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CANADA
HEALTH JOURNAL

A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—
EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

For Contents see next page.

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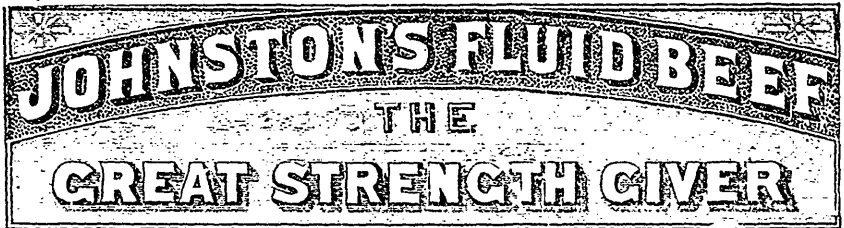
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CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XII.

JANUARY, 1890

No. 1.

POPULAR ESSENTIAL MEDICINE—PHYSICAL EDUCATION.

THE Medical and Surgical Reporter, an old established Medical Weekly of Philadelphia, says: "The crying want is the better education of the public in hygiene." This appears to be the universal opinion of both the medical press and the profession. Ignorance of the simple natural principles of health is probably to-day the most prolific cause of disease. The British Medical Journal, on the spread of infection, says: "Unfortunately much too frequently it is the result of gross ignorance." In a recent address by the Mayor of Concord, N. H., he said: "The urgent need now seems to be the more thorough education of the public in regard to sanitary requirements.

No one probably will deny that at the present time one of the greatest, if not the greatest, public need is the instruction of the masses of the people in that part of advanced medical knowledge which relates to the prevention of disease and the preservation and prolongation of human life, especially of infantile life. While for the most part medical knowledge must essentially be confined to the few who make it a life study, much of that part of it termed preventive medicine, or in other words, public and individual hygiene, is simple and easy to comprehend and should be public property. The wider it is known the better for the public—for the race.

When man lived in a more natural state—in caves in the forests or tents in the fields, roaming about in absolute freedom—he was safely enough guided in the acquirement of the essentials of his health and life by his natural instincts alone. Now after thousands of years of progress, in his entirely changed life, when with thousands and hundreds of thousands of

his fellow creatures he congregates into communities which dwell in practically impervious habitations that shut out the essential fresh air provided in such unlimited abundance; when the accumulated waste products of the active life of these enormous communities befoul the air and the water and even the food he consumes; when he clothes himself in a variety of fashions, which, considering not the functions of life, does much to obstruct and destroy them; and when to keep even with his fellows in the competitions which surround him he rushes all too soon to life's end, or in an accumulated wealth of idleness decays into disease and death; now, in this entirely changed and unnatural state, the instincts of his natural state no longer guide him, indeed do not exist, and were they still in existence would be no longer of use to him. In his present advanced condition, reason might be supposed to guide man in the ways of preserving his health and life, but in his headlong progress of centuries, while he has crushed out instinct he has not properly exercised his reason,—not even acquired the knowledge upon which to base reason, or at least not in this behalf. As Dr. Skene says, in his admirable work on "Education and Culture as related to the Health and Diseases of Women:" "The human race suffers because it has broken away from the laws of instinct, and not yet learned to fully obey the laws which a higher brain development has imposed. More than half of the misery and suffering which torture human beings comes from errors of judgement and reason; the faculties of the brain were intended to guide men in their life-work, but because of unfavorable education and misdirected

use, they often lead to disease and suffering. Though destined to the highest power and enjoyment in life by virtue of great intelligence, mankind is capable of the greatest degradation and misery when guided by perverted reason and biased judgement.

In regard to the care of human life man is now, for want of proper education, far behind the ancient Greeks and Romans and even the Egyptians and Jews. In all his progress and wisdom, in all his thirst for and acquisition of knowledge, man has failed to obtain that knowledge of himself and his environment which is now indispensable to his own protection and preservation. And from want of this knowledge, not only has the average of his life been immensely shortened, but his needless sufferings have been and are now incalculable. In his rush for position or honor or wealth, or for only the gratification of his appetites, man has failed to calculate the costs of these in health and vitality. Indeed, scientific medicine has but recently clearly demonstrated these

costs. Had the masses of the people but been educated in the essentials of popular medicine, or hygiene, a large proportion of the many millions of human lives which civilization in its blind progress has sacrificed would have been saved and incalculable human suffering avoided. Sites of cities would then have been drained and seweraged; dwellings, schools and all work-rooms would have been properly ventilated; infectious diseases would have been greatly suppressed or entirely stamped out; mothers would have known how to feed and bring up their infants to maturity, and we should not now have before us the unnatural spectacle of nearly one half of man's progeny being destroyed before reaching the period of manhood or womanhood, by the numerous enemies of human life to which for the most part man himself has given rise. And man would now be a more perfect being physically, and as a race doubtless of higher mental endowments. He would, in short, on the average at least, be a better bred creature than he is at present.

ON THE PREVENTION OF "COLDS."

MANY a severe case of illness that leads down to death, and cuts off a most valuable life, perhaps that of the head of a family, has its starting point in what is commonly called a "cold." Whatever may be the precise physiological or pathological condition of the body which a sufferer so universally designates as a cold - and the condition is not very well understood, there is a most complete consensus of opinion amongst medical authorities, which is being continually strengthened by clinical experience, that the tendency to take a cold is best overcome by invigorating the great emancipatory organ which invests the body, namely the skin. Clothing and the habits of civilised life tend to hamper and relax the skin and make special effort necessary to secure and maintain the highest efficiency of this organ. The skin must be prepared to meet and resist atmospheric changes by systematic treatment.

An excellent paper was read at the recent Brooklyn meeting of the American Health Association by an experienced physician of Richmond, Ind., on the subject of clothing. In this the author contended that in the present age most people clothe too warmly. The skin is thus enervated and weakened, and cannot then respond vigorously to atmospheric changes. People, he contended, as we often have contended in this JOURNAL, are too much afraid of feeling the cool air on the skin, whereas the effect of such a feeling is to invigorate the skin, and through it, the whole body. Medical opinion is strongly against the overclothing of the present age. While the skin is thus relaxed and weakened no means are used for invigorating it.

To prevent colds then adopt measures for developing the vigor and elasticity of the skin. Cool bathing is the great measure for this—the one great preventive remedy

for colds. The full plunge bath, while good for some individuals, is not at all necessary. The daily sponge bath, or a wash all over with the hands (which are much less unpleasant than a sponge or towel) just as one washes the face on rising from bed in the morning, in the bed-room, with a quart or two of water, as the writer knows from over a quarter of a century's personal and other experience, answers a most excellent purpose. Even the daily bathing of the front and back of the chest, with a semi-weekly general wash in the colder weather, will usually prevent "colds." A little brisk rubbing with an ordinary towel and the dry hands to promote reaction is usually better than the use of the flesh brush or "bath towel." On commencing the practice, the temperature of the room and the water should not be such as to give rise to much chilliness, but after practice the temperature of both may and should be lowered

gradually. As the New York Medical Times instructs: Begin with such a temperature as is easily within the reactive powers already present, when the time of exposure is properly regulated, and increase the demand for reactive effort as the ability to respond becomes greater, and thus develop the peculiar powers of the skin by use, on exactly the same principle that is universally applied in strengthening the muscles.

The universal practice of cool bathing in this way to counteract the enervating effects of the present methods of clothing would alone save a vast number of lives. So far as we can learn but few are in the habit of a daily or frequent use of the cool bath. By it the skin is not only given tone and elasticity, but the mouths of the pores are kept open and the great investing organ has a chance to fulfil its purpose and function.

EASE OR COMFORT AND DISCOMFORT IN RELATION TO HEALTH.

REPEATEDLY in this JOURNAL we have lamented and protested against the many needless noises to be heard in every city and town and too often in even small vilages. Leading medical journals have discussed this question and the effects of such noises on the human organism. To many people these noises are a source of great discomfort. Their injurious effects in preventing sleep are incalculable and very great. Some people can never become accustomed to sleep amid noise. Irreparable harm is not infrequently done to convalescent patients by loss of quiet rest and sleep from various noises. It is the duty of the sanitarian to take cognizance of all agencies which prevent recovery from disease and which interfere with the full development, vigor and exercise of all the functions of the human body, and which tend to irritate and depress the organism and so to predispose it to disease. "The contest against disease which preventive medicine contemplates, and which it is

now reducing to a scientific and physiological basis, necessary and hopeful as it is, cannot afford to neglect this comfort-saving aspect, so closely associated and so potent in determining results.

Besides needless noises, such as those of steam whistles, dogs, cats, cock-crowing and, sometimes, the persistent shoutings of school-boys, there are other nuisances which demand like notice. These are smoke, foul smells from various manufacturies, dust, as from carpet beating, stables, piggeries, and such like.

As the medical officer of Cleveland, Dr. Ashmun, in a recent paper bearing upon this subject, said: "It is an exploded sophism that it is better to bear all sorts of discomfort than to make a fuss and be rid of them, even, though in retrospection it must sometimes be confessed that it would have been better to bear certain ills than fly to those unknown. It may be and often is easier to simply endure many of the causes here enumerated than to contest them, but there is now a positive de-

mand upon the people to assert that individual and family comfort is an essential factor in the welfare of the people ; that it is a worthy object of effort to obtain and defend, and that money making and money makers while necessary and important factors, cannot be allowed to encroach upon this natural franchise. Here lies the broad field, and in that field this element of comfort has a place which the people for themselves should demand, which courts, as agencies for the protection of the people's interests, should recognize as a legitimate and reasonable demand, which all classes in our communities as related to each other and the whole should be ready to promote and defend as superior to amassing fortunes by the few, which health officers and authorities should insist upon as one of the important ends of their work and purpose to secure."

Legislation may be needed in relation to the suppression of all such nuisances as above named, but possibly magistrates and judges now have the necessary power to deal with them. One great difficulty, especially with the average jurymen, is the low value placed upon certain states of body and mind which are absolutely essential to health—to rest and sleep, after labor as well as after an attack of illness. There is

too often a tendency of courts and juries to require proof of past, present or prospective definite injury, to property or health. It is usually impossible to show that any such nuisance has given rise to a recognized disease, although making some people absolutely and "utterly desperate in their uncomfortableness," and more.

One other point in this connection we may here note. Many pavements give rise, during traffic upon them, to intolerable noise, and municipal authorities contend that the people interested cannot afford, on account of the greater costs, to lay down noiseless pavements. Now into the consideration of this question of "affording" the extra expense, a great many yet unconsidered points should enter, some of which are indicated above. Would it not be vastly better for all communities, liable to be exposed to the incessant noise of traffic on stone paved streets, to incur double or quadruple the expense and secure a noiseless one, such as wood or asphalt? One better deny oneself many other luxuries, if necessary, in order to pay the extra tax involved rather than that of quiet repose and sleep. The saving in wear and tear and power of horses is another important equivalent secured by smooth noiseless pavements.

SEWAGE DISPOSAL—ITS AGRICULTURAL INTERESTS—THE MELBOURNE ROYAL COMMISSION.

WHILE the subject of sewage disposal constitutes one of the leading sanitary questions of the day, it should not be without interest to the agriculturist, now when so large a proportion of the population lives in cities and towns and gives rise to such large quantities of waste matter of high manurial value. It is now pretty generally conceded, even in Canada, that sewage should no longer be allowed to flow into the watercourses or even lakes ; and it is therefore only those towns near the sea which can look forward to the disposal of their sewage for an indefinite time in this wasteful, murderous way of turning it into the nearest water course.

The time will come, possibly before very long, when a city situated even as Montreal is, will not be permitted to empty its sewage into the river. The necessity for returning the sewage in some form to the land is becoming now too pretty generally recognized.

There are two principal processes in which sewage may be disposed of for the benefit of the soil. One is by turning it at once onto the land, by pumping or otherwise, in its natural fresh state, called sewage farming ; the other, the precipitation process, in which the solids and all organic ingredients, are separated and made into a manure, while the water, then

in a tolerably pure state, is allowed to flow into the nearest stream.

Sewage farming is clearly becoming gradually more and more popular. In the third Progress Report of the Royal Commission to inquire into and report upon the sanitary condition of Melbourne, just issued, a great deal of evidence in favor of this method of sewage disposal, where suitable soil can be obtained, is brought out, as there is likewise in a report to the French Senate in 1888 by Prof. Cornill, a member of the Senate. While the sewage fertilizes the soil, the earth purifies the sewage. "This it does partly by filtration, partly by oxygenation, partly by the action of growing crops. The solids retained in the soil undergo a slow combustion, partly forming a kind of humus, as in the case of ordinary manures, and partly being oxidized into soluble nitrates, which supply nitrogen to the crops. This oxidation process, which is called nitrification, depends on the presence of multitudes of minute organisms in the soil. These earth microbes exist in enormous numbers, especially in manured soil. At Grennevilliers (the Paris farm), as many as 900,000 have been found in one gramme (15½ grains) of earth. In the absence of these organisms, the changes involved in the conversion of putrescible nitrogenous matter into plant-feeding nitrates do not occur. Generally speaking, the earth, more than one metre (3¼ feet) below the surface, is free from microbes. Hence, the depth of soil required for efficient treatment of sewage is not so great as was once believed."

The most careful experiments have been made by very able scientists, which prove clearly that no microbes ever exist in the pulp of the crops grown on the farms, nor in the effluent water. Prof. Virchow says that, on the fields which purify the sewage, the pathogenetic microbes are destroyed at the surface by their rivals, the saprogenetic microbes, which are superior in number; in other words, the few germs of disease which reach the surface of the farm are killed in the contest for existence with the myriads of earth microbes.

Nearly one hundred cities in Europe have now adopted this plan of sewage disposal. In quite a number the system has borne the test of time: as for example, for ten years at Berlin, nearly twenty at Grennevilliers, over thirty at Croydon, and for centuries at Edinburgh. Much if not all the objections to sewage farming has arisen from errors in the application of the sewage. At Berlin, for example, at the outset three times too much sewage was applied to the land and serious trouble was the consequence. Evil results follow when the soil is unsuitable, badly laid out or badly managed. When properly conducted they do not cause offence to the senses nor endanger the health of persons living on or near the farms. Financially, it is thought that if a sewage farm pays or nearly pays the costs of working it has been a success. Many of them do this. The value of the farms is usually greatly enhanced. In the plain of Grennevilliers, land is now five times more valuable than it was when the irrigation was commenced, while the general prosperity of the plain has greatly augmented.

There are two ways of applying the sewage to the land which may here be noted, namely : Broad or Surface Irrigation and Intermittent Downward Filtration. In Broad Irrigation the sewage is applied continuously, and the lands, when flat, are laid out in gently undulating beds and intersected by a number of open channels for the conveyance and distribution of the sewage fluid. In steep, sloping ground the conveying channels run in horizontal lines, following the contour of the hill face, and are placed 30 to 40 feet apart. Transverse channels of smaller sizes connect the main drains and distribute the sewage over the intervening areas. Beyond a rough surface dressing, the land requires no preparation, and, as a consequence, the outlay is considerably less than in the other process. The drawback is that the sewage is applied continuously and without intervals of rest.

In Intermittent Filtration the principle is to thoroughly drain the land for a depth of 6 to 7 feet, and then lay it out into a

series of level beds, over which the sewage is allowed to flow, not continuously, as in the case of broad irrigation, but intermittently, so that the soil has regular periods of rest or exemption from sewage discharge. Each series of beds, containing on an average 1 to 1½ acres, is divided into four compartments, and the sewage is allowed to flow over the first for six hours in succession, when, by an automatic arrangement, it is diverted to the second compartment, which in turn receives the sewage of the next six hours, and so on with the others; each compartment being called upon, during the day, to receive the sewage of six hours, while for the remaining eighteen it enjoys a period of complete rest. During this interval the atmospheric air has a free access to the pores of the soil, and thus destroys or oxidizes the foreign ingredients of the sewage. The great advantage of intermittent filtration is that the sewage of 1,000 persons may be discharged over 1 acre of land, and if the soil, of which the filtration beds are formed, consists of a loose sandy loam, the crops produced are nearly as plentiful as those obtained from lands under broad irrigation, when the sewage is only applied at the rate of 100 persons per acre.

In this country with its severe frosts it would be necessary to provide a large proportion of the farm for this filtration process. In Scotland in the winter these filtration areas receive almost all the sewage, the body of which in the furrows keeps the soil open. In any case it is asserted that the two methods in conjunction work much better than either alone. The filtration areas act as a sort of "safety valve" for receiving surplus sewage.

In this connection we would suggest that the application of the sewage of Ottawa to the Central Experimental Farm, or a portion of it, might prove a success. The enormous crops yielded by portions of some of the farms in Europe far exceed anything even approached in this country.

Of Precipitation processes, a great many have been tried and enormous sums

of money spent, but not one it appears has yet proved entirely satisfactory. One, which is partly rather a filtration, promises fairly for good results. The principal chemical used is a sort of ligneous carbon found in Devonshire, England. A company has been organized in Toronto we understand for the treatment of sewage on this plan, or one very similar, and which has recently been put in operation at the Guelph (Ont.) Agricultural Farm.

Precipitation by electricity promises good results, and is said to be by far the most inexpensive method. The sewage is electrolysed between iron electrodes placed parallel to each other, at a slight distance apart, and alternately positive and negative. Certain chemicals are introduced which, assisted by the electric action, curdle the suspended matters of the sewage, so that when the latter is run into the settling tanks, the coagulated particles fall to the bottom as sludge, leaving a pure effluent on the surface, which is not liable to fermentation or putrefaction; while the sludge is very fine and not bulky.

In February last, Prof. Therlell, writing to the Minister of Works in New South Wales, reported that he had visited the works of the Electrical Purification Company near London, and that "the success of the process proved to be far beyond his expectations." He recommended the process as the most "economical and efficient" for Sidney.

Our readers may feel assured that the above noted are the only ways of sewage disposal now entertained after many years of experiment and experience. On some loamy or light soils, with a good system of sewerage that will carry the sewage rapidly and in a fresh state to the soil, sewage farming is sure to succeed, if properly carried on; while on others, or in some circumstances, climatic or other, the precipitation process, in some form, now apparently approaching perfection, and which may be more easily managed and more cleanly, may be preferable.

HUMAN AND BOVINE TUBERCULOSIS.—A VALUABLE REPORT.

A COMMITTEE of the Ireland Branch of the British Medical Association, consisting of Drs. Burden, Lindsay, Strahan and Caldwell, appointed to inquire into the question of bovine tuberculosis and its transmissibility to man, presented a report at a meeting of the Branch, held at the Royal Hospital, Belfast, on December 12th. The report was unanimously adopted. The following are extracts from the report, comprising the most practical part of it :

PATHOLOGY AND HISTORY OF THE DISEASE.

The disease is known by various names, according to the parts of the body it attacks, or the kind of lesions it produces, for example, in the human subject, scrofula, pulmonary, phthisis, tabes mesenterica, tubercular meningitis, etc.; in the cow the "grapes," or in Germany "pearl disease," and in France "potato disease."

It is now proved beyond all reasonable doubt, and accepted by nearly every authority, that these diseases are all forms of one and the same process, and all caused by a parasitic micro-organism, called from its discoverer "Koch's bacillus," or the bacillus tuberculosus; and that the disease is essentially the same, whether it attacks man, cow or fowl. Any difference in the size of the microbe, or in its growth, is due to the change of medium. The bacillus flourishes best at a temperature of 98.5° to 100.5° F.; below 82° F. growth ceases, but the parasite does not die; it is slowly killed by being kept at 107.5° F. for several weeks or by being boiled for about half an hour. The spores of the bacillus seem still more tenacious of life, and cannot be said to follow these laws exactly. The bacilli are able to resist desiccation for long periods. Tubercular matter, after being dried for several months, is still able to reproduce the disease. The virus of fresh sputum is destroyed by a five per cent. solution of carbolic acid, by a saturated aqueous solution of salicylic acid, by absolute alcohol (in the proportion of 3 to 1 of sputum) in

twenty hours, but not under. Many other drugs fail completely. Steam destroys it in from fifteen to sixty minutes. According to M. Cornet the ordinary disinfection of household furniture is quite useless for this microbe. Besides flourishing in living animal tissue, the bacillus can be cultivated in sterilised blood serum and other media, when kept a proper temperature. Koch still obtained the active microbe after carrying it through thirty-four generations of cultures for a time extending through twenty-two months.

Although it is now practically accepted that no form of tuberculosis exists without the bacillus having been the exciting cause, the following are given as predisposing causes in all animals: (1) malnutrition, (2) bad ventilation; (3) exhausting secretions, for example, prolonged lactation; (4) hereditary influence; (5) youth; (6) dampness of soil. All animals are not equally attacked by the disease; those in the wild state escape; similarly among human beings, nomad tribes and savages are practically exempt until they are brought into contact with civilization. Carnivora are more exempt than herbivora or omnivora, but every warm blooded animal is liable (only one case is reported in the reptilia—an Italian snake in Zoological gardens in Austria; none in amphibia, pisces, or invertebrata). The following list is arranged in order of respective liability, as given in the Departmental Committee Report: man, milch cow, fowl, rodents, pigs, goats, sheep, horses, carnivora.

In man, 10 to 14 per cent. of all deaths are due to tuberculosis; 150,000, it has been said, die annually in the British Isles of consumption. From 3 to 4 persons per 1,000 living die annually in Ireland of tuberculosis.

Among cattle, dairy cows are most affected; 25, 50, 30, 4.5, 3.5, 37.5 per cent. in various cases are given in the Departmental Committee Report, but these are immediately qualified by paragraph 60, which says: "On analysis it will be found

that, as an almost invariable rule, the low percentages given are those for herds fed in the open air most of the year, the high death-rates being among dairy cattle confined in sheds." In Dublin, among slaughtered animals, 4.9 per cent.; in Edinburgh, 0.2 per cent of all slaughtered; in Glasgow, 1 in 180; in Germany, 15 to 20 per cent.; according to district; in Paris, abattoirs, 0.6 per cent.; average of all France, 0.5 per cent.; in Berlin, in 1887-88, where inspection is very strict, 249 men being engaged in it, 4,300 out of 130,733 (high average). The disease occurs with severity among fowls, generally in a fatally epidemic form, every bird in the farmyard being swept off.

The disease in all animals may be "local," that is, apparently affecting for a time one particular spot; or it may be "generalised," that is, manifestly affecting various parts of the body. The local variety is more common in man than in animals; in cattle it is the exception. In cattle, the lungs, pleura, and serous membranes and glands are the favorite seats, any and each of the other organs, including the udder being occasionally affected.

The bacilli have been proved to enter the body in the following ways: 1. By inhalation. This has been proved by causing animals to inhale tuberculous matter dried into dust, or a fine spray containing tuberculous juice. 2. By ingestion. Tuberculous material produces the disease when swallowed by animals. 3. By inoculation. Inoculation with tuberculous material nearly invariably causes the disease. It has been supposed to be conveyed directly by (4) heredity.

ON THE REGULATION OF SALE OF THE FLESH.

The Jews have always had a very strict code of inspection, carried out by specially qualified men, and every animal, (cow, sheep or poultry) whose viscera presented any sign of tuberculosis is entirely rejected by them. In the United Kingdom, the general practice appears to be to condemn the animal if the disease is far advanced and the body wasted; if the disease

is local and the body in fair condition, to remove and condemn the diseased viscera, and allow the rest to be sold as sound flesh. But this is not the uniform custom. There is evidence of a regular trade being done in "wasters," "mincers," that is, animals far spent with the disease, which are sold for about 30s. to £3, whose flesh is combined with that of healthy animals for making sausages. There is also evidence of dairy cows being used for their milk as long as they will give a fair quantity, and, when failing, being fattened as far as possible and sent to the butcher. In Germany the flesh is classified into such as may be sold on the butcher's stall, and such as can only be sold at a public stall and by a city employé. In France from a decree dated July 28th, 1888: "The flesh of tuberculous animals shall be excluded from consumption (1) if the lesions are generalised, that is to say, not confined exclusively to the visceral organs and their lymphatic glands; (2) if the lesions, although localised, have invaded the greater part of an organ, or are manifested by an eruption, or the walls of the chest, or of the abdominal cavity."

In Austria, when the tuberculosis is limited to a local process, the flesh of good appearance, and the lymphatic glands of the chest and intestines unaffected, the meat is passed as healthy, the intestines alone being rejected. In Berlin, a very limited tuberculosis is considered as having no noxious influence on health, especially if the animals have been well nourished for a long time. In Edinburgh, Greenock (since 1874), Paisley, and Glasgow, tubercular meat is practically refused in all its degrees. An international veterinary congress at Brussels in 1883 declared by a majority of one for complete seizure in every case. The Congress for the Study of Tuberculosis in Man and Animal in 1889, at Paris, voted with only three dissentients, for complete seizure. The test case in Glasgow in May, 1889, resulted in a verdict for destruction of both animals, although probably both, certainly one, would have been passed elsewhere.

INFECTION OF MAN FROM THE LOWER ANIMALS.

The probability of the transmission of the disease from animal to man rests on the following points: (1) the disease is the same in man and animal; (2) man is very susceptible to the disease; (3) animals which are much less susceptible than man become affected by experimental inhalation, ingestion, and inoculation. It is, therefore, a fair deduction that man may become affected by the same methods. Practically, it might be said, it must be by one or other of these methods, although not experimentally. This is supported by an ever-increasing number of recorded cases in which man seems to have been infected from the lower animals: but, as might be expected, owing to the impossibility of experimenting on many, direct proof is somewhat scanty.

The Committee give evidence to show that the disease may be communicated from animals to man by inhalation and by ingestion of milk or meat, most of which has been already given in this JOURNAL.

The Committee then draw attention to two points that have much impressed

them:—First, a generally prevailing idea of the insanitary condition of dairies, byres, etc., and of the unhealthy lives that many of our domesticated animals are compelled to live, reacting on the health of the community. Secondly, the expressed opinion of many authorities that the licensing and inspection of dairies, byres, etc., should be rigid and frequent, and that only public abattoirs should exist, where every carcass sold to the public as food should be carefully examined.

The Committee also express the opinion:—First, that there is no doubt of the danger of drinking the unboiled milk of cows whose udders are tubercular; that there is a risk, even when the udders present no manifest lesion, if the animal is diseased elsewhere. Secondly, that there is a certain amount of danger in allowing the flesh of an animal affected with local tuberculosis to be sold for consumption.

The Committee conclude their full and valuable report by a resolution “disapproving of the practice of allowing any part of the carcass of an animal, which has been shown to have been affected with tuberculosis, to be sold as sound and wholesome meat.”

PARLIAMENT AND CANADA'S HIGH INFANTILE MORTALITY.

THE abnormal and enormous death-rate amongst children in many of the cities and towns of Canada is a standing reproach to the Dominion. It may be said that this high infantile mortality is only to be found in Quebec; but even in Toronto not much short of one half of the total number of deaths recorded are of children under five years of age, while in Ottawa the proportion is considerably over half, and in Montreal, Hull, Sorel and Winnipeg, in 1887, it was little short of two-thirds. Now this is simply appalling, or ought to be. It is in excess of that of almost any other country. It is true that amongst the French-Canadian population the birth-rate is high, but not correspondingly so. No such condition exists among any of the lower animals.

If it were found that such proportion of any of the domestic animals died before reaching a fourth part of their age of maturity what would be the consequence? One can easily imagine the effect on the public and on our legislators on behalf of the public. The great machinery of parliament would be at once set in motion with the object of preventing the great destruction of animal life.

Either the large proportion of infantile life which is now annually destroyed in Canada should never come into existence or it should be preserved. As an excellent authority, Dr. Love, (prof. of disease of children, Col. of Phys. and Surg., St. Louis, Mo.) says: “Under proper conditions, the period of growth being antagonistic to decay, man, in the infantile state

should rarely be the subject of disease." Do we not find this to be the case in the domestic animals—"under proper conditions?" These thousands of little ones who die yearly in Canada (probably not less than ten thousand annually—a city destroyed every year) clearly do not live their little span under proper conditions. Is it not their right that they be placed when born under proper conditions? Have they not a right to be protected from the numerous enemies of their life to which for the most part their progenitors have given rise? And does not the Dominion much need these lives, which in a few years, if preserved, would add many thousands of productive adults to her now sparse population?

There must surely be some remedy for this sad destruction of young human life. How but through the highest parliament

in the land is any remedy to be sought out and applied? Simple remedies often do a great deal. As an example we may mention that in France it is thought that much good is done by the practice carried out there of giving to the parents on the registration of every birth a series of instructions as to how to feed and care for the infant.

There are three facts which will hardly be questioned as such by any one, and which certainly demand the attention of our legislators. 1. The infantile mortality in many Canadian cities and towns is abnormally and unusually high. 2. This high mortality may be largely prevented. 3. For the sake of humanity and the prosperity and success of the Dominion some preventive measures should be adopted and put into practice at the earliest possible time.

THE WORK OF RURAL HEALTH BOARDS.

THE inactivity of a very large proportion of the local boards of health in the rural districts—the villages and townships—even of Ontario, is shown by the meagre reports sent in by many of them to the Provincial Board. Scores of the reports consist of only a dozen lines or less, in which the secretary or chairman, or occasionally the medical officer—when one is connected with the board, states that the "general sanitary condition" or "health" of the municipality—"has been good," or that there has been "no severe epidemic" or no epidemic "generally prevalent," and such like. Now we are convinced that there is hardly a municipality in Canada in which there are not many causes of disease continually prevailing and in which there are not many deaths every year from easily preventable causes. Many years ago, before the organization of the Ontario Provincial Board, this JOURNAL was urging from time to time the necessity for an ACTIVE board of health in every municipality, with an active medical officer attached. Hundreds of the municipalities in Ontario have now, in accord-

ance with the p. h. act, each an organized board. For what? Not to rest quietly until an epidemic breaks out within the limits of its jurisdiction, or to only look after a slaughter house or two, or some other special nuisance and make a brief report to "head quarters;" but it had been hoped, to awaken a general interest among the people in the subject of health and in everything that pertains to health. People in rural districts are apt to suppose that causes of disease do not extend to them, in the country. But we believe that in a large proportion of the villages and townships there are more causes of disease to combat than in the towns. A "live" medical officer will be able to count them up, and often to interest the people in them, and in the desirability and economy of having them removed. How many of the five or six thousand rural public school houses in Ontario, in which the pupils are absolutely FORCED to sit for so large a proportion of the most susceptible period of their life, undergoing the severe penalties imposed by our much landed school system, are

safe to sit in for an hour?—safe from a poisonous, dangerous atmosphere? Very few indeed. A little effort on the part of a local board or its officers might induce many school boards to provide some simple practical means for ventilating or changing the air in the schools. How many farm and village wells are a safe distance from all danger of pollution and yield potable water? How many cellars are safe to live over? How many of the localities on which dwellings are built throughout the country are properly or at all underdrained and provide a soil on which good health can be safely maintained? Or how many bed and living rooms are so ventilated as to prevent danger to the health of the inhabitants thereof? "Not many" would be a correct answer to all these questions. We indicate in these questions to a limited extent where the education of the public in health subjects is required. We would respectfully suggest to the provincial board that some special measures be

adopted to educate the local boards, which will then be in a position to educate the people whose health they are properly supposed to look after. Many of the boards, instead of being quite inactive, would do much if they were fairly instructed what to do and how to go about it. Some of them may know what to do, but want shaking or waking up. But few municipalities in Ontario are there in which there is not a physician who would cheerfully give occasional lectures on the practical health subjects above noted, which could hardly fail among Ontario's intelligent public to bear good fruit. An intelligent inspector of fair address and properly instructed could do an immense amount of good by a visit to each dwelling and asking permission to examine a little into their environment, especially the well and the manner of refuse disposal, and to give them any instruction or aid in his power. A free distribution of this JOURNAL amongst the people might help somewhat in the promotion of health.

MISCELLANEOUS NOTES AND EXTRACTS.

AN INCIDENT.—The following, which is a fact, illustrates a common occurrence:—A physician being called upon to visit a sick child, found the babe in apparently good health, but crying and struggling continually as though suffering extreme pain and anguish. The mother stated that the child was desirous of nursing continually, and in order to quiet it she had been obliged to let it nurse as often as the crying paroxysms came on. When that failed to quiet it, paregoric or soothing syrup had been administered. "When did you give the babe a drink of water last?" inquired the physician. "I don't remember," replied the mother. "I seldom let him drink any water. Does he need it?" "Need it!" exclaimed the doctor. "Why should he not need it as much as you? The child is suffering from thirst—nothing more." He called for cold water, gave the infant a few tablespoonfuls, and it immediately ceased crying and fretting, and soon went peacefully to sleep, enjoying a long, refreshing slumber, the first for many hours.

TOBACCO AND VITALITY.—When Europeans first visited New Zealand, says the Annals of Hygiene, they found in the native Maoris the most finely developed and powerful men of any of the tribes inhabiting the islands of the Pacific. Since the introduction of tobacco, for which the Maoris developed a passionate liking, they have from this cause alone, it is said, become decimated in numbers, and at the same time reduced in stature and in physical well-being so as to be an altogether inferior type of men.

NO ALUM IN FOOD.—In presenting the report on Cream of Tartar to the Commissioner, the Chief Dominion Analyst refers to some objections taken to statements in the report on baking powders recently published, and says: "Of course, interested parties assert that the use of alum as a component of these should not be condemned, but this would be entirely contrary to the practice of those who have been entrusted officially with the chemical examination of foods in other countries.

It is not proposed to discuss the "alum question" here, or to refer to recent scientific work on its physiological aspect. It is enough at present to state that the use of alum in bread-making is prohibited in most countries where food adulteration laws have been enacted, and that alumina is not to be found in any species of food or drink used by man, nor does it occur in any part of the system. Nature has entirely excluded it from every form of animal or vegetable life, and no doubt for good and sufficient reasons, although we are not able at present precisely to define them. These facts alone justify the conclusion that the use of alum in compound-baking powders is quite inadmissible."

EDUCATION, TRAINED SPONTANEITY.—In an article on Labor, Recreation and Play the British Medical Journal (of Nov. 16th last) says:—"The general results of observation appear to indicate progress in the average conditions of development, and more spontaneity of the nerve system among the population; to favour such progress should be one of the highest aims of hygienic science. The social reformer would do well to investigate the proportion of cases of exhaustion and ill development among various classes, as well as conditions of ill living and bad environment; improved surroundings, better food, and recreation undoubtedly tend to improve mental power. Depressing circumstances of life, acting upon plant, animal, or man, tend to produce "sports" and reversions, represented in the human species by ill-made bodies and feeble minds. Education is trained spontaneity, and depends for its success on the impressionability of the subject and its capacity for co-ordination of action; hence in school life submission to training is essential. The public school boy needs his games to bring him into the social system: he usually has plenty of spontaneity by inheritance, but this needs culture.

CHEAP LIVING.—Dr. Allinson, who has made the experiment of living a month on cooked wheat-meal and water, gives the following experience: I have just finished my month's trial diet of whole-meal and water; by the time this is in the hands of the public, I shall be on vegetarian diet as usual. A month of simple diet has got my palate used to plain fare, and I relish it and enjoy it. Were it not for the former knowledge of savory foods, I should never crave for them. I will now sum up the results of the experience. My weight has decreased eight and one-half pounds from the first, which I lost in the

first week in trying to live on one pound of meal a day. My strength of grip has actually increased, and I could squeeze six pounds more with my right hand, and five pounds more with my left hand, than when I began. My breathing capacity is less by a few inches; this I blame to want of exercise this Christmas week. My sight has improved a little, my nervous system responds to reaction quicker, and I am altogether in better form. I have worked as usual every day, and found my capacity for mental work much greater. My food has cost me under two pence a day. The experiment shows the great value of whole-meal, or wheat, as an article of food. I doubt very much if a person could do what I have done on white flour and water. I find, also, that it requires about one and a half pounds of wheat-meal a day to keep me in good working order—doing my ordinary work and walking six miles a day. The outcome is satisfactory, and when the results of the more scientific inquiry—for which due notes have been made from day to day—are known, I will let my readers have full particulars.

MEATS AND THEIR DIGESTIBILITY.—According to Payen, without there being anything absolute in those qualities which depend on the particular state of the digestive organs of different individuals or on their idiosyncrasies, we may say in general that meats are more easily digestible the less strong their cohesion and the less their hardness. We might thus establish between them the following order, beginning with the lightest:—Sea and river fish, for example, game, crustaceans, lamb, veal, mutton, wild boar and pork. In these categories are generally considered heavy and hard to digest, salmon, eels, geese, ducks, and some other water birds, as well as strongly smoked and salted meat. The following shows about the time required for the digestion of different kinds of food:

	Hours.
Roasted pork.....	5.15
Salt beef (boiled).....	4.15
Veal (boiled).....	4.00
Boiled hens.....	4.00
Roasted mutton.....	3.15
Boiled beef.....	3.30
Roasted beef.....	3.00
Raw oysters.....	2.45
Roasted turkey.....	2.30
Boiled milk.....	2.00
Boiled Codfish.....	2.00
Venison steak.....	1.35
Trout (broiled).....	1.30
Tripe.....	1.00
Pig's feet.....	1.00
Eggs (hard boiled).....	3.30 to 5.30
Eggs (soft boiled).....	3.0

VALUE OF BREAD AND MILK DIET.—You will never find in all your travels, says a correspondent of the Boston Globe, a character more unique and interesting than the subject of this sketch, Dr. Isaac Bartlet, of Hope, Mo. Here is a man that has nearly lived his three score years and ten, a medical practitioner too, on one particular diet, namely bread and milk; not, perhaps, from any particular virtue in his own right, but, more properly speaking, because he was born with a liking for bread and milk, and a taste or appetite, with slight exceptions, for no other kind of food; a man who has never eaten an ounce of meat in all his life; who has never taken a teaspoonful of intoxicating liquors of any kind; who has never used tobacco, tea or coffee, except in the case of coffee once or twice, but very weak, and a man, too, who is hale and hearty, bright and active, for a man of his age, and who tips the beam at 240 pounds.

THE PREVENTION OF TUBERCULOSIS.—

Last year a congress for the study of tuberculosis was held in Paris, as our readers know. At this meeting a permanent committee was appointed to formulate simple and practical instructions regarding the prophylaxis of tuberculosis. On behalf of this committee M. Villemin has recently submitted a report which has already been approved by four professors of the medical faculty of Paris, and of which the following is a brief summary: 1. Tuberculosis is, of all diseases, the one which has the largest number of victims in the cities, and even in certain country districts. In 1884, for instance, of 57,970 deaths in Paris, 15,000 were due to tuberculosis. 2. Tuberculosis is a virulent contagious, transmissible, parasitic disease produced by a microbe, the bacillus of Koch. This microbe, apart from direct hereditary transmission, finds its way into the organism through digestive and respiratory tracts, and through wounds of the skin and mucous membranes. The propagation of tuberculosis may be prevented by well directed precautions. 3. The parasite of tuberculosis may be found in the milk, muscles and blood of the food animals. The use of raw and underdone meat and blood that may possibly contain the living germ of tuberculosis should be prohibited. Milk, for the same reasons, should be boiled before being used. 4. On account of the dangers concealed in milk the protection of infants, who are so easily

attacked by tuberculosis, should attract the special attention of mothers and nurses. The tuberculous mother should not nurse her child. Cow's milk when given, should always be boiled. There is less danger in giving ass's and goat's milk unboiled. 5. It is greatly to the interest of the public to assure the proper inspection of meat, as provided for by law. The only sure way to avoid the dangers of tubercular meats is to see that it is *thoroughly* cooked. 6. Inasmuch as the germ of tuberculosis may be conveyed from a tubercular to a healthy man by the sputum pus, inspissated mucus, and any object containing tubercular dust, it is necessary to bear in mind that: 1. The sputum of phthisical persons being the most dangerous agent of transmission, there is a public danger from its presence upon the ground, carpet, hangings, curtains, napkins, handkerchiefs, cloths and bedding. 2. The use of cuspidors by everyone should be insisted upon in all places. Cuspidors should always be emptied into the fire and cleansed by boiling water. They should never be emptied into rubbish piles, upon gardens, or where there is a possibility of infecting poultry, or even into water-closets. 3. It is unsafe to sleep in the bed of a tuberculous patient, or to spend a great amount of time in the room of such a patient; least of all should young children be allowed to sleep in such a room. 4. Individuals considered as predisposed to contract tuberculosis should be kept away from localities frequented by phthisical patients. 5. One should not use objects contaminated by phthisis (linen, bedding, clothing, toilet articles, jewelry, hangings, furniture, playthings, etc.), except after suitable disinfection. 6. Rooms and houses occupied at watering places and resorts should be furnished in such a manner that disinfection may be easily carried out after the departure of each invalid. It is the best plan of all to furnish rooms without curtains, carpets or hangings, to whitewash the walls, and cover the floor with linoleum.

TUBERCULOUS MEAT: A NATIONAL QUESTION.—

Such is the heading of an editorial in a late number of the British Medical Journal from which the following is an extract: It is daily becoming more and more evident that the tuberculosis question is one which, in its bearings on our meat supply, will have to be taken in hand by the Government promptly and vigorously. It is, however, a good sign that so many cases are coming up for decision before the magistrates; and that, on the

other hand, the butchers themselves are becoming quickened as to the sense of the importance of the situation. For example, we find that in Sheffield the butchers are asking for the appointment of a jury of experts, consisting of a veterinary surgeon and two or three butchers, to whom all doubtful cases should be submitted; and that in Belfast, cases in which the treatment of tuberculous carcasses is involved are being brought up in the Custody Court for arbitration and decision. Let it once be understood that the inspection of dead meat is not a sham, and that there is equally rigid inspection in every district, and it will soon be found that butchers and cattle dealers will be more prompt in detecting tuberculosis during life. As soon as tuberculous cattle cease to pay, the supply will be cut down to the demand; and when the cattle that are now rejected in Glasgow, Sheffield and Belfast can find no buyers in other markets, fewer of these animals will, during life, find their way into the hands of either salesmen, buyers, or consumers.

SEWAGE TREATMENT BY Electrolysis is making progress, and may prove the most economical of all. According to Dr. Dixon, (Prof. of Hygiene, Penn. Col of Med.) the chemical treatment of sewage in different towns would appear to cost from thirty shillings to seventy shillings per one million gallons, whereas it is calculated that by means of electrolysis it will only cost about twenty shillings per million.

THE VASTNESS OF THE NEW YORK CROTON AQUEDUCT.—From a profusely illustrated article on "The New Croton Aqueduct," in the December Century, we quote the following: "It is a curious commentary on the demands of modern civilization to observe the effect of building the dam of this aqueduct. The million people in the city need a reserve of drinking water, and twenty-one families must move out of their quiet rural homes and see their hearths sink deep under water. The entire area to be taken for the reservoir is 1471 acres. Twenty-one dwellings, three saw and grist mills, a sash and blind factory and a carriage factory must be torn down and removed. A mile and a quarter of railroad track must be relaid, and six miles of country roads must be abandoned. A road twenty-three miles long will extend around the two lakes, and a border or 'safety margin'

three hundred feet wide will be cleared all around the edge to prevent any contamination of the water. This safety border will include a carriage road, and all the rest will be laid down to grass. As the dam rises, the water will spread wider and wider over the fields, farms and roads. Every tree will be cut down and carried away. Every building will be carried off, and the cellars burned out and filled with clean soil to prevent any possibility of injury to the water. Fortunately there is no cemetery within the limits of the land taken up for the reservoir. Had there been one it would have been completely removed before the water should cover the ground. Fifty-eight persons and corporations, holding one hundred and eleven parcels of land, will be dispossessed in order to clear the land for the two lakes and the dams, roads, and safety border. Compared with other tunnels, the new aqueduct is easily at the head of all works of a like character in the world. The cities of Chicago and Cleveland are each supplied with water through tunnels extending out into a lake. The first Chicago tunnel is 5 feet in diameter and 10,567 feet long. The second tunnel is 7 feet in diameter and 51,490 feet long. The Cleveland tunnel is only 5 feet in diameter and 6,661 feet long. All of these tunnels were laid in comparatively soft materials. The Baltimore water supply includes a rock tunnel twelve feet in diameter and seven miles long, and is lined with brick work for about two miles. The old Roman aqueducts were several of them longer than the Croton Aqueduct, but they were all very small, and were merely masonry conduits a few feet in diameter. The Liverpool water supply is conveyed by an aqueduct about twice as long as the Croton Aqueduct, but it is mainly a surface aqueduct, there being only a little tunnel-work. A portion of the aqueduct is merely a pipe line. The supply is from a reservoir, formed like that at Croton or at Sodom, by building a dam across a narrow gorge in a valley among the mountains of Wales. The dam is larger than that at Sodom, being 136 feet high, while that at Sodom is only 78 feet. Compared with the proposed dam it will be small, as the new dam is to be over two hundred feet high, and will be the highest dam in the world. The aqueduct tunnel, when compared with railroad tunnels, is a little smaller in diameter than the three most famous tunnels, but is very much longer. The Hoosac Tunnel is only 21,000 feet long, the Mont Cenis is 8 miles long, and the St. Gothard $9\frac{1}{2}$ miles long, while the new Croton Aqueduct, as we have seen, is nearly 30 miles long.

IMPORTANT EXPERIMENT ON MILK FROM TUBERCULOUS COWS.—We, the Sanitary Inspector says, have for some time been awaiting with interest the report of the results of a work which Dr. Ernst of Boston has had on hand. He was employed by the Massachusetts Society for the Promotion of Agriculture to determine for the society the truth of the prevailing views as regards the danger from using the milk from tuberculous cows. As we now learn from the medical press, 36 cows suffering from tuberculosis other than of the udder were used in the investigations, and 114 samples of milk from them was examined; 17 samples from ten different cows were found to contain the bacilli of tuberculosis. Well animals were then inoculated with the result of inducing the disease in 50 per cent. of the cases treated. Feeding experiments were also made, with the result of inducing the disease in a number of calves and young pigs. The following conclusions were presented: 1, and emphatically, that milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease; 2, that the virus is present, whether there is disease of the udder or not: that there is no ground for the assertion that there must be a lesion of the udder before the milk can contain the infection of tuberculosis; 4, that on the contrary, the bacilli of tuberculosis are present and active in a very large proportion of cases in the milk of cows affected with tuberculous, but with no discoverable lesion of the udder. It will thus be seen that Dr. Ernst's results and conclusions are essentially the same as those to which Dr. Hirschberger arrived, and to which we referred in our last.

THE "MENTAL AND PHYSICAL TRAINING FOR CHILDREN," my paper is entitled, and I shall begin with remarks on physical training, as it is first in natural order, the physical life beginning before the mental. In these days, when there is a great rage for education, a certain top-heaviness has been produced among children, and the good homely helpmate of the mind—the body—is decidedly neglected. It is looked upon as the dull but sensible wife of some clever man, whose duty is to get through all the home drudgery. She must be invited out with him, but is ignored in society, and is only tolerated on account of her brilliant husband. Now, I consider the body to be just as important as the mind, and that it ought to be treated

with just as much respect, especially in these days of intense competition, when, given an equality of brains and education, it is the strong body that tells in the long run, and gives staying power. That alone can help the mind to bear the strain. And anything that can assist our children to bear this daily increasing strain is surely not beneath our notice. It is really surprising to see the amount of trouble and pains bestowed upon the proper housing and feeding of horses and dogs, or other domestic animals, while at the same time comparatively little attention is paid to these matters with regard to the rearing of children. Model stables and model kennels abound, while the model nursery is almost wholly unknown. Warming, ventilation, and aspect are all subjects which are thoroughly considered in the stable, while as regards the nursery they are generally left for chance to decide.

Two of the best rooms in the house should be assigned to the children, one for the night the other for the day nursery, but this is by no means often done. In small houses where there is but one spare room, it is of common occurrence to see the largest and sunniest apartment set aside for the visitors, who perhaps occupy it for two months in the year, while the children have to live cramped up in a small sunless garret. During the Crimean War, Miss Nightingale nursed the wounded soldiers in a hospital one side of which looked north, the other south, and she observed that the soldiers lying in the wards with a southern aspect recovered far sooner than their comrades in those on the northern or sunless side. In our climate it is hardly possible to have too much sunshine, and the nurseries should certainly have a southern outlook.—Jessie Oriana Waller, in a paper in the Nineteenth Century.

INFLUENCE OF PURE AIR.—A Dairy at Frankfort-on-the-Main made the following valuable observations. They kept in a standard stable eighty Swiss cows, extraordinarily well fed and treated. In the years 1878 to 1879, prior to the introduction of a ventilation system, the same yielded on an average per cow, 3,700 liters in 1877, same amount in 1878, and 3,716 liters in 1879. Subsequent to the introduced ventilation the amount of milk yielded, the food being the same, was as follows: In 1880, 4,050 liters, milk per head; in 1881, 4,152; in 1882, 4,354 liters.

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HEALTH REPORTS.

FROM PETERBOROUGH, the Medical officer, Dr. J. Clarke, reports that the past year has been notable for the almost perfect freedom of the town from infectious disease, a single death only, and that from diphtheria, which originated elsewhere, being the total mortality from this class of diseases. A very few mild cases of typhoid and scarlet fever were reported, but none fatal. In the four years previous to last year the mortality had fallen from 18.5 per 1000 to 16, while last year it was less than 13 per 1,000; "a remarkable showing," certainly.

Peterborough is most favorably situated as regards salubrity, but doubtless, as Dr. Clarke says, sanitary work must have had a great share in producing the result. "Tons and tons of garbage and refuse that were formerly allowed to remain festering and polluting both air and water are now carted away every year. Isolation and disinfection have done their work. Besides there is a vast and unmeasured benefit in the value of sanitary precautions being thus brought before each individual, and the constantly growing feeling that these matters are of the highest importance, and in the care which is the practical outcome of this feeling." The removal of garbage had been carried out to a greater extent than ever before. The fouling of the stream which flows through the town was being abated, especially by the larger manufacturers discontinuing the pollution. Yards and premises had been better kept than usual, and medical practitioners had pretty faithfully reported cases of infectious disease.

The question of sewage was being considered, but in view of investigations that are being made in various places as to the best mode of treating sewage, the Town Council are wisely exercising caution. "Electricity is being brought into use for this purpose and there is a war between different systems of chemicals; hence it is better to wait and see which wins, than to plunge into a large expenditure without definite and accurate information." The JOURNAL this month may assist them somewhat.

ELMIRA village, the medical officer, Dr. Walmsley, reports, has "had no epidemic form of disease during the year and very little sickness of any kind, probably, due to the carefully carried out sanitary measures laid down." The medical officer finds it necessary to urge that

the law regarding the placarding of houses with infectious disease therein be carried out and that children be prohibited attending school until the law be complied with regarding these diseases, and also that the vaccination regulations be attended to.

Dr. Walmsley says:—"It is perhaps humiliating to note, in this 19th century of christian civilization, the Jewish sanitary principle invading our ranks; yet, it is a laudable fact, that the Jewish system of sanitary principles underlying the religious rite was of first importance, viz., the inspection of all animals or meats slaughtered before being sold or consumed. If the germ theory be right, and we firmly believe it is right, it is highly important that all animals slaughtered for consumption should be free from disease, otherwise disease may be introduced into our systems by the use of such meats."

THE Report of the Sanitary State of Montreal for 1888, by the medical officer, Dr. La-berge, is a volume of nearly 100 pages and contains a great deal of suggestive matter. Much is being done by the health authorities there, yet the mortality runs high. The report states that, the proprietors of 22 houses were notified to make the repairs necessary to put their properties in a sanitary condition or else they would be closed up, the result being that 10 were closed up, 8 were put in a sanitary condition and in the other 4 cases, action is still pending in court. Five houses were reported as being overcrowded, and in each case a number of the occupants were compelled to seek lodgings elsewhere. Twenty-eight houses were found in a dirty condition. The occupants were in all cases compelled to clean them. The plumbing regulations are stringent, but we would urge the use of the earth closet instead of any manner of privy pit, in streets without sewers.

IN THE Report of the Departmental Committee appointed to enquire into tuberculosis in the United Kingdom (Great Britain) last year, on which were, among other eminent men, Victor Horsley, F.R.C.S., Prof. Brown, C. B., and Richard Dawson, we find the following opinion in reference to unhealthy conditions causing a predisposition to tuberculosis in man or animals: (1) Starvation. (2) Deficiency of oxygen by bad ventilation. (3) Exhausting secretions, such as prolonged lactation (or nursing). (4) Possibly hereditary. (5) Certain food, (doubtful).

EDITORIAL NOTES.

IS TYPHOID FEVER a disease "dangerous to the public health" and therefore to be placed in the list of diseases demanding notification? is a question agitating the health authorities of Michigan. In the American Lancet (of Detroit, the able President of the state board of health) Dr. Baker, contends, and properly we think, that it is. He says:—The circulars of instructions issued by the Michigan State Board of Health, designed to be distributed to the neighbors of those sick with typhoid fever, do not teach that typhoid fever is usually communicated by "contagion" or by "infection." Although the term "infectious" may be applied to it, a comparatively new term is now generally employed, namely, "communicable," spread usually by the bowel-discharges of the sick.

WITH ABSOLUTE CLEANLINESS and proper disinfection typhoid fever can hardly be regarded as infectious in the sense that scarletina and smallpox are so regarded. But, and this cannot be too often reiterated, if any of the bowel-discharges not fully disinfected, be allowed to get out and remain on the bedding or clothing of the patient, then this excrement may soon become a foci for the spread of the disease. The germs of this disease, as we have repeatedly stated, unlike many other germs, seem to pass through another phase of existence after leaving the body of a patient, before they can infect or take root in the body of another. So that with great care in regard to cleanliness and disinfection we may prevent "infection" and the spread of the disease.

ANOTHER CASE of actinomycosis hominis has just been reported in the N. Y. Medical Journal, by Dr. Byron, Director of the Bacteriological Laboratory of the University of New York. It was only detected by microscopic examination of the pus extracted by an aspirator from the chest. The disease, as readers of this JOURNAL will remember, is believed to be communicable from animals to man. Dr. Byron says: "It is not so rare as was once supposed. If relatively few cases have been observed, it is principally due to the difficulty of diagnosis and a symptomatology that makes it resemble a great deal of other diseases, . . . and probably a great many cases of it pass under other names."

IN THE Ottawa Citizen Mr. Jas. G. Kingston very properly urges that the "Citizens adopt the suggestion of the provincial board and elect a board of health from among the private citizens." We agree with him that it is not the men who aspire to be aldermen who should be members of the health board; indeed the average alderman is about the last man to select for such a board. As Mr. Kingston writes: The health laws have not been carried out in this city. "If they were, the treasury might have been enriched through fines, for there are things occurring daily that are a violation of the Statutes." And his concluding remarks should be strongly impressed upon everybody: "Public health is public wealth and the poor man is the greatest sufferer through any non-observance of the health laws." "Epidemics are no respectors of persons, and many a man who has spent time and money on his property and had everything in a sanitary condition has lost his life through the criminal stupidity or carelessness of his neighbour or his neighbour's house owner."

COMFORT may often be extracted from discouraging circumstances. Dr. Clarke, medical officer of Peterborough, brings out in the Daily Evening Review of that town what, although not new, is suggestive of the value of abstemiousness and temperance in all things. "Any medical man knows," he says, "that sickness is less frequent, other things being equal, in periods of financial depression. It is not that people consult a physician less readily, but the sum total of illness is actually less. Greater abstemiousness in living, the avoidance of excesses in eating and drinking are part of the cause. Rich food and frequent late suppers induce a plethora of the system which predisposes to disease. Then in busy times the wear and tear of money making, the rush and hurry of life, reduce nervous strength, bring on fatigue and thus render the constitution less capable of resisting attack. Thus dull times, though a financial misfortune, are often a physical blessing. A bow string must sometimes be relaxed in order to preserve its tone, and the human system follows the same law."

THE VALUE of a correct and broad view of the causes of disease is well illustrated in the fol

lowing lines : An exchange says it is admitted that the immediate cause of phthisis is the bacillus of Koch, and at once the practical physician thinks of trying to kill this micro-organism ; but *a priori* that is an error. Alone the bacillus cannot bring about phthisis ; it must have an organism ready for its action. So that really what we should try for is not to kill the bacillus, but to modify the culture liquid—that is, to make the human body sterile to its action.

HALF the secret of life is to know when we are grown old, and it is the half most hardly learned. It is more hardly learned in the matter of exercise than in the matter of diet. There is no advice so commonly given to the ailing man of middle age than to take more exercise, and there is perhaps none which leads him into so many pitfalls. The old are commonly resigned to their lot ; but few men will consent without a struggle to own that they are no longer young.

REST, it must be ever borne in mind, is as necessary for health as is exercise. Indeed, as Good Health says, one may live longer without exercise than without rest. While exercise is essential for a high degree of health and vital activity, rest is essential for the maintenance of life itself. Probably many people exhaust themselves as much by recreation as by work. Prof. Blakie says : It is a grand safeguard when a man can say, I have no time for nonsense ; no call for unreasonable dissipation ; no need for that sort of stimulus which wastes itself into mere titillation ; variety of occupation is my greatest pleasure, and when my task is finished, I know how to lie fallow, and with soothing rest, prepare myself for another bout of action.

DOCTORS' ORDERS are too often looked upon by the laity as arbitrary enactments of professional pedantry, which your true Briton shows "the freedom that runs in his blood" by defying or evading, says the British Medical Journal. Nor is this absurdity confined to the ignorant, for one often hears people who should know better boasting of their deliberate neglect of advice which they had paid a big fee to obtain. The moral has lately been pointed by a case which occurred in the London Hospital. A man suffering from typhoid had some grapes secretly given him by a friend, whom he asked to procure them for him. He became worse soon after eating them, and in three days he

died from perforation of the intestine. The coroner trusted that the public would take warning by the case.

A GOOD SUGGESTION toward the ventilation of churches, schoolhouses, and all public buildings is revived by the Annals of Hygiene. The exhalations from the lungs and the emanations from the body being light will float for a while in the atmosphere before falling to the floor, and if the windows of the building be opened at once as soon as vacated so that a current of air crosses them, many of the exhaled particles will be carried out. If, however, as is usually the case, the windows are not opened for some hours, may be not until the next day, these particles settling upon the floor, are not carried away, but when the hall is again occupied they are disturbed by the feet, thrown up into the atmosphere and inhaled into the lungs, from which, for the most part, they had been previously exhaled.

TO PERSONAL CLEANLINESS, Gipsies are said to be almost morbidly attentive. You may see the dirt covered Gipsy in the dust clouds of the fair, or sweltering under layers of filth beside his creaking wagons, but you will never find a Gipsy encampment a score of rods from a spring or stream of water ; and the souplings, soakings and rubbings of the Gipsy body, male or female, are marvelous. The clothing worn next the person is constantly being changed for airing or washing. The Gipsy washing day is eternal. "Your civilized aristocrat will sleep upon a stuffy mattress for a score of years without change. If the Gipsy's bed is of straw, it must have the air and the sun daily." Disease in man or beast to these wanderers practically means uncleanness.

A FACT brought out by the late Paris congress on tuberculosis was that persons who have had small-pox are peculiarly liable to tuberculosis. M. Landouzy, in calling attention to the fact, which from statistics and observation seems indisputable, stated that for this reason persons pitted with small-pox should never be employed around the tuberculous wards of infirmaries and hospitals.

THE Canada Lancet gives a recipe for the cure of "headaches from alcohol and tobacco." What would be the effect of a dose of a firm resolve, taken some time previous, not to use tobacco at all nor enough alcohol to cause a headache? A good thing to try.

THE Ohio State Sanitary Convention which for several years had done some excellent annual work in the promotion of the sanitary education of the public has become extinct, it appears, and its work will now be carried on by the State Board of Health. No doubt this is the proper thing, if the State Board will take the necessary action, as it probably will. At the late and last meeting Dr. D. H. Beckwith, of Cleveland, president, read a lengthy and very suggestive paper on "The Hog." In the United States, in health legislation, the hog is said to be "ahead."

WE have received an invitation to attend the tenth International Medical Congress to be held in Berlin from Monday the 4th to Saturday the 9th of August next, and also a request to extend an invitation to our medical friends, which we herein cordially do. The official languages of all the sessions are to be German, English and French. Communications, enquiries, &c., may be directed to the General Secretary, Dr. Lassar, Berlin, N.W., 19 Karlstrasse, Germany.

THE relation of diphtheria to affections of the lower animals, has been observed with greater certainty and is still being closely investigated by Dr. Klein, says the British Medical Journal of Dec. 28th. The medical officer of health for part of East Kent gives instances of the disease running concurrently in isolated farm houses with disease amongst the cows and horses. The evidence is gradually accumulating to establish the view that diphtheria is a disease which is transmissible both from man to some of the lower animals, and from these in turn to man.

THE HAPPY MEDIUM in everything is best. Very dull times with real poverty is found to increase the mortality in cities; while in highly prosperous times many rush into excesses of all sorts, even into business excesses. Man as a race with all his progress has not yet learned to bear well with great prosperity. The few can do it but not the masses. With the most depressing financial conditions, if all would live as Dr. Alison does, as noted elsewhere, on a pound and a half of whole wheat meal a day alone with water, much poverty might be healthfully borne.

IN THE American Magazine, Dr. Hutchinson says: "I have recently met with several cases of insomnia due to over-taxation of the American nervous system, and have been requested to prescribe some drug that would be effective to procure sleep, and be at the same time harmless. No such drug exists. There is no medicine capable of quieting to sleep voluntary life that has been working ten hours at high pressure, except it be more or less poisonous.

LOOK after the mothers, this is of exceeding importance. The British Medical Journal says: The present high percentage of neurotic children, as well as those with ill-made brains, may probably be traced in large part to antecedents in the mothers. The condition of future generations is, without doubt, largely dependent upon the state of the female portion of the population even upon those engaged in labour.

A KEY NOTE was struck by Sir T. Crawford, K.C.B., M.D., LL.D., &c., in his presidential inaugural address before the London Epidemiological Society (on Nov. 20th, 1889). He said in any schemes for the suppression or diminution of preventable diseases he was convinced that, valuable as might be the aid afforded by notification, isolation, disinfection, etc., the chief attention should be directed to the amelioration of the general conditions of the masses, material and moral as well as physical, so as to render possible the development of a race of higher physique better able to resist the attacks of disease.

A SAN FRANCISCO correspondent, Dr. Stalard, who has evidently given much attention to the subject of leprosy in the Sandwich Islands writes that he is satisfied (1) that leprosy is feebly contagious; (2) probably less so than consumption; (3) that its spread in the Sandwich Islands affords absolute proof of its contagion and (4) that its increase was due to new conditions of native life, brought about by the association with the whites. He believes it can be arrested and surely prevented by abundant food and a perfect state of health.

A DISCUSSION recently took place at the Conseil d'hygiene, Paris, concerning the transmission of certain diseases by hair-dressers and dentists, the brushes and instruments being used in common for all their clients. M. Lancereaux wished to have stringent measures enforced, and cited a case of phthisis which Dr. Cochrane, an American dentist, alleged was transmitted by a dentist's instrument.

NINE Commissioners have just been chosen in Chicago, who are authorized to spend \$60,000,000 in constructing a system which will take care of Chicago's sewage and give the city pure water. The Commissioners have the power to employ 10,000 men a year for seven years, within which time the work must be completed.

A PARIS correspondent of the British Medical Journal states that Dr. Bernard, of Cannes, recommends all those who suffer from sea sickness to follow the advice given him by a sailor, that is, as soon as the disagreeable premonitory symptoms are felt the chest should be kept

straight and stiff, and the shoulders held back in order to allow the thorax to move easily. In this position regular rhythmical inspirations should slowly be taken, and deep enough to fill the lungs with inspired air. Dr. Bernard tested the truth of these directions, and escaped sea sickness; also a number of his fellow passengers. Would the extra amount of oxygen inhaled account for this?

ELECTROTHANASIA is the heading of an editorial in the British Medical Journal (of Dec. 21) in which it is stated that Dr. H. M. Briggs has made an interesting observation, which is, that the majority of fatal accidents have occurred on or after wet days. With a wet skin and wet clothes there is good contact, and therefore little burning of the skin, but serious internal effect. With a dry skin and dry clothes there is more burning of the skin, but less penetration, less shock and less danger of death.

NOTES ON CURRENT LITERATURE.

IN THE CENTURY for January the next to the last installment of "The Life of Lincoln" appears. This installment contains a graphic account of Lincoln's last day and his assassination, also a chapter on the fate of the assassins. A notable paper is Miss Amelia B. Edwards's account of the recent very extraordinary discoveries at Bubastis, in Egypt. One stone of these ruins is almost sixty-one centuries old, and Bubastis is as ancient as the earth itself used to be considered. The second of the "Present-Day Papers" is by Rev. Dr. Dike, and has to do with "Problems of the Family." It incidentally some startling statistics with regard to divorce in the United States are presented. The number is a very good one.

IN "THE POPULAR SCIENCE MONTHLY" for January, Benjamin Reece cites figures which show that crime does not decrease as illiteracy is diminished, and says that our school system should have the addition of moral teaching. The correspondence between Herbert Spencer, Prof. Huxley and others under the title "Letters on the Land Question," are commenced. There is an account of "The Rare Forms of Orchids," with pictures of several varieties. Also an illustrated article on "Palm Trees and their Uses."

THE VEGETARIAN MESSENGER is a 32 page monthly which gives a great deal of very good

evidence in favor of vegetarianism, some of which we may quote in future numbers. It does seem that flesh eating is becoming less popular.

THE YOUTH'S COMPANION double Christmas number is a charming souvenir. Its delicately colored cover encloses a wealth of stories and pictures that are highly interesting to readers of all ages. Some of the features are, "Christmas in a Wagon," by J. L. Harbour, a story of pioneer life in the Rocky Mountains; "A Double Decker," by Mrs. Frank Lee, a story for the boys; and another for the girls, entitled "Beth's Memorial Stocking," "A Christmas Night's Sensation," and "Alice's Christmas," both fresh and appropriate to the season; highly beneficial editorials on "Thoroughness" and "Stanley's Return," with a pretty page for very young children, with other articles, anecdotes and bits of fun, combine to make a treasury for the whole family.

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THE GOOD WORD "Canada," while we were "pushing" the JOURNAL much into the United States, was advisedly left out of the title. At the request of a number of our subscribers, we now have pleasure in adding it again and as our first word.