The amount of refuse which can be cremated per cell at a refuse destructor per day of 12 working hours with slow fires during the night is from 12 to 20 cubic yards and the production of clinker is from 22 to 33 per cent. (bulk) and ash from 7 to 8 per cent.

Municipalities throughout Canada are now turning their attention to questions of sewage disposal to prevent pollution of streams and water supplies, to disinfection sterilization and filtration of water to prevent the spread of water borne diseases, to protection and inspection of foodstuffs, and, latterly, to the question of house refuse disposal.

How much the fly nuisance is abated where incineration as against dumping is adopted is only appreciable where a refuse destructor has been installed, to say nothing of the absence thereby of foul odors.

An instance of this was very marked in an English town where an incinerator plant was erected in 1904. In 1907, after continuous working, extensive repairs had to be undertaken and the plant shut down for six weeks during the months, July and August. The refuse during this period was carted and dumped at a brickfield two

miles out of the town. In about ten days complaints were received, investigated, and verified as to fly plague in the vicinity of this dump and in less than three weeks the fly nuisance was affecting the greater portion of the town. As collectors and conveyors of disease germs flies are well known and the dumping of refuse simply provides a fly germinating centre.

Infantile diarrhoea has been directly connected with house refuse dumps. In a large town in England the Local Government Board instituted an inquiry into the causes of deaths from diarrhoea of children under one year at the rate of 209 per thousand, and it was found that this was attributable to the fact that a number of old brickfields surrounding the town had been filled in with town refuse. It was stated in the report that the decomposition changes which were taking place created a chemical poison, which poison in the human body was the material cause of the epidemic.

The practice of building dwellings upon house refuse dumps should be prevented by law until such time has elapsed when all organic matters are destroyed. The model bye-laws of England, limit this at four years as the outcome of careful investigations and add that if foecal matter has been deposited the whole of the deposited material shall be removed before building.

The importance of the subject which has been discussed in this paper cannot be exaggerated, and with regard to the camps and small towns steps should be taken to supervise their nuisance areas in a sanitary manner. The large towns and cities should adopt the incinerator and all should pay strict attention to the proper and sanitary storage on the premises, and collection. The whole question should be taken up and not set aside as it has been. The fly nuisance would be abated and the typhoid rate will decrease.

In conclusion, the modern refuse incinerator is a machine of reliability. Complaints have been justified in the past, but improvements have been made so rapidly that to-day the incinerator can be situated in the centre of population without any real as apart from the sentimental cause for

complaint. Instances of prejudicial complaints are numerous, two of which have come under my notice and may be of interest. In one case the whole district within a mile radius of the plant was up in arms complaining of smells, smoke and dust. Windows had to be kept shut deputation waited on the Council and the Council without ascertaining the correctness of the statements, instructed the engineer to stop burning and find a means to prevent the dust and smoke. The engineer was given two months to make his report. In the meantime he had a large heap of refuse stored in the vard screening the works from view and burnt the refuse at night. When the time came for his report he informed the Council that he had been burning and that no complaints had been received. His instructions were then to go on burning the refuse in the day time.

In another instance where a destructor was regarded as a nuisance and those complaining had to face ridicule, the manager of the gas works who lived within a mile of the destructor was one of the chief agitators against the plant, it was complained of as smelling abominably, and the smoke spoiled garden parties, etc. Not satisfied with these damning attributes, this gas manager awaited a day when the wind blew from his gas works to the destructor and thence to this area of garden parties. On this particular day he cleaned out his purifiers, creating a vile stench. He and some friends wired to the engineer's department, "Refuse destructor smelling abominably." The reply to the wires was rather a shock to these ardent gentlemen. as it was to the effect that the plant was shut down for repairs and had been so for

In closing, it may be noted that in choosing a location for an incinerator plant, preference, if possible, should be given to one at or near sewage disposal works. It will generally be found that an incinerator is of great use in disposing of sewage screenings, etc., if previously sufficiently dried. Also, in many cases in this country with modern sewage disposal works where filters are installed, the heat from the incinerator may be utilized in winter time.

TUBERCULOSIS AND THE PUBLIC

BY GEORGE D. PORTER, M.B.,

SECRETARY CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

Lest constant repetition only callous the public mind it will be as well not to dilate here upon the thousands of lives lost annually in Canada from tuberculosis nor to compute the millions in money that such a loss entails. That one rural community in our Dominion should have lost two hundred and twenty persons from this disease out of the thousand deaths occurring there during the past decade may not signify very much to those living in more sanitary areas, but it is when that much used but impersonal term the "Public" becomes a personal one and the physician pronounces one of our own family as tuberculous that it becomes much easier for us to realize how this disease may effect others.

When it is known that there are some fifty thousand such cases scattered over our wide Dominion to-day, we can readily understand that the trouble facing one afflicted family is multiplied just fifty thousand times. The question uppermost then is not how tuberculosis affects the public, but how may the public affect tuberculosis, and as the former question is better appreciated, when it becomes a personal matter, so may the latter be more easily understood when dealt with in a personal

There are three questions almost invariably asked of the physician. The first one relates to diagnosis. "Is the trouble really tuberculosis?" Right at the outset lies the physician's greatest responsibility, and here often is his greatest difficulty. Incipient tuberculosis as a clinical entity has not been generally recognized until recent years and here special expert opinion, which cannot always be had, is greatly needed. The very numerous signs, symptoms and many diagnostic tests for its early detection constitute, on the face of it, a confession of our weakness. In fact, at the present time it is often impossible to make a certain diagnosis during the incipient stage. To add to our perplexity we know that the greatest number of cures and arrested cases are from among these patients who have received early treatment. The most conservative estimates give over fifty per cent. of early cases as apparently cured

and fit for work, while we know that less than one per cent. of advanced cases have

any hope for recovery.

What are we to do? While waiting to make sure of our diagnosis in a suspected case of typhoid fever, we have the patient in bed and prescribe a liquid diet. While waiting to clear up the diagnosis in a suspected case of diphtheria or scarlatina we at least have the patient isolated. When suspicious of tuberculosis then but uncertain of our diagnosis, what course should we pursue? Tuberculin might often be advantageously employed, but requires much judgment in its use. The modern hygienic dietetic treatment of tuberculosis, however, is a therapeutic measure beneficial in many other diseases. In every disease the patient needs abundance of fresh air. Every patient with a temperature of from one degree or more above normal needs rest, and when we exclude the acute infections and the chronic diseases which are soon readily diagnosed, we are quite safe in prescribing plenty of good nourishing food. The carefully supervised graduated exercises given to tuberculous patients free from abnormal temperature and other special symptoms, may also be prescribed to nearly all classes of patients when under the same conditions. If, then, our diagnosis of early tuberculosis is so often doubtful, while our hopes for recovery depend so much upon early treatment, and this treatment (or the greater part of it) is so beneficial in nearly all classes of diseases, why should the physician wait until clinical symptoms become sure, but alarming? Is he not wiser when suspicious of this most insidious and common disease in giving the patient the benefit of any doubt and keeping him in the curable and hopeful class, even if doubtful of his diagnosis, rather than delay until treatment can be of little

The second question relates to prognosis. "Is there any hope?" While this is naturally asked in other diseases, the answer when it is a case of this depends much upon the patient himself. Whether treated at a dispensary, in a sanatorium or at home, the tuberculous is often responsible for the

result of that treatment. Upon his mental attitude, his courage and faithfulness in following the sometimes irksome, often discouraging and always long continued treatment will depend his hopes for ultimate recovery and usefulness.

The third question is one relating to treatment, but it is neither a matter of therapeutics nor hygiene with which the family seem most concerned. It is the question of climate. "Where shall we send the patient?" The question of climate is not always an easy one to answer. In private practice it has some importance as a certain number of selected cases, who can afford the expense, often do better in other climates, but as a public question that importance is very secondary. As the great delusion regarding the specific value of certain climates for the cure of consumption, fostered by the glowing literature of distant health resorts, and aided by our own lack of proper accommodation for the tuberculous at home, has filled the public mind for many years, it might be well to point out that there is no specific climate for the cure of consumption anywhere. The best answer for those who believe otherwise and who journey to such special climates may be obtained from those patients whom they will meet leaving there in search of some better climate elsewhere. Although it is true, that many have returned with improved health and often apparently cured, a large proportion of these could have been as much benefited five miles away from home as five thousand. The question is not so much one of climate as one of environment. We know that some climates are more enjoyable for certain seasons of the year than others, but it is well that we now realize that consumption can be cured in Canada, and that Canada, taking the whole year round, has not only a healthful and invigorating climate, but climatic conditions quite equal to those of other countries in the cure of this disease. The great trouble with the public is the lack of climate: too much indoor life in ill-ventilated. over-heated and often infected homes and shops.

Just here it might be well to point out that we import from the United States some \$7,000,000 worth of patent medicines every year. Among these are a large quantity of so-called consumption cures. We

also have concerns doing the same sort of Now, the average business in Canada. consumption cure contains opiates or alcohol in large quantities, and while the former often eases the cough and stills the pain, it only masks the symptoms until too late for proper treatment, while alcohol is no more a cure for consumption than it is for crime. Let the people spend their money for good nourishing food and not waste it upon alcohol and dope. types of quackery are the various electric and pneumatic paraphenalia which are about as useful in curing this disease as the armor of Saul would have been to David in fighting Goliath. The public must learn that the five stones by which they can overcome tuberculosis, this giant among diseases, are good food, sufficient rest, fresh air, cleanliness, and sunshine.

A fourth question now arises, and to many this is most important, the question of money. We must remember that tuberculosis is a very chronic disease, often dragging on for four or five years or more, during which time the patient is often unable to earn anything, and but seldom full pay. It is just here that the public look to the Government for assistance. The Dominion Government under the British North America Act, places the matter of the health of the people (but not of animals) upon the various Provincial authorities. With the exception of the grant to the Canadian Association for the Prevention of Tuberculosis, which has done during the past twelve years a great educational work regarding the prevention of this disease. it has done nothing towards the building or upkeep of institutions for the tuberculous, or for the maintenance of patients therein.

One of the Provinces (Nova Scotia) has erected and runs a small sanatorium. Three of the others (Ontario, Manitoba, and British Columbia), have assisted financially the various sanatoria in their respective Provinces, while two (Alberta and Saskatchewan) have promised aid to local sanatoria if erected. All told, however, the twenty-three institutions throughout Canada have only about one thousand available beds for the tuberculous. Although double the number of some four years ago, these are (needless to say), entirely inadequate.

The general trend of opinion is that local provision must be made, especially for the advanced cases, for it has already been shown that upon our care of these will depend largely our success in preventing the spread of the disease. The plan of the Ontario Government by which local sanatoria are assisted up to one-fifth of their cost is no more than twenty thousand dollars; and a weekly maintenance grant of three dollars for each patient not paying more than seventy cents a day, is being followed in a modified way by two Provinces (Nova Scotia and Alberta.) places the responsibility upon the locality. Up to the present time all these local efforts have been initiated by private philanthropy, followed generally by municipal aid and sometimes by county assistance; this has been supplemented in some Provinces by Provincial aid. These methods are along the right lines, but the initiators are few and far between, and their support insufficient. Here is the great value of education and public opinion for no permanent sanitary improvement of whatever nature, can be brought about without public support. Needless to say, better environment of the people, good housing, proper conditions of labor and rest, pure food and a decent milk supply, will be followed by a steady rise in the health and resistance of the people, but we greatly need more suitable accommodation for the tuberculous, both in hospitals and sanatoria, to properly control the infection, as well as to care for the patients themselves. The general opinion over the Dominion, however, is that the Federal Government should also assist, but if it ever deals with this question, nationally, either by assisting local effort or in any other substantial way, the people must express their desires more vigorously. Let us remember, however, that no Government can legislate this disease away; the medical profession alone can not cope with it; no amount of private philanthropy, however welcome, can provide for it, but what we need is union of all these forces, for "to combat tuberculosis successfully requires the combined action of a wise Government, well trained physicians, and an intelligent people."

ALCOHOL AND TUBERCULOSIS

BY SIG, JUL. JOHANNESSON, B.A., M.D.,

LESLIE, SASK.

"It is almost a torture to live in these days; wherever we go we are bound to meet either a temperance crank or tuberculosis fanatic, or even both combined!"

This was a remark made by a friend of mine lately. There are a great number of people who maintain the idea that tuberculosis is what they term "modern disease," or that it is greatly exaggerated by the doctors of our time; they claim that the statistics are misleading and simply made up by the "tuberculosis fanatics" as they call them.

In order to disprove this it will suffice to refer to a remark made by Hippocrates 2,400 years ago. He says, that consumption is the most difficult disease to treat and the one which proves fatal to the greatest number. This shows how prevalent it was considered to be in those days, and how dreadful. The physician of to-day might change Hippocrates' remark and say that con-

sumption is the most easy disease to treat, but, at the same time, the one that proves fatal to the greatest number. Hippocrates did not know the cure or rational treatment—he had excuses; we do know the means by which to cure, but we do not do it—we have no excuse.

The bacillus tuberculosis is almost unable to exert any harmful influence over normal tissue in normal individuals. It is only when the vital forces of the body have been lowered by some means or another that the bacillus tuberculosis is able to wage a victorious warfare against us. But the causes of lowered vitality are many. It is the lowered vitality that we have to contend with always and everywhere, lowered vitality, not only of the individual—our special patient,—but lowered vitality of the public, our common patient; whose welfare we ought to have at heart; whose health we ought to endeavor to build up

and protect, whose normal vitality we all ought to strengthen by education and information, according to our best knowledge and utmost ability. This lowered or subnormal vitality means invitation to practically every existing pathogenic germ, and, perhaps, most so to the bacillus tuberculosis.

If we all agree on this point, as I hope we will, then we must consequently agree that the only sane method of treatment, the only one from which we can expect good results, is the one that tends to eradicate everything which is likely to lower vitality. And if it can be pointed out or even proven that there is one special factor which lowers vitality more than anything else, at that one we should strike the hardest blows; against that one we should be on guard always and everywhere.

My task in this short paper will be to endeavor to show that alcohol, as it is used, and as it always will be used as long as it is sold for drinking purposes, does more to lower the vitality of the human body, does more to prepare the soil for tuberculosis than any other agency. In the case that I should be looked upon—or rather looked down on—as a temperance crank and tuberculosis fanatic, I would be proud of it.

Since 1882, when Robert Koch discovered the bacillus tuberculosis, there has been a constant warfare against the so-called white plague. Lectures have been delivered, papers have been read, societies organized, conventions held, institutions founded, enormous amounts of money has been granted both from states and individuals, prizes have been awarded, both officially and privately, for the best work done, etc. bacillus tuberculosis has been so accurately described, so often and by so many that even the average layman has a clear picture of it in his mind. All these have done an enormous amount of good, nobody could deny that; but, at the same time, a battle of 30 years might have been carried on with still greater success. The war against tuberculosis nowadays is not carried on with drugs; teaching the public how to live normally in order to preserve vitality is the weapon used by every faithful and intelligent soldier in the antituberculosis campaign. It is, therefore, of great importance to know and realize which

elements are most powerful in the destruction of vitality; the elements which are most likely to convert the tissue of the human body into suitable soil for the bacillus tuberculosis.

The Imperial Board of Health of Germany has said: It is impossible to extirpate all bacilli tuberculosis, therefore it is indispensible to so strengthen and harden the body that the absorbed germs can not take hold upon it. (Med. Record, Dec. 28, 1907).

Dr. Herbert P. H. Galloway, of Winnipeg, says: "Every agency should be employed which will fortify the patient's constitution, augment his general vigor, and increase the resisting power of his tissues." (Western Canada Med. Journal, March, 1909).

I do not pretend to be able to tell this gathering of learned physicians, most of whom are far more experienced than I am, but I do intend to throw a little light on a matter which some of the medical men—I am sorry to say—seem to keep in the background. I will in few words illustrate the effects of alcohol on some of the vital organs of the human body, and show at the same time how, by such influence, it clears the road for the bacillus tuberculosis.

When alcohol enters the stomach it is very quickly absorbed by the veins in the stomach walls to reach every part of the The vasocontractors which govern the muscles in the walls of the blood vessels so as to regulate the amount of blood sent to each part of the body, according to its needs, are partially paralyzed by the poisonous action of the alcohol; the muscles of the blood vessels relax, which means that the vessels dilate and the blood flows through them more easily than it does in normal conditions. In order that the heart may perform its functions adequately it must meet with certain amount of resistance when it pumps the blood through the arteries. Now the vasocontractors paralyzed and the normal resistance consequently abolished. The heart beats faster and does more work than it is intended for, and we have the state of excitement which I need not describe. After a while the heart becomes tired from overwork and sick from the effects of the alcoholic poison acting upon it. It is the same with the

individual organ as it is with the individual person; when a person becomes tired and sick he or she almost gives up work, so with the special organ—the heart in this case-it slows down and has difficulty in forcing the blood through the body: consequently the whole system becomes languid and the individual is in a state of collapse or stupor, partial or com-The patient gets gradually over the spell; the poison is eliminated through the kidneys, the skin, and the lungs, but all this means an extra work-overwork; it means an abnormal-subnormal condition, it means temporarily lowered vitality with permanent effects. The patient partakes of the poison again and the process is repeated, with the same phenomena, same overwork for the system, same subnormal condition and lowered vitality. The coronary arteries as well as other arteries in the body are affected in similar manner as the heart from overwork and poison; they become thickened from overgrowth of connective tissue followed by or associated with fatty degeneration which means subnormal tissue and consequently lowered vitality of the organ; calcarious deposits are formed in the intima, even necrosis and abscesses may occur; the arteries lose their elasticity; the heart has to use an extra force to pump the blood through them; this means again an overwork for the heart, overgrowth of the heart muscles takes place so that it may even weigh three times its normal weight. After the hypertrophy follows fatty degeneration, which means that the elements of the heart muscles are in part converted into elements of lower grade.

These conditions lead to many grave phenomena; the breathing becomes difficult, the digestion is impaired, the bloodpumping station, the heart, and the bloodcarrying channels, the arteries and veins are unable to perform their functions properly; the exchanges of gases do not take place in a proper manner; the life giving oxygen is not taken in sufficiently and the death producing carbon dioxide is not eliminated. We all know what this means. It means lowered vitality of the individual, it means favorable soil for the bacillus tuberculosis, it means an invitation to consumption. Alcohol is one of the truest and closest friends of tuberculosis.

Such are the effects of the alcohol on the heart; now we will see how it affects the lungs.

The air cells of the lungs are largely composed of aqueous albumin; one of the main characteristics of alcohol is its great water absorbing power: consequently it absorbs the water from the lung tissue: this fact as well as the poisonous action of the alcohol causes a weakened condition of the organ. The main function of the lungs -the exchanges of gases—is interfered with; the blood is not provided with the required amount of oxygen, and being over loaded with carbon dioxide, is not a normal one; has not the life-protecting power which it is intended to have. This neans lowered vitality, suitable soil for bacillus tuberculosis, which we will inhale occasionally more or less.

The great authority on tuberculosis, Dr. Kroph, of New York, says: By favorable soil for growth of the bacillus must be understood any condition in which the body is temporarily or permanently enfeebled; such a condition may be inherited from parents or acquired through alco-

holism or drunkenness."

It was stated above that the muscles of the heart were deprived of their normal working capacity through degeneration caused by overwork and alcoholic poison; the same is true regarding the muscles of other organs in the human body. The diaphragm and the intercostal muscles may be-and very often are-involved. fact in addition to the impaired action of the lungs themselves is the cause of diminished force of breathing; and when we realize that full breathing is one of the main factors in the treatment and prevention of tuberculosis, then it is readily understood that the above described condition lowers the vitality, invites tubercul-

It is also a well known fact that those who partake of alcohol are not only specially predisposed to pneumonia, but with them it is generally very grave. And why so? Because the tissues of the lungs are not normal; they are subnormal; they are diseased from the alcoholic poison; they are lowered in vitality, they are suitable soil for germs of any kind.

Half of all the ailments we are called upon to treat are in some way or another manifestations of a diseased stomach. When the stomach does not functuate normally, the general health is in danger; it is therefore of great importance to keep that organ in as good health as possible. But how does alcohol affect it? To start with it absorbs the water from the mucous membranes; this again leads to the fact that the organ is impaired in its normal secreting power, and the gastric juice is changed both in quantity and quality.

Dr. Henry Monroe, of England, amongst others has proven this beyond shadow of doubt. He placed some fine minced beef in three bottles; to the bottle No. 1 he added water and gastric juice; to bottle No. 2 he added ale and gastric juice, and to the bottle No. 3 alcohol and gastric juice. He exposed all three bottles to the temperature of normal stomach. The beef in bottle one immediately started to change, and was perfectly digested in due time, but the beef in bottles 2 and 3 where the gastric juice was in presence of ale and alcohol did not digest at all.

As a result of discussion that took place in the National Medical University of Chicago, 1906, where some one questioned the reliability of Dr. Monroe's report, I myself, and Dr. Abdouh, of Cairo, who was a student in the same school at that time, made the same experiments with the same results. Both these experiments and many others of similar nature have proven that normal digestion is impaired by the use of alcohol. Take any book on practise of medicine by any reliable authority, as Osler, and you will find they all agree that alcohol is one of the main factors in the etiology of acute gastritis and other gastric disorders. And when sider the fact that one of the essential things in treating tuberculosis as well as preventing it is to keep the digestion in normal condition, so as to be able to maintain the nourishment of the body, it is easily understood how often the use of alcohol is a predisposing factor to tuberculosis through the impairment of the digestive power; also in that manner alcohol is a very faithful servant of the bacillus tuberculosis, fighting the individual and lowering his vitality.

Bearing also in mind to what an extent normal digestion depends upon healthy condition of the liver and kidneys, and at the same time considering the effect that alcohol has on these organs, we may judge how effectively alcohol clears the road for the bacillus tuberculosis through these channels.

Whenever a physician has discovered that his patient has cirrhosis of the liver, he knows that he has a serious case on hand, he knows that one of the complications he may expect is tuberculosis, and he knows also that the most common cause of this disease is alcohol. When the alcohol enters the system one of the first organs it enters is the liver, this organ being supplied with large and numerous blood vessels holds an enormous amount of blood: the alcohol acts there as everywhere else. It paralyzes the vasoconstrictors, the blood vessels dilate, the liver becomes hyperanamic or congested with blood. This process being repeated over and over, and the lining of the blood vessels being poisoned by the alcohol at the same time, inflammation sets in, the organ is diseased, its functions-elimination and bilemakingare impaired, from long continued diseased condition and overwork, the vital elements of the organ are degenerated; it is the same story as in the case of the Every physician knows this, nobody will deny that cirrhosis of the liver is very often caused by alcohol, directly or indirectly, and nobody will deny that cirrhosis is a great predisposing factor to tuberculosis.

I could take every vital organ of the body and show the same effect of alcohol upon them, but the time does not allow me to do so, and this will be sufficient.

Somebody might say that these things that I have described only take place when the individual is an excessive drinker; this may be true in part, but it has been proven that even very moderate use of alcohol produces the condition that I have been describing. In order to show that this is not only my personal view, but at the same time a scientifically established fact, I take the liberty to eite authorities.

The famous Italian alienist Professor Paolo Arnoldi, a physician and scientist of international reputation says: "In the true and precise sense of the word no dose of alcohol is harmless; in fact a harmless glass is a term without scientific justification. The most minute quantity diminishes the systems power of resistance; as a physi-

cian and not only in my work as an alienist my greatest successes have been due to the prohibition of alcohol. The so-called harmless glass weakens the power of resistance, increases diseases of all kinds, makes the bed for all forms of tuberculosis.

Dr. Torchheimer says in his prophylaxis and treatment of internal diseases, 1905: "Alcohol which forms a decided predisposition to tuberculosis ought to be combated."

Dr. T. D. Crothers says in International Clinics, Vol. II., 1907: "The socalled moderate and steady drinker is literally the most degenerate and seriously diseased of all inebriates. Sensory measurements of the sight, hearing, taste, smell and touch before and after the use of spirits show that alcohol always depresses and lowers their acuteness. Experiments with its influence on muscular power show the same. The heart that beats 10-15 beats more the first few minutes after alcohol is taken, drops down as much below normal as it was above. Laboratory researches with instruments of precision show that small doses (not ½ oz.) of alcohol taken in any form depresses the senses and lowers the mental activity. These facts are absolute and beyond contradiction. Clinical studies confirm these facts in the lowered vitality. Hospital records show that moderate drinkers are more devitalized than others; they have feebler powers of resistance to microbic invasion and acute diseases. In the progress of all diseases the history of having previously used alcohol increases the gravity, and possible mortality. Operations on such persons are less successful and more often fatal. facts are sustained by other studies showing the arrangements in the circulation of the blood in the brain with defective nutrition and deficient oxydization."

Wm. Osler says: "Those who use alcohol are much more subject to pulmonary tuberculosis, it is probably a question of altered tissue soil, alcohol lowering the vitality and enabling the Bacilli Tuberculosis to develop and grow."

Dr. John W. Wainwright, of New York, says in the International Clinic, Vol. III., 1906: "Indirectly the fact is patent that alcoholism is a frightful cause of consumption by lowering the vitality of its victims."

Dr. Helme, who enquired of 700 prominent physicians as to alcoholism and tuberculosis obtained answers from 552 to the effect that the battle against alcoholism ought to be considered the base of all serious effort against tuberculosis."

Dr. Huchard says: "The question of casual relation of alcoholism and tuber-culosis is of great urgency."

Dr. Bartillen says: "Alcohol and plthysis are brother and sister. Alcohol appears to be the most deadly cause of the weakening of the organism in preparation for tuberculosis. It is the master cause, all other causes disappear in comparison."

All these statements support me in my opinion that alcohol is one of the most active causes of tuberculosis; they are all by men of authority and practically all by physicians.

Some one might say that the changes produced in living tissues which I have been describing are also caused by many other agencies besides alcohol; that is perfectly true, but that does not contradict my statements in the least, neither does it

deprive them of their importance.

We have already considered the chemical and physiological action of alcohol in its direct influence upon the individual himself, but there are other sides as well that might be considered. It is easy to kill without shooting or hanging; a person may be killed gradually by indirect means, and those are the means by which alcohol shows its greatest power of destruction. It is the sociological aspect of the question that we ought to consider because after all our main calling as physicians is not to cure disease after it has taken hold on the unfortunate victim, but rather to prevent disease. I must say that too many medical men are too far away from the public and know too little about the conditions of their patients. A physician may be endowed with the highest intellect possible, he may claim for his Alma Mater the grandest and greatest institution existing; he may know countless numbers of chemical formulas; he may remember origin and termination of every muscle, nerve and blood vessel in the human body; he may remember every old and new theory of disease; he may know shape and characteristics of every germ he ever read about, in short he may be perfectly posted in all the

different branches that belong to medical and surgical science in the narrow and usual meaning of that term; he may have obtained the highest marks possible at his examination—yes, he may have all these and still fall short of the standard that ought to be required of anyone who desires to enjoy the privilege of affixing M.D. to his name. A true physician must above all be a student of sociology in a broadminded way. I do not intend to go deeply into the sociological aspect of alcohol; only touch on a few of the most essential points. We sit down and figure that so many lives are lost annually in Canada through tuberculosis; we also figure how much the average human life is worth per annum; by this means we can prove that an enormous sum of money is lost that way. We all agree that much could be done with this money if we were able to save the lives in question; but we do not realize that according to good authorities and reliable statistics at least 50 per cent. of all these lives would be saved if the sale of alcohol as beverage were not allowed. Just think of it, half of all that could be and would be saved if we were wise enough not to take one of the most dangerous poisons out of the poison list and allow anyone to sell it, almost to anyone, almost in any quantity. In Canada we spend about \$60,000,000 annually in poison for drinking purposes; just think that the civilized Canadians should drink \$60,-000,000 worth of poison every year. England they drink \$840,000,000 worth of the same kind of poison. It seems to me that we are bordering on economical and political insanity as long as we let this go on. Why in the name of heaven should not the poison that we call alcohol be on the same list as arsenic and strychnine and opium, etc.? We all acknowledge its therapeutic value, just like the value of other poisons, but only as a drug. The doctor and nobody else is supposed to prescribe poisons; they are to know when they are indicated and in what quantity; never should any poison be sold for internal use without a prescription from qualified and sober physicians. Some one might contend that alcohol moderately taken was not harmful to healthy individuals. It may be partially true; it is not completely true. It has been pointed out above with good authority that even a small dose taken as a

drink is harmful. But let us concede that a very moderate use of alcohol did not hurt a healthy individual; we could even say just the same about the bacillus tuberculosis. It is proven that a very moderate, yes, even considerable quantity or number of the bacillus tuberculosis inhaled by a perfectly normal person does not apparently cause any trouble, still I do not think that any medical man will advise anyone to inhale them in any quantity at all if it can be prevented.

Dr. Wilhite, superintendent of Dunning, in Chicago, said in a lecture a few years ago that out of one thousand insane persons in that institution, 600 males and 400 females, 10½ per cent. of the men and 5 per cent. of the women became insane through alcohol; out of one thousand paupers, 800 men and 200 women, and 95 per cent. of the men, and 59 per cent. of the women became insane through alcohol.

Dr. C. K. Millard, Medical Officer of Health for Leicester, (Eng.), said in 1902: "Speaking as a Medical Officer of Health I can safely say that if I were given the choice of the abolition on the one hand of the evil of drink, and on the other of all the various preventible influences adversely affecting the public health on which medical officers are at present concentrating their efforts, I would choose unhesitatingly the abolition of drink as being greater by far than all the others combined."

We all know this, we all know that alcohol is poison; we all know that the only sane method would be never to sell it except when prescribed by a qualified physician; we know that by causing poverty. creating uncleanliness, exposing men and women to all kinds of strain and overwork mentally and physically, it is the great factor in causing tuberculosis; we know that we spend for it millions of dollars every year, which might be used for improving the social and financial condition in this country of ours; we know also that it is our sacred duty to direct the public and instruct in every possible way. Why do we not in the first place set the example by never touching alcohol for any purpose except a medicinal one, and in the second place so influence legislatures that we get laws that help us in our fight against tuberculosis and other diseases.

= Editorial =

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

POLLUTION OF THE GREAT LAKES

The international joint commission meeting at Ottawa, Canada, October 1, formulates a programme for the investigation of the pollution of the Great Lakes and other boundary waters between the United States and Canada. This question, in the opinion of officials of the two governments, has become the most pressing of all problems affecting the welfare of the people of the two countries.

Under instructions issued by the United States and Canada, the international joint commission will investigate to what extent and by what causes and in what localities the boundary waters have been so polluted as to be injurious to the public health and unfit for domestic or other uses, and in what manner it is possible to prevent the pollution of the waters.

Under article IV. of the Water Ways Treaty of January 11, 1909, between the United States and this country, the two nations agree that the boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.

The investigation which the commission undertakes necessarily will be a formidable one, the health of between 5,000,000 and 10,000,000 people being at stake. Under a new law the United States Public Health and Marine Hospital Service has been authorized to investigate the diseases of man, their cause and mode of diffusion, involving the supervision of navigable waters which are under the jurisdiction of the Federal Government in order to protect against pollution by sewage and other contaminating conditions.

Under this law the Public Health Service has prosecuted an investigation along the Great Lakes, and much of its work will be of great value to the international joint commission.

From the viewpoint of government officials of the United States and Canada, the importance of preventing the pollution of the international boundary waters and the navigable streams over which the Federal

Governments have jurisdiction is emphasized by a report recently made by Dr. Allan J. McLaughlin on sewage pollution with special reference to the spread of typhoid fever.

This report shows that in northern Europe thirty-three principal cities, with an aggregate population of 31,500,000, had an average typhoid death rate of 6.5 per 100,000 in the years 1909 and 1910, while fifty registration cities in the United States with a combined population of 20,000,000 had a typhoid death rate of 25.0 per 100,000.

"A conservative estimate for the year 1910," says Dr. McLaughlin, "will place the deaths from typhoid fever above 25,000 in the United-States.

Dr. McLaughlin makes a more startling comparison: "For the whole United States the number of cases for each year preventable by means within our grasp would probably reach 175,000, and the deaths so avoided would total 16,500," he says. "In 1909 there were more cases of typhoid fever in the United States than cases of plague in India, in spite of the fact that India's population is two and one-half times that of the United States.

"From January, 1907, to October, 1911, there occurred in Russia 283,684 cases of Asiatic cholera. This included the appalling epidemic of 1910. According to a conservative estimate there occurred in the United States during the same period 1,250,000 cases of typhoid fever, or more than four cases of typhoid fever in the United States for every case of cholera in Russia.

"We heard a great deal of the ravages of cholera in Italy in 1910-11, yet in those two years there occurred in Italy about 16,000 cases of cholera and about 6,000 deaths, and in the United States in the same period we had more than half a million cases of typhoid fever and 50,000 deaths.

"We are accustomed to speak of those countries as pest-ridden, and a residence there, or even a brief visit, is considered with apprehension. But do we consider the prevalence of typhoid fever in our own country with sufficient seriousness?

"The government has issued orders under which soldiers, sailors and marines sent to Cuba, Mexico, Nicaragua or the Philippines, are vaccinated to prevent typhoid, but while we are taking all precautions to protect our army and navy from typhoid fever when they go away from home, statistics show that we have worse typhoid conditions, more typhoid cases and more deaths from the disease than any other civilized country.'

The boundary waters between the United States and Canada extend more than 2,000 miles, and on the United States side of that boundary there are more than 5,000,000 people living in cities with a population of 25,000 and upward, while there are also many growing cities on the Canadian side of the water line which promise to develop into considerable centres of population. These cities on both sides take their water supply from the boundary waters and also utilize the same waters for the disposal of their sewage.

The seriousness of the present situation is illustrated by the condition at Niagara Falls. That city has the greatest recorded typhoid death rate in the world, and with its hundreds of thousands of visitors every year typhoid germs are said to be distributed from that city to every country under

the sun.

The cities of Niagar Falls, with a combined population of over 80,000, situated at what government officials term the outlet of the great international sewer which car-

ries the sewage of millions of people living on both sides of Lakes Erie, Huron, Michigan and Superior.

In 1907 the City of Niagara Falls, N.Y., had a typhoid death rate of 222.4 per 100,-000 population, and the average for the last ten years is 130. This is the heaviest typhoid death toll recorded anywhere in the civilized world, and does not include the death rate among visitors who contract the disease there.

The annual average death rate from typhoid in 1905 was: Austria, 17.8; Belgium. 13.7; German Empire, 6.3; Norway, 3.8; Sweden, 9.8; Switzerland, 5; England and Wales, 8.9; Scotland, 8; United States, 28.1. The typhoid death rate of the United States increased to 32.1 in 1906 and to 30.3 in 1907.

The typhoid death rate in cities of the world per 100,000, in 1908 was: London. 5; Edinburgh, 2; Paris, 8; Rotterdam, 5; Copenhagen, 7; Stockholm, 1; Christiana. 2; Berlin, 4; Vienna, 4; St. Paul, 12; New York, 12.3; Cleveland, 12.6; Chicago, 15.3: St. Louis, 15.3; Syracuse, 15.4; and Providence, R.I., 16.9.

Along the south boundary the death rate was: Oswega, 49.8; Ogdensburg, 48.5; North Tonawanda, 34.1: Tonawanda, 31.5: Rome, 21.7, and Buffalo, 27. Niagara Falls' average typhoid death rate for the ten years from 1898 to 1909 was 129.1. typhoid death rate of Niagara Falls in 1906 was 184.4 and in 1907 222.4.

Chemical analysis has demonstrated, according to government officials, that there are no purer or more healthful waters on the continent than those of the great lakes in their natural state.

INTER ALIA

In 1864 the late Miss Octavia Hill, who died in London recently at the age of 74. began what was a new development of the general idea of housing reform. Aided by John Ruskin, who loaned her \$15,000 for the purpose, Miss Hill gradually acquired a number of insanitary, filthy and otherwise undesirable tenements and began putting them in a state of cleanliness and repair, charging moderate rent, but insisting on absolute punctuality in payment and co-operation on the part of tenants in keeping the tenements clean and wholesome.

She demonstrated what could be done by a landlord who established right relations with tenants and who co-operated with them in making dwellings suitable places in which to live.

We believe the time has now arrived when such operations on this continent as well as in London and other English cities and in the rest of Europe must be supplemented by foresight in regard to preventive action.

Library and Laboratory

CURRENT PERIODICAL COMMENT AND WORKING NOTES

State Boards of Health.

Much as a strong federal bureau of health is required, says Dr. Rupert Blue, surgeon-general of the United States public health service, in a recent number of The Journal of the American Medical Association, the great problem lies in the improvement of the state and local health agencies, in the extension of their powers and the increase of their appropriations. The key to the solution of the problem lies in education, the simultaneous education of both the leaders and the led. The great universities are now providing for the training of competent health officers, and various public-spirited medical bodies are acting in co-operation with the sanitary authorities as teachers of the adult public. No law can be effectively enforced which is not in accord with public sentiment. has been conclusively demonstrated in recent years in the various campaigns for the suppression of epidemic disease in this country. The common schools now teach elementary hygiene; the colleges supplement this earlier instruction with more advanced obligatory courses, and these labors will carry us a long way toward the sanitary ideal. The reaping of this harvest is an affair of the future; the immediate and crying need is the enlargement of the scope of the state boards of health. Many of these are already doing work of a high standard of excellence, but in some states they are merely skeleton organizations with little power and small appropriations for the task which confronts them. Next to highly trained officials, the most important thing in a state health organization is an efficient laboratory. Laboratories cost The guardianship of the public money. health is an obligation of such great importance that the personnel of the sanitary department should be the most highly competent men available and they should be paid accordingly. There has been in the past a policy of parsimony in this regard-in fact, in all health appropriation matters-which has seriously impeded sanitary progress.

This is most short-sighted. Every dollar spent on health boards should be regarded as an investment and not an expense, and be it said to the credit of these boards that they are run with a smaller wastage of funds than any other institution of the government.

A Supposed Cause for Arterio Sclerosis.

If one would escape arterio sclerosis, that hardening of the arteries which so often proves fatal, one should carry a cheerful smile, and, above all, avoid worry. In an article in the current number of the Medical Record Dr. Herbert C. Clapp, of Boston, declares that constant worry has as much to do with weakening the walls of the arteries as the various causes heretofore assigned to this disease. Overeating and overindulgence in alcoholic stimulants always have been regarded among the chief causes of arterio sclerosis, but Dr. Clapp says it is manifestly unfair to assume that any victim of the disease positively owes it to either of these causes.

Dr. Clapp calls attention to the fact that the blood vessels are the one division of the body that has no rest, that the blood flows through the arteries at a rate of ten feet a second, and that the walls are subjected to a distending pressure of 2 1-5 pounds to the square inch from 60,000 to 80,000 times during the twenty-four hours. This pressure has an enormous wearing effect, and the weakening of any portion of the artery is quickly taken advantage of.

"Overeating is liable to produce these unpleasant results," he says. "Ten times more will it do so if the subject is given to worry. Constant worry takes a powerful hold on the nervous system. Nothing is more effective in inducing neurasthenia."

Dr. Clapp cites the case of Henry Clay Barnabee, the light opera singer, as a man who often worried, but concealed it, and concludes:—

"If we find anybody worrying unduly what shall we do about it? Simply tell him not to do so? This will do about as

571

much good as Mrs. Partington's arresting The proper the ocean tide with a mop. management of such cases is sometimes more difficult even than the task of installing worry as a cause, and needs separate and special consideration. Worry is exceedingly foolish from many standpoints and is often indulged in without an adequate basis. Physicians are said to worry more about their prospects of having arterio sclerosis than other people."

A Rap at Old Style Physicians.

Dr. W. A. Evans, formerly Chicago health commissioner, addressed the recent annual Congress of the Canadian Public Health Association in Toronto on the value of a health department to a municipality. Amongst other things he said that it took an epidemic to force a municipality to value its health department. If, Dr. Evans meant, says the Ottawa Citizen, that an epidemic sometimes shows how valueless public health departments are in the hands of general medical practitioners instead of sanitary engineers, a large proportion of the people of Ottawa are likely to agree with him. As long as the municipalities of Ontario continue to appoint medical doctors as their public health officers, just so long will the service be inadequate. Medical doctors are trained to treat individual sickness-and, of course, vaccinate healthy people. A public health officer should be a sanitary engineer, whose function it is to prevent disease by eradicating its cause. An ordinary medical doctor as such is little more capable of doing this preventative work than a lawyer. This was made abundantly clear at the same meeting by Dr. Charles Hodgetts, medical adviser of the Conservation Commission and ex-president of the Canadian Public Health Association. Referring to the Ontario College of Physicians and Surgeons, the medical hierarchy of Ontario, which dominates the provincial health department, Dr. Hodgetts said on Monday:

"In the popular mind every physician is a sanatarian. The sooner the public becomes educated to the fact that curative medicine and preventative medicine or hygiene are not the same, the better for the progress of the public health. It might as well be clearly understood that so far as the licensing body of the Province of On-

tario is concerned, the College of Physicians and Surgeons, that august body, does not deem it essential that a student at his final examination be required to show any evidence of a knowledge of hygiene which to-day is the most important branch of medicine. It is difficult to understand the devious ways of this peculiar body. From their action, however, it is clearly evident that they have not risen to a realization of the fact that the primary object of the practice of medicine is to prevent disease rather than cure sickness."

This frank statement, which should have been made long since by some public spirited physician, is no less courageous than valuable. It shows that Dr. Hodgetts has a broad conception of his duty as a public official which no professional loyalty can warp. If Dr. Hodgetts would now devote some of his indomitable energy towards reorganizing the provincial and municipal health departments, putting them on a sanitary instead of a medical basis, he would do a work of incalculable value to the community.

Privv

The German medical world is taking the liveliest interest in the "Right to Die" discussion which is proceeding in America. Doctor Councillor Professor

Schwalbe, the distinguished editor of the Deutsche Medizinische Wochenschrift, the foremost medical journal in the Fatherland, has had the courtesy to furnish the following special presentation of the Ger-

The Right to Die.

man view of legalized euthanasia:

"The doctor is neither ethically, professionally, nor criminally entitled to kill a patient at the latter's wish. The duty of medical science is to heal, or, where it cannot achieve this, to improve or ameliorate. Any other function is a direct misuse of the knowledge and skill of the profession.

"One may argue that many doctors do. as a matter of fact, deliberately shorten the life of a dying patient by injecting mor-This practice, it will be pointed out, is so customary that it has been given the technical name of 'euthanasia' and is recommended in medical text-books. But this practice does not really denote 'killing' in the generally accepted sense of the term, because only doses are administered which induce sleep. No conscientious physician administers morphine under these circumstances unless he is absolutely convinced that the patient is already in his

death-agony.

"Who, however, can say with certainty what patient is incurable? Even the most famous doctors can tell of patients who were given up for lost and who nevertheless either became well or lived a long time. There are repeated cases on record where eminent physicians have diagnosed cancer of the stomach, only to have it discovered later that all tangible evidence of cancerous growths had disappeared and complete health had returned. This alone surely shows that many patients would be killed by the doctor on the ground of incurableness who would have been cured by a cleverer, or luckier, physician.

"In this connection it ought to be pointed out that a universal authority to kill an incurable patient at his wish would be criminally exploited by unscrupulous physi-According to the German Penal Code, the doctor who kills a patient on the latter's request is punishable. A doctor would be judged like anybody else who violates Paragraph 216 of the Code, which says: 'If anybody is induced to kill another person on his emphatic and earnest demand the former shall be sentenced to not less than three years' imprisonment.' The newly proposed penal code provides for a minimum punishment of only six months."

Rest and Recreation.

Rest and recreation, writes Dr. J. A. Husick, for the Press Publishing Co., are states and conditions very healthful to body and mind. By "rest" is understood a complete relaxation from mental and physical activity. Recreation implies a diversion from the usual occupation in which a person may be engaged during the whole day to some form of amusement or some favorite pastime as a hobby.

Both rest and recreation are necessarily relative terms and differ from different individuals. What is rest and recreation for

one may be hard work for another.

A laborer, or farmer, for example, who does hard work, outdoor muscular work the whole day long, and who is very apt to be fatigued during the evening, does not need to engage in a game of tennis or baseball in order to strengthen his muscles or to get some fresh air and oxygen into his lungs. He has had a sufficiency of both during his hours of labor. For him rest and recreation must take a very different form. A comfortable chair or hammock and a newspaper to read, or some form of sedentary game will be the ideal recreation.

On the other hand, the person who has been engaged in a city office the whole day, and whose occupation is sedentary, one in which the mind chiefly is occupied, while the muscles get no exercise at all, such a person needs outdoor, muscular exercise. Therefore, golf, tennis, baseball are appropriate recreational activities for him.

A certain amount of rest or absolute relaxation is necessary for everyone, and all should seek to enjoy it. That, too, apart from the most perfect form of rest which is enjoyed by all during the hours of sleep. During complete relaxation the organs of digestion are enabled to perform their respective functions in a most efficient manner. That is the reason why it is advisable to take a little rest directly after a meal. Other organs, too, and particularly the heart, get their chance of decreasing the amount of work which they are constantly called upon to perform.

Recreation may often take the form of an avocation or hobby, provided the latter is suitable and not too exacting. Any hobby is of particular value if it serves to take

one out of doors.

Roaming through the parks of a city, with the object of observing the numerous plants, birds and flowers growing and living there, or pursuing the same pastime whenever chance may offer on the outskirts of a city, in the neighboring fields and woods, will not only result in great benefit to one's health, but will also add immensely to one's pleasure in life, and at the same time give him a store of knowledge acquired in the easiest and most pleasant way.

Under whatsoever form one may wish to choose it, a person should seek to enjoy both rest and recreation in due measure if he would be strong in body and mind and

prolong his life.

Disinfection in Foot and Mouth Disease.

In a recent issue of the London Lancet there is a letter from a correspondent who signs himself "Countryman," dealing with disinfection in connection with cattle plague. "One would have thought," he writes, "that the permanent officials of the Board of Agriculture knew by now that there were more useful disinfectants than soft soap and carbolic acid. The country has suffered great financial loss by the outbreak of foot-and-mouth disease, and the subsequent restrictions placed upon the movement and export of cattle; vet I see from parliamentary reports that the Board of Agriculture are 'taking all precautions' to prevent the spread of the plague by the use of soft soap and carbolic acid. powerful coal-tar preparations which have been shown to be so far more effective, have almost entirely superseded carbolic acid, and in a time of national peril and financial loss I should have thought that a Government Department would seek the advice of bacteriologists as to disinfectants which showed forty times the efficiency of carbolic acid (pure phenol) against B. pestis, 221/2 times by the Rideal-Walker method against B. typhosus; and surely at a crisis like the present, when so deadly and difficult an infection has occurred in England as to practically upset the whole of the cattle and meat trade, it behooves a department whose principal business is the study of the well-being of such industries to seek the most efficient methods and weapons for fighting the scourge."

If "Countryman's" information had been correct he would have been fully justified in his protest. But, as a matter of fact, the advice issued by the Board of Agriculture runs as follows:--"Any premises or thing required to be disinfected shall be thoroughly coated or washed with: (a) A 1 per cent. (minimum) solution of chloride of lime containing not less than 30 per cent. of available chlorine; or (b) a 5 per cent. (minimum) solution of carbolic acid, containing not less than 95 per cent. of actual carbolic acid, followed by a thorough springling with lime wash; or (e) a disinfectant equal in disinfective efficiency to the above mentioned solution of carbolic acid, followed by a thorough sprinkling with limewash."

Enlightened stock owners have very little to learn regarding the value of powerful coal-tar preparations; for instance, we are informed that large quantities of these well-known disinfectants have been, and are being, used during the present outbreak of foot-and-mouth disease. In this

connection we commend to our readers a small book entitled "Cattle Diseases: Rinderpest, Foot-and-Mouth Disease, Anthrax,' lately published by Messrs. Newton, Chambers and Co., Thorncliffe, near Sheffield. The author, Mr. M. Wynter Blyth, B.A., B.Sc., records a number of experiments which show that for disinfecting hides and skins against the virus of rinderpest and foot-and-mouth disease, for disinfecting the floors and walls of ships' holds, cattle trucks, cattle pens, the stone or wood floors of markets, stables and buildings, foot-andagainst anthrax, rinderpest, mouth disease, and all pathogenic organisms, the coal tar disinfectants have been found to be safe, convenient and certain. This booklet should make a wide appeal to agriculturalists and Health Authorities at the present time, and no doubt the publishers would be pleased to send a copy to any of our readers on receipt of a postcard stating name and address of applicant.

Specialism in General and Genito-Urinary Surgery in Particular.

The ever-increasing growth of specialism in medicine is undoubtedly regarded with suspicion and distrust by a large part of the profession, says the London Lancet, and it is certainly incumbent on the devotees of every new specialty to establish clearly the justice of its claim to that name. One of the specialties to which exception has been strongly taken in many quarters is that of urology or genito-urinary surgery. Dr. Hugh Cabot, of Boston, devoted his presidential address at the tenth annual meeting of the American Urological Association to answering in the affirmative the question, "Is urology entitled to be regarded as a specialty?" Dr. Cabot first defines a specialty in medicine as "a portion or sub-division of the field of medicine devoted to the study of the diseases of an organ, group of organs, or group of conditions, the proper treatment of which requires knowledge and skill so much out of the ordinary as to be beyond the reach of the general practitioner." In the case of urology, as in that of gynæcology and laryngology, its claim to be regarded as a specialty began with the development of intricate and difficult methods of diagnosis and treatment. Dr. Cabot accepts the burden of showing that under the care of

the average general surgeon cases of genitourinary disease are not so well handled as the average of surgical cases; that important errors in diagnosis or mistakes in treatment occur with unusual frequency; and that the patient does not receive such sound advice or such efficient treatment as he would at the hands of specialists. thesis he endeavors to sustain by reviewing the development of our knowledge in relation to diseases of the prostate, stone in the bladder and diseases of the kidney. With regard to the first, he maintains that under the combined efforts of a few genito-urinary surgeons, from being a condition in which surgical treatment was unsatisfactory and operative mortality so high as to be almost prohibitive, the diagnosis of prostatic conditions has been rendered accurate, the indications for operation have been made clear, and the technique of prostatectomy, both suprapubic and perineal, has been perfected. While the operative mortality among specialists is below 6 per cent., he points out, the operative mortality among general surgeons is still about 15 per cent., and their results in the other directions do not compare favorably with those of the specialist. As to stone in the bladder, he holds that litholapaxy is on all counts the operation of election, yet suprapubic lithotomy still holds the field among general surgeons. In reference to diseases of the kidney, owing to the scepticism of the average general surgeon in regard to cystoscopic investigation of the kidney, nephrectomy is often done in the presence of two bad kidneys. The general surgeon, he insists, frequently overlooks tuberculous kidney, and multiple operations are performed for irritable bladder when special examination would have disclosed the renal disease. In like manner the appendix or some pelvic viscus is treated for trouble really arising from stone in the kidney or ureter. Surely in important scientific centres such errors are not common. Dr. Cabot ascribes their immunity from default to the fact that "the chief has the benefit of the work of a younger assistant who devotes his time to investigation of patients supposed to have urinary lesions and supplies the necessary This, he contends, is but the substitution of one form of specialism for another. He admits, also, that there is room for sound difference of opinion among unprejudiced observers as to whether these

cases can be best dealt with by the urologist or under an organization consisting of a chief and various "satellitic specialists." But in addition to the interests of the patient the question of the advancement of science enters into the argument. is nothing, says Dr. Cabot, in the experience of the past which warrants the belief that the general surgeon, or even the operative specialist, will pursue to advantage the problems that arise in the development of systems or individuals best equipped to follow the devious border line of advance. The important discoveries, he says, in this field in the last 20 years have come from those who devoted the chief portion of their time to special work. The moral of all this argument, however, appears to be that because any particular branch of medicine or surgery requires acquaintance with particular methods and conditions, and dexterity with special apparatus which are not found with the average surgeon, that does not justify any medical man who has spent a certain time in that special study considering himself a specialist. The whole is greater than any part or combination of parts, and a devotion to special studies and methods should only be superimposed on a good general practical training, and not be undertaken from the outset of the surgeon's career. From a good general surgeon, by concentration of attention and effort in a limited field, a competent specialist may be evolved. Any other way spells disaster.

Reference Guide to Other Journals.

American Journal of Nursing (Vol. XII, No. 12)-"Food for Nurses," by Elizabeth Robinson Scovil; "A General Presentation of the Statutory Requirement of the Different States," by Annie W. Goodrich; "A Word to the Unlucky Nurse," by Josephine Hill.

American Journal of Public Health (vol. II. No. 9)-"A Quantitative Study of the Bacteria in City Dust with Special Reference to Intestinal and Buccal Forms," by C. E. A. Winslow and I. J. Kligler; "The Successful Efforts of a Small City to Secure a Milk Supply from Tuberculin Tested Cows," by C. H. Wells; "The Use of Fish as a Sanitary Measure to Eliminate Mosquitoes," by Marion McMillan.

American Medical Association, Journal of (Vol. LIX, No. 10)-"Scientific Employment of Physical Therapeutics," by Philip Marvel; "Industrial Lead-Poisoning in the Light of Recent Studies," by Alice Hamilton; "Epidemic Poliomyelitis in Norway. Its Etiology and the Possibilities of its Proposition." bilities of its Prevention," by Francis Harbitz;

"Medical Sociology in Civic Betterment," by Otto P. Geier. (Vol LIX, No. 11)-"The Current Problems of Pharmacology and Therapeutics," by Torald Sollmann; "Present Status o the Laws Relating to Patents and Trade Marks," by M. I. Wilbert. (Vol. LIX, No. 12)—"How May the Science of Therapeutics be Advanced?" by Joseph L. Miller; "Bacillary Dysentery. A Contribution to the Study of the Epidemiology," by C. J. Hunt; "The Eradication of the Social Diseases in Large Cities," by Robert N. Wilson. (Vol. Cities," by Robert N. Wilson. (Vol. LIX, No. 13)—"Desirability of a More Restricted Materia Medica from the Standpoint of the Pharmacist,'' by Henry P. Hynson; "The Desirability of a More Restricted Materia Medica from the Point of View of Medical Instruction," by Egbert LeFevre; "The Drugs We Need," by Oliver T. Osborne.

Busy Man's Canada (Vol. III, No. 2)—"Coal Stripping in Alberta," by D. B. Downing.

Canadian Engineer (Vol. XXIII, No. 10)-"Some Notes on Oakville Viaduct and the Dyna. miting of the Condemned Arch Ribs, August 12th, 1912," by C. H. Cunningham; "The Treatment of Water With Chlorine," by Joseph Race; "Methods of Road Construction and the Problem of Dust Suppression," by Frank B. Earl; "The Attitude of the Railways Towards Forest Fires," by E. A. Sterling; (Vol. XXIII, No. 14)—"The Awakening of Canadian Irrigationists," by Norman S. Rankin; (Vol. XXIII, No. 12)—"A Complete Sewage Disposal Plant for a Public Institution, '' by T. Lowes; (Vol. XXIII, No. 13)—"The Purification of Water from Standpoints Other Than the Hygienic Aspect," by George W. Fuller.

Canadian Medical Association, Journal of (Vol.

II, No. 9)-"Address in Surgery," by Arthur Giles; "President's Address at the Annual Meet-

ing of the Association," by H. Goodsir Mackid.

Canadian Practioner and Review (Vol. XXXII,
No. 9—"A Medical Commission," by John Hunter.

Clinical Medicine, American Journal of (Vol. XIX, No. 9)—"The Physician and His Attitude Toward Religious and Ethical Questions," by E. S. Goodhue; "Psychotherapy and Its Problems," by W. H. Baldwin.

Critic and Guide (Vol. XV, No. 9)-"Sex Morality," by Horace Traubel; "Vasectomy and Salpingectomy," by Edwin F. Bowere; "The Medical Knockers" Club," by Irving D. Stein-

Dental Summary (Vol. XXXII, No. 9)-"The Responsibility of the Dentist to the Child, ' by W. R. Alvord; "Tuberculosis and its Relation to Dentistry," by L. W. Howe; "The Relation of Oral Hygiene Movement to the Municipality-The Relation of the Anti-Tuberculosis Movement to the Dental Profession," by Samuel Iglauer; "Relation of Education to the Dental Movement," by F. B. Dyer.

Dietetic and Hygienic Gazette (Vol. XXVIII, No. 9)- 'The Relation of School Life to Health,' by Ralph Oakley; "Surgery and the Public," by Michael M. Davis; "Sanitary Considerations," by G. S. Browning; "Dietetics, Ancient and Modern," by Pearce Kintzing; "The Treatment of Backward Children," by Maurice Freiman.

Dominion Medical Monthly (Vol. XIX, No. 4)-"St. Luke's General Hospital, Ottawa, Nurses'

Graduation, May, 1912," by R. W. Powell. Fruit Magazine (Vol. V, No. 6)—"The Cattle Industry of New Zealand," by H. W. Mathews.

Heating and Ventilating Magazine (Vol. IX, No. 9)—"Heating and Ventilating the Northwestern University Buildings," by J. M. Stannard; "Ventilation of a Dispensary Building," by A. M. Feldman.

Indian Medical Gazette (Vol. XLVII, No. 8)-'Nastin Treatment of Leprosy,' by L. B. Scott;
'Mongolian Birth Marks, An Anthropological Study,' by Laurence C. Fink; "Insanity in the Andamans," by J. Wooley.

Journal Lancet (Vol. XXXII, No. 17)—"Some Things Practical in Scandinguesia," by C. France

Things Practical in Serodiagnosis," by C. Eugene

Journal of State Medicine (Vol. XX, No. 9)— "Town Planning," by Roger E. Willcocks; "British Practice in Sewage Disposal," by Arthur J. Martin; "The Water Supply of London," by William Arthur Richardson; "Building By-Laws," by J. D. Casswell; "Town Planning in Great Britain," by Thomas Adams; "The Use of Reinforced Concrete in Engineering," by J. H. de Warrenne Waller.

Journal of Urology, The American (Vol. VIII, No. 9)—"Conclusions Drawn From One Hundred Prostatectomies," by Oliver C. Smith; "Phimoses: Its Relation to Some of the More Frequent Genito-Urinary Diseases," by Walter S. Reynolds.

Medical Council (Vol. XVII, No. 9)—"Recent Methods in the Treatment of Tuberculosis," by Paul E. Bain; "External Therapeuties: Functional Skin Diseases," by Thomas S. Blair; "Careless Prescribing and Therapeutic Nihilism," by George B. Lake; "Physical Labor the Salvation of the Nerves," by Boyd Campbell; "Solidarity in the Profession," by Henry F. Langhorst.

Medicine et de Chirurgie, Le Journal de (VIIe Anne, No. 9)—"La Therapeutique Actuelle Anti-tuberculeuse," par L. Venon; "Le Vegetarisme et les Idees Actuelles sur le role de la Digestion, par H. Gougerot.

Medical Officer (Vol. VIII, No. 10)-"A Short Analysis of Personal Washing," by R. H. Quine. (Vol. VIII, No. 11)-"Examination of Excreta for Typhoid Bacilli, by L. L. Lumsden and A. M.

Medical Review of Reviews (Vol. XVIII, No. 9) "School Lunches and Medical Inspection," by Ira S. Wile; "Advanced Pulmonary Tuberculosis in the Tenements of New York City," by Maximilian Schulman; "Why Physicians Should be Socialists," by William L. Holt; "Why Physicians Should Not be Socialists," by James J. Walsh; "Can Modern Life Insurance Survive?", by George W. Hopkins.

Merck's Archives (Vol. XIV, No 9)—"Rabies," by John B. Huber; "Measles," by Irving David Steinhardt.

O. A. C. Review (Vol. XXV, No. 1)—"Hazing," by W. H. Day.

Oral Health (Vol. II, No. 9)—"Decay of the Teeth, its Causes and Prevention," by A. A. Stewart; "Some Points in the Recent Physiology of the Mouth and Teeth," by D. Fraser

Our Dumb Animals (Vol. XLV, No. 4)—"Wo-man's Indifference," by Francis H. Rowley.

Outdoor Life, Journal of the, (Vol. IX, No. 9)-"The Present Status of the Movement for the Prevention of Tuberculosis in New York State," by Homer Folks; "Rest in the Treatment of Pulmonary Tuberculosis," by Joseph H. Pratt; "The Relation of the Physician to the Anti-Tuberculosis Campaign," by James Alexander Miller; "A Week in a Health Exhibit Car," by Eugene

Practical Medicine (Vol. X, No. 8)-"An An-

tispasmodic," by George L. Servoss.

Public Health Reports (Vol. XXVII, No. 35)-"The Public Health Service Tuberculosis Sanatorium at Fort William," by F. C. Smith. XXVII, No. 36)—"Rocky Mountain Spotted Fever," by W. C. Rucker. (Vol. XXVII, No. 38)— "Smallpox in the United States," by John W.

Royal Army Medical Corps, Journal of the (Vol. XIX, No. 3)—"Further Experimental Investigation into Sudan Kala-Azar," by W. E. Marshall; "The Vaccine Treatment for Gonorrhoea with Notes on Thirty Cases,' by A. T. Frost; "Staff Tours," by S. H. Fairrie.

Royal Sanitary Institute, Journal of the (Vol.

XXXIII, No. 8)-"Address to H.R.H. Prince Arthur of Connaught," by The Royal Sanitary Institute; "Reply to the Address by Prince Arthur of Connaught"; "Inaugural Address," by His Grace the Lord Archbishop of York; "Lecture to the Congress," by Professor Karl Pear-

Sanitary Record (Vol. L, No. 1187)—"Waterworks for Urban and Rural Districts," by Henry C. Adams. (Vol. L, No. 1187)—"Waterworks for Urban and Rural Districts," by Henry C. Adams. (Vol. L, No. 1189)—"Waterworks for Urban and Rural Districts," by Henry C. Adams. (Vol. L, No. 1190)—"Waterworks for Urban and Rural Districts," by Henry C. Adams. School Board Journal (Vol. XLV, No. 3)—"De-

veloping the Playgrounds of a Small City," by

Daniel Ward.

South African Medical Record (Vol. X, No. 15)
"Our School System from the Medical Point of View," by H. Caiger; "Death and Reserve," by W. E. de Korte.

Western Medical News (Vol. IV, No. 8)-"Some Notes on the Organizations and Working of a Cavalry Field Ambulance," by F. L. Vaux.

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*]

"The Healthy Baby."

This is not a medical book; at least so the author emphatically points out, when stating his belief that a well trained physician or specialist in children's diseases finds it difficult enough at times to diagnose the different affections when he sees the child patient before him, and that the province of an author of such a book as this should be of a more general character. Dr. Dennett's chief reason, he points out, for writing this book is to make clear to the mother just how to do best the ordinary every day things that every mother has to do for her child; and in this sense he believes there is a very definite need for a book which will describe in the minutest detail the daily care of the baby. The description or treatment of any but the simplest ailments has therefore purposely been omitted, Dr. Dennett making the statement in explanation that he thinks a book of this character which attempts in any way to describe diseases does more harm than it does good. The usefulness of the book may be indicated by the headings of the six parts into which it is divided: "Development and Bodily Functions"; "Hygiene and Training"; "Common Ailments"; "Care of the Special Organs"; "Feeding and Diet"; "Lists and Tables." The book ends with a

few blank pages for special notes, and an index .- The Healthy Baby. The Care and Feeding of Infants in Sickness and in Health. By Roger H. Dennett, M.D., Instructor in Diseases of Children in the New York Post-Graduate Medical School; Assistant Attending Physician to the Babies' Wards in the New York Post-Graduate Hospital; Chief of Clinic in the Post-Graduate Dispensary for Children; Fellow of the New York Academy of Medicine. New York: The Macmillan Company. \$1.00 net.

"Mouth Hygiene."

A most timely work under the above title has reached us. The author, Dr. John Sayre Marshall, has given a very clear exposition of his subject on the basis of his many years of experience in dental prac-The book, he points out, is written not only for the dental profession, but for students of that profession and students of medicine, trained nurses, school teachers, sanitarians, and the general public. He has not, therefore, made it technical, and where technical terms had to be used the same have been clearly explained so that the lay reader would be able to grasp the subject with the same degree of understanding as would the reader educated more particularly in the subjects of dentistry and medicine. The work consists of two hundred and sixty-two pages, finely illustrated.—Mouth Hygiene and Mouth Sepsis. By John Sayre Marshall, M.D., Sc.D., Syracuse University, Captain U.S. Army Retired, Formerly Examining and Supervising Dental Surgeon U.S. Army, President of the Board of Examiners. Philadelphia; London; Montreal: J. B. Lippincott & Company. Charles Roberts, Manager for Canada.

"Baby's Teeth to the Twelfth Year."

The author points out in regard to this useful little brochure that it is intended to be in the simple form of a friendly talk in print rather than a didactic discourse. Dr. Westlake, the author, has had twenty-five years of observation and continuous practice, private, hospital, and in consultation, and this book is written on the foundation of his own experience.—Baby's Teeth to the Twelfth Year. By Albert Westlake, D.D.S. New York and London: Mitchell Kennerley.

"The Wellcome Photographic Exposure Record and Diary."

The Wellcome Photographic Exposure Record and Diary is one of the most useful little books that has been drawn to our attention for some time. As its name implies it contains adequate instructions for the photographer as well as blank pages in the form of a diary for his notes. The book is small, pocket size, and handsomely gotten up in the style usual with Burroughs, Wellcome & Company.—The Wellcome Photographic Exposure and Diary. London, England; New York; Montreal; Sydney; Cape Town; Milan; Shanghai; Buenos Ayres: Burroughs, Wellcome & Company.

"Abnormal Psychology."

A successful attempt has been made in the writing of this book to bring before the general reader the results of investigation of abnormal psychology which hitherto he could only have found widely scattered in medical publications and certain psychological journals of a highly specialized character. The author leads gradually up to the discussion of abnormal psychology by

presenting the A B C of the science of psychology, the volume being divided into two parts indicated by the titles: "The Exploration of the Subconscies," and "The Diseases of the Subconscious." The subject is a most interesting one and has been presented by the author in a highly attractive way in discussing such parts of it as the question of the subconscious, automatic writing, and crystal gazing, sleep, dreams, hypnosis, losses of memory, illusions of memory, restoration of lost memories, the splitting of a personality, etc.—Abnormal Psychology. By Isador H. Coriat, M.D., Second Assistant Physician for Diseases of the Nervous System, Boston City Hospital. Neurologist to the Mt. Sinai Hospital. London: William Rider and Son, Ltd., 164 Aldersgate Street, E. C.

"Statistics of Puerperal Fever and Allied Infectious Diesases."

The question is put and answered for the careful reader in "Statistics of Puerperal Fever and Allied Infectious Diseases," as to the one responsible in given cases of puerperal fever. Part one of this book considers Etiology of Puerperal Infection; part two, Statistics; part three, Analysis of Statistics and Deductions: and part four is the appendix, consisting of tables and other matter useful in the understanding of the subject under discussion.—Statistics of Puerperal Fever and Allied Infectious Diseases. By George Geddes, M.D., C.M. (Aber.) Bristol: John Wright and Sons, Ltd., London; Simpkin, Marshall, Hamilton, Kent and Company. Limited.. 6s net.

"A Simple Method of Water Analysis."

In the 7th edition of "A Simple Method of Water Analysis," we find a few alterations from the proceeding editions such as a substitution of "parts per 100,000," for "grains per gallon," These alterations are such as they should be, but the substance of the book has not been materially altered thereby, and its usefulness is well displayed in the rapidity with which its successive editions have been exhausted; the method of analysis described in the book has been adopted by the British Admiralty—A Simple Method of Water Analysis, Especially Designed for the Use of Medical Officers of Health. By John C. Thresh.

M.D. (Vic.), D.Sc. (Lond.), D.P.H. (Camb.), Fellow of the Institute of Chemistry, Member of the Society of Public Analysts, Medical Officer of Health for the County of Essex; Lecturer on Public Health and Late Examiner in Public Health, London University. Seventh Edition. London: J. and A. Churchill, 7 Great Marlborough Street. 2/6 net.

"Aids to Histology."

Intended particularly as a guide to the junior student the author presents in this book the essential facts of histology in small compass, using a minimum of technical terms believing that a junior student is often only bewildered by such terms when added to the apparent complexity of histological structure presented to him. But the author points out that a correct knowledge of histology can only be acquired by the use of the microscope. Others besides junior students of histology we believe will find the little book most useful.—Aids to Histology. By Alexander Goodall, M.D., F.R.C.P. Edin., Lecturer on Physiology, School of Medicine of the Royal Colleges; Examiner in Physiology to the Royal College of Physicians, Edinburgh. London: Bailliere, Tindall and Cox, 8 Henrietta Street, Covent Garden. 2/6 net.

"Practical Eugenics."

As usual in his writings Dr. Wm. J. Robinson, the author of "Practical Eugenics," emphasizes his adherence to the guiding principle of duty to humanity, believing, perhaps, with other clear thinking people, that the ultimate aim of all activity should be the happiness of the human race. In logically applying this guiding principle to the study of eugenics he makes his radicalism pronounced by emphasizing a belief that humanity and not chance should govern race production -that quality and not quantity is the object to be aimed at. And Dr. Robinson goes in this as far as the law, he says, allows, in statements and advice to the general reader. It must be disconcerting, however, and perhaps annoying to this same general reader to be brought, as he is in this as well as others of Dr. Robinson's books, to the point of considering himself

capable of efficiently controlling the future of humanity as far as his own descendants, or lack of descendants, may be concerned, and then to be told that the law closes Dr. Robinson's mouth in regard to giving the general reader the fuller knowledge of which Dr. Robinson seems possessed. But taken as a whole we are inclined to side with the author of "Practical Eugenics" in the views he presents; he may be right in his manner of arousing the reader's interest and in encouraging the reader's thinking processes. Thus in the book under review Dr. Robinson discusses the subject of practical eugenics in six chapters, as follows: 1, in which Dr. Robinson explains the foundation of his religion and morality; 2, in which he gives two classes of remedies for what is found radically wrong in our social system; 3, in which he explains the necessity for the control and limitation of offspring; 4, in which it is pointed out that no marriage license should be given without a physician's certificate of freedom from venereal and mental disease; 5, in which the case of the sterilization of the feeble minded, degenerate and criminal is presented; 6, in which he discusses his fourth means for preventing degeneration of the human stock in the use of venereal prophylactics.—Practical Eugenics; Four Means of Improving the Human Race, A Lecture by William J. Robinson, M.D., President American Society of the City of New York, Editor of the American Journal of Urology and of the Critic and Guide, Ex-President Berlin Anglo-American Medical Society, Member American Medical Editor's Association, American Medical Association, Fellow of New York Academy of Medicine, New York State Medical Society, etc., etc., New York: The Critic and Guide Company, 12 Mt. Morris Park West. 50c. net.

"Small Water Supplies."

There have been plenty of books written for the engineer, technically written, in regard to waterworks of large magnitude such as are carried out every year for the supplying of large towns with water for domestic purposes; but few, if any, books, except the work under review which might be welcomed by the engineer as well as by the general reader, have undertaken to present the subject of a small water supply,

suitable to country houses and estates. "Small Water Supplies" is divided into five chapters dealing consecutively with: properties of water and sources of supply; wells and well-sinking; flow of water in channels and pipes; pumping water; and, storage distribution. The appendix takes up the question of noises in water pipes and their causes, and some notes on abyssinian tube pipes. There is an index and the work is well illustrated.—Small Water Supplies, Being a Practical Treatise on the Methods of Collecting, Storing and Conveying Water for Domestic Use in Large Country Mansions, Estates and Small Villages and Farms. For the Use of Engineers, Estate Agents and Owners of Country Property. By F. Noel Taylor, C.E., Member of the Institute of Municipal Engineers, author of "A Manual of Civil Engineering Practice." London: B. T. Batsford, 94 High Holborn. 6s. net.

"The Local Incidence of Cancer."

Occupying the attention of the world as this disease does at present, the publication of this work is timely. "The Local Incidence of Cancer" deals with facts and figures in handling the question as to whether so-called cancer houses do really exist. Well written and illustrated, the perusal of the book will be found not only interesting to students of the cancer problem, but useful in the steps which they may take towards its elucidation.—The Local Incidence of Cancer. By Charles E. Green. Edinburgh and London: William Green and Sons, 2 and 4 St. Giles Street, Edinburgh. Price 1/- net.

"Insect Stories."

As an instructor of children, through the medium of the short story, interesting, not only to the child, but to the grown up, Vernon L. Kellog in the book under review, has shown himself an expert. It is dedicated to Dorothy S, Anna F., and Mary L., who are together known as Mary in the stories. Some of his titles will give one an idea of the character of the work. The opening story in the book is, "A Narrow-waisted Mother"; again we have "The True Story of the Pit of Morrowbie Jukes"; "The

Orange Dwellers"; "The Dragon of Lagunita"; "A Clever Little Brown Ant"; "In Fuzzy's Glass House;" and so on. "Mary and I," the author says, "live in a beautiful valley between a range of mountains and very near the marsh-lined shores of a great ocean bay. Over beyond one range of mountains is the ocean itself. stretching blue and ripply all the way to China, while beyond the other range of mountains is a desert with jack-rabbits and burrowing owls and cactuses, not the worst-or best-sort of desert like that far south toward Mexico, but one which gets a little rain and hence is called a 'Land of Great Possibilities' by men who sell parts of it now and then to people from Maine." -Insect Stories. By Vernon L. Kellog. with Illustrations by Mary Wellman, Maud Lanktree, and Sekko Shimada. Second Edition. Revised. New York: Henry Holt and Company. \$1.50 net.

"Pellagra."

The investigation of this disease, so general in its distribution, cannot but be interesting to the student of public health. and we believe with the author of the volume under review, that there has been entirely too much speculation on Pellagra and entirely too little investigation. We need the essential facts of the subjectwe need to know its pathology, its diagnosis, and its treatment; these the author very largely supplies. The book is well gotten up and finely illustrated.—Pellagra. History, Distribution, Diagnosis, Prognosis, Treatment, Etiology. By Stewart R. Roberts, S.M., M.D. With eight-nine special engravings and colored frontispiece. St. Louis: C. V. Mosby Company. Price \$2.50.

"The Child in the City."

"The Child in the City," is made up of papers presented at the Chicago Child Welfare Exhibit, May 11th to 25th, 1911. The papers are arranged in the book under nine headings: Personal Service; Physical Care; The School and the Child; Special Groups of Children; The Working Child; Law and the Child; Libraries and Museums; Social and Civic Problems of Childhood; and, The Uncompleted Task.

Under the latter heading two papers are given, the postscript, as it were, to this excellent compilation, the titles of which, "The Vision Splendid," by Harriet Mc-Cormack, and "Unto the Last," by Anita McCormack Blain, have been well chosen. Taken as a whole, this work is a credit to its compilers, as well as to its several authors, and should be on the library shelves of all those practically interested in the welfare of the child.—The Child in the City. A Series of Papers Presented at the Conferences Held During the Chicago Child Welfare Exhibit. Chicago: The Department of Social Investigation, Chicago School of Civics and Philanthropy.

"Official Automobile Road Guide of Canada."

The introduction to this very useful work points out that among the thousand summer delights which lie at the disposal of the tourist in Canada, none can surpass in fascination, interest or extent, those attached to an automobile tour through southern section of lightful land of the Maple Leaf. This is true, and the book under review makes it all the more so from the fact that the accuracy of its maps and information eliminate the necessity of frequent inquiries and undesirable delays. Among the information given in the book we note: Index of Routes; Index to Places; Index to Maps; Some Interesting Notes: Provincial Motor Regulations: Marine Insurance Law: Tourists' Legal Status; Canadian Customs; International Regulations; U. S. Regulations; Motor Clubs of Canada; American Automobile Associations; Automobile Associations of Great Britain: International Ferries and Bridges; Automobile Laws of Various States; Symptoms and Causes of Breakdowns; Weather Indications; This Book and How to Use It: Grand Trunk Route-Detroit to Quebec; Grand Trunk Route-Quebec to Detroit; Routes in Ontario; Province of Quebec; Illustrated Tours: Short Runs Out of Toronto: Tours from Ottawa.—Official Automobile Road With Map of Routes. Guide of Canada. Authorized by The Ontario Motor League. Toronto, Ontario: Miln-Bingham Printing Company, Limited.

"Methods of Air Analysis."

The author fills a want in this book by supplying methods of air and gas analysis which are both rapid and accurate. It is intended to furnish, and does so in readable form, and shortly, a full description of the means of detection and estimation of gaseous and mechanical impurities in air, notably CO2, CO, and CH4. The author understands his readers to have a fair knowledge of laboratory methods. The work is suitably illustrated and indexed.—Methods of Air Analysis. By J. S. Haldane, M.D., LL.D., F.R.S., Fellow of New College, and Reader in Physiology, Uniersity of Oxford. London: Charles Griffin and Company, Limited, Exeter Street, Strand, W.C. Price 6/ net.

Publications Received for Later Attention.

"Health in Home and Town." "The New Physiology in Surgery and General Practice." "Smallpox and its Diffusion." "Methods of Air Analysis." "Gonococcal Infections." "Words to Wives." "Exercise and Health." "Modern Theories of Diet." "Basis of the Teacher's Tenure." "International Clinics." "Microbes and Toxins." "The Blood of the Fathers," "House-flies and How They Spread Disease."

And receipt of the following publications not mentioned elsewhere in this issue is hereby acknowledged: "The School Bulletin" (for August). "Winnipeg Health Department Bulletin" September). "The University of Colorado Medical Bulletin" (for June). "The Lowell Sun" (for Tuesday, September 10). "The Toronto Civic Guild" (for September). "The Journal-Lancet" (for September). "The Canadian Patent Office Record' (for June). "The Journal of the American Medical Association" (Special Number). "The Canadian Municipal Journal" (for September). "Public Health Reports" (for September). "The Western Municipal News" (for September). "The Canadian Teacher" (for September). "Swat the Fly" (Kansas State Board of Health). "Pembers Journal" (for September). Health). "Pembers Journal" (101)
"Life Echoes" (for September). "Toronto Health" Therefore (for September). 'Toronto Health Bulletin' (for September). 'New York Health Department Bulletin' for August). 'Conservation' (for September). 'Methods of To-day.' 'Annual Report of the Sanitary Inspector.' 'The Sentinel.' 'The Nova Scotia Medical Register.' 'Vital Statistics Registration.' 'American Medicine'' (for August). "The Educational Review" (for September). "Preliminary Announcement and Program of The American Association for Study and Prevention of Infant Mortality." "Little Farms Magazine" (for September).

-Open Mail-

THE ACCEPTED INVITATION OF REGINA

T. Aird Murray, Esq., C. E.,

Secretary of Committee for Local Arrangements, Canadian Public Health Association Congress, 1912.

303 Lumsden Building, Toronto, Ont .:

Dear Sir,—I understand that you are a member of the Executive Committee of the Canadian Public Health Association and take an active interest in its work, and that you will attend the convention of the Association to be held in September next.

The City Council discussed this matter at a meeting held recently and having in view the facts that the Association had not yet held a convention in the West, and that the city has a unique system of sewage disposal that should be of interest to the members of the Association, and that there are some 200 Medical Health Officers employed in the Province—the majority of whom could probably attend a convention held in the West, but would not be able to do so in the case of one held in the East-it was thought probable that were an invitation issued the Association might see its way to arrange to hold its 1913 convention in this city; and the Council decided that a cordial invitation be issued to this effect, and that you be requested to be good enough to convey the same to the Executive of the Association while at the convention.

May I ask you to be good enough to convey this invitation in the name of the city?

Yours truly, P. McAra, Mayor.

Regina, Sask., August 19th, 1912.

Executive Council, Saskatchewan. T. A. Murray, Esq., C.E., 303 Lumsden Building, Toronto, Ont .:

Dear Mr. Murray,-I have been led to understand that there is a possibility that the Canadian Public Health Association will hold its convention somewhere in Western Canada during September or October, 1913.

Should this be the case our Government would be very pleased, indeed, if arrange-

ments could be made to have this gathering held at Regina.

If this is done I can assure you of our assistance and co-operation in every way possible.

We recognize that the meetings of your Association are so important that we would complete arrangements whereby all the Public Health Officers of the Province could attend.

> Yours very truly, J. A. Calais.

Regina, August 14, 1912.

Chas. A. Hodgetts, Esq., M.D., President Canadian Public Health Association, Ottawa, Ont.:

Dear Doctor,—I have much pleasure in endorsing, on behalf of the Government of the Province of Saskatchewan, the invitation which I am informed has been sent by His Worship the Mayor of Regina, to have the Congress of the Canadian Public Health Association, hold its next annual meeting in Regina.

The rapid development of this country has brought to our attention a great number of questions affecting the public health; and I am sure the meeting here of a body such as yours, would stimulate very greatly the interest taken in matters affecting sanitation.

The Province is practically all subdivided into health districts, each having a medical health officer. Arrangements would be made for their coming here at the time of your conference.

A meeting in the Middle West would emphasize the distinctly national

scope of your Association.

I can assure you that in the event of your deciding to come to Regina you will receive a most hearty welcome.

I have the honor to be, dear Doctor,

Your obedient servant,

Geo. Langley,

Minister in Charge of the Bureau of Public Health.

-Meetings and Reports=

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

DOMESTIC

Second Annual Congress of the Canadian Public Health Association.

The opening paper of the First General Session of the Second Annual Congress of the Canadian Public Health Association considered how Canada could save her people from the physical and mental degeneracy due to industrialism as seen in the great cities of older civilization. A symposium on tuberculosis followed in which some of the leading experts of the continent took part.

Hospitals in their relation to the community and public health was the subject of the first address in the afternoon of the 16th; this was followed by a consideration of dust in the house and in the street, the Ontario Public Health Act, the purification of water by slow and rapid filtration, medical inspection of public schools. And in the evening the outstanding feature of the programme was an address upon the value of a public health department to a municipality, delivered by Dr. W. A. Evans, for a number of years Commissioner of Public Health of Chicago, the writer of articles on public health in the Chicago Tribune, and professor of hygiene at Northwestern University Medical School. It was difficult, Dr. Evans said, to give a valuation of a health department upon a dollars and cents basis. Some cities, like Ottawa recently, did not value their health authorities until impelled by fear to do so during an epidemic. Cities had grown and prospered because of their freedom from epidemics; others had suffered because they had been cursed by devastating plagues. Dr. Evans alluded to the manner in which epidemics had been stamped out in Cuba and Panama, and the manner in which outbreaks of diseases might be eliminated in small places and a "health conscience" might be awakened. Health departments had to show the people their duty.

Dr. Evans spoke of the difficulty under present circumstances of further reducing the death rates from communicable diseases. He said that in England, however,

certain clauses of Lloyd George's Insurance Act would probably reduce consumption by 20 per cent. It would, moreover, encourage the treatment of maternity cases in hospitals and thus reduce the number of deaths of newly born infants and of wo-It would penalize municipalities whose people were compelled to pay high insurance rates by reason of unsanitary conditions and it would deal with manufacturers whose employes suffered in a similar manner because of unhealthy factory surroundings. Health departments could lead the people in dealing with overcrowding in large cities and the housing of the poor. The public could not afford to have people live in unsanitary conditions, nor could they afford to have children brought up in such surroundings. Frankfurt was holding certain land for the people and was levying an increment tax to keep down the prices of property. "These are the questions," said Dr. Evans, "that we are headed for inevitably. Better have the vision to foresee them than to wait until we are up against them."

There was, he continued, a disregard in the past of what actually counted—healthy and efficient men and women. Now there was a demand from manufacturers and business men for efficient laborers capable of producing goods to compete in the markets of the world. Practitioners of preventive medicine could help to meet this demand.

Mayor Geary spoke briefly in approval of the association and its work. Dr. C. K. Clarke, Dean of the Medical Faculty, seconded by Dr. C. J. O. Hastings, M.H.O., proposed a vote of thanks to Dr. Evans. The President occupied the chair.

On the 17th there were a number of most interesting papers read before the various sections: Sections of Military Hygiene, Milk Inspection, Engineers and Architects, Medical Officers of Health, Medical Inspection of Schools, Social Workers, and the Section of Laboratory Workers. The Second General Session was also held on the

588

17th, at which the members and delegates listened to discussions on a number of important subjects, such as diet in relation to disease.

On the 18th, among the subjects considered in the Third General Session were the feeble-minded, forest open air schools, communicable diseases, the value of a public health laboratory to a municipality, the value of sanatoria as a public health measure, the effects of immigration on the national health, the open window, a federal health department, the first regular open air school in Canada. These papers, in full text, will appear from time to time in the Department of Special Articles of this Journal, the organ of this Association.

In regard to the Business Meetings, the first one was held on the morning of the 15th, at which the minutes of the last annual Congress were read and adopted, together with the annual report of the Executive Committee, the substance of which has been previously published in The Public Health Journal and was distributed in pamphlet form at this Congress; the only amendment to the report being that clause 26 of the by-laws, recited therein, be changed to read, in regard to the fees for membership in the Association, "Active Associate Members, \$3.00, Members, The Nominating Committee was then elected and directed to report on the 18th, and the Treasurer's report was read and adopted, the Treasurer announcing a cash balance in the bank to the credit of the Association of \$1,039.18.

At the business meeting on the 18th, adjourned from the 15th, the report of the Nominating Committee was presented and adopted, the substance of which will be found on page II. of this issue of the Journal.

At this meeting other resolutions adopted

were:

That in the opinion of the Canadian Public Health Association it is a matter of great importance that the Dominion Government be urged to take steps to create a Department of Public Health in order that all federal branches dealing with medical work may be co-ordinated under one administration.

That a memorial to be presented to the Dominion Parliament representing as follows:

That it is against the interests of public health that raw untreated sewage be permitted to discharge into waters which are used as sources of water supply;

That it is the conclusion of the Canadian Public Health Association that an Act of Parliament regulating the pollution of streams and lakes is required in order to strengthen the action of Provincial authori-

ties in this matter.

That the Committee have power to draw up the said memorial and present to Parliament all available evidence and data bearing upon the matter of prevention of pollution of waters which may be or are

used as sources of water supply.

That a vote of thanks be tendered the retiring officers for the very earnest, pains-taking and successful manner in which they have conducted the affairs and business of the Association, leading to increased development of the growth of this Association and the furthering of the aims and objects we all have in view. And, further, that a copy of this resolution be suitably engrossed and presented to the retiring President.

That the deepest sympathies of this Association be tendered our first President, Professor T. A. Starkey, of Montreal, in his very sad bereavement, the news of which has been received at this session and has been a personal shock to one and every member

That the following telegram be dispatched to our Patron, Field Marshal, His Royal Highness, the Duke of Connaught,

Governor-General of Canada:

"The members of the Canadian Public Health Association, in session assembled, this day at Toronto, desire to respectfully tender to your Royal Highness their deep appreciation of the great interest your Royal Highness has taken in all matters concerning the public health of this country."

That the appreciation of this Association be expressed to His Worship the Mayor and Corporation of the City of Toronto for the many kindnesses shown to the Canadian Public Health Association.

That the thanks of this Association be tendered to the President and members of the University of Toronto for their kindness in placing at the disposal of this Association the buildings for the holding of this Congress.

That the Press of the City of Toronto be thanked for the many courtesies and kindnesses with which they have treated this Association.

That the clubs, who, thoughtfully, extended their hospitality to the delegates of this Association receive the sincere thanks of its delegates and members.

That Sir Edmund Osler, Honorary President, be thanked for his great kindness in extending to this Association and its guests the hospitality of his home.

That the best thanks of this Association be conveyed to Col. and Mrs. Gooderham for their extension of kind hospitality to the members and friends of the Canadian Public Health Association.

That the Association expresses to the President and members of the Local Ladies' Committee their thanks and appreciation for the excellent arrangements made for the comfort and entertainment of the visiting members and their families.

The Health of Toronto.

There were 51 cases of typhoid reported in Toronto during September, or less than 12½ per hundred thousand of population. In September, of 1911, there were 90 cases, or 24 per hundred thousand of population. In September of 1910 there were 90 cases, or 27½ per hundred thousand. These figures are based upon the assessors' estimate of population in each of the three years. The decreased number of typhoids reported during September is on a par with the record for the rest of the year. To date, Toronto has had only 189 cases of typhoid, as compared with 385 for the same nine months last year, and 588 for the corresponding period the year before.

This year's splendid typhoid record is undoubtedly due in part to the improvement in the water supply, to the removal of unsanitary dwelling, Dr. Hastings' pure milk campaign, and other health measures undertaken by his department. The filtration plant has done its share to improve conditions during the time it has been in operation.

The plant was out of operation from July 5 to August 31. Something may be learned by noting what happened during that period. As typhoid usually takes about two weeks to develop, any excess due to shutting off the plant would make itself most largely felt from about July 20 to

September 15. The records show that there was such an excess.

For the first twenty days of July, only 9 cases were reported. During the following twenty days, 27 cases—three times as many—were reported.

For the first fifteen days of September, 34 cases were reported. During the last fifteen days, only 17—or half the number of cases, are on record.

In other words, the number of cases trebled after the plant was cut out, and were reduced by one-half when it was put in use again. This effect may not have been entirely due to the plant. Typhoid always begins to show an increase late in July. This increase, however, is usually continued throughout September, whereas the last half of this month has seen a remarkable reduction.

As is usually the case, Toronto must bear the odium of having a larger number of typhoid cases attributed to it than originate here. People home from summer resorts develop the disease. Men from the mining and lumber camps take sick here. Outsiders are brought into the city to be nursed. They are all counted as Toronto cases. The same is true of every city to some degree. Much of the typhoid charged up against the cities originates in the smaller places from the supposedly harmless wells in which the public put so much trust, but which are usually bacteria breeders.

Remembering that the city had a population of 342,000 in 1910; 375,000 in 1911, and 410,000 in 1912, the following table of cases reported affords a striking testimonial to the reduction in typhoid:

CAN I GUAT TO T	1910.	1911.	1912.
January	61	13	11
February	127	18	8
March	115	58	11
April	40	20	8
May	11	22	9
June	18	39	24
July	28	35	30
August	94	90	37
September	94	90	51

Of the 51 cases reported during September, at least ten were from outside points, including Scarboro, Haileybury, Windsor, Peterboro, Frankfort, Simcoe, Michigan, Huntsville, and some points touched by the steamer St. Joseph.

When the monthly statistics for the three years are compared on a population basis, the contrast is even greater than in the above table, as a glance at the accompanying map will demonstrate.

Domestic Notes.

In the discussion on Dr. Bryce's paper "How Canada Could Save Her People from the Physical and Mental Degeneracy Due to Industrialism as Seen in the Great Cities of Oldder Civilization," before the recent Congress of the Canadian Public Health Association, Dr. Oldright, of Toronto, said that he hoped the Executive of the Association would see that a paper with so much matter of such practical importance to the country would be circulated, and sent to those who ought to act upon its hints and suggestions. Amongst other channels, it ought to be in those which would distribute it largely among the agricultural and rural communities generally. He referred to the waste that had occurred in getting materials from these communities to the consumer. It might seem a small and trite thing to mention eggs to an assembly like this, but all housekeepers and all people. in fact, know the difficulties in securing this important article of food to eat in the condition in which it should be He had recently come across a method adopted by a middleman to secure eggs coming fresh from the farm to the consumer: A commission merchant has founded an association of farmers and other poultry raisers, and to each member of this association a number is given with which he stamps his eggs, and these are forwarded every few days to the commission merchant; he places them in boxes holding a dozen and sells them to the retailer. If the customer encounters a stale egg he reports to the retailer and he to the commission merchant, and he deals with the poultry man, so that the latter for proto be careful. In tection has lation to what had been said by a previous speaker in regard to potatoes, he would not wish this gentleman who is evidently a new comer to Canada to be under the impression that the present condition is the usual one here. This question of food is one of practical importance in hygiene, and one too little taken into account, and he was glad that Dr. Bryce had so ably brought it to the fire.

The largest and best report of the Canadian Association for the Prevention of Tuberculosis is before us. It is an improvement over last year in typography, and will be much more useful as a work of reference owing to the index inserted this year. The report not only contains a resume of the twelfth annual meeting of the Association recently in Toronto and a complete list of papers presented, published from time to time in The Public Journal, but a directory Health all work done in Canada during past year, together with a list sanitoria, etc. The Secretary, Dr. George D. Porter, is to be congratulated on the completeness of this report and on the success following his direction of the work of the Association. The book contains 16 excellent illustrations.

The records of the Montreal health department show that in the City of Montreal in 1911 the births numbered 17,637, being at the rate of 37.49 per thousand of a population of 470,000. The deaths numbered 9,974, which shows a rate of 21.10 per thousand. The natural increase in population was 7,663, the rate being 16.39 per thousand. These are considerable figures, in themselves and when compared with what is shown in other large cities. Indeed. in the matter of births per thousand of the people. Montreal seems to stand in the front rank of white men's cities, few of which reach the mark of thirty per thousand. In the matter of deaths, also, the same remark applies. It is only in the more backward countries of Europe that the death rates exceed twenty per thousand of the population. London, whose population exceeds that of any other city, and many of whose poor live always on the verge of starvation, shows a death rate varying between 12 and 14 per thousand. Berlin's record is between 14 and 16, and that of Paris between 16 and 18. New York, which once had a somewhat unsatisfactory record. and whose authorities have to deal with large masses of people ignorant of sanitary laws, is on about the same level as Berlin. Montreal, therefore, has to take a place decidedly behind cities of the first rank in the matter of sanitary standing as shown by the death rate. Its consolation is that it is advancing, and that the showing made in 1911 was among the best in its history

since it attained to the dignity of a firstclass city. The department's records go back to 1872, when 4,512 deaths recorded meant a rate of 37.36 per thousand. was about this time that the municipal authorities began to show a regard for their duties in the matter of sanitation. By 1878 the rate was brought down to 30.51 per thousand, and there was an improvement till 1883, when the figure was down to 25.60. The smallpox epidemic of 1885 sent the rate up to 46.71 per thousand, and was productive of lessons that have not been forgotten. In 1898, as the result of a gradual improvement, the rate was down to 20.66 per thousand. In 1900 it was up again to 25.46 per thousand, but since 1904 it has been steadily under 23 per thousand and last year was down to 21.19 per thousand, the best since 1898. There is in this statement of facts, therefore, something encouraging. Those who know the conditions in the city thirty years ago, also will understand to what the improvement is due. The sewage system has been largely extended, and with this there has an improvement of conditions around and in the houses that might well be credited with a reduction in the death rate of 10 per thousand. The substitution of stone and concrete for wood in the making of sidewalks and the paving of the streets have also helped to reduce the causes of some forms of disease. development of the street cleaning service has also done its part. Some credit is doubtless due also to the bountiful supply of generally wholesome water. There are causes of mortality operating in a great city which it is not within the power of municipal officers to directly affect. Some of these are the overcrowding of people in houses and the want of knowledge by young mothers of how to care for their children. Efforts to change the latter condition are being made, and, it may be hoped, will in time have their good results. Patience, however, is needed in this as in all other matters when the improvement of a city's living conditions are concerned. The end is worth the effort. The reduction in the death rate is the accompaniment of a reduction in the sickness rate, and a lessening of the amount of sickness of a community means an increase in its productive capacity.

An important appointment was made to

the Saskatoon Board of Health staff recently when Dr. C. M. Stafford formerly of Detroit, Michigan, was officially chosen as bacteriologist and superintendent of the newly created laboratory department of the Board of Public Health.

At last month's meeting of the Winnipeg Trades and Labor Council a lengthy report of the proceedings at the Congress at Guelph was given by R. A. Rigg, business agent of the Trades Council, who was one of the delegates from Winnipeg. dealing with the prominent features of the convention he alluded to the prominence the Congress is assuming in Canada. the close of the report a long discussion took place upon the housing problem in the city. The question of the high house rents that working men have to pay for their houses was the principal topic, and it was pointed out that men earning on an average \$40 a month would have to pay nearly half of that for rent. The Council decided to investigate the problem with a view of promoting interest in a municipal housing scheme.

The civic position of Epidemiologist at a salary of \$2,000 a year has been created by the Toronto Board of Health for Dr. Frederick Adams, first assistant to Dr. G. G. Nasmith, Director of Civic Laboratories. The position was created on the advice of City Officer of Health, Dr. Hastings.

That Ontario, though well in the van in regard to public health methods, has still something to learn from the older countries of Europe is the opinion of Dr. J. W. S. McCullough, Chief Officer of Health for that Province in summing up his views of the Fifteenth International Congress of Hygiene and Demography. The American Health Association, which met in Washington last week, was not so well attended as the Canadian conference, but the International Congress attracted an immense gathering of delegates.

"There were five thousand delegates registered," said Dr. McCullough, "and they came from all parts of the world."

While at the Congress Dr. McCullough gave an address upon the Ontario Public Health Act.

"Afterward I received many congratulations on the forward character of the work being done in Ontario," said Dr. Mc-

Cullough.

"With regard to vaccination, however, we are much behind Germany, Denmark, and Norway. Those countries have practically no smallpox, because they enforce vaccination.

"I remember one chap telling us they had not had a case of smallpox in Denmark

in ten years."

"The notification of a tuberculosis case, now in force in Ontario, has been adopted by comparatively few countries. The local sanitaria system for the treatment of the 'white plague,' however, had,' said Dr. McCullough, "been developed much farther elsewhere than in Ontario."

A week's stay in the Gravenhurst Sanitarium has been arranged for the district officers of health of Ontario. It is expected that the officers will be permanently stationed in their districts early in November.

Advance Notices, Alphabetical.

Canadian Highway Association—Meeting will be held in Winnipeg, Man., October 9th to 12th. Secretary, P. W. Luce, Room 4, Cunningham Block, New Westminster, B.C.

Canadian Public Health Association—1913 Congress, Regina. 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.LL., 35 Ontario, East; Tel., East 925.

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

INTERNATIONAL

Fifteenth Congress of Hygiene and Demography.

When the roll of the nations was called, after President Taft's address before the opening session of the Fifteenth International Congress of Hygiene and Demography, delegates from thirty-three foreign Governments answered. Among the more prominent were: Sir Thomas Oliver, of University of Durham College of Medicine, Newcastle, England; Dr. Jacques Bertillon, Chief of the Bureau of Municipal Statistics, Paris, a brother of Prof. A. Bertillon, the criminalologist; Dr. Friederick Zahn, Director of the Bavarian Municipal Office, Munich, Germany; Dr. Arnold Netter, of the Faculty of Medicine, Paris; Major-Gen. Eugene De Kontwokski, St. Petersburg, Russia; Prof. Shibasaburo Kitacato, of the Japanese Imperial Institute for the Study of Infectious Diseases, Tokio; Dr. Francis Harbitz, of King Friedrich's University, Christiana, Norway; Dr. Karl Landsteiner, of the University of Vienna; Dr. Alfred Petterson, of Stockholm, Sweden; Dr. Paul Romer, of the Hygienic Institute, Marburg, Germany; Dr. Lucien March, Director of General Statistics, France; Dr. Alfredo Da Graca Couto, of the Federal Department of Health, Rio de Janiero, Brazil, and Dr. Lugi Pagliani, of the University of Turin, Italy.

An elaborate programme of entertainment for the delegates had been arranged by a joint committee representing the Washington Board of Trade and Chamber of Commerce. The programme included a garden party at the White House in the afternoon, trips down the Potomac River on revenue cutters, a pilgrimage to Mount Vernon, an aeroplane and hydroplane exhibition by Government aviators, and a

public reception at the new National Museum

Sir Thomas Oliver gave an address in the National Museum on the 23rd on "Dust and Fume-Foes of Industrial Life." He presented original and new aspects of this problem. Dr. Jacques Bertillon's address on "Mortality and Causes of Death in the Professions' was delivered on Tuesday night.

Besides the separate sessions held daily by the different sections of the Congress. there were six sets of joint sessions, in which two or more met simultaneously. The first of these joint sessions was held Tuesday afternoon at Continental Hall, and related to the section on State and Municipal Hygiene and of Traffic and Transportation. Public health administration in England was discussed by Dr. Theodore Thomson, Chief Assistant Medical Officer of the British Local Government Board: Dr. George Reid, County Medical Officer of Health, Stafford, England; Dr. Cooper Pattin, Medical Officer of Health of Norwich, England, and Dr. E. W. Hope, Medical Officer of Health of Liverpool.

In the same session public health administration in Germany was discussed by Dr. A. Weber, of the Imperial Board of Health, Berlin; Dr. Arnsberg, of the Royal Prussian Ministry of the Interior; and Dr. Kirstein, of Stettin.

Considerable interest centred in the joint session, held on Thursday morning of the section on hygienic microbiology and that on the control of infectious diseases. The Fourteenth International Hygiene Congress, which met at Berlin five years ago, appointed a commission to study the etiology and mode of transmission of infantine paralysis. This commission reported its finding at this joint meeting.

Addresses on infantine paralysis were made by Dr. Simon Flexner, of the Rockefeller Institute, New York; Prof. Paul Romer, of Germany; Dr. Netter, of Paris; Dr. Francis Harbitz, of Norway; Dr. Constantin Levaditi, of the Pasteur Institute, Paris; Dr. Karl Landsteinon, of the University of Vienna; Dr. M. Neustedter, of New York City; Dr. Mark W. Richardson, of Boston; and Prof. Alfred Petterson, of Stockholm, Sweden, who has been conducting elaborate experiments with moneys in his study of the symptoms and pathology of the disease.

589

A National Bureau of Health for the United States was urged by President Taft in his address of welcome to the Congress, and by Dr. Henry P. Walcott, of Massachusetts. President of the Congress.

That children are bad physically in almost direct proportion as they receive insufficient food have little room to live, are forced to sleep in crowded beds and have the reflected worry from taxes and mortgages, was the opinion expressed by Dr. Caroline G. Hedger, of Chicago, who spoke on the 24th on "The School Children of

the Stockvards District."

"Mothers should nurse their children as God intended." declared Dr. William H. Davis, vital statistician of the Health Department of Boston, in the course of his address on the 25th. "Of babies reaching the age of two weeks," said the doctor, "one in five dies before a year old if bottlefed, while if nursed naturally only one in thirty fails to reach the one-year mark. This means that the death of these infants would be 60 per cent, less than they are to-day if all babies were breast-fed." Dr. Davis said the women of Norway and Sweden suckle their babies whenever possible, and for that reason those two countries have the lowest rate of infant mortality of any countries in the world.

"Popularize the birth registry bureau," was the advice of Dr. Helen MacMurchy, of Toronto, in an address the same night. She declared it would reduce infant mortality at once, because it would bring all cases of birth under the eye of the proper She authorities. said health adbirth registry bureau should be vertised so extensively that everybody would know it. She suggested that to illuminate bright lights be used it by night. It was pointed out that New Zealand, which had been the first country to give cash contributions to help expectant mothers, had the lowest infant mortality

in the world.

Germany is building up a greater health reserve among its workingmen than any other country, because of the successful application of principles of workingmen's insurance, declared Dr. Friederick Zahn, of Munich. The foundation of every far-sighted social policy, he said, must be based more on energy reserve than on money reserve. An investment in workingmen's insurance, he added, "is a primary necessity to securing an increase in commercial productivity."

Holding that heredity has nothing to do with character that it is all a matter of environment, Dr. Charles Gilmore Korley, of New York City, addressed the session of the 26th on the theme of "Conservation of Child Life." "We may mould a child largely as we will," said the doctor. "And the fashioning and the moulding, whether it be done well, indifferently or badly, depends more upon the moulder and the children's associations than upon the material worked upon."

He said he agreed absolutely with the person who declared that if two infants, one born in a palace and one in a hovel, both in a fair physical condition, were exchanged on the day of birth, each would work out his destiny along the lines of his environment. The child of the hovel would grow up to the palace and the offspring of the palace would remain on the level of the hovel.

Later, the assertion that "Fatigue was a danger of occupation as truly as any of the industrial poisons and must be recognized as such if it is to be combated," was made by Miss Josephine Goldmark, of the National Consumers' League, New York City. She said: The essential injury of overtime is due to what has been graphically proved in the laboratory with the ergograph, because effort increases fatigue; because work continued after fatigue has set in requires so much more subsequent time for recuperation, but during a "rush" or overtime season such time for recuperation is necessarily lacking. The clerk who is kept in the great department store until 11, 12 or 1 o'clock at night during one or two frenzied weeks before Christmas, or the girl who works at fever heat stitching women's waists in January for the spring trade is not relieved of the necessity of reporting for work the next morning. She comes to work unrested and with each day of overtime accumulated fatigue necessarily grows. It is precisely here that the aid of science is so urgently needed and has hitherto been almost wholly lacking.

For its next session the congress will return to Europe. Although no definite an-

nouncement was made by the permanent committee which selects the place of meeting, it was said unofficially that Moscow, Russia, would get it. The formal invitation from the Russian government asking the congress to come to that country had not arrived, although it was said to be on the way. Invitations were received also from San Francisco and from Brazil. Two successive meetings so far away from the European centres, it was said, would be out of the question.

A resolution for the creation at The Hague of a permanent bureau to have charge of the work of the congresses was adopted. Another requests the nations of the world to gather and publish statistics regarding marriage and divorce, of family statistics in connection with the census, the order of children's births in families and mortality statistics by occupations. A commission to study uniformity in criminal statistics was authorized.

Delegates from the various foreign countries at the closing session expressed their belief in the great benefit that would result to mankind from the important health discussions of this congress.

American Public Health Association.

If there be one thing that modern science has demonstrated it is the staggering cost of vice, disease and drunkenness. The whole tenor of the recent meeting of the American Public Health Association in Washington was an endeavor to present the economic waste due to inefficient bodily machinery. The remedy unanimously advocated was not taking care of the diseased at enormous expense, but prevention with a comparatively small outlay. One speaker stated that the United States paid \$3,000,000,000 annually as the cost of vice in all forms.

Another speaker, Dr. Woods Hutchinson, advocated the abolition of medical mystery, asking that Health Boards be frank and tell the people as much as they can about safeguarding themselves.

"Health authorities should not try to make the people believe that they know it all," said he. "They should take them into their full confidence with what they do know, and tell them that, as knowledge of health problems increases, it will be imparted."

Dr. Samuel G. Dixon, Commissioner of the Pennsylvania Health Department, told how State control of streams in the Keystone State in the last five years had cut down the typhoid rate 60 per cent. Dr. Dixon said, following the reading of his paper, that unless an unexpected typhoid epidemic springs up before that time, it is expected the old rate will be reduced by 75 per cent. by January, 1913.

A mighty wave for better health and sanitary conditions is sweeping over the South, said Dr. John A. Farrell, State Director of the North Carolina campaign against hookworm, speaking later before this Congress of the American Public Health Association. More than 200,000 persons in North Carolina had been treat-

ed, he said.

The Congress, which was the fortieth, adjourned on the 20th of last month to meet next year at Colorado Springs, Col. The convention unanimously adopted the report of the Advisory Council which recommended the election of the following officers: President, Dr. Rudolph Hering, of New York; Vice-Presidents, Dr. W. R. Batt, of Harrisburg, Pa.; James Roberts, of Hamilton, Ont., and J. E. Monjaras, of Mexico; Secretary, Selskar M. Gunn, and Treasurer, Dr. Livingston Farrand.

Chemists in International Convention.

Chemists and scientists from all over the world attended the Eighth International Congress of Applied Chemistry, formally opened by President Taft on the 3rd of September.

The Congress, which seeks to bring about international uniformity in chemical methods, analyses and terms and to fix a universal standard for the pharmacopæia, held

its series of sessions in New York.

An interesting health paper was read by M. H. Hinard, of Paris, with reference to some experiments made by him with domestic filters for drinking water. His examinations were practically with one make of "porcelain" sterilizer, but the general facts secured are of value and importance. "It is necessary," said M. Hinard, "to have the domestic filter respond to certain conditions; it must be able to retain the most subtle organisms, to deliver a certain definite quantity of pure water, and to meet both these conditions for a

long time. This alone is a condition of security." The prime difficulty in such filters has been the penetration of the mass by the impurities, requiring a cleansing from time to time. If the filter is very porous it will require the "regeneration" more frequently. The change that has been made that seems to add efficacy and life to porcelain filters is the substitution for the older material of a porcelain of silicate of magnesia. This material is distinguished by the fineness, regularity and greater number of the pores. Under these conditions the invasion of the material by bacteria is so slight that the mere brushing of the surface of the filter is sufficient to renew it. The speaker brought to notice a newer manufacture of filters of the same material which he had himself used under the pressure of the municipal supply of water in Paris. It was kept running night and day and during the two months and one-half of the experiment was never cleansed. The flow diminished from the first larger quantity to a normal, which was thereafter continued till the end of the run. Bacterial tests were made from time to time, the content of the unfiltered water of Paris being taken on the same day. The latter showed counts from fifty-five to twelve hundred bacteria per cubic centimetre; the filtered water, none whatever. The supply was then tampered with by introducing a culture of colon bacilli 345,000 to the cubic centimetre, but the filter without any cleansing strained them all out and the output continued sterile after the filter had again been put under city pressure, the experiment being continued about a week longer. A section was then made of the filter and its interior proved to be perfectly clean, although the surface showed a thick deposit of compact and coherent slimy material. This was easy to remove, however, by means of a wad of cotton, restoring the surface nearly to its original appearance. M. Hinard characterizes filtration in this way as "simple, economical, and within the reach of everybody."

At the sessions of the same section—hygiene — of the Congress of Applied Chemistry the matter of industrial lead poisoning was discussed by W. G. Gilman Thompson, M.D., of Cornell University Medical College. The lead, according to

this authority, reaches the system in some one of its salts by inhalation in dust, through the mouth from unclean hands and through the clothing which, becoming saturated with fumes or dust, carries the poison into the home. The serious feature from the diagnostic point of view lies in the fact that the malady is insidious; the workman may not be aware that it is lead poisoning that troubles him, for it is sometimes years before serious symptoms manifest themselves.

In discussing the symptoms, Dr. Thompson referred first to the better-known ones, the blue-line gums, painter's colic and the form of paralysis called "drop wrist." But there are other conditions that indicate the There is a change in the white malady. blood corpuscles whereby they show a granular structure, a hardening of the arteries which by reducing their elasticity puts an extra strain upon the heart, the discharges may show traces of lead and there may be chronic disarrangement of the digestive organs. These pointers may lead the physician to recognize the disease before the first-named symptoms are ob-Then there are various other servable. derangements, blindness, headache, pain in the joints, and sometimes mental conditions, insomnia with emaciation.

There is great personal idiosyncrasy in point of susceptibility. Dr. Thompson notes a boy who had been cleaning paint cans for only four months who had advanced symptoms, while others have required thirty years or more before contracting poisoning sufficient to put them out of

employment.

Under what conditions chronic cases originate was next taken up by the speaker, who finds in the manufactories of lead there are many and severe cases. greatest number, however, are to be found among carriage painters, especially those employing processes in which sandpaper is used to secure a smooth finish. The process fills the air with a dust that is very dangerous. Formerly the finishing of Pullman cars was conducive to lead poisoning, but the introduction of improved methods has greatly diminished the risk. About twenty cases were found among workers on warships, where between the two bottoms an automatic chisel was used to remove the paint, producing much lead dust.

When it comes to the remedy, Dr. Thompson finds himself confronted with the usual difficulty, the inability to control the individual. Legislation may make it possible to mark lead products as poisonous and give simple rules for avoiding danger. It may control to an extent the ventilation of smelting works and factories. It may prescribe rules for the sanitation of the workman in the factory, "but how," continues this authority, "shall it reach the independent painter who paints one's barn Yet among painters occurs fully seventy-five per cent. of all chronic cases." There are two ways to meet this difficulty, one to furnish zinc or other non-poisonous paints and the other, to educate the workman. The latter has been begun by giving to workmen coming to Dr. Thompson's clinic a circular of information which contains some general information, some facts with reference to metal poisoning and the following hygienic rules, which while prepared for a special purpose are worth preserving for their value to anyone:

1. General Health. Have plenty of light, good food and fresh air in the home. Sleep at least eight hours every night.

2. Personal Cleanliness. Wash with warm water and soap daily, always before eating and at least one full hot bath a week. Remove all dirt from under finger nails.

3. Never chew tobacco or gum while working. The dust on the fingers is sure to be swallowed.

4. Don't drink liquor of any kind. (It is particularly harmful in lead poisoning.)

5. Never eat when you can avoid it in the same room you work in.

6. Always eat a good breakfast before going to work, especially drink milk.

7. Do not wear the same clothing on the street and at home that you work in. Use overalls.

8. Have at least one good bowel move-

ment every day.

9. Exercise in the fresh air. Live, when possible, some distance from work and walk both ways.

10. Take good care of teeth and gums.

Dr. Thompson urges further a closer cooperation between chemist and physician in matters of industrial poisoning, for they can instruct one another before trying to instruct the workman. The possibility of using the energy of the sun as a substitute for the failing coal supply was the subject of an address by Prof. Giacomo Cinmician, of Bologna, at this Congress. The speaker said that since the earth's supply of coal is limited, it is not too soon to consider the possibilities of getting power from other sources. He outlined a plan of putting the sun's rays to work by a chemical process after the manner of plants. He said:

"If we should become able to utilize the energy of the sun in the way I have described, the tropical countries would become conquered by civilization, which would in this manner return to its birth-

place.

"On the arid lands there will spring up industrial colonies without smoke and without smokestacks; forests of glass tubes will arise everywhere; inside these will take place the photo-chemical processes that have hitherto been the guarded secret of the plants, but that will have been mastered by human industry, which will know how to make them bear even more abundant fruit than nature; for nature is not in a hurry and mankind is."

American Life Insurance Convention.

Women addicted to "high society" habits are undesirable life insurance risks in the eyes of leaders in the American Life Convention which met last month in

Chicago.

All other women are approaching a stage of social, economic and financial independence which is causing them to be considered equally as good risks as men. Self-supporting women in domestic and industrial trades particularly are winning favor with insurance companies and their risk already is classified as safer than most men. Their mortality rate is much lower.

There is opportunity for women as a general class to become safer risks and members of the insurance convention advocated health legislation which would aid in the "conservation of life" particularly of women. P. D. Gold, Jr., of Greenboro, N. C., president of the convention, went on record as in favor of hygienic weddings as advocated and enforced by Dean Walter T. Sumner, of Chicago, in all ceremonies he performs.

"Many life insurance companies," said President Gold, "are removing women from the undesirable risk class. In the past most companies have refrained from soliciting or writing policies for women on the theory primarily that the object of life insurance is to protect women and children after the death of husband and father.

"The proper risk has been on the man—the head of the house. There always has been more or less fear of a policy on the life of a woman, for there have been many unscrupulous men to hasten profit by the death of their wives. Now, however, more safeguards are being used and there is less objection to writing a woman applicant.

"The chief reason for more liberal feeling towards women, though, is found in the large increase in working women. There are some 6,000,000 women earning their own living in America to-day. Many of these have relatives wholly or partly dependent upon them and they make good risks. In the industrial trades women are far better risks than men. Their mortality rate is much lower."

On the subject of hygienic weddings,

President Gold was emphatic.

"Hereditary disease," he said, "is the greatest foe of conservation of life. Marriage of unhealthful persons propagates these diseases. If legislation could be secured making it compulsory that both man and woman submit to medical examination before being granted a license to wed life insurance interests would welcome the law as a long step toward the prolongation of human life."

Eighty-eight of the younger insurance companies of America are members of the organization and during the last year the total volume of business amounted to \$1,325,309,999, according to the official figures given out by the president. This represented a gain of \$278,396,873 over 1911, it is said.

International Notes.

Dr. Frederick A. Washburn, of the Massachusetts General Hospital, was elected President of the American Hospital Association at the closing session of its annual convention last month in Detroit. Other officers elected are: Vice-Presidents, Dr. W. P. Morrill, Winnipeg, and Miss Mabel Morrison, Toledo; Secretary, Dr.

John N. E. Brown, Detroit; Treasurer, Asa Baker, Chicago. In his address, Dr. Bruce Smith, Inspector of Prisons and Public Charities for Ontario, made the announcement that a positive cure had been discovered for delirium tremens—hot baths. He said the method is to place the victim in the bath and keep him there until his illusions disappear.

One of the American delegates to the recent International Eugenics Congress in London explains that the discussions dealt with problems—not with solutions. This explains the vagueness that attaches to the outgivings at the Congress. The delegate in question remarks further that the "abundant discursiveness" of the papers coupled with an "unfailing seriousness" on the part of speakers and hearers tended at times to put a severe strain upon an American sense of humor.

Advance Notices, Alphabetical.

American Public Health Association Congress in the fall of 1913 at Colorado Springs, Col.—particulars later.

Compared Pathology Congress, first will take place in Paris, France, at the Faculty of Medicine, October 16th to 23rd, inclusive, 1912.

Council of Nurses' Congress, San Francisco, in 1915. President, Miss Annie Goodrich, New York

Farm Women, First International Congress of Lethbridge, Alberta, October 21-25. Secretary-Treasurer, Eleanor L. Burns, Lethbridge, Alberta. Geological Congress.—Twelfth Annual Meeting to be held in Canada during the summer of 1913. Secretary, W. S. Lecky, Victoria Memoriam Museum, Ottawa.

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

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

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.

Study and revention of Infant Mortality, american Association for—Third annual meeting, Cleveland, Ohio, October 2nd to 5th, 1912.

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

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

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

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

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

UNITED STATES

United States Churches to Denounce Cure Frauds.

From thousands of pulpits in all parts of the United States, fake cures for consumption will be exposed and denounced on Tuberculosis Day, October 27th. This is part of the program for the movement announced by the National Association for the Study and Prevention of Tuberculosis.

Literature giving information on fraudulent and alleged "cures" for consumption will be sent to clergymen all over the country, and an organized crusade against the traffic in these drugs and devices will be instituted. The literature will be sent to ministers either directly from the National Association office in New York or through the many state and local anti-

tuberculosis associations scattered throughout the country. It is estimated that over 100,000 clergymen will be reached in this way.

From actual records on file in the office of The National Association, it is estimated that the volume of business done annually by the various concerns who sell fake remedies for tuberculosis amounts to well over \$15,000,000. The number of these remedies now being used as so-called "cures" is over 500.

Three classes of "cures" are distinguished by the National Association. In the first class are included hundreds of devices and drugs which can be bought for any sum ranging from ten cents to five dollars at a drug store. The second class

of "cures" includes the "institutes," "professors," or companies of "doctors," who for a consideration guarantee to cure consumption by some secret method of which they are the sole proprietors. There are nearly one hundred and fifty of these institute frauds in the United States, cheating the people out of millions of dollars annually.

In the third class of "cures" are placed a number of home-made remedies, which either through ignorance or superstition have been advanced as treatments for tuberculosis. Some of these are onions, lemons, rattlesnake poison, coal dust, lime dust, pigs' blood, dog oil, milk "strippings," and even alcohol.

None of these remedies will cure consumption, declares The National Association. No drug, gas or other material has yet been discovered, which, when eaten, inhaled or injected into the system, will kill the germs of tuberculosis without doing serious injury to the body. The only real cure for tuberculosis recognized by The National Association consists of the combination of fresh air, good food, and rest taken under the direction of a competent physician.

Boston Racial Comparisons.

"Dr. H. P. Mullowney, of the health department of the City of Boston, has been making recently an exhaustive study of the birth rate in the Hub, and of the condition of the children so far as care and general sanitary surroundings are concerned.

"The first section of the city studied was Ward 8, in which the Jewish element strongly predominates. There the birth rate was found to be 35.37 per thousand in 1911. In Ward 11, that belongs to the aristocracy of the Back Bay district, the birth rate is but 12.90 per thousand.

"When the doctor was asked as to the reasons for the low birth rate in the 'silk stocking district,' he said that conditions familiar in Europe are repeating themselves in the City of Boston. The tendency to race suicide is always more noticeable among the residents of the city, especially among those who, for generations, have been city folks, while, in the rural districts there is always a larger birth rate.

"Not only are fewer children born in the Back Bay district, but those who are born there die at a greater rate than in the other wards where there is less wealth but more babies. In Ward 8 the mortality is 91 per thousand, but in Ward 11 it is 102. Two reasons may be assigned for this difference. In the fashionable wards, parental care is given by proxy to a large extent. Mothers and fathers are too busy, the former with social duties, and the latter with business, to give their children a little attention that means a good deal at that age, both from a physical and an ethical point of view. The servants are entrusted with the care of the children most of the time. And while many of these may be conscientious, too many are not, and the mercenary spirit anyway, cannot take the place of mother love. Then again, as shown by the case of Ward 8, the Jewish race is a strong, healthy race. For generations, they have been taught the sanitary precepts of the Old Testament, and hygiene is almost a part of their religious belief, and it would be a great blessing if others could be made to feel the same way. Though Ward 8 is densely populated, the Jewish mothers, through their strong vitality, dating back to thousands of years of careful living, are enabled to perpetuate the better stock, free from the vices and harmful habits of their aristocratic sisters. This may be mentioned also as a third reason, that the social whirl, the mad rush after pleasures, even if it be so-called harmless diversions, are not conductive to the bringing up of healthy children.

"Boston has long since ceased to be what it used to be, a strictly native American city. The native stock is fast dying out, and the Boston of the future bids fair to be filled with a new population that does not know anything about race suicide, and their dwelling place might

well be called 'New Boston.

"The condition of affairs in Wards 8 and 11 is but a type of a coming transformation, physiological, political and social, not in Boston only, but in many other cities as well."

A Criticism of the Last Flexner Report.

Dr. J. Wallace Beveriege, of the Cornell Medical School, has made a reply to Abraham's Flexner's criticism of Ameri-

can physicians in his German medical college survey. Dr. Beveriege pointed out that the life of the average American was 61/2 years longer than that of the average European, according to the life insurance tables. He named various delicate surgical operations which American physicians perform frequently and which European physicians either do not perform at all or learned to perform from American surgeons, and various discoveries in medicine, surgery, anatomy, mechanical devices, and physiological chemistry which the world owes to American physicians. Dr. Beveriege replied to Mr. Flexner's criticism of American medical schools by saying:

"The eleven students who were graduated from Cornell Medical School this year had 232 men to instruct them. The 79 men who were graduated from Physicians and Surgeons' had 123 men to instruct them. The 193 students who were graduated from Bellevue had had 256 men to instruct them. The 44 students who were graduated from the Harvard Medical School had had 71 men to instruct them. This means, among other things, that every single one of these students got a lot of very valuable individual instruction.

"Abroad, on the other hand, instruction is given by clinics and by big classes of 300 or 400 students. There is practically no individual instruction. doesn't look as if there were very much foundation in Mr. Flexner's statement that the standards of medical education were lower in this country than abroad. "The clinics and hospitals of this city, which are attended throughout the year by our medical students, had 622,000 cases last year. The clinics and hospitals of Boston had 57,000 cases; of Chicago, 487,-000; of Philadelphia, 114,000; of Baltimore, 110,000 cases. This doesn't look as if Mr. Flexner's statement that American medical students study chiefly through Luiz books is correct, does it?

"American physicians have been greatly honored by Europe. Dr. William Osler, formerly of Johns Hospkins University in Baltimore, was called to England to become dean of the Oxford Medical Schools because he was recognized as the greatest

diagnostician in the world. All the world has recognized the greatness of Col. Gorgas, the sanitation expert, who cleaned up Panama; of Gen. Blue, who fought successfully in San Francisco against the bubonic plague.

"In applied science America is quite the equal of Germany, as is shown by the career of O'Dwyer, the inventor of tubes for intubation in diphtheria, by means of which the world has saved the lives of thousands of babies. Our army surgeons in Cuba are recognized the world over as having discovered the cause, transmission, and prevention of yellow fever. Our American physicians were also the first to prove that quinine was an absolute specific for malaria, so that this disease has now been practically eradicated from this country.

"In surgery America is recognized as being far in the lead. The technique of the great American surgeons is imitated the world over. McBurney was the first surgeon in the world to discover the present operation for appendicitis. Murphy, of Chicago invented the intestinal button for the prevention of intestinal anastom-Kean, of Baltimore; Crile, of St. Louis; Senn, of Chicago, and the Mayos, all have developed abdominal surgery to a point where any portion of the human viscera may be removed with safety to the patient. Surgeons abroad never could do any such thing before our American surgeons began doing it. The sewing up of the heart, which is done by American surgeons, has never been done abroad, even to this day.

"America also has made the greatest advance in applied medicine, in serum therapy and in the injection of alkaloids. The work of Dr. Beebe, of Cornwell, in discovering means of preventing the virulent diseases from devouring the body has marked an era in the world of therapeutics. No European physician ever tried using saline solution to preserve the eyes of persons dying from hemorrhage until Dr. Loeb, of Chicago, did it.

Dr. Chittenden, of Yale, has been honored by every university abroad for his work in physiological chemistry. Dr. George Huntington, of Columbia, is the foremost anatomist in the world. In Ber-

lin in 1907 he was conceded the greatest living anatomist, with Mr. Spitzka, of Philadelphia, and Dr. Gallaudet, of Columbia, as close seconds.

As for America's advance over Europe in the mechanics of surgery, an American first invented the opthalmoscope. American is the only country which has perfected the use of the cystoscope. If it hadn't been for the genius of American physicians the X-ray would have been of no surgical value. It was an American, Dr. Morton, of Boston, who in 1859 first discovered the possibility of the use of ether as an anaesthetic, and thus made modern operations possible.

"America is the only country where every city's water supply is examined chemicaly daily by the Health Departments. According to the table of the life insurance companies, the length of life of Americans is six and a half years greater than that of Europeans. The Germans, it is true, are prolific writers. But what they say in twenty pages our American medical writers frequently say more lucidly in half a page.

"In physiological chemistry American physicians discovered the Vidal Reaction. Dr. Nagouchi, of the Rockefeller Institute, has modified the Wasserman test of blood disease so that it is now 100 per cent. accurate. In six of the medical schools of this country the degree of at least A. B. is demanded before admission. These medical schools are Johns Hopkins, Cornell, Yale, Harvard, Pennsylvania, and Physicians and Surgeons."

Dr. Beveriege also mentioned the invention of the spinal meningitis serum, the diagnosis here of the recent unclassified German plague, and our quarantine system as examples of the superiority of American over European physicians."

United States Notes.

In promulgating the new sanitary code for Mississippi the state board of health announces that the prime purpose of its work is to protect the public health and that the code is designed to prevent sickness, lower the death rate, and lengthen human life. The board announces that it is not its purpose to institute legal proceedings against any citizens for violating the rules and regulations for the protection of public health, unless it becomes absolutely essential. It is the aim and desire of the board to educate the people concerning sanitary subjects, and thus secure their co-operation, instead of making them observe these rules through fear of the law. It is a campaign of education, and not one of persecution or unjust oppression, and there is no reason why every citizen should not co-operate in the movement, if he has his own welfare and that of his fellow beings at heart.

A recognized health department and a public health board with authority to make and enforce ordinances affecting public health are recommended for Minneapolis in a report by Dr. Herman Biggs, New York health officer, and Prof. C. E. Winslow, of the biological department of the University of New York. The report was solicited by the Civic and Commerce Association of Minneapolis, and is said to have resulted in an extended investigation by the New York health authorities.

The California State Board of Health held its third annual conference of State, County and Municipal Health Officers, September 23rd to 28th, inclusive, at the Mining Building, University of California, Berkeley. The health officer of each county and incorporated town or city in the State was invited to attend.

Dr. Lillian H. South, state bacteriologist for Tennessee, after the examination of many specimens of the housefly sent her from sections affected with hookworm. has found that the insect carries the eggs of the parasite and is responsible for the transmission of the disease on a large scale, according to reports from the office of the state board of health. The examination of flies caught in breeding places of the hookworm revealed hundreds of eggs and larvae on the abdomen and legs of the in-In some instances the eggs had hatched, and the infinitely small worm, which later grows to be half an inch long, could be seen under the microscope. The discovery is regarded as one of the most important in the hookworm campaign started by the Rockefeller foundation fund.

The pure food bureau of the state department of agriculture, of Alabama, has sent out two circular letters calling attention to the necessity of registering all brands of commercial feed stuffs and to the regulation requiring all food and drugs sold in Alabama must bear either a federal food and drug guarantee or a state guarantee. These circulars have been mailed to all manufacturers of feed stuffs and to manufacturers and packers of food and drugs, doing business in this state.

Through the generous humanitarianism of Mr. Henry Phipps, a wealthy citizen of Pittsburg, Pa., a Psychiatric Clinic and hospital at Johns Hopkins in Baltimore has been founded. It is to be an establishment devoted to the general study and diagnosis of all stages and grades of metal disorder. The theory is that many persons who become insane might be saved if they were taken in charge in the early stages. It is a step, it is explained, as far away as possible from the old system under which the mentally incompetent were cooped in institutions that were bedlams rather than hospitals, and which tended to promote rather than check insanity. It is at variance, also with the theory of heredity and degeneracy, and is based upon the hope that properly treated at the right time victims may be restored to their right minds. The methods to be followed are those of study and diagnosis, the segregation of patients in institutions particularly adapted to their cases.

A school health survey of Minnesota has been begun by Dr. E. B. Hoag, special director of school hygiene for the state board of health. To secure information for health officials. 25,000 circulars on which children and teachers are required to answer certain questions, were sent out. Questions pertaining to the child's hearing, sight and mode of living are among those asked. "We find too many children come to school without breakfast," said the expert. "Too many drink too much tea and

coffee and too few sleep in properly ventilated rooms. We ask them to tell if they cannot see the blackboard plainly, whether they suffer earache, use a tooth brush and other questions of that nature."

Near Columbus, Kansas, recently a woman was discovered in the act of applying concentrated lye to her head for the purpose of "killing the germs." She was apparently most rational on every other subject but declared her head was full of disease germs which worked their way up through her scalp. This is an unusual but not altogether surprising illustration of the effect on one nervous temperament of reading too much concerning the theory of germ origin of disease.

Under the direction of Elizabeth L. Martin, M.D., Pennsylvania chairman of the committee for "public health education among women" of the Pennsylvania Medical Society, there was an open meeting for women held on Wednesday, Sept. 25. The following topics were presented and discussed. "School Inspection and the Needs of Defective and Feeble Minded Children," "Prevention of the Social Evil," "How to Teach Children Concerning the Origin of Life," "Parent and Teachers Association and the Health of the Child," "The Inception of a Sane Fourth of July."

Federal investigators began on the 24th of last month to examine the records of the city health department to determine whether there is a basis for the belief that a "trust" controls the price of milk in Chicago. It is expected it will take several

weeks to make the examination.

Advance Notices, Alphabetical.

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

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

Conservation Congress, October 1st, 1912, Indianapolis.

Infant Mortality, American Association for Study and Prevention of. Cleveland, Ohio, Oct. 2-5. Executive Secretary, Gertrude B. Knipp, Medical and Chirurgical Faculty Building, 1211 Cathedral St., Baltimore, Md. Municipal Improvement, American Society on.
Dallas, Texas, November 12-16. Secretary, A.
Prescott Folwell, 50 Union Square, New York.
National Dental Association, Washington, D.C.,
September 10-13, inclusive, 1912.

Pellagra, National Association for the Study of.

secured from Dr. J. W. Babcock, Columbia, S.C.

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

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

THE EMPIRE AND THE WORLD ABROAD

An English Medical Officer on the Definiconsidered that a house should be contion of an Insanitary House. sidered as unfit for human habitation (1

At the recent annual meeting of the North-Western Centre of the Sanitary Inspectors' Association of England, New Brighton, under the chairmanship of Mr. Frederick Smith, of Lancaster, a paper was contributed by Dr. T. W. N. Barlow, Medical Officer for the Borough of Wallasey (of which New Brighton forms a part), entitled "What is an Insanitary House?"

Dr. Barlow pointed out that there was no definition of what constituted an insanitary house in any Act of Parliament. He considered it was impossible to give a definition in terms, for it was apparent that the terms "reasonably fit for human habitation" and "dangerous or injurious to health" left room for wide divergencies of opinion amongst people called upon to make the judgment. Quite apart from the house itself, the habits of the persons inhabiting the house and the standard of housing in the particular district were factors of very considerable importance. In fact, he thought the filthy habits of the inhabitants was often the only factor rendering the house unfit. With regard to the standard of housing being an important factor, let them take Liverpool as an old town and Wallasey as comparatively a new place. In the former were courts and alleys, relics of bygone days, but Wallasey possessed practically no insanitary houses beyond a few old cottages. In dealing with insanitary dwellings, the medical officer of health naturally commenced with the worst, and unless one wished to create a situation worse in the cure than the disease itself, houses must be dealt with gradually. Thus it followed that houses in Wallasey represented as unfit would be allowed to stand in Liverpool, not because they would be thought fit there, but because there were worse houses to be dealt with first. He

sidered as unfit for human habitation (1) if it was grossly out of repair; (2) if there was not a water supply for each house; (3) if there was not a separate lavatory; (4) if there should not be satisfactory light. through ventilation, and sufficient airspace round the house; (5) if it did not possess facilities for washing clothes, or if there was none available close at hand in the form of a public washhouse; and (6) if it did not contain a proper receptacle for food storage placed in a suitable position. The first four were absolute essentials, and the latter two came under the head of what he designated "facilities for decent living." Dr. Barlow expressed the opinion that it would stiffen the backs of lackadaisical authorities and stimulate housing reforms if the Local Government Board stated in an order what, in their opinion, constituted the minimum requirements of a house to be considered fit for habitation. As sanitary administrators, it should be their endeavor, as far as was reasonably possible, to raise the standard.

Public Health in Johannesburg.

The biennial report of Dr. Charles Porter, the Medical Officer of Health of Johannesburg, is a document of interest, inasmuch as it forms a record of the sanitary progress of a city whose growth and prosperity are one of the romances of British colonial enterprise. The supervision of the public health of a city whose population approaches 250,000 is, in any circumstances, a task of considerable magnitude, but it becomes quite exceptional in the case of a city like Johannesburg with the peculiar problems of a mixed population and a growth of feverish rapidity. The progress which is revealed by Dr. Porter's report is truly remarkable, and we may take the statistics in regard to typhoid and enteric fevers as an indication of what has been accomplished. The figures as to the former disease show a decrease in mortality of about 40 per cent., and a steady decline in the number of cases. As regards enteric, too, it is very satisfactory to observe that the prevalence of this disease during the period 1906-9 was 50 per cent. less than in 1903-6, while the triennium 1909-11 showed a further decline of 41 per cent. Dr. Porter fairly points out that there is still considerable room for improvement, but, having regard to the peculiar local circumstances, the results are very encouraging and reflect great credit upon all who are immediately responsible for the public health of the city.

Health and Sanitation in Ashanti.

Mr. J. J. Thornburn, C.M.G., Governor of Ashanti, in his annual report for 1911, recently received at the Colonial Office, states that the most important event of the year was the taking of the census of the population, which showed a total of 287,814 -141,231 males and 146,583 females. It is generally admitted, however, that these numbers do not represent the true state of affairs by at least 20 to 25 per cent., as the returns invariably underestimated the population, probably owing to a nervous feeling with regard to future taxation. The figures cover an area of roughly 20,000 square miles, or a population of 14.4 per square mile. The Europeans numbered 223. The health of the latter during the year was good. There are in Coomassie 23 Syrians, who suffer considerably. They live with their wives and children among the native population in more or less a state of squalor. They seldom take quinine, and suffer from malaria in consequence. There were three cases of hæmoglobinuric fever among them, one ending fatally. In Coomassie Native Hospital the admissions for the year numbered 657 and the deaths 27, whilst the out-patients, including new cases and old, totalled 41,058. The Ashantis have not as yet much faith in European medicine, and trouble the doctors but little, and then only at the eleventh The outbreak of smallpox, which commenced in 1910, continued for the first four months of 1911. Thirty-seven cases

were treated in the isolation hospital at Coomassie, 11 ending fatally. A native public vaccinator has been appointed who travels through the country vaccinating the inhabitants. He has met with marked success, the people willingly presenting themselves for vaccination, about two-thirds of those vaccinated being successful. The vaccine lymph, as supplied from the Government lymph establishment, Accra, was found very successful when it was used as soon after receipt as possible. Four cases of trypanosomiasis were treated in Coomassie during the year; among these one death occurred, whilst in the other three it is recorded that the disease disappeared after a period of treatment. Four more cases were under observation in a village near Coomassie, and after a long course of atoxyl treatment the parasites disappeared from their blood and the people are stated to remain in a healthy condition. The following medical officers were on special sleeping sickness duty at British Kratchi during the year: Mr. G. J. W. Keigwin, Dr. E. Slack, and Mr. A. M. Dowdall. Amongst the cases they treated they record three deaths and five recoveries after long courses of atozyl. In Northwestern Ashanti there were 17 deaths. The sanitation of the four centres of administration—viz. Coomassie, Obuasi, Sunyani, and Kintampo —was kept in an efficient state. The incinerators in Coomassie and Obuasi work fairly well, considering the amount of refuse they have to deal with. An incinerator has also been built at Kintampo. permanent gang of 75 scavengers under one inspector and three headmen was kept busy in looking after the sanitation of Coomassie, as the town is rapidly growing. being now of about 19,000 inhabitants. Mosquitoes were few in cantonments and in the European quarters, but more numerous in the native quarter. Good vegetable gardens were maintained by the medical officers at the various stations.

Dr. Gaston Odin's Report on Cancer.

A discovery concerning cancer is announced by Dr. Gaston Odin, a French physician.

Dr. Odin announces that he has positive proof that cancer is a germ disease; that

he has isolated the germ and made photographs of it.

Dr. Odin states that it is not a bacterium, such as causes typhoid fever and the majority of germ diseases, but a minute form of animal life called a protozoon. It belongs to the same order as the parasite which causes malaria.

In beginning his researches, Dr. Odin argued that cancer was a germ disease because it spreads rapidly to various parts of the body. He argued that only a germ propagating in the blood could produce the results which are commonly seen in cancer.

Dr. Odin made the announcement of his discovery of the germ before the Society of Biology. He will make a fuller report on the subject before the Congress of Comparative Pathology in Paris. He has yet to make known the composition of the reagent which he uses to stir the germ to activity in blood specimens and of the serum which he hopes will cure the disease.

In his brief report to the Society of Biology, which is the only official report he has yet made, Dr. Odin says:

"In a communication to the Society of Biology on June 22 last I stated the results of my earlier researches on the blood of cancerous persons. I then said that cancer was a disease that gradually spreads through the blood, and I stated that if it was caused by a microbe it would be found in the blood. Experiments at that time seemed to show that I was right. I had then examined one hundred and fifty specimens of blood from different persons, among them seventy-nine cases of epithelioma (cancer of the skin). These showed the invariable presence of growths having the form of amoeba and showing the characteristic amoeboid movements.

"The further study of this question now enables me to present to you further information on the form of the organism which I first observed.

"I took the blood of a cancerous person, and placed a specimen of it on a microscopic slide. I observed the presence of a great number of little forms having the shape of horse chestnuts with their shells on. These forms appeared sometimes fixed on the red corpuscles of the blood, and

sometimes in a free state in the blood serum. What struck me most when I first examined them under the microscope were the movements they made. Each of the knobs on the chestnut-like form seemed to correspond to a kernel. There were a large number of kernels in each microbe. The chestnut-like shapes were larger than those of the red corpuscles. These curious forms were constantly turning over and moving from one spot to another.

"When I placed on the microscope slide a chemical re-agent which I had prepared I observed after a certain time that a number of red corpuscles seemed to have increased, while the chestnut-like form remained the same. The explanation was that the germs had detached themselves from the red corpusles. At the end of a few minutes I saw the germs beginning to move more rapidly, then increase in size and finally send out protoplasmic feelers in the manner of an amoeba.

"As the microbes were growing they took certain forms with a remarkable regularity. These forms were like leaves with 4, 5 or 6 leaflets, or like tennis racquets, or like crosses, or like the letter 'H,' with unequal legs.

"In addition to these forms I discovered spherical forms resembling the bodies which Dr. Laveran has described as causing malaria. These spherical bodies which I observed presented a number of arms, or flagella. I observed 4, 6, 9 and 14 arms in different cases. At certain moments these arms would detach themselves from the spherical body and move through the preparation with a snake-like motion. Sometimes, indeed, one end of the arm would swell up like the head of a serpent. Each of the arms possessed power of movement by itself, independent of the spherical body.

"I am satisfied now that in cancer we have to deal with an organism that attaches itself to the red corpuscles, but may also be found in a free state in the plasma of the blood. We are in presence of a protozoon of the family of haematozoa. This parasite I propose to call Hemamoeba neoformans (blood amoeba, which forms new tissue).

"It follows from what I have just said that analysis of the human blood containing the bodies described above would enable the physician to diagnose cancer with certainty in any person whose blood shows these bodies."

"Has the medical world passed any judgment on your discovery?" was asked.

"I have not yet laid all my results before my colleagues," he answered, "but so far the reception has been most encouraging. I arranged with Professor Matruchot, of the Sorbonne, for a test of my re-agent, which decides the presence of cancer in the blood.

"Eight test tubes—five containing blood from cancerous persons and three that of normal persons—were prepared at the School of Medicine in Paris by Dr. Keating Hart, the well-known specialist.

"The tubes were numbered and accompanied by a sealed envelope describing their contents, and were placed in Professor Matruchot's hands. I then proceeded to an examination before my colleagues and was able to recognize every case by the re-agent, whether the blood was from a cancerous person or not.

"I made a second demonstration at the School of Medicine, and obtained similar resuls. Professor Matruchot was quite enthusiastic about the work.

"One of the great things which I expect to accomplish is to relieve a sufferer from the terrible uncertainty which now weighs on him. If a man has a tumor the re-agent will show positively whether it is a cancer or not.

"If he has the disease then will come the curative treatment. The tumor will first be removed and a few days after the operation the serum will be injected. Even after the germs have disappeared injections will be given at long intervals as a precaution.

"I do not expect to cure persons whose blood is saturated with the germs, but when it is not too badly infected I feel confident of the efficacy of the serum."

Indian Sanitation.

Measures for the improvement and strengthening of the sanitary services in India are about to be effected. They include further decentralization of control, and a widening of the field of recruitment by throwing open the higher posts to fully qualified Indians of proved aptitude.

The local governments are to be empowered to select their own sanitary commissioners from officers serving in provincial sanitary departments, under certain limitations as to previous sanction The existing number of deputy sanitary commissioners is inadequate in more than one province, the area served by one of these officers in Madras being more than 129,000 square miles with a population of thirty-six and a half millions. It has been decided to create eight additional appointments of this class. The deputy sanitary commissionerships will no longer be reserved for officers of the Indian Medical Service, and Indians possessing the necessary qualifications will be eligible. The candidate must hold a British diploma in public health and be a properly qualified medical practitioner.

A scheme has also been sanctioned for the appointment of health officers of the first class for the larger muncipalities and of the second class for the smaller towns. to supplement the work of the district civil surgeons, who, as a rule, are the only health officers of the towns of their respective districts. A health officer of the first class must have a registerable medical qualification and a British diploma in public health. It is hoped that it may be possible to remove the second restriction so soon as arrangements can be made in India which will enable Indians trained there to become health officers of the first class.

Notes of Empire and World Abroad.

The British Hospitals Association held its annual conference in Birmingham on September 19 and 20. Between 150 and 200 delegates were in attendance. A reception was held at the Council House by the Lord Mayor on the opening day, and visits were paid by the delegates to several hospitals in Birmingham and the district. Papers were read by Sir William Collins and Mr. J. Danvers Power, by Mr. E S. Kemp on "The Training of Almoners," by Dr. Nathan Raw on "The Insurance Act." and by Dr. Josiah Oldfield on "The Site and Size of a Hospital in Relation to its Efficiency." Mr. Howard Collins, the house governor of the Birmingham General Hospital, had charge of the arrangements.

An interesting exhibition, organized by the British Society of Medical Officers of Health, is being held at the society's headquarters, 1 Upper Montague Street, Russell Square, W.C., London, England. Medical officers play so important a part in the administration of the Insurance Act that the society considered it essential to provide a recognized centre where all the most modern appliances, fittings, materials, and products relating to sanatoria, tuberculosis dispensaries, and the treatment of tuberculosis should be available for inspection at any time. The present exhibition is the result, and it is comprehensive in character, ranging from plans and economical materials for the building of sanatoria down to an anæsthetic syringe. Chief interest, perhaps, centres in three excellent shelters which are shown. In one of these the doors and windows are removable, and the shelter can be turned round easily to protect the patient from winds; whilst another consists of a hut with a louvre roof and a system of venetian blinds so arranged as to exclude the rain without affecting the ventilation.

Londoners have every reason to be proud of their great medical schools and it is interesting to note that an American commission lately appointed to study the methods of medical education in Europe indicated in its report that in London the facilities for sound, practical training, combined with scientific teaching, appear to reach the maximum point. Indeed, it is the uniformly high standard maintained at each of our large teaching hospitals that makes it possible for anyone to write an article on their respective merits without fear that invidious distinctions must necessarily be made. Unfortunately it is not the case that all these schools are well enough off to develop their resources as far as would be desirable for the good of the public health. One day it will be more generally appreciated that every private individual who is restored to health by expert attention from doctors, specialists, and nurses, owes his recovery in large measure to the splendid training schools in which those experts acquired their skill. The better endowed and more scientifically equipped the medical schools may be the greater the advantages

that must result to the general well-to-do public in times of sickness. The debt of private individuals to the hospitals from this point of view is not always remembered. But it is almost certain that the full endowment of several first-class medical colleges in London will be brought about in the future.

The Grand Duchess of Hesse-Darmstadt has adopted an admirable expedient for assisting the campaign against consumption, in which she is greatly interested. She has asked the manufacturers of matches in the Grand Duchy to print on each box of matches rules for fighting tuberculosis. This will now be done without increasing the cost of matches. If the idea is supported in Hesse-Darmstadt it will be imitated in other parts of the Empire.

The danger of spreading disease by repeated use of medicine bottles has not attracted the attention it deserves, though in France it has more than once formed the subject of warnings by the Superior Council of Hygiene, to say nothing of health associations and professional newspapers. Among the poor of large towns it is not uncommon for patients who pay very little, and sometimes nothing, for medical treatment, to get fresh supplies of medicine in the old bottles, the reason being that the doctors and dispensaries simply cannot afford to provide new ones. It is then that danger arises. The old bottle may come from a house afflicted by diphtheria, scarlet fever, measles, whooping cough, consumption, or other disease, the germs of which may be transferred to the hands of the dispenser, and thence to medicine intended for other dwellings. If he happens to be making pills or preparing powders, when the infected bottles arrive, the risk is great.

Mr. Brittain, who represents the United States as consul at Prague, is authority for the statement that his post is in a city literally without flies either on it or in it. His sincerity in the statement is attested by his report earnestly suggesting to American manufacturers of fly paper the uselessness of sending that commodity to Prague. There is, he says, no market for

fly paper because there are no flies. concedes that three or four flies may visit the ordinary dining-room in the course of They are not kept out by a summer. screens, the demand for fly screens being as non-existent as that for fly paper. But the scattering flies become discouraged by the scarcity of their food and either seek more hospitable localities or give up the struggle for existence under the evident impression that in a contest for the survival of the fittest they are outclassed. happy immunity, the consul says, is attained, not by fly-swatting campaigns, which attack the evil at its symptoms instead of the source. The consul reports that all the buildings, pavements and sidewalks are of brick, stone or concrete. "Decaved or decaying vegetable or animal matter is not left exposed." The streets are cleaned several times each day. No open drains are allowed, and consequently flies can not breed in the filth. In short, the places where flies can breed being abolished, the flies disappear.

Before the French Academy of Sciences, M. Roux presented recently the sults of experimenters by Charles Nicolle, L. Blaisot and A. Cuenod, of the Louis Pasteur Institute, on trachoma in monkeys. The investigators find that the Barbary ape, one of the smaller monkeys, is peculiarly sensitive to this disease, the microbe of which will pass the filter. By contact with the diseased portions of the eye, the tears catch the infection and remain virulent. The investigators are of the opinion that the infectiousness of the malady and the length of time that communicability is possible make justifiable most stringent measures of separation and prophylaxis.

In the Comptes Rendus of the Societe de Biologie, Dr. Charles Richet, of the University of Paris, presents some considerations of anaphylaxis. This is the process whereby one treatment with a substance makes the subject more than ordinarily sensitive to further treatments or inoculations, which may prove fatal. In this case the investigator was determining the length of time through which the unusual susceptibility would remain. He found that a

dog fed with six grammes of crepitin without inconvenience was killed by an inoculation six months later, the latter being of the minute amount of thirty-two milligrammes, while other control dogs were not affected by the same amount. "Alimentary anaphylaxis," writes Dr. Richet, "no longer to be doubted, can thus be valid for long terms, and in considering what is known of human alimentary conditions makes it certain that some individuals may retain in their systems a hypersensitiveness toward certain substances that are inoffensive to normal persons."

H. Busquet and M. Tiffanet, two French experimenters of the University of Nancy, have been considering the action of coffee on the heart, using the rabbit for the in-Work was conducted with vestigation. coffee and with caffein, both of which produced an acceleration of heart beats, the latter when injected into the blood effecting the same stimulation. No such action followed experiments with decaffeinized coffee. It is to be asserted, therefore, that caffein is the principal cause of effects of coffee on the heart. There is some question, however, in the minds of these men about the propriety as yet of transferring these conclusions to the human heart.

The Annuals of the Pasteur Institute note that a rabbit has been found that is immune to rabies, even with intercranial inoculations. It is noted by Dr. Viala as the only instance in fifteen years' experience. There has been an effort to secure from this creature an anti-rabic serum, but without success.

Advance Notices, Alphabetical.

Chambers of Commerce of the British Empire,

Toronto, Ontario, in 1915.

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