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A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—
EDWARD FLAYTER, M.D.

Public Health and National Strength and Wealth.

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VOL. XIII.

MAY, 1891.

No. 5.

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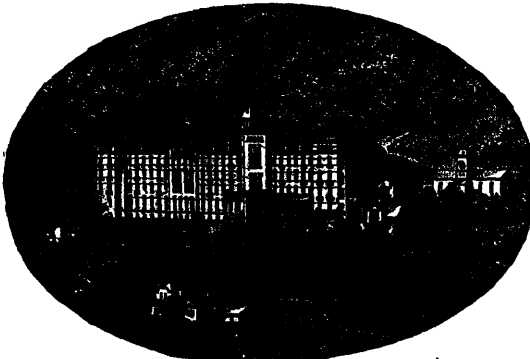
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CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XIII.

MAY, 1891.

No. 5

THE WORK OF LOCAL HEALTH BOARDS—SPRING (NOT SUMMER) CLEANING.

THERE are now many hundreds of local boards of health in Canada, while ten years ago there were not as many dozens. These are capable of doing an incalculable amount of good, if fairly active in their legitimate capacity. It is a fallacy which some appear to entertain, especially in villages and rural municipalities, that a local board should be but a *passive* rather than an *active* organization,—but a sort of court of appeal, only to take action when threatened danger is brought to its attention by other persons. As Dr. Lindsley, the able secretary of the Connecticut State Board of Health, says, "Every member of the board, or at the least its executive officer, should make it a first duty to acquire a familiar personal acquaintance with every part of his town with regard to its sanitary conditions. He should observe and note what influences, if any, affected public health, what parts were most unhealthy, and what may be needed to improve the conditions. Immediately when an intelligent and competent officer begins such observations he always finds enough material to make it interesting. As this Journal has frequently urged, a local board may very properly, and indeed we think should, be largely an *educational* body, to interest and instruct the public in the ways and means of preventing disease. This can be done in many, various and obvious ways. Suggestions may be made to householders, even of the farming class, relative to wells and the water supply, that purity may be secured; likewise to the milk supply,—the hygienic care of the cows and of the milk after it is drawn from them; and to the proper isolation of any one in a family who becomes the subject of infectious disease.

There is always abundance to do in this way for any one who takes any interest in the public health and who, especially, has been appointed, and is relied upon and trusted, to endeavor to protect municipalities as far as possible from disease of all kinds. To one point we desire to draw timely attention in this connection: that is, that every effort should be made to have removed, and in a most thorough manner, all accumulations of dirt—of waste refuse of every sort, before the hot weather commences. Such accumulations, or even foul soil, should never be disturbed during the hot season of June, July and August. Such disturbance liberates any disease germs which the accumulations may contain, and the germs become dry and may be carried by winds and form dangerous centres of infection. So long as the germs are kept wet or moist there is little danger in this way. It has been found that in Central Africa the fatal fevers are hardly known until after the rich germ or malarial laden soil has been disturbed by cultivation.

THE Countess Wanda von Szcawinska has just taken the degree of Doctor of Medicine in the University of Geneva. The learned lady is said to intend to practice her profession in her native country, Poland,

A CITIZEN will bring suit against the city of Salem (Boston Med. & Surg. Jr.) to recover damages for a case of typhoid fever, alleged to have been caused by the offensive contents of a barn-cellar on the adjoining estate. The plaintiff's wife was taken with the fever, and is now seriously ill. The attention of the Board of Health had been repeatedly called to the cellar, but the nuisance was not permanently abated until after the outbreak of the disease.

ON TREATING THE APPARENTLY DROWNED.

THE bathing and swimming season is at hand and so is the season of many deaths from drowning. If every man of fair intelligence were familiar with the most approved method of reviving vital action in persons who had been a dangerous time under water, many lives might be thereby saved. With the liberal dissemination of instructions on the method many persons would learn and remember the process and would employ it in emergencies. A new method which has been by medical journals pronounced superior to the long practised Sylvester or Marshall Hall method, has been recently suggested by Dr. Bowles, of London, Eng., and which has already been noticed in this JOURNAL.

After the body has been removed from the water, place it for a moment with face downward, to allow the escape of water from the mouth and throat; turn it on the side and keep it on that side continuously, except when, about fifteen times a minute, the body is to be rolled, for a few seconds, on the face again. By KEEPING THE SAME SIDE ALWAYS UP, the lung on that side becomes clear. Turning first one and then the other side up is dangerous, because thereby the partly cleared lung is suddenly flooded with fluid from the lung which was downward. It is better to clear one lung entirely than to have both half cleared. Each time the body is turned upon the face for the few seconds, a little more froth and water escapes from the mouth and nostrils. When the upper lung has been almost or partly cleared, it is useful to raise the upper arm above the head, thus drawing up and expanding the ribs and walls of the chest that air may enter, as in the Sylvester method, then bringing the arm down firmly to the side again, and repeating these arm movements fifteen or twenty times a minute; since the entrance of larger quantities of air into the lung is now safe. Pressure upon the back each time the face is turned down, assists the escape of water somewhat, and has a good

influence on the heart, aiding the propulsion of the blood toward the lungs. The continued use of this pronolateral method is said to be an excellent mode of keeping the pharynx clear of obstruction.

The artificial respiration process is far away the most important thing to attend to first. Not an instant should be lost before it is commenced.

If there be other assistants besides sufficient to keep up this process steadily and persistently for hours (for vitality has been restored after *more than two hours* of apparently fruitless effort) wet clothing may be removed, the body rolled unto warm blankets and partly wrapped in them, and heat applied to the groins, feet and over the stomach, by means of hot water in bottles or woollen cloths. A very hot cloth applied suddenly and momentarily to the bare skin over the heart might help to restore its action, or an occasional sharp slap or two with the hand over this region might have a like effect.

When breathing is restored, but little usually remains to be done. A little hot drink or mild stimulant may be required, with dryness, warmth and quiet rest.

THE INFLUENCE OF TOBACCO ON GASTRIC DIGESTION.

Dr. J. Ydan-Pouchkine reports a number of experiments which he has made in this connection on seven healthy individuals who were not habituated to tobacco-smoking. (*Bul. Général de Thérapeu.* Feb. 1891. *Therap. Gaz.*) His conclusions are embraced in the following statements: 1. Tobacco increases the quantity of gastric juice, but diminishes its acidity. 2. The quantity of free hydrochloric acid of the gastric juice is diminished under the influence of tobacco. 3. Proportionately to the decrease of the amount of hydrochloric acid there is an equal diminution of the digestive power of the gastric juice. 4. Tobacco likewise slows the action of the gastric ferments. 5. These modifications in the gastric juice produced by tobacco last for a period of several days. 6. As regards the motility of the stomach and its power of absorption, tobacco seems to produce an increase of these functions.

BEAUTY AND HEALTH—HANDSOME DOES THAT HANDSOME IS.

BEFORE one of the New York working girls' clubs, Dr. Louise Fiske Bryson recently gave an address upon the subject of beauty as a means of health, reversing in more ways than one the usual order of copybook aphorism, and upon which the Medical Record comments at considerable length. While acknowledging the impossibility of any protracted happiness without virtue, and the maintenance of beauty's fine edge without goodness, the doctor affirmed that systematic efforts to be beautiful will ensure a fair degree of health, and that happiness is the best safeguard against vice.

Proper breathing is the first art to cultivate in the pursuit of beauty. The lungs have their own muscular power, and this should be exercised. The chest must be enlarged by full, deep breathing, and not by muscular action from without. Inflate the lungs upwards and outward, as if the inflation were about to lift the body off the ground. Hold the shoulders on a line with the hips, and stand so that the lips, chin, chest, and toes come upon one line, the feet being turned out at an angle of sixty degrees. In walking, keep face and chest well over the advanced foot, and cultivate a free, firm, easy gait, without hard or jarring movements. It is impossible to stand or breathe aright if the feet are pinched. When correct posture and breathing are interfered with, the circulation is impeded, and deleterious substances in the blood tend to make the complexion bad. This is one of the many evils of tight shoes. To be well shod has a marked influence on style. The feet symbolize the body in their way as much as the hands. A clever shoemaker says that in a well-fitting shoe the human foot feels like a duck's foot in the mud. It is held firmly in place, but nowhere compressed. Nothing can exceed the vulgarity and hygienic wickedness of a shoe that is manifestly too tight. For misery-producing power, hygienically as well as spiritually speaking, perhaps tight boots are

without a rival. Next to the search for style pure and simple as a means of health, the care of the complexion and the cultivation of the right kind of expression are of great importance. The first is largely a matter of bathing and the general hygiene of the skin, while the second—a good expression—is best secured by the constant preference of higher thoughts over lower ones. This is the essence of intellectual living, and is fortunately within reach of us all.

Beauty that is lasting and really worth while is more or less dependent upon a good circulation: while a good circulation is made possible by correct pose, proper breathing, and the judicial care of the skin, something else is also necessary to insure the normal quality and activity of the blood. And this something consists in a combination of sunshine and exercise in the open air. To keep the complexion and spirits good, to preserve grace, strength, and ability of motion, there is no gymnasium so valuable as the daily round of housework. One year of such muscular effort within doors, together with abundance of quiet, regular exercise in the open air, will do more for a woman's complexion than all the lotions and pomades that ever were invented. Perhaps the reason why housework does so much more for women than games is the fact that exercise which is immediately productive cheers the spirit. It gives women courage to go on with living, and makes things seem really worthwhile. In a general way the great secrets of beauty, and therefore of health, may be summed up as follows: Moderation in eating and drinking; short hours of labor and study; regularity in exercise, sunshine, relaxation, and rest; cleanliness; equanimity of temper, and equality of temperature. To be good looking as possible, and to be physically well, one must in general be happy. And to be happy, it is necessary to carry out ideas of personal taste and preference, as many of them as can be put into definite form without in-

fringing upon the rights of others. Happiness has a distinct æsthetic and hygienic value. In itself it will secure perfect poise and respiration. To be happy is a duty just as style is a duty, and both are in great measure an affair of intellect and management. The ardent pursuit of good looks sums up the best there is in hygiene,

and becomes a legitimate and praiseworthy means of health. The world has yet room for two or three truths, of which not the least is the fact that the definite desire for personal beauty constitutes in itself a perfectly proper and meritorious inspiration to effort.

CARE OF BABIES IN HOT WEATHER.

NOT less probably than a hundred and fifty thousand children have been born in Canada during the last nine or ten months, and many thousands of these will doubtless die during the two or three approaching hot months of the year from sheer want of parental knowledge relating to the proper care of infants during this trying period of their life.

Dr. Caillé, of New York, a physician who has had vast experience with young infants, says that most all cases of infantile diarrhœa are due either to *improper summer food* or *improper feeding*. As an illustration of the former he gives, unhealthy milk, either of the mother or of the cow; and of the latter, *overfeeding*, even at the breast. Of all causes of the disease no one probably is so prolific as that of overfeeding. Many a child is much over fed direct from its mother alone. Hardly ever does a child become ill for want of food, but thousands upon thousands die from too much of it.

A little too much food may cause most serious trouble, by starting fermentation in the stomach and bowels and setting up an irritable, inflamed condition there. Heat has a relaxing effect upon the bodily tissues of the infant, but next to excess of food it is chiefly the effects of the heat upon the food which decompose this and alter its constituents, that injure the child; the excess of food (and the body needs much less food in summer than in winter) or the changed food the more readily effecting the relaxed tissues. Statistics show that one hundred artificially fed infants die to each three which are breast-fed; the mortality being thirty-three times greater among the former than the latter. In the latter the child takes its food *direct from the mother* before any change can

take place in the milk. Milk after being drawn from the cow rapidly absorbs—takes in from the air—the germs of fermentation and putrefaction, and its constituents in warm weather are rapidly changed thereby; and it is no longer pure, wholesome milk, but contains newly formed ingredients of a poisonous character, and is quite unfitted to be taken into the baby's stomach, although still *apparently* good milk.

When the mother cannot supply enough for her baby—sometimes by extra nutritious food and care her supply may be much increased—cow's milk is the best substitute, in the present state of our knowledge. This is the recognized view of the best medical authorities. But cow's milk is too "strong" for the young infant, and must always be diluted. There are two or three good ways recommended: 1st. To one half a portion of milk add a little rennet, carefully remove all the curd, and add the whey and a little sugar to the other half of the milk. 2nd, add to $\frac{1}{2}$ pint of cream, $\frac{3}{4}$ pint of warm water that has boiled, $\frac{1}{2}$ oz. of sugar and from $\frac{1}{4}$ to $\frac{1}{2}$ pint of milk according to age. Some authorities recommend thin, *well-boiled* barley water for diluting the milk; or when the bowels are not relaxed, thin oatmeal water. But usually all starchy foods are objectionable for a young child. If the milk be good and contain abundance of cream most babies will do well on it when it is simply diluted with water alone, from one to one and a half, or for the very young, two parts, to one of milk, with a little sugar.

Obtain good milk, mixed from a number of cows is usually safest, making enquiries as to the condition of the cows, byres, feed, &c., and sterilize it by heat, to destroy

all living germs in it. It may be well steamed in a Mason fruit jar, the day's allowance say in the morning. If only heated to about 180° or 190° F. (20° to 30° short of boiling) for half an hour it will be completely sterilized and if care be exercised the taste of the milk will not be changed as it is when boiled. It must then be kept closely covered. Everything connected with baby's food must be kept most scrupulously clean. The least trace of food on the vessels soon becomes poisonous. Use boiling water or steam freely and often on all vessels. Look closely to the inside of the feeding bottle, and turn the rubber nipple frequently. Never use rubber tubes. Do not give baby a taste of any other food—only the mother's milk or the prepared food. Give it often pure

cold water, all it wants; a few drops or more at once from a spoon if very young. That which has been boiled and cooled is safest. Baby often cries for drink when its stomach is full. Keep it warm, especially its limbs, with light loose woollen clothing; and its skin active by a daily cool bath followed by gentle friction. Be sure to give it plenty of pure fresh air, keeping it out of too warm rooms. If the bowel discharges become curdy or greenish it probably gets too much food: try less, and perhaps later a little lime water in its food; if not soon better obtain medical advice.

Begin now to fortify the little ones, by judicious diet, fresh air &c., and they will be easier kept well in the warm weather.

ON TAKING, PREVENTING AND ARRESTING OR CURING COLDS.

BY FRANCKE H. BOSWORTH, M.D., PROF. OF DISEASES OF THE THROAT IN BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

SUMMER colds are often more troublesome than winter colds. A little book on the above named subject, by the above named author, has just been issued by Geo. S. Davis, the well known medical book publisher of Detroit, and it is the most practical book on the subject that we have ever read. Below is a condensed synopsis of a large portion of it.

In the minds of most people the word "cold" is naturally associated with low temperature, and they confuse the idea of taking cold with that of absolute cold. This is an entirely erroneous idea. . . . It is first necessary to understand what bodily heat or animal heat is, and the source of the heat. The warmth of the body in health is constantly maintained, at all seasons and at all times, at a temperature of 98½°F. Any variation from this standard, be it even very small, constitutes a condition of disease. The growth and development of the body really constitutes a form of oxygenation, a process attended with the evolution of heat, and this process of nutrition of the body, with heat production, is constantly going on in

every organ and tissue of the organism. This, then, is the source of animal heat, and the process is not confined to any one portion or member of the organism, but goes on everywhere, maintaining not only the lungs and the heart and other internal organs at the equable temperature of 98½°, but maintaining the limbs, at the furthest extremities even, at this same temperature.

Now, clinical experience teaches us, with reference to taking cold, that the penalty of the exposure is incurred not from subjecting the whole body to lower temperature, but only a portion of it. If, for instance, we sit in a warm room with a draft of air striking the back of the neck, all other portions of the body being protected, or if we venture out on a damp evening in thin slippers, chilling the feet, the immediate result, almost invariably, is a cold. We see, therefore, how this results from exposure of a part of the body and not of the whole. And, furthermore, this cold which has arisen from chilling the feet or the back of the neck, has resulted in an attack of inflammation of the bronchial tubes, perhaps, or a cold in the

head. In other words an exposure of one portion of the body has resulted in an attack of inflammation in a tract or locality entirely separate and distinct from the one exposed. This needs some explanation. We have seen how animal heat is generated in all portions of the body, but like all other processes which go on in the human organism, this process of heat-production is governed by the central nervous system and any disturbance of heat-production in one portion of the body leads to a disarrangement, as it were, of the whole system.

Let us liken this central nervous system which governs the whole matter of warming the body, to a chandelier, say, with five gas-jets. If they are all lighted and burning with a steady flame, this constitutes health. If we turn out a portion of them, two or three perhaps, we find that the others flare up with an increased intensity which we may liken to a diseased condition. Now, if one of the burners is somewhat weakened, it flames up above the chandelier in an abnormal jet; this we may liken to the inflammation which is caused by our taking cold. Or, let us take another illustration. The body is a house, the central nervous system is a furnace in the cellar which regulates the warming of all the rooms, the registers of which are supposed to be in proper order. Now, for some cause the registers in a portion of the house are closed, the heat from the furnace makes its way into others in a greatly increased volume: and further, if in any one of the rooms the register is broken and the flow of heat is permitted abnormally, it escapes here in a far greater extent than in any other, heating this room in an unnatural way; thus imitating in a way the inflammatory condition which results from exposure to cold.

Now if the central nervous organization which governs heat-production and nutrition is disturbed or upset in having this process of nutrition shut off, or arrested, in one portion of the body, the back of the neck or the feet, we can easily see how the central nervous force which governs it, be-

ing the same as before, must exercise the same amount of energy as before. That energy must be sent out through some one of its channels. If arrested in one part it goes out with increased intensity to another. Inflammation, practically, is simply an exaggerated condition of health. In other words, in inflammation the normal processes of health go on, but with greatly increased intensity. And so we see how the draft of air on the back of the head or a chilling of the feet, hampering or arresting the processes of nutrition and heat-production in the portion of the body thus exposed, and thereby tending to an increase of the nutritive processes of heat production in some other portion of the body, may result in an attack of bronchitis or cold in the head, [which is simply a local inflammation].

HOW DO WE TAKE COLD.

We do not take cold ordinarily from a draft of cold air,—there must be something else. We do not take cold if the cold air strikes a portion of the body which is not accustomed to be protected. We may face a blast of cold wind from the north at a temperature many degrees below zero with impunity, for, as we have said, it is not a low temperature that causes a cold. But we cannot sit with our back to a draft with the temperature at 40° without incurring great risk of contracting a cold, providing there is sufficient moisture in the air to chill the skin; and this is a practical point in this question which we learn from experience, that the most dangerous draft is one not at a low temperature, but one in the neighborhood of 33° or 45°, and one in which the atmosphere is laden with moisture. Our limbs may be frozen off without giving us a cold, but if we get our feet damp we are very liable to cold. Experience teaches us that the greatest danger is met with in a draft of air of a moderately low temperature and containing moisture. The action of air in motion is to arrest or hamper for the time being, the nutritive processes which are going on in that portion of the body which is exposed, or, in

other words to arrest those forces or processes in this portion of the body which are generating heat, with the result of developing increased nutrition or increased heat-production in some other portion of the body. This increased heat-production constitutes inflammation.

THE PARTS AFFECTED BY TAKING COLD.

In the majority of cases, an exposure to cold results in an acute inflammation of the mucous membrane which lines the nasal passages; in other cases it give rise to a sore throat, or swollen tonsils; in other cases bronchitis, or, again an attack of irritable bladder, or perhaps lumbago. This is very easily explained, when we say that the inflammation which results from exposure to cold locates itself in the weakest part. If a man is liable to rheumatic troubles, an exposure to cold will result in an attack of rheumatism; if a man has any bronchial weakness, an exposure will be followed by an attack of bronchitis. In most instances, as we know, an exposure to cold gives rise to an acute coryza, or an ordinary cold in the head, simply on account of the fact that the mucous membrane which lines the nose is in a state of mild chronic inflammation in a very large portion of the community in our temperate climates. In other words, most people have mild chronic nasal catarrh, as it is termed which, is perhaps the source of a very slight inconvenience or perhaps may be scarcely noticed at all, and yet when a cold is contracted this chronic inflammation lights up into an active, acute process.

A cold, however, is not a mere local inflammation, because one rarely contracts a cold without feeling more or less general disturbance. Its onset is rarely marked by a fully developed chill, but usually there are quite well marked chilly sensations, pains in the bones, a feeling of general weakness, loss of appetite, a dull headache, perhaps, and other evidences that the whole system is affected by it. Furthermore these symptoms usually set in before the local inflammation shows itself. This, I think, unquestionably must be accepted as teaching us that the cold has affected the whole system in some

way; or, in other words, as evidence of the correctness of the view advanced in the earlier pages, that an exposure really acts indirectly through the central nervous system in the manner which we have already tried to make clear, primarily arresting heat-production in a certain portion of the body, which, being recognized by the central nervous system, creates a disturbance there, in consequence of which an excessive amount of nerve force is sent out to the point of the greatest weakness, there setting up inflammatory action, the effect on the nervous system being evidenced by the feeling of general depression with fever. The constitutional disturbance may last from twelve to twenty-four hours, when the local inflammatory process manifests itself at the point of selection.

PREVENTION OF A COLD.

A proper and intelligent understanding of how to avoid taking cold is of far greater importance to us than to know how to treat a cold. The preventive measures consist practically in the proper regulation of the clothing, the maintenance of the skin in its best functional activity by the daily use of the bath, the proper ventilation of our living and sleeping apartments, and certain other more general measures, [especially a plain, nutritious diet, with moderation as to quantity of food, out-door exercise, etc.]. As to clothing, it is the height of un wisdom to wear more than just sufficient to protect ourselves from the weather. The instant that we put on more than is sufficient for comfort, we are liable to do mischief. Furthermore, in wearing clothing it should be equably distributed over the whole body. If we clothe one portion of the body at the expense of, or in excess of another, we are liable to do ourselves a harm. The most important part of our clothing is the underwear, in that, lying next to the skin, it is a matter of no little moment that it should be of such texture as to interfere in the least degree with what is, perhaps, the most important function of the skin, viz., that of perspiration. As before stated, there is more heat gener-

ated in the body than is sufficient to keep it at the normal temperature of 98½°. This excess of heat is dissipated by means of perspiration. This perspiration is going on constantly day and night. The underwear should be made of pure wool, as affording a fabric incomparably superior to all others. Few habits are more universal than that of changing one's underwear two, three, or even four times in the course of the year, in order to adapt it to the various changes of temperature in our varying seasons. No greater mistake could possibly be made. One should wear the same thickness of underwear the whole twelve months. Nothing is more hopeless than to attempt to adapt our clothing to the varying changes of temperature in the very fickle climate of our temperate regions. It cannot be done. Our protection is not in adapting our clothing to the various fluctuations of a fickle thermometer, but to so inure ourselves to the changes of temperature that we can meet them with impunity. This we may do by breaking up the habit of wearing too heavy clothing, and accustoming ourselves to get on with just sufficient clothing to keep ourselves just comfortable. There is much more comfort in wearing little clothing than in wearing too much. The warmth and comfort of the body is not so much dependent on the amount and thickness of the clothing, as on a healthy and vigorous cutaneous circulation. Wearing, then, a thin suit of all-wool underwear through the cold of winter and the warmth of summer, we make ourselves comfortable, according to the demands of the outside temperature, by changing our outer garments. As regards outer-wear, house-coats and overcoats, that is a matter which is easily regulated. Wear these garments with reference to comfort. Nothing is more pernicious than the habit of muffling up the neck. Another pernicious habit which is very prevalent is that of wearing extra protection of the chest, putting pads, wads of cotton and extra covering of that sort over the thorax, with the idea of thus protecting the lungs. One does not take cold on the lungs from an exposure of the

chest. The region of the body exposed to a draft has nothing whatever to do with the part in which the inflammation results. Extra protection for the walls of the chest weakens the whole system. The worst possible place to wear a chest-protector is across the chest; the best possible place, probably, is on the soles of the feet. The chest-protector is a misnomer. The same may be said of chamois-leather garments worn under the vest. They retain heat and moisture, hamper perspiration, and are in every way objectionable except in extremely cold weather. The limbs should be clothed warmly and comfortably in the same manner as the trunk of the body. The feet, coming in contact as they do with the cold and oftentimes damp pavement, require more protection than other parts of the body, but this protection should be on the soles of the feet. Hence the soles of the shoes should be abundantly thick, sufficient to prevent the soles of the feet feeling cold and dampness through them. The upper portion of the foot does not require the same protection, and should be clothed with reference to comfort. Wearing rubbers, while a necessity, is oftentimes a mischievous necessity. A rubber overshoe that covers the whole foot is always objectionable. In damp weather the slight rubber which only covers the sole of the shoe is infinitely better than the rubber shoe which covers the whole foot.

As regards overcoats, there is little need be said, further than to enter a mild protest against the excessive use of furs both for male and female wear which has become such a prevalent fashion. In our climate in late years, a sealskin overcoat or a sealskin dolman is undoubtedly a beautiful garment, and yet the Lord designed a sealskin for an animal whose principal habitat is in the Arctic Ocean. It is not in any way adapted for the wear of men and women in temperate zones.

As to bathing, while I regard the proper regulation of clothing as of great importance in enabling us to avoid taking cold, I am disposed to think that the proper use of the bath in one of its various forms,

possesses even greater value. It is a prevalent impression that the prominent use of the bath is for cleanliness. Human beings are not such filthy creatures that a bath every day is absolutely necessary for cleanliness. I think we attain a far better conception of the true value of the bath in regarding it as a stimulant and invigorant to the whole system. [Dr. Bosworth then recommends the daily bath, cold or cool, according to the bodily vigor and re-action:—either immersing the body in a vessel of water, or washing the surface with the wet hands or a sponge.]

ABORTING OR ARRESTING A COLD.

This procedure practically consists in the use of remedies which act upon the general system. The first effect of a cold, as we have already learned, is in a disturbance of the equilibrium of heat-production throughout the body; this being arrested as we understand it, in only a portion of the economy. In general, then, our first effort in aborting a cold will be to restore as far as possible, this animal heat. Perhaps no better method of accomplishing

this presents to us than the resort to hot drinks, together with the hot foot bath; in other words, the use of heat both internally and externally. There probably is no special virtue in any of the usual decoctions of hot tea prescribed, although as a matter of routine, perhaps, we give chamomile tea as hot as can comfortably be borne, in which, possibly, two or three teaspoonfuls or more of whiskey is added. A far more palatable drink is the hot toddy or hot whiskey punch. The external application of heat is accomplished by the immersion of the feet in hot water, while the body is well covered by blankets. I think the hot foot-bath, in all cases is preferable to immersing the whole body in a bath, in that there is less liability to chill the skin on emerging from the bath. The apparent object of the hot drinks and foot-bath are the production of more or less profuse perspiration. This is not really the object to be accomplished, so much as the evidence that it has been accomplished—the real object being the restoration of the equilibrium of heat-production throughout the whole body.

SANITATION AND SOIL PRODUCTION.

BY GEORGE VIVIAN POORE, M. D., F. R. C. P.,

PROF. IN UNIV. COLL., PHYS. TO THE HOSPITAL, ETC., ETC., LONDON, ENG.—VALUABLE AND INTERESTING EXTRACTS FROM AN ADDRESS ON PREVENTIVE MEDICINE, DELIVERED BEFORE THE SANITARY INSTITUTE OF GREAT BRITAIN.

I am as some of you know, no mere theorist, I practice what I preach, and have now some nine years' experience—experience which has served to strengthen my opinions, and enables me unreservedly to exhort others to pursue a similar course with myself.

In Hampshire I have a garden, and adjoining it are twenty cottages which I also own, inhabited by about a hundred persons. These cottages are scavenged *every day*, and the scavengings are buried in the garden. The scavenger's first duty is to the cottages, to remove filth and bury it, to whitewash, paint and to keep decent.

His second duty is to the garden, where he acts as under-gardener. In the garden, which has an extent of about 1½ acre, I am obliged, in self-defence (what a hardship!) to raise the biggest crops possible. This garden not only supplies my London house with a variety of fruit, flowers and vegetables (cabbage, potatoes, carrots, turnips, parsnips, beet, salsify, lettuces, artichokes of both kinds, peas, beans, asparagus, seakale, peaches, plums, apples, pears, figs, strawberries, currants, raspberries, etc.), which I doubt if I could purchase for £50 a year of the neighbouring greengrocer, but the overplus, which is

marketable, just about pays the wages of the scavenger and under-gardener. I cannot help thinking that the combination of market gardening with cottage owning in country places, opens up the possibility of an industry which is at once profitable and advantageous to all concerned, and affords a good chance of solving a sanitary difficulty.

I am addressing myself to dwellers in the country, but I should like to say to town dwellers that complete sanitation is impossible, unless cultivated land be brought into tolerably close relationship with the dwelling. At present our sanitary arrangements are magnificently begun, and seldom completed, and while we always uniformly leave a most dangerous loose end to our sanitary measures, we shut our eyes to it, and blow the trumpet of self-satisfaction, as if the sanitary millenium had begun. . . .

I have been reading the last volume of our transactions, and in it I find a very interesting paper by Dr. Sykes, who quotes Dr. Corfield, who, in his turn, is quoting Sir Henry Acland, to the effect that the disappearance of the great cities of antiquity was due to pestilence, rather than war. We must all admit the possibility of such an assumption, and certainly no one can ponder upon the disappearance of Egyptian, Babylonian, Assyrian, Greek and Roman civilization, without speculating upon the cause, and without applying the lesson to ourselves, and asking ourselves how much longer is our British civilization to continue.

If great nations are destroyed by neglect of sanitary laws, and if prolonged national life is indicative of sound sanitary measures, there is at least one race upon the globe which is worthy of profound study by all who concern themselves with public health. This race is the Chinese, who have seen all the great nations of antiquity in and out, who were probably a great people in the days of Moses and before, and whose thrifty myriads are even now successfully contending with the Anglo-Saxon race in America and Australasia. The Chinese, as is well known, have had

to contend with national calamities of a most stupendous kind. In our own days we hear of floods and famines which claim their millions of victims, and yet the race continues to increase in such a way, and to overflow its natural boundaries to such an extent, that it is certain, even without the exact returns of a Registrar-General, that the birth-rate must considerably exceed the death-rate, and must have done so in an average way during the three or four thousand years that the Chinese nation has existed.

I think there is no doubt that unless we mend our ways, the Chinese will see us out, as they have seen the other great nations of the world out, and the reason, I believe, is obvious. The Chinese are the most thrifty nation in the world. In China nothing is wasted, and all organic refuse is ultimately returned to the soil. Agriculture is in China a sacred duty, and the Chinese have got a firm grasp of the elementary principle that if the fertility of the earth is to be maintained, we must constantly replenish it. The nineteenth volume of the Health Exhibition literature contains a most interesting series of papers on China, by Surgeon-General Gordon, Mr. Hippisley and Dr. Dudgeon, of Peking. The papers by Dr. Dudgeon are especially worthy of study, for many years residence among the Chinese have impressed him with the fact that we have much to learn from them.

The question of our duty to the soil is fundamental in sanitary matters. If we starve the soil and turn our fertilizing materials into the sea, we may rid ourselves (though this is doubtful) of filth diseases for a time; but it is by no means doubtful that we shall ultimately replace filth diseases by those diseases that are bred of starvation. How soon this will happen no one can say, but that it will happen eventually seems to me as certain as is the axiom. "ex nihilo nihil fit." Do not let us commit the great blunder, when dealing with this national question, of forgetting that the life of a nation ought to be measured by centuries; do not let us make a suicidal use of a paltry 50 years

statistics, and, because the figures of the last decennium happen to be favorable, conclude therefrom that all our sanitary principles are right.

Perhaps some one will say, "How ridiculous to hold up the Chinese as an example! The Chinese masses are acknowledged to be exceptionally filthy in their customs and habits." This, perhaps, is true, but I am sure that this audience will not make the error of confounding principles with details. The Chinese principle of returning all organic refuse to the soil is, there can be no doubt, absolutely sound. The Chinese details may be filthy and susceptible of improvement. In this country the details of our domestic sanitation are refined, elegant, and ingenious. It is the principle subverted by these details which is absolutely rotten. The main problem of sanitation is to cleanse the dwelling *day by day*, without fostering starvation. This can only be done by returning all organic refuse to the soil, and the perfecting of the details by which this duty is to be done is the most important work of the modern sanitarian.

This question is a national one and concerns us all. Every country squire ought, in these matters, to set a good example to his tenants. If he does not set the example of increasing the fertility of the soil by daily addition to it of all the organic refuse of his country mansion, he cannot command our sympathy when he goes without his full rent.

This question has an immediate personal interest for all who derive their income from the soil. I feel sure that the clergy would do well to enforce by example, as well as by precept, the old injunction, to "replenish the earth and subdue it." If they do not they must expect to go without their tithes. Improvement in this direction is only to be attained by rousing the public conscience. So soon as the majority of individuals is impressed with the fact that it is wicked to foul our streams and starve the soil, and that our individual responsibility does not end, even though the fouling and starving be done by a "Board," so much the better will it be for the public health and national wealth.

ON THE RELATIONS OF AGRICULTURE TO THE PUBLIC HEALTH.

ON several occasions this Journal has drawn attention to the close relations of agriculture to sanitation and the public health. Sanitation is very largely, almost entirely, the proper, safe disposal of all used up, waste, organic, decomposing or putrescible matters. The products of the soil feed upon these matters and demand them in order to grow and mature. Soil, with its myriads of minute fungoid organisms, yielding abundant vegetable productions, is the best of all disinfectants. The soil cannot yield abundance of produce without a full return to it of the elements which it has given up to its products. This is a law of nature. The laws of nature are inexorable: they are not to be set aside by prayers—nor labour. Those who disobey the laws of nature, or who enter into a contest with her, are sure to be worsted in the end.

If we fight with nature, we court calamity. As the inevitable destiny of putrescible matter is to become the food of vegetables—a destiny which we can delay at the most only for a brief period—our proper course in dealing with it is clearly not to attempt to prevent or to delay the inevitable. Such a course is to disobey the laws of nature, to fight with her and court ultimate defeat. Our wiser plan is clearly to help nature in her work.

In view of this, is it not full time that some more decided action were taken by legislators in this yet new country to prevent the universal practice of opposing nature in this circle of waste and supply—of tearing down and building up—some action by which waste matters may be returned more directly to the soil as food for crops instead of being deposited in our inland waters whence they become the destroyers

of the health and life of both mankind and the domestic animals? Is this a subject with which the provincial authorities have to deal, or is it a Federal question?

In an Address bearing upon this subject delivered at the last Anniversary Meeting of the Sanitary Institute of Great Britain, by George Vivian Poore, M. D., F.R.C.P., (Phys. to University Coll. Hospital; Prof. of Clinical Med. and Med. Jurisprud. Univ. Coll., London), the speaker said, "The doctrine has obtained in this country (Eng.), of late years, that it is good economy to waste all our home-grown organic manure, and to import chemicals from South America for the purpose of agriculture. This is a strange doctrine; but as most of our farmers are now too near bankruptcy to pursue this course, we may hope that ere long they will begin to clamour for that which we now waste so wickedly. Again, farmyard manure is stuff which *must* be used, while chemicals are things which *must* be bought, and need to be analysed when bought."

These remarks of this eminent physician and scientist, may apply, at least in a large measure, to Canada.

Dr. Poore goes on to show that the organic manure remains entangled in the soil, and is not readily washed out of it in the winter when the temperature is low, or even in unpropitious summers. "It cannot be washed out until microbial growth has changed it into soluble salts, and when this change takes place, which it does in 'good' weather, the roots of the growing plant seize hold of the ever-forming soluble salts and appropriate them to their own use. In fact the farmer who uses organic manures from the farmyard or elsewhere, need trouble himself very little with agricultural chemistry or experiment. He may feel certain that if he buries his organic manure *directly after it is produced* it will not be wasted. It will not give off ammonia to the air, nor will the juices be washed away by rain to the same extent as when it is left above ground to be a nuisance. There seems to be no doubt whatever, that all heaps of manurial matter which give off ammonia and other

gases to poison the air, and perhaps do more serious mischief, are allowing valuable matter to escape, which ought to be undergoing oxidation in the earth. There can be no doubt whatever, that to the agriculturist *stink means waste*, and it is to be hoped that when the bucolic mind has imbibed this great and important truth, the country will be more evenly pleasant than as it is."

Reference is made by Dr. Poore to Prof. Voelckers article on "Manure" in the Encyclopedia Britannica, in which comparative tables are given (from experiments by Sir John Lawes and Dr. Gilbert), of the value of farmyard manure and artificial fertilizers, and says, "These figures are certainly not such as should discourage us in the use of farmyard manure, especially when we remember that the average agriculturist is not likely to apply his artificial manures with the knowledge and judgment of Messrs. Lawes and Gilbert, and that in the use of farmyard manure it is not easy for him to go very wrong."

Mr. Warrington, F.R.S., in his valuable little book on "The Chemistry of the Farm," says, "The most complete return to the land would be accomplished by manuring it with the excrements of the men and animals consuming the crops. . . Farmyard manure is a 'general' manure; that is, it supplies all the essential elements of plant food. . . The effect of farmyard manure is spread over a considerable number of years, its nitrogen being chiefly present not as ammonia, but in the form of carbonaceous compounds which decompose but slowly in the soil." The immediate return is often less than when more soluble nitrates and phosphates are used, but the return is sure to come.

On the other hand, as now treated, the sewage and excreta of cities, towns and villages, as well as the farmyard manure all over this fair young Dominion, is a source of constant menace, and indeed of disease and death, to thousands upon thousands of human beings living upon its soil.

Dr. Poore dwelt at much length on the serious evils of the present system of water pollution. The first appearance of cholera

In England was almost coincident, as he says, with the introduction of the water carriage system and the pollution of streams from which water-supplies were drawn. "Since the introduction of water-closets, and I believe as a direct consequence of them," he adds, "we have had four severe epidemics of cholera, a disease not previously known, and typhoid fever, previously almost or quite unrecognized, has risen to the place of first importance amongst fevers in this country."

What I want to insist upon, said Dr. Poore, is this : That

THE PROPER DESTINY OF ORGANIC REFUSE
IS IMMEDIATE BURIAL

just below the surface of the soil. Most of the shortcomings of modern sanitary methods are due to the fact that in our dealing with organic refuse we commit a scientific error—*i.e.*, we pursue a course which is in opposition to natural law. This error consists in mixing organic refuse with water. When organic refuse is mixed with water it undergoes changes which differ widely from the changes which it undergoes when mixed with earth. According to Wollny, the process of oxidation of organic matter and the formation of nitrate takes place most readily when a moderate amount of moisture is present. The most favourable amount is about 33 per cent. and if the moisture rise above or sink below this amount, the process of nitrification and the formation of carbonic acid is hindered. When water is in excess, the amount of free oxygen is insufficient to favour the growth of mould fungi ; and in place of oxidation, putrefaction takes place with the formation of ammonia, free nitrogen, carbonic acid, and carburetted hydrogen. In the treatment of putrescible refuse, so that it shall not be a danger or annoyance, what we have to aim at is nitrification rather than putrefaction ; and it is certain that, by mixing with water, putrefaction is encouraged and nitrification delayed. We clearly ought to encourage oxidation, and make putrefaction impossible. Putrefaction is certainly a great cause of ill-health. It was the putrefaction of wounds (now happily almost unknown)

which but a decade or two ago converted hospitals into something but little better than charnel houses. It is the putrefaction of organic refuse, mixed with water in cesspools and sewers, that causes that long list of ailments which we ascribe to the inhalation of "sewer air." The opinion is commonly held that the dejecta of typhoid patients and cholera patients do not become dangerous to others until putrefaction has set in.

The fact that the zymotic poisons—the germs of disease—are *particulate and alive* is one which has most important bearings on the subject under discussion. If the poison were a chemical poison ; then dilution would practically do away with its power for harm. No amount of dilution is capable of destroying a zymotic poison ; in fact, it is not impossible that the mere mixing of organic refuse which contains a zymotic poison with water may be the means of keeping it alive and causing it to multiply. When a mass of organic matter, charged with zymotic particles, is mixed with water and washed out of a house, the water will carry the poison with it wherever it may chance to flow or trickle, to water course, well, or any other source of drinking-water ; in fact, the dissemination is as perfectly and thoroughly done as if dissemination of poison were the main object which we had in view. When dealing with organic matter impregnated with zymotic poisons, mere dilution with water increases rather than diminishes the danger. As long as the poisonous organic refuse is concentrated, its repellent qualities are such that there is little chance of its gaining access to the human body. The microbes contained in it are theoretically capable of infecting an almost indefinite quantity of water, and this large quantity of water masks the repellent qualities of the stuff, and thus the danger of infection is greatly increased.

There is little room for doubt, continues Dr. Poore, that, "in this country at least, water has been the great carrier and disseminator of the poison of cholera. What is true of cholera is also true of typhoid. The first principle in dealing with epidemic

disease is that which is expressed in the *principiis obsta*, resist the beginnings. The object of this is evident, and, it is well expressed by Shakespeare in the words.—

‘ A little fire is quickly trodden out,
Which being suffered, rivers cannot
quench.’

The mixing with water may be looked upon certainly not as a resistance of the beginnings, but rather as a nursing and favouring of them, which, being ‘suffered,’ most surely ‘rivers cannot quench.’

Principiis obsta, then, let it be in Canada. Streams are not yet so bad here as they are in England, but they soon will be if we do not resist the beginnings. It is high time for authorities to act.

Here is a broad field in which the agricul-

turalist and the sanitarian may work together, in enriching the farmer and promoting at the same time the public health. Much is being wisely done for the promotion of agriculture in the Dominion. Shall we not go a little further and in the direction above indicated? Cannot there be some legislation by which the farmer may be greatly encouraged to get all the waste refuse he can find and bury it while fresh, before putrefaction commences, in the soil of his farm?

We have frequently thought it would be a wise thing to have the sewage of Ottawa pumped onto the Experimental farm here, instead of starting it on its way to Montreal, where protests will probably some time be made against drinking the diluted sewage of the capital.

MISCELLANEOUS NOTES AND EXTRACTS.

INFANTILE INFECTION FROM TUBERCULOUS MILK.

In the hearing before the committee on public health of Massachusetts legislature, says the Sanitary Inspector (the official organ of the Maine St. Bd. of Health), Dr. H. C. Ernst referred to a case communicated to him by Dr. Gage of Lowell in which a child was infected by using tuberculous milk. The attention of Dr. Gage was directed to the possible infection by reason of his having under his care a child of less than one year old, that had never been fed upon anything but the milk of this cow, and was developing symptoms of tubercular meningitis from which, it appears, it died. “After reading a report,” says Dr. Ernst, “which I presented about that time, the thought entered my mind, “May not this cow have tuberculosis, and may not the milk from this cow, upon which the child has been fed, have been the means of communicating the disease?” Its parents were perfectly healthy, there was nothing about the house which could account for its condition, and the only theory upon which he could explain it was the possibility of this

cow being tuberculous. I found the bacilli of tuberculosis in the milk. We inoculated four animals with the milk, and within six weeks one of them had acute miliary abdominal tuberculosis, as you may see by the photograph. Dr. Gage could find no way to prevent the sale of the milk from that cow unless he bought and paid for her out of his own pocket; and she is to-day, as far as I know, used for a milk supply. Another child was fed upon that same milk, and was developing similar symptoms to those discovered in the child who had died. I have here a photograph showing the miliary tubercles in the abdomen. Another case, which Mr. Bowditch reminded me of, was that of a cow which had been selected by a gentleman for the use of his baby, with the idea that one cow's milk (a cow of the highest grade and breed) was the best supply. We were carrying on this work, and, as a matter of interest, the milk from that cow was sent to us for examination and in it we found the bacilli of tuberculosis. There had been no previous suspicion of the disease. Dr. Clark, representing the board of health of Medford reported a case which came under his notice. The man came from healthy parents, so far as he could learn. The family history was without taint of tuberculosis. He purchased a cow which he

supposed was healthy, and used the milk a year or more. Last spring he showed symptoms of tuberculosis, and the cow showed signs of tuberculosis also, but had been disposed of. Dr. Clark said he was not safe in saying that the animal had the disease, but there was every indication that she had; and the man has to-day what is called consumption.

AIR AND SUNLIGHT AND THE BACILLUS TUBERCULOSIS.

It is acknowledged by most pathologists that tuberculous sputum, dried up and broken into dust, is the most common vehicle by which the bacillus of tubercle is conveyed into the body. But its power for evil is obviously modified by a multitude of conditions, some of them inherent in the animal body exposed to infection, others due to external influences. Judging from the facts relating to the distribution of tuberculous disease, its incidence in certain localities, and especially its prevalence in badly drained, badly ventilated, and imperfectly lighted dwellings, it has been surmised that the three chief external conditions that mitigate the virulence of the bacillus are (1) a dry soil, (2) abundance of fresh air, and (3) light.

In order to test the influence of light, air and dry soils upon the virulence of the bacillus, Dr. Arthur Ransome, F. R. S., physician to the Manchester Hospital for Consumption and Diseases of the Throat, instituted a series of experiments by inoculating animals with tuberculous sputum, which had been exposed in various ways. These experiments, so far as they extend, go to prove that fresh air and light and a dry, sandy soil have a distinct influence in arresting the virulence of the tubercle bacillus; that darkness somewhat interferes with this disinfectant action; but that the mere exposure to light in otherwise bad sanitary conditions does not destroy the virus. There are also some indications that the presence of a cotton-wool envelope may interfere somewhat with the action of both good and bad air respectively.

THE HEART IN ATHLETES—EFFECTS OF OVER-DOING.

An English surgeon states that of 5,000 decrepit or aged soldiers that have been brought under his notice, fully

80 per cent. were suffering from heart trouble in one form or another, due to forced exertion. He predicts that as large a percentage of the athletes of to-day will be found twenty-five years hence to be the victims of the same causes engendered by muscular strains. With regard to the effect of exercise on the prolongation of life, it may be said that there are more people living in France who have passed the age of 60 than there are in England the home of athletic sports, and there is probably no nation in Europe more averse to muscular cultivation for its own sake than the French. Great athletes die young, and a mortality list of Oxford men who had rowed in the 'varsity races shows that a comparatively small percentage of them lived out the allotted time. People must recognize the difference between "athletic sports," as typified by *contests*, and rational exercise, as typified by walking, riding, skating and the like in *moderation*. Moderation means health; excess, disaster and disease. Exercise carried to the point of great exertion is disastrous; exercise confined within the limit of but slight fatigue is wholesome.

THE REST CURE.

A New York woman who returned recently from a course of rest under English advice tells how she had sailed away a year ago, accompanied only by her husband, who bade her good-by at the doctor's door and came back to New York and their family, while she entered upon a three months' practical suspension of animation. No member of her household during that time communicated directly with her. It was settled before she went into retirement that if any serious emergency should arise she was to be informed, otherwise no news was to be good news. She had a large, airy room with two or three peaceful landscapes hanging on the walls. Books, papers, a bit of work, anything that could interest her, were banished, however, and her existence reduced as nearly as possible to nil. She was kept in bed and fed without being permitted to sit up. Her food was simple but nutritious, and came with the regularity of clock-work. For exercise, vigorous massage and sponging were daily employed. The first two or three days were well-nigh unbearable. After that she became con-

tented ; life, droning on in this monotonous, uneventful way, seeming even pleasant and soothing. Her physician saw her only once a week, and her nurse was no sociable Sairy Gamp, but a deft, quiet, middle-aged woman, soft of tread and placid of face, who was no sort of distraction, but to whom, however, one could get wholly used and unconsciously attached. At the end of three months she got up as suddenly as she had lain down, dressed and walked three miles. Then her husband and children went to her, and she traveled with them for four months, knowing no fatigue, and with more endurance than any other member of the party. Such it is to be wholly rested.

PRACTICAL VEGETARIANISM.

The Rev. John Higgins, a clergyman of Melbourne, Australia, in a letter to the Vegetarian Messenger, gives the following : After much reflection, despite suggestions as to the risk of so serious a change of habit at my age of life, I resolved to give Vegetarianism a fair trial. I was then fifty-six, and had been for over forty years in the habit of partaking of flesh once a day. At this time I was residing in the Australian bush, leading an active open-air life in a delightful climate, and with healthy surroundings. Yet I suffered from dyspepsia and many of its accompaniments, especially languor and dull spirits. It seemed as if old age was coming sooner than welcome. In the bush but few vegetables were to be had ; much variety was out of the question. It was under these conditions that I made at once, a complete change, abandoning the use not only of flesh, fish, and fowl, but butter, eggs, and other animal products (so-called), except milk. The effect, ere long, was exhilaration of spirits, increase of vigor of body and mind, and a sense of placid power. Work which before was a burden, became an enjoyment ; life wore a new aspect ; the mental faculties became brighter and more steadily available. After over fifteen years' experience of the reformed diet, nothing but absolute necessity could induce me to return to the old system. Now, in my seventy-second year, I am, thank God, remarkably free from the infirmities of age, and can do full ministerial work, and enjoy it, besides handling spade and hoe in the early mornings in my garden. While not always, during those fifteen

years, in circumstances to fully carry out my views, I have noted that the more simply I have lived, and the more rigidly I have confined myself to fruits and grains, the better it has been with me ; also that for promoting working vigor, two meals a day are better than three."

WHOLESALE MURDER BY NOISE.

Under a government by demagogues (miscalled republican). The Sanitarian Era says, we fear there is little use in advocating any public right that is opposed to the selfish indulgences of an appreciable number of voters. But if any reform could affect brutal selfishness so mildly as to avoid a political boycott of its authors, we should think it might be directed against some of the needless noise of cities. We do not refer to the barking of the worthless curs on which the best affections of laboring men are so often placed. It is not our idea to risk a revolution by a dog tax or other ultra measures of repression. We would begin at the other end of society and first silence the tartarean yell of the shop and railroad steam whistle. This would be no oppression of "Labor," but on the contrary might be rather popular as a blow at capital. The aggregate of agony and murder inflicted by this single cause every day, in a city like New York, would be appalling if it could be realized : where at all times there are thousands lying in conditions that demand repose at night and early morning at least, as the price of a tolerable life, and even of a chance for life in critical stages of sickness, other cities as well as New York are long suffering in this respect.

RESUSCITATION BY HEART IRRITATION.

Dr. McArthur, of Chicago, writes to the North American Practitioner of several remarkable instances in his experience in which life seemed to be resuscitated by needle puncture of the heart. The following is an example of the practice : The case was one of apparent death under operation, from chloroform. All breathing had stopped for about two minutes. Artificial respiration seemed to cause no air to enter or leave the lungs. While the battery was being brought and attempts

at artificial respiration were continued, with the addition of amyl nitrite vapor over the mouth, I was asked by the nurse if she should repeat the injection (of digitalis and brandy.) As there was no circulation, and the patient moribund, if not dead, I told her to give me the empty syringe. I immediately drove the point deep into the heart muscle as nearly over the apex as I could. Feeling a slight jerk on the needle, I made some lateral motion with it and then withdrew it, at the same time ordering continuation of the attempt at artificial respiration. Immediately there was a pulse at the carotid, and on feeling at the wrist, there also. Continuing now the vapor of amyl nitrite, the patient made a good recovery with no secondary pericarditis, absolutely no untoward symptoms. With a clean needle but little damage is possible, as he says, compared with the danger threatening.

TEN COMMANDMENTS OF HEALTH.

The Medical Record gives the following from the Dixie Doctor. It may possibly strike some reader as being a little irreverent: it need hardly be said, this is not intended; and also as being rather more epodictic than exact in the field covered. For we are told not to eat pie, while nothing is said against whiskey. A large class of excellent people think that whiskey is less salutary than pie, but perhaps these people don't live in Dixie. "1. Thou shalt have no other food than at meal time. 2. Thou shalt not make unto thee any pies, or put into pastry the likeness of anything that is in the heavens above or in the waters under the earth. Thou shalt not fall to eating it or trying to digest it. For the dyspepsia will be visited upon the children to the third and fourth generation of them that eat pie, and long life and vigor upon those that live prudently and keep the laws of health. 3. Remember thy bread to bake it well, for he will not be kept sound that eateth his bread as dough. 4. Thou shalt not indulge sorrow or borrow anxiety in vain. 5. Six days shalt thou wash and keep thyself clean, and the seventh thou shalt take a great bath, thou and thy son, and thy maid-servant, and the stranger that is

within thy gates. For in six days man sweats and gathers filth and bacteria enough for disease; wherefore the Lord has blessed the bath-tub and hallowed it. 6. Thou shalt not smoke tobacco, for it is an abomination in the sight of all thoughtful men, and a mortal sin against thy Creator, who has given thee a sound body and mind to be well preserved against such narcotic drugs. Remember thy sitting room and bed-chamber to keep them ventilated, that thy days may be long in the land which the Lord thy God giveth thee. 7. Thou shalt not eat hot biscuits. 8. Thou shalt not eat thy meat fried. 9. Thou shalt not swallow thy food unchewed or highly spiced, or just before hard work or just after it. 10. Thou shalt not keep late hours in thy neighbor's house, nor with thy neighbor's wife, nor his manservant, nor his cards, nor his glass, nor anything that is thy neighbors."

MARRIAGE AS A REMEDY.

There is now no restriction of marriage, says the Journal of the American Medical Association, except in the pronounced idiotic and raving maniac. No one is so diseased or deformed, or crippled, or defective in mind or morals, but may marry and become a parent of degenerate, helpless children, as far as the law is concerned. While this is a sad reflection on the intelligence and civilization of to-day, it reveals a field of reform which medical men of all others should occupy at once. All medical writers are unanimous in condemning marriages between defective and disordered persons, and yet public sentiment would not sustain to-day any special laws of restriction. Obviously this is one of the great fields of prevention of disease, that both medical men and legislators will occupy in the near future. In a recent lecture by Dr. Strachan before them edico-psychological association of England, he urges that one of the most prominent causes of increase of insanity and nervous diseases comes from marriage. Never counsel marriage as a remedy or means of relief for neurotics or persons of defective heredity. Elevate and dignify marriage as a means to raise the race in every way from its childhood age. Although Utopia is far away, there are evident signs of progress towards it, and when marriage becomes a subject of strict legislation a long stride forward will be taken.

EDITORIAL NOTES.

THE "BETTER PAY" of Medical officers of local boards of health is a subject which might well and profitably engage the attention of the public. Medical officers are a very badly paid class, and in an age when all professional people are expected to live in a certain style, physicians, in common justice to their families, cannot well afford to give their time and hardly earned skill for nothing, or almost nothing, as the great majority of health officers do, all in Canada indeed, except in two or three of the largest cities, where they are forced to give all their time to the onerous duties of their office, and even here they get but mean pay as compared with that of much less valuable officers. Think of the City of Toronto paying at the rate of less than two cents per head of her population to her Medical officer for preventing disease!

BUT LITTLE GLORY is attached to the office, and as a class, or a large portion of it, it is to be hoped the members of the profession are too philanthropic, professional and dignified to "stand" or bargain individually about the remuneration they shall receive, and they quietly accept the position, and, as a rule, endeavor to do their duty,—their best to fill the position, and so to actually and directly reduce their own private practice and means of livelihood. We would respectfully urge upon municipal authorities, now that sanitary systems are becoming well established in several of the provinces, local boards of health numerous, the duties of the medical officers fairly defined, and much good is being accomplished by them, and moreover as they have heretofore given their services for the most part for little or nothing, that the subject of better remuneration to these officers from the public funds of the various municipalities be taken into consideration. These philanthropic laborers will then feel that their services are appreciated, and they will have more "heart" to make every possible effort for the public weal in the way of preventing disease. It will undoubtedly "pay" municipalities well to be more liberal in this regard, to their medical officers.

TWO AND A-HALF CENTS per head of her population is about the rate paid by the capital of the Dominion to her medical officer;—Toronto less than two cents. It is hardly a matter of wonder that epidemic diseases prevail and that the death rate is high in these cities.

Each city pays at the rate of at least from one to two dollars per head of population for medical treatment :—a cent for prevention to a dollar for cure. Toronto pays probably at least a million dollars a year for medical attendance, medicine and nursing, and Ottawa, probably, a hundred and fifty thousand dollars (there is a much larger proportion of medical practitioners in Toronto than in Ottawa) thirty or forty times as much as the costs of the respective health departments. Do the people really believe, have they yet learned, that an ounce of prevention is worth a pound of cure?

THE QUESTION of how best to dispose of the garbage of cities and towns is engaging the attention of sanitary officers all over the continent. The Boston Board of Health reports sensibly on this question. It costs that city more than \$100,000 to collect the garbage, most of which is from the kitchen, and the Board contends that it should be burned in the kitchen and save this expense.

IT IS A MISTAKE to throw the kitchen refuse fresh upon the fire, for then the combustion is imperfect, and very offensive odors are given off. It should always be placed in a receptacle specially arranged for the purpose at the stove. The ordinary heat of the stove will dry out all moisture and leave charcoal, which may be burned like other fuel. There are several patented devices already in the market for this purpose. One of them is obtained only in the construction of the stove, and consists of a receptacle in the side of the stove in which the garbage is put, completely desiccated, and then dumped into the fire. Another consists of a small pail arranged for the purpose, it can be applied to any stove, and is said to answer the needs well.

THE AMOUNT of heat necessary to destroy tuberculous virus in milk, has been engaging the attention of M. Bang. He found that 186 F was the lowest degree permissible, but that in 212 F, water boiling point, there is perfect safety. This corresponds with the well known conclusions of MM. Chauvau and Arloing. M. Bang fed rabbits and hogs on tuberculous milk heated to various temperatures. Rabbits which drank this milk unheated died of intense intestinal tuberculosis. Of six drinking it at 175 F none showed any trace of the disease after four

months, on post-mortem. Pigs which drank the milk unheated died tuberculous. Those which drank it heated to 149 F were tuberculous to a less degree, and he found indisputable evidence of the disease in those which drank milk heated to 158 F. While it is safest therefore to boil the milk, a temperature a few degrees short of this, which will not so alter the taste of it, may in all probability be relied upon, especially if it be retained at this temperature for 15 or 20 minutes; in which case a thermometer would be required.

WITH BUTTER from the milk of a cow which had tuberculosis of the udder, three rabbits were inoculated by M. Bang and all died of the disease. This butter was mixed with the food of two rabbits, one of them ate the mixture with a relish, the other avoided it as much as possible. After three months they were killed and the post-mortem proved the last to be free of the disease, while in the other were found a dozen ulcers in the stomach and intestines, tubercles in a mesenteric gland, the kidneys, and lungs; the beginning of the disease being evidently in the intestines.

M. LYON, an eminent French physician, has recently published, in the *Union Medicale*, an account of some careful researches which he has carried out respecting the effects of tobacco upon the stomach. He finds that tobacco lessens the contractility of the muscles which partly compose the walls of this organ, thus producing dilatation of the stomach and indigestion; another important addition to the long list of charges which physicians have brought against this poison.

IN Science a writer says, that while as yet we have discovered no way of avoiding contagion which comes to us in the air, we are beginning to find out the important fact that the air does not become contaminated with bacteria unless they are allowed to dry. Recent investigations, he adds, have shown a smaller number of bacteria in the air of a well-kept sewer than in that of a poorly-ventilated schoolroom.

ACCORDING to the Archives De Medecine Militaire the German army has the lowest death-rate, 3.97 per 1,000, while the Spanish has the highest, 13.40 per 1,000. Next after Germany comes Belgium, with a mortality of 4.7; then Great Britain, 5.13; France, 6.06; Austria-Hungary, 6.94; Italy, 7.74; and finally Russia, whose 8.88 brings her next to Spain. The most prevalent malady—pulmonary tuberculosis—counts more patients in the German army, however, than in the French.

THE Rev. S. Bridenbaugh in the Sanitary Bulletin reports that, when he was pastor of a small town in Pennsylvania, the corpse of a child that had died of diphtheria was "on view"

for three days in a house opposite the public school, when over 100 of her schoolfellows as well as many other persons visited it. More than 150 persons contracted the disease, and 40 of them died.

THE FAITH of certain Bangor believers in the powers of the so-called clairvoyant physicians, who required only a lock of hair from the patient before prescribing, has been shaken by a recent incident. A number of wags in a near-by town cut a few locks of fine hair from a dog's tail and sent it by mail to a well-known Bangor clairvoyant, signing a lady's name to the letter. After a few days a reply came from the doctor, declaring she had some serious internal trouble, which could be cured only by placing herself under his care or that of his wife. He further said that allopathic malpractice had caused her trouble. The young men are now of course having a good deal of fun over the event.

THE RESIDENTS of a rural community in the Quaker State, an exchange reports, who, failing to convince one of their neighbors of the necessity for personal cleanliness (in which he was sadly lacking), recently took him by force out of his room, carried him to the stable of the hotel, stripped him, threw his clothes away, and gave him the most vigorous bath he ever had; scrubbing him with horse brushes until the blood started in places, and then poured water over him by the bucketful. Personal cleanliness will probably be less of a "lost art" in that particular community in the future.

AT THE MEETING, this month, of the American Medical Association in Washington a committee was appointed to petition Congress to create a Cabinet officer to be called the Secretary of Public Health, having supervision over State medicine and general hygiene, the management of epidemics, the regulation of the laws of medical education and the restriction of immigration; all were active factors in government, and as such need a Cabinet representative.

IN TORONTO the newly appointed medical officer is stirring up the dry bones of the authorities and inaugurating some useful reforms. He has been investigating the milk supply of the city, and has found a much worse state of affairs than had been suspected. It is stated that there are cases where milk is sent to the city from cows in the last stage of tuberculosis.

IN OTTAWA some dirty "puddles" are being stirred up by aggrieved individuals, and the medical officer is being handled somewhat roughly through the local press. There have been writing and words enough surely. It is to be hoped some useful action will result.

MANY READERS of this JOURNAL may be undecided where to go for the hot summer holidays, or physicians where to send patients. The Queen's Royal Hotel is a delightful resort situated at Niagara-on-the-Lake, and of which Messrs. McGaw and Winnett, of the Queen's Hotel, Toronto, are the proprietors. It will open for the season on June 20th. As a family hotel the Queen's Royal makes a very desirable residence for the summer months, being situated in a private park, with tennis and croquet lawns, good fishing, bathing, boating, etc.

LATELY published experiences of the Pennsylvania Hospital illustrate an important point for medical officers and others to remember. It is clearly shown that typhoid patients brought to hospital before the end of the first week, unless suffering from a very virulent type, are likely to recover. Parallel cases brought in during the second week show three times the mortality. A simple climax is completed by the following clear and concise statement:—"When brought in the third week the mortality is terrific; it is a miracle if the patient does not die." These striking facts are borne out by the experiences of fever hospitals in Great Britain. To move such patients then after the first week is very dangerous.

DUST is the great conveyer of micro-organisms. At 2 A.M., when a city is most quiet, the fewest germs are to be found in the air; at 8 A.M., the industry of domestic servants and dustmen has already made the air teem with germs. At 2 P.M., the proportion has again greatly fallen; at 7 P.M., it is once more high, for many houses are being "tidied up"; besides sundry kitchen operations are unhygienic. Thus the "small hours," unfavorable in many respects to patients hovering between life and death, are the least septic of the twenty-four. The day proportions indicate that household duties cause more septic diffusion than is excited by traffic and industry.

MARY ALLEN WEST says, "Keep thyself pure" is God's command. Purity is freedom from all that contaminates and defiles; this both in regard to diet and external cleanliness. Whether it shall be secured for the children depends largely upon the care taken of them by the parents. There seems to be a close connection between cleanliness and purity of heart or mind. God's way of teaching purity to his ancient people (rather, His way of making it an ingrained part of their nature), was by the washings in clean water; the robes of the priests of "fine linen clean and white;" the perfect cleanliness of all vessels used in His sanctuary, the "without spot or blemish" required of every sacrifice offered to Him.

NOTES ON CURRENT LITERATURE.

THE ODD TITLE, "Our Grandfathers died too Young," will doubtless call much attention to Mrs. H. M. Plunkett's article in the June Popular Science Monthly. The essay describes the progress in sanitation which has doubled the average length of life in civilized countries within a few hundred years. A great number of curious customs are included in a remarkably readable essay on "Survivals from Marriage by Capture" which Lieutenant-Colonel A. B. Ellis will contribute to the number.

THE DOMINION ILLUSTRATED of May 9th gives a good portrait, full page, of the new Speaker of the House [of Commons, the Hon. Peter White, with numerous pleasing sketches of the recent opening of the new Parliament. The enterprise displayed by the publishers of this excellent weekly certainly deserves success and can hardly fail to secure it.

THE METHODIST MAGAZINE for May continues a number of articles of special interest in connection with the Methodist Centennial. One is an account of a recent visit to Epworth, the cradle of Methodism, by the Rev. E. N. Baker, B.A., with ten engravings of the old town, rectory and church. Rev. Geo. J. Bond, B.A., gives an illustrated account of a recent visit to Ephesus, and of his exploration of the ruins of the famous temple of Diana. Dr. Daniel Clark, Superintendent of the Asylum for the Insane, Toronto, contributes a paper on "Popular Delusions about Insanity and the Insane."

THE COSMOPOLITAN for June "starts a fast pace" in the handicap for magazine honors. The personal element enters largely into its composition, and an impression of beautiful women is the first received by the reader of it. The frontispiece is a portrait of Madame de Pompadour, and pertains to a bright sketch of a summer spent in the home of that famous woman by Amelie Rives and her guests. A very pleasant insight into the attractiveness of Japanese women is given, illustrated by a large number of photographs of pretty faces. An article describes the work of Gustave Doré, with elaborate engravings of the masterpieces of that wonderful artist. S. G. W. Benjamin, ex-Minister to Persia, tells the true story of Noor Mahal, the Light of the Harem, celebrated by Thomas Moore in the Lallah Rookh, illustrated from Oriental sources. One of the most valuable articles of the number is contributed by Mr. Abner L. Frazer to the literature of the farmers' movement, brightened by a series of cartoons. The Cosmopolitan prize of \$200 for the best article on "the needs of the farmer, his hours of labor, and the national legislation necessary to his prosperity," was awarded by the judges to this gentleman. This is a most excellent magazine. (Cosmopolitan Pub. Co., Madison Sq., New York; 25cts.)