

THE DOMINION  
**SANITARY JOURNAL**

DEVOTED TO THE  
**PUBLIC HEALTH**

AND KINDRED SCIENCES.

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# THE SANITARY JOURNAL.

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## MALARIA OR BAD AIR.

Read before the recent Maryland Sanitary Convention, by W. C. Van Bibber, M.D., and published in the *Sanitarian* by permission of Maryland State Board of Health, from advanced sheets of forthcoming Annual Report.

The subject of Malaria is an extensive one. In this paper it will be divided into that malaria which is found in dwellings, showing its effects in domestic life, and into that malaria which spreads over wide districts of country, and shows its effects among the inhabitants of those districts. There are general principles and laws which govern the atmosphere everywhere, whether it is good or bad, and these, it will be seen, have something to do with the question of malaria; but an attempt will be made in this paper to arrive at some conclusions concerning the impurities of the air immediately within the jurisdiction of this State Board of Health.

The meaning conveyed by the word malaria amongst physicians, as well as with the public, has recently undergone some change. Whereas, formerly, the word was kept within the meaning of its derivatives, now it is not used to express a cause, but as a name of a disease, and that disease is the most prevalent, and may be said to be the most fashionable one of the day. At the same time it is used as a prefix or adjective, as malaria-typhoid or typho-malarial, with the intention to qualify the supposed influence which it exerts on all other diseases, more or less, according to

its own peculiar laws. Within my own recollection the word was once more restricted in its application. Less than twenty years ago it was never used in connection with a case of disease which originated, and was treated in the hilly portion of this State. How different is it now! At present there are cases of disease found in every locality throughout the State, in what should be well appointed towns, as well as in the country, which are termed malaria, or malarial fever, and for which no other adequate cause or classified name can be found. This is so generally the case that physicians have been charged by the public with having hobbies, and with using the word malaria as an expression to cover or conceal their ignorance of some unknown cause for those effects which they evidently see before them. This is a serious charge against physicians, and is one which should be explained. If there is any foundation for this charge, one of three things must be true. Either it must be admitted that formerly it was a mistake to restrict the meaning of the word, or that at present the habits of building and living are so changed as to render the extended meaning of it necessary; or else, the physicians must declare that there is an error now in attributing prevailing symptoms to this cause, and calling the disease "malaria." It may be a difficult thing to show which one of these propositions should be accepted, and this difficulty is to be regretted. It would certainly be an interesting and profitable

line of inquiry to pursue, to point out the changes which have been made in the personal habits of the people, and to trace the effect of such changes in the resulting health. Changes have been made in the way of warming and ventilating houses, both in town and country. Change in industries, in the style of living, in the habits as to hours, and in many other ways, all of which might produce that peculiar cachexia which is now called by our physicians and people "malaria." This word has been mentioned as a substantive name of a disease in every paper read before this assembly. A resemblance may be traced in the disease thus named, and an attempted description of real malaria, which will be given further on in this paper; but whether they both depend upon malaria, or bad air, is the point to be determined. It cannot be expected to determine such a point in a paper like this, except by inference. The object here now is to point out where contaminated air may reasonably be expected, and to classify the causes of its contamination. The theories concerning the essence or active principle of malaria are too well known to be recited, and therefore its supposed chemistry or composition will not be discussed. With each one of the sources of malaria, as they are mentioned in this paper, so far as it is possible, some remedial means intended for general or popular use will be suggested.

The malaria found in houses, both in public buildings and in private dwellings, large and small, called more properly contaminated house-air, and which shows its effects in domestic life, has many sources. In this city the most serious source is from the cess-pools, but this will be mentioned separately. \* \* \* Wet, damp and unclean cellars produce indoor malaria, which permeates most dangerously the entire house. Building houses upon

bad ground is another source of malaria within doors, and want of house cleanliness is another. These will all be remedied, one after another, as the bad effects from them are practically demonstrated to the inhabitants; but it is particularly necessary to mention them, in order to keep their importance before the people.

The malaria which is found, and has its origin outside of dwellings, may be divided into that which is peculiar to cities and large towns, and that which spreads over wider districts. The atmosphere of a city is more readily contaminated than the same area of country land, because the walls and yard enclosures prevent the air from moving through a city with the same freedom of natural currents which it does in the country; when air is partially stagnated it may be more easily contaminated. The air of a city is deteriorated by the radiation of heat from walls and pavements in summer, and is contaminated from the exhalations from gutters, butcheries and refuse manufacturing products at all times. The air of this city in particular is further contaminated by the exhalations from the earth itself, which holds gases of many kinds in its pores, and is constantly exhaling them into the air which we breath; particularly is this the case in summer, and more particularly when the earth is dug up in large areas in warm weather. Dr. McShane, of this city, has particularly studied this point, and will give some of his conclusions to the convention. The negligent fitting of gas pipes, permitting leaks, so saturates the earth in many places with burning gas, that some of the finest trees have been killed. All these are undoubtedly sources of malaria. Can they be remedied? Hard as the problem may seem, it would be by no means impossible, provided our citizens would lend a more determined hand in the matter.

To lessen the deteriorating quality of the air from heat radiation, I have elsewhere advised the more general planting of trees and the construction of gardens on the tops of back-buildings, stables, low warehouses, etc., for which kind of building the hills of this city offer peculiar facilities. The variety of trees make a difference, and there is a choice of selection from a considerable number of species. The maple and linden are the kinds most generally selected here, and they are beautiful. The worst city trees, in general use for the streets, are ash and white mulberry. The most beautiful, in my judgment, are the alanthus, or trees of heaven, and the horse chestnut. The alanthus has been unfortunately discarded from the streets of our city for years, on account of a peculiar aroma from the male tree during two weeks in the month of July. There are certain individuals who say that this aroma gives them headaches. I think in most cases it is purely an imagination concerning the headaches; and it is well known that the female alanthus tree, which is more beautiful than the male, exhales no aroma. The female alanthus is the most beautiful tree suited to our climate that can adorn a city.

For the bad air, and the disease conveying properties of city air, there is one and only one remedy; this is cleanliness. The leaders of government, and the instructors on health, must combine to patiently educate the public how to be clean, and to show them the necessity for it. If the earth in the city exhales bad gases, it is because noxious and putrescent matters are laid beneath it. \* \* \* \* For its topography; it is situated upon hills, from which a grade could have been originally established to deep water, by filling up the intervening hollows, which would have made its surface drainage better than it is now. Much could be done in this way

yet by filling up the "submerged district" or "meadow," and draining over its surface to deep water. Yet, notwithstanding these advantages, compared with other cities, Baltimore is not an exceptionally healthy city. The published death rate is 18.3 per thousand, and the appearance of its inhabitants does not make it remarkable in respect to health. Why is this so?

I believe that besides the sources of malaria already mentioned, there are two other sources to be discussed, which are worse than all the rest combined. I mean the malaria emanating from the cess-pools and the sewers. Of my own personal knowledge I can testify that the Hartford run and Pearl Street sewers emit nauseous and even deadly miasms. But the cess-pools are admitted by all persons to be the greatest nuisance which we have. It is an increasing nuisance, for, if bad now, what will it become in the course of time? There are now in Baltimore from fifty-four thousand to sixty thousand houses, and the same number of sinks upon an area of nine thousand six hundred acres. In some places the earth is thickly studded with them. These discharge their gases, at all levels, into the air. To remedy this, I have an idea, and the spirit moves me to proclaim it. The matter is of such paramount importance that it should not be evaded. I know full well the difficulty and the almost hopelessness of the subject. Although I believe you will listen to me with reluctance, and although my mind shrinks from the task, yet I will begin it from a standpoint which may merit both consideration and calculation. The difficulty of the entire subject is owing more to its unpleasant nature, and to a natural loathing from its consideration, than from any real difficulty of bulk of weight, when taken from inventive, engineering or industrial standpoints.

Physiology teaches that an average

adult, weighing one hundred and forty pounds, requires, in round numbers, about two and a half pounds of solid and three pints or pounds of liquid nourishment in twenty four hours. From this he passes about two pounds of liquid and less than one-half pound of excreta daily. Is it impossible to remove this, or at least a greater portion of the solid matter? Ask those who know the price of labor if it need be so exceedingly expensive as to condemn it from this item alone. But it requires custom and time to familiarize a population with the idea of a removal of this matter, and it requires the ingenuity of man to collect the material, and after these are overcome then the difficulty will no longer be great. The weight or bulk of the matter to be moved is comparatively small. It is for this reason that I believe the best closet has not yet been invented, because, when it is perfected, it will have for its chief object the removal of at least the daily one-half pound per adult capita of solid excreta. Let any one make the calculation for all ages of inhabitants for a city the size of Baltimore. The end of the best calculation I can make for this entire removal brings the expense down to the one-third of a cent daily for each individual.

It would be a wondrous boon to this city, and to the inhabitants of all the cities of the earth, if this one problem could be solved on the basis of complete removal of solid human excreta. When the small quantity to be removed is known and carefully considered, I trust the day is not distant when it will be accomplished. I have an unflinching confidence in the inventive ingenuity of the free-born American citizen. Does any man believe that the system now in use here is the best that can be devised? It is the truth to say that numberless of our citizens are afraid of their own homes. For one, I

feel that when the subject is seriously undertaken, with further knowledge and different calculations from those which have maintained heretofore, something more, something different, something better may be done. And to encourage us in this belief, after this paper was written, *The Sanitarian* of the 22nd of November, received to-day, contains a paper upon "The Treatment and Utilization of Town Refuse," by John Collins, F. C. S., F. G. S. L., from which it appears that the town of Bolton, in Scotland, having one hundred and six thousand inhabitants, remove this kind of refuse. Mr. Collins says: "It does not pay expenses, of course, but it costs less than any other plan in operation on a similar scale." He does not give the minutia of the manner of collecting the excreta, but makes these suggestive remarks: "The collection and scavenging are mainly effected at night, and by means of closed carts of excellent design. There are a few water closets, but the newer cottage property are provided with 'pails.' These are roughly assorted on loading," &c. This looks as if the elaborate arrangements now in use here would some day or other be substituted by pails or some sufficiently ingenious contrivance to remove and utilize the solid excreta. Where men are crowded together, as in cities, it is necessary to remove the solid excreta daily, and not to hide it forever. I believe it will be easy enough to make way with the liquid excreta, which is easily chemically neutralized.

The last source of malaria to be mentioned is that which affects the inhabitants of the low lands, or the cretaceous, the tertiary and the post tertiary lands of this State. It is known to us as that malaria which pervades large districts of territory. Its essence is not known. From the earliest days of medicine it has been

supposed to produce ague-and-fever. Elsewhere, in a report upon the drinking waters of Maryland, I have spoken of the investigations of others in seeking for the cause of ague-and-fever in the drinking waters of the flat lands. This is an interesting subject ; but as it is yet undetermined concerning the water it is fair at present to hold that if ague-and-fever is conveyed into the human system through the air, that this is the great and prevalent out-of-door malaria of which this State Board of Health has charge. We have all seen type cases of long continued or chronic ague-fever which have originated in this State. Let us suppose one particular case of an adult, who has had the disease since childhood, and he will present upon examination these prominent appearances and symptoms. In figure he may be taller than the average height, gaunt, thin and bony ; with a muddy, ugly complexion, without tint or color ; awkward in motion, slow in speech and action ; slow in cerebration, ignorant, superstitious, untidy ; always thinking of himself and his diseases ; will talk by the hour of his chills and fevers, when they come on and when they pass off ; will take any quantity of quinine, blue-mass, calomel, cholagogue or other advertised remedy ; but is so fond of his home and neighbors in like affliction that he will never leave it nor them. A most prominent symptom of his malady is that he will take no advice, and refuses to appreciate anything like advancement. Should this adult die suddenly, or as often happens, die from some intercurrent disease, as pneumonia, the skilled pathologist will pronounce his liver different from the physiological liver in color, consistence and size. His spleen will be found large, soft and pulpy, and his blood changed in color and in microscopic appearance.

This type case of old-fashioned malaria,

with some sectional differences, has been found in all parts of the world, between certain parallels of latitude, wherever our navvies have gone. It is common on both the east and west coasts of North and South America, and in the adjacent islands ; on the coasts of Africa, Asia, and on the shores of the Mediterranean Sea, and also in the river bottoms and swamplands of these several continents. This is the widespread out-of-doors malaria, well-known in medical as well as general literature. For its habitat and gravity in our own State and country one can consult the map issued by the census bureau in 1870. If this is a fair description of the disease in question, however imperfectly it is drawn, and if this board of health has even indirect charge or self-imposed responsibility concerning those suffering with this affection, is it not an interesting theme to them? Is it not a pleasant duty to promulgate knowledge, and ways and means by which these terrible sufferers may be relieved, if it is possible? To relieve them would be even more than equal to the work of Jenner, or like the rite of Apotheosis amongst the ancients.

Whether this disease comes from a malaria over the land or from germs in the water, the best means that I know to prevent ague-and-fever (nothing need be said here of its cure), are these : Temperance in eating or drinking, and avoiding during summer entire suits of linen clothes as a summer wear ; drying the air of a sleeping room by fire, night and morning ; building dwelling houses above the earth, in order to give an air circulation between the earth and the house ; avoiding the night air out of doors in certain places ; filtering and boiling drinking water ; cleanliness about houses and yards ; drainage from the premises ; high trimming of trees around houses on facing healthy localities ; and the removal

of all stagnant waters from the neighborhood of dwellings. In a report made to this board of health in 1878, I suggested sprays of carbolic acid to be industriously applied during three months in the year in the houses where chills are known to prevail. All these means are easily enough carried out, and if they will prevent this terrible disease, are fully worth the trouble they will give.

I must be permitted to say here that it is not derogatory to the medical profession, as a body, that they cannot positively assert what is the peculiar principle or essence in the air, if it is in the air at all, by which fever-and-ague is conveyed into the human system. On the contrary, it is a credit to the profession, as a body, that notwithstanding previous disappointments, many of its members are still diligently searching to find this unknown cause; and who will doubt that, in time, it will not be discovered?

#### CHEMISTRY IN ITS RELATIONS TO DOMESTIC LIFE.

Below is an abstract of a practical paper read before the Sanitary Convention, at Ionia, Mich., December 14, 1883, by Prof. R. C. Kedzie, member of the Michigan State Board of Health of Lansing, Mich.:

Chemistry is a practical science, and every day we learn of some new principle, which it applies to manufactures or the arts. It is with extreme slowness that it is applied to domestic life. But people are aiming now to reduce everything to principle, so as to not only do a thing right, but to know why it is right. In the life of our homes there is no science which can be more useful. Supposing ourselves to be a favored guest, invited to "go around and see the house," we will saunter through an imaginary mansion, out into the dining-room, prowl through

the kitchen, investigate the cellar, peer into the pantry, look at the drain, taste the well-water, examine the soap-kettle, and make free with an ideal domestic establishment. In the kitchen there is the smell of cooking coming from the oven. There is a roast of beef there. The fire is not hot, enough and there is no water in the basin. The fire should be hot to close the pores of the meat so it will retain its juices, and to do this without burning the outside there must be water in the basin to keep the heat from being too high and still make it a muggy day for the roast beef. Dredge flour on top, to help seal things up.

Here is the bread by the stove ready for the oven. Every loaf of bread is the result of a brewery in which the manufacture and use of alcohol will go on, spite of prohibitory laws. The yeast plant causes fermentation in the dough, which converts the starch of the flour into sugar, and that in its turn into alcohol and carbonic acid. Then it is ready for the oven. Carbonic acid gas is the thing sought for in all this process of setting the sponge, kneading and keeping the dough warm. Two principal constituents in flour are gluten and starch. Pure gluten is dark and tough like glue. Its office is to retain the bubbles of gas to make the bread light and porous. If the mill-stones in grinding are set too tight it causes heat that destroys the tenacious property of the gluten. The flour is then dead—will not rise. If we wait too long before putting the dough in the oven, the acid does not wait, but goes right on and makes ascetic acid, and the bread is sour. The reason baking powder does not make as good bread as is made by this process, is, that it cannot be mixed with the flour as thoroughly as nature does the work, and the gas is liberated too quickly. As soon as the mixture is moistened the carbonic acid gas is liber-

ated, and much of it escapes. In the process by fermentation, the conversion of the starch goes on successively. Baking powder is made of cream tartar, bicarb. of soda and rice flour. If the ingredients are all strictly pure, the following formula will be correct: Thirty-one parts of soda, 69 parts cream tartar, 10 parts rice flour. But these articles as sold at drug stores are not always pure. An analysis is generally necessary to determine how much weaker they are than the pure article. Buy baking powder of responsible dealers and of a well-known brand. Never take chances in teaset; if you want a good article.

Too much soda is generally used. One small teaspoonful of it to the quart of flour, if it is skillfully neutralized with cream tartar or sour milk, will be enough. Plunging the soda into sour milk and then stirring in the cup for five minutes before putting it in the flour, as is often done, causes about half of the carbonic acid gas to escape, thus losing the very thing that the soda is used to produce.

The only thing to do to preserve fruits or other foods is to keep them away from those little atoms called *bacteria*. They are little, but mighty in numbers and influence. Anything that will destroy *bacteria* will preserve food. A piece of beef treated to the fumes of burning sulphur will keep two weeks longer than one not so treated.

The lumps in jelly are glucose. This is made when acid fruit is boiled with sugar. The lumps when washed are found to be like the sugar found on the exterior of good raisins, and hence called "grape sugar" or "glucose." It is only two-fifths as sweet as the original sugar. The waste caused by its manufacture may be avoided by adding the sugar to the juice when the cooking process is about completed, and the juice ready to remove from the fire.

The piece of paper put on top of the jelly cup does not prevent mould, but a lump of paraffine dropped in the tumbler while it is still hot enough to melt the paraffine and form a film over the top will prevent it. This is a very useful and cleanly article.

Fruit that will not jelly is too ripe. Just ripening it contains a substance called *pectose*, which, when heated, will solidify on cooling. If the fruit goes on ripening the *pectose* is changed to *pectin*, which will not make jelly. Fruit for jelly must not, then, be "dead ripe," but just approaching ripeness.

The chemical process by which grease and lye are converted into soap was explained, and also the tests for detecting glucose in sugar were given.

Butter gets "strong" when *bacteria* gets to work at it, and protection from them keeps it sweet. This may be done by excluding it from the air in which the *bacteria* float. Sealing the butter in tight jars or immersing it in strong brine will do it. Salt on the top of butter will not protect it; brine around it will.

Butyric acid, which means strong butter, is never found, except where the butter is exposed to some ferment, and this ferment is caused by *bacteria* germs, coming always from the atmosphere.

A VACATION FROM TOBACCO.—The Pittsburgh *Dispatch* speaks of a distinguished physician who abstains from smoking every October, in order to give his system thirty days' recuperation every year from the effects of tobacco in accelerating the movement of the heart. He finds this acceleration very marked by the end of September. His October abstinence causes the heart to return to normal action; and on the first of November he commences another year's course of smoking.

## INTERNAL USE OF HOT WATER.

Many believe that the benefits derived, by persons affected with diseases and derangements of various sorts, from the internal use of large quantities of water from medicated springs, would be quite as great if not greater if pure instead of medicated water were used. However this may be, the solvent and cleansing properties of pure water are well known, and its use, either hot or cold, is becoming very general in obstructions and derangements of the excretory organs. The following, chiefly from the *Boston Journal of Chemistry*, bearing upon the subject will prove useful:

The number of invalids, semi-invalids, and those in fair health who sip hot water in the morning of each day, is astonishingly large. The habit has become suddenly fashionable; and if we had no worse fashions to complain of, the world would be vastly improved. Still, however beneficial the free employment of hot water may be to some, it is not an agent which can be indiscretely used without harmful effects. The employment of hot water for internal use originated in this country; and so eminent a medical authority as the London *Lancet* speaks of it as a "valuable American contribution to medicine." Dr. Salisbury, of Cleveland, claims to have been the first to suggest its use, and it is probable that this claim is well founded. Hot water is at present used very much at random, and but little is popularly known regarding the proper and safe methods of its employment. The question relating to the proper times of administration, the number of ounces to be swallowed, (both at meals and in the intervals between) and the temperature, are very important, and should be well considered. The therapeutical uses of hot water may be varied; but it would seem that its beneficial employment is

pretty well established in those diseases arising from unhealthy alimentation. In these affections the stomach and bowels become distended and obstructed by the abnormal acetic, butyric, hydrosulphuric, lactic, and saccharic acid fermentations; and the idea is to wash away these offending matters, and thus aid in introducing normal functional action. Cold water is in most cases inadmissible, as it is apt to produce distress in sensitive stomachs. Hot water is well borne in both cases; but it must not be lukewarm; it must be hot. And here is a distinction it is well to observe.

Tepid water, if taken in considerable quantities, will sometimes produce vomiting: but if the water be raised to a temperature of from 100° to 150° degrees Fahrenheit, it produces downward movements of the bowels instead of upward. Tea as drunk by dyspeptic tea-drinkers is preferred at a temperature of about 120° Fahrenheit, and this decoction, at this temperature affords great relief to persons of weak stomachs. The demand by dyspeptics for tea, "hot and weak," is founded on observation that in this form it affords genuine relief. If the tea-leaves were left out altogether, the agreeable relief would follow from the use of the hot water with a little milk and sugar added. By hot water is meant water which is so warm that it can only be sipped slowly, and not be poured into the stomach as a draught. In the absence of a thermometer the proper temperature may be ascertained by the effect upon the tongue and fauces; it must not be "scalding hot," but so warm as to be swallowed without inconvenience or danger.

As regards quantity, no fixed rule can be given. Perhaps half a pint may be regarded as a minimum, and a pint and a half a maximum quantity to be taken at one time. The object being mainly to

wash the alimentary canal, carrying down the slime, yeast, and bile through normal channels. A few ounces can have but little effect in accomplishing such results. It is assumed that the liver and kidneys are greatly influenced by the hot water treatment, and that they are washed as well as the intestinal canal, the bile being eliminated through the bowels, and not through the blood by way of the kidneys.

The best time to use hot water is probably about one hour before meals, and, in some instances, half an hour before retiring to bed. The most important time of all, however, is the hour before breakfast, in the morning. The digestive apparatus of the weak and morbid needs cleansing after a night of rest, or unrest, as in the case of invalids. A half or a whole pint of hot water taken upon getting out of bed in the morning, will in most instances soon break up morbid conditions of the bowels; and natural peristaltic motions will be established, even in obstinate cases.

It may be necessary in some instances to moderate the water slightly, and thus improve its taste and add to its activity. A few drops of tincture of ginger, a half teaspoonful of tartrate of soda, or sulphate of magnesia, are unobjectionable adjuncts to the water, and, indeed, sometimes are necessary. The practice of using hot water may continue so long as it is found to give relief, and so long as it contributes to the establishment of "inward cleanliness," and consequent robust health. Those in sound condition may use hot water with advantage occasionally throughout life.

The therapeutical influence of water, hot and cold, has been but imperfectly understood by physicians; and this is not strange, considering the circumstances under which it has been employed. It has been supposed, when patients were

sent to famous springs for treatment, that it was the "salts" in the water to which the cures were due; but now, observing medical men look upon the use of "salts" with distrust, and these take at least a secondary place as curative agents in their minds. The small quantities of mineral ingredients in some mineral springs, so called, render their waters in many cases unobjectionable; but there are other famous springs, which, as was stated in the last number of *Science News*, are decidedly objectionable.

Pure water is what is needed, and this can be obtained at any clear boiling spring in granitic regions or sections of country. The waters or wells in the country, and aqueduct water in many cities, are pure enough for domestic or medicinal use. The writer (Editor of *Science News*) has been compelled to nurse a defective physical organization for nearly two-thirds of a century; and among the means employed to arrest abnormal waste of tissue, or remove functional obstructions has been the use of water, hot and cold. Hot water has been used for many years according to methods alluded to in this brief paper, and he can attest the importance of the remedy. Those with defective organizations need fewer drugs, plenty of pure water, pure air, and suitable, properly cooked foods.

[In any diseased condition of the system, before using hot water, a physician should be consulted.—ED. S. J.]

LONGEVITY IN FRANCE.—At a reception not long ago at the Academy, Paris, the octogenarians made a good show. There were M. Mignot, eighty-seven; M. Dumas, the chemist, eighty-three; the Duc de Noailles, eighty; and Victor Hugo, eighty. None of them appeared to be encumbered by their weight of years.

## THE PLUMBING BY-LAW.

The SANITARY JOURNAL observes with much satisfaction the interest taken in Toronto regarding sanitary questions, and is particularly well pleased to learn that the ice has been broken, and steps taken towards placing the plumber work, the too often hidden dangers of our houses, under proper inspection.

The Provincial Board of Health are also moving in this matter, and the new Health Act, which has our sincere good wishes, will contain among numerous other benefits, clauses regulating plumbing. Why it should be that plumbers have received such a bad name it is difficult to say; from the earliest days we can recall it has always been so. Plumbers in the old country at one time used to make it a kind of point of courtesy to each other to leave a job in such a state that there would be a job for a neighbour, or for themselves again. Quite lately in an old country paper is a wail from a master plumber deploing the state of the trade and lack of good workmen. The American journals are amusing themselves at the expense of the plumber; a late recorded event is the meeting of two young ladies. One confesses her engagement to a plumber. "Ah," says the other, "you will go to Europe, of course, and rent one of the palaces in Venice whilst your New York house is being built!" Now, it is hardly fair to put all the blame on the plumber. Certainly he has numerous sins to answer for, still there is another party in the contract also to blame. The *importance* of good, sound plumber work is so little understood, few people are to be met with who are inclined to pay for it. It does seem so hard and foolish to spend a deal of money on pipes, and drains, and ventilating shafts, and so on, all of which are hid away from sight, when one-half of the outlay would go so far to furnishing the drawing room so nicely!

The *pater familias* who has the courage to resist *mater familias'* urgent appeals on this score, is a man seldom to be met with.

What is the result? In nine cases out of ten the fittings are of the cheapest kind, and pipes which should be of solid cast iron, and of the best quality, are only of galvanized iron! and how can this stand the action of gases which are known to have corroding influences.

Again, we think the plumber can justly complain of the treatment he receives at the hands of the building speculator. This—what can we call him?—individual cares for nothing but to put his property on the market and sell it at the highest price. Everything is done for looks, and if he gets rid of it before doors begin to twist, swell, or shrink, locks refuse to work, or roof to leak, he is happy and well off. Ah! and what comes of the internal unseen works—those horrid drains begin to smell almost at once, and the trouble goes on; the plumber is called in, and then farewell comfort and peace!

At the meeting in Toronto, convened by the Chairman of the Board of Health, at which he was aided by the Health Officer of Toronto, there was a very good representative attendance of plumbers. The meeting was a good deal in the dark as to the intention of the coming legislation, and the "examination" clause stuck too much in the throats of those present, the idea being that the medical officers were to examine the plumbers. This was dispelled; the meeting was harmonious, and when it broke up the plumbers went away with a good understanding existing between them and the framers of the proposed legislation. A committee was formed to watch the Bill and no doubt when it goes into Committee in the House, the clauses will all be so arranged that the class who are to be affected by it will welcome it as an incentive to promoting their own condi-

tion, and a whip to lash the backs of those who have encouraged scamping and inferior work by refusing to pay an honest price for good work.

We cannot close without a word on the drains themselves. Here too often lies the root of the evil; the pipes are not properly connected, are badly laid, or not laid to regular grade. It seems from our experience of these matters, that the builder or contractor thinks any fool can lay a drain, and that it is the least important part of the house. For this reason he puts any day labourer who may be idle for an hour or two to lay in the drain pipes. How can they be well done under such circumstances."

#### DIET IN RELATION TO DISEASE.

The lay press in giving a synopsis of the paper read by Dr. Playter on "Diet in relation to disease," at the recent health convention in Ottawa (and we do not forget the difficulties in condensing a paper into two or three paragraphs), have given misleading views, not practically, but otherwise, important, as to the doctor's statements, and we give below the principal parts of the paper as read, as follows:

When we consider that man is made up physically, and may be largely influenced mentally and morally, by what he takes into his stomach—by the food and drink he consumes, we can readily understand the important position which the diet holds in its relations to mankind in either health or disease.

So great is the influence of food on health, writes Dr. Parkes, "that some writers have reduced hygiene almost to a branch of dietetics. Happiness, as well as health, is considered to be insured or imperilled by a good or improper diet, and high moral considerations are supposed to be involved in the due performance of diges-

tion." "Of all the agencies which affect nutrition, this is the most important. The diseases connected with food form, probably, the most numerous order which proceeds from any single class of causes, and so important are they that a review of them is equivalent to a discussion on diseases of nutrition generally."

It must be admitted that man as a rule makes altogether too free with his stomach—takes too great liberties with it, and that this freedom and these liberties give rise to more sickness than is commonly known or thought of—to sickness much more serious than indigestion and dyspepsia.

It may be that we sanitarians in looking at, and sometimes being appalled by, the destruction of life by epidemics of infectious disease, and while devising means to prevent the origin and spread of such epidemics, have overlooked, or almost overlooked, a cause, perhaps often only a primary or predisposing cause, but operating continually around us, of not only a great deal of suffering through sickness of one sort or another, but of serious diseases which shorten life, and which, it may be, causes, more or less directly, more premature deaths than epidemics of infectious diseases do. This cause is, briefly, inattention to, or errors in diet.

Before considering diet in relation to disease, it will be well first to say a few words bearing upon diet in relation to health.

There is not a single substance known which constitutes a perfect food suitable for man, if we except milk, for the young, and it is, therefore, almost universal for man to subsist on what is called a mixed diet, such as flesh, bread, fruits, etc. There are three points I would briefly touch upon in relation to diet: first, as to quality; second, as to quantity; and third, as to certain conditions which relate to the digestion of foods.

As to the quality of foods, I need not dwell upon the desirability of using only pure, sound, well prepared and well cooked foods, and avoiding all diseased foods of all sorts, such as those showing marks of decay, or decomposition, or of blight and mould, either animal or vegetable; but in reference to this point, I would urge the greatest simplicity. A number of foods mingled and cooked together—such as eggs, milk, sugar, fruits, spices, fats, mineral salts, and other things to numerous to mention—form a compound which is not only almost unmanageable in the stomach, except in so far as that organ has power to unload and rid itself of the heterogeneous mass, but is innutritious, irritating to the whole alimentary canal, and gives rise to impurities in the blood and other bodily fluids. Compound dishes are always more or less injurious. Simplicity in the use of food is right, departure from simplicity is wrong, and tends to disturbance and disease, marked in a greater or less degree, according to circumstances.

It will probably be admitted by nearly all physicians, that the great majority of individuals habitually eat too much. Sir Astley Cooper it was, I think, who said that, on the average, one-third of what a man eats goes to sustain him, and the rest of it he takes at his peril. The getting rid of much superfluous food is a great tax upon the excretory organs, especially the kidneys, and induces diseases of these organs. It is not what is eaten, but only what is fully digested, assimilated and appropriated by the system, that sustains and strengthens. I have observed that, for the most part, those who have attained to great age, were rather small or moderate eaters. Hufeland writes, "the first thing which, in regard to diet, can act as a shortener of life, is *immoderation*. And whatever shortens life will most likely cause disease.

As in the quality and mixture of foods, purity and simplicity are good and right, and any departure from this is wrong, so in quantity, enough being good and right, anything more than this is wrong, and tends to disease.

In reference to certain conditions which relate to digestion of foods, such as times of eating, the time occupied in eating, the condition of the body during meals and digestion, and such like, there is probably no one thing of so great importance as that of mastication of the food. No one thing will help so much to promote moderation as will thorough mastication and solution of the food in the mouth. Moreover, those who eat slowest derive most enjoyment from eating.

Now, let us more directly consider diet in relation to disease. It is rather to individual cases around us, and not to large numbers of cases, as in times of scarcity or the use of improper food, on land or on ship-board, that I desire, very briefly, to draw attention.

A medical health officer some time ago, writing to the *Sanitary Record* (Lon., E.), drew attention to the fact that he had found amongst the laboring classes in his borough that certain diseases were more prone to appear on Mondays than on any other day. He made most careful investigations and could arrive at no other conclusion than that the cause was the habit all had of eating a larger quantity of food on Sundays than on any other day. They had more leisure, and with less activity ate more food.

Quite recently a writer, from investigations he had made, arrived at the conclusion that cancer is more common amongst those who partake most freely of animal food. If there is anything in this, it is probably because of the animal food being in a diseased state. I may add that the vital statistics of Ontario show that, pre-

vious to 1881 (I have not examined the records since), there had been a notable increase in the proportion of deaths from cancer. While in 1870 there was recorded one death from cancer in every 90 deaths from all causes, ten years later the proportion was one from cancer to every 61 from all causes. The increase was gradual and almost constant from year to year.

It is believed that the contagiums of disease only take root in those individuals in whose blood and other bodily fluids is to be found an excess of used up or waste matters owing to an over-taxing of the excretory organs from an over-abundant diet. Such excess of waste in the fluids is believed to form the soil or food for the germs of the disease.

Though not quite proven, as Pavy writes, "it is, nevertheless, highly probable, that gout is the offspring of an undue accumulation of imperfectly metamorphosed nitrogenous products within the body," from over-eating and drinking. It is believed that rheumatism and some forms of neuralgia are due to a like cause.

From an excessive consumption of albuminates, it is well known that congestions of the liver and other organs arise, and a general state of plethora is thereby produced. In this condition of the system inflammations of various sorts are easily set up, from a simple exciting cause, such as a slight cold or chill. In this connection I may refer to Dr. Paige's writings in the *Popular Science Monthly*.

He found that while subsisting on a diet consisting chiefly of fruit, vegetables, and bread he never took cold, though he tried to do so by skipping about in the rain and slush, sitting naked in the cold, and wearing wet clothes without under garments. I would not advise any one to try such experiments nor expose themselves unnecessarily in any way, but his experiments cor-

respond with my own experience. Moderation in diet lessens the susceptibility to "colds," while abstinence promotes their removal.

As bearing upon the effects of diet upon health, I may mention that an investigator on the Continent of Europe has recently stated a fact which I noticed, I think in the London *Medical Times*, that he found communities or nations that use cider freely as a drink, in a marked degree free from calculi (stony formations in the bladder and other organs).

In conclusion, I will but just allude to the many parasitic diseases in man caused by eating flesh containing the germs of the parasites. Trichinosis is not common in Canada, but Professor Osler, of Montreal, from investigations made by him in that city, as reported in the *Canada Medical and Surgical Journal*, and in the last July number of this JOURNAL, came to the conclusion that there were nearly two hundred cases of tapeworm in Montreal, due to eating measy pork and beef.

Some observations in reference to old age will be referred to on another occasion.

In the discussion which followed the reading of the paper, Drs. Oldright and Bryce asked questions in reference to the increase of cancer in Ontario. Mr. W.H. Lynch, of Danville, Que., mentioned the name of a gentleman who had not known what it was to have a cold for thirty years, and who attributed his exemption to a well regulated diet. Mr. Lynch also stated that he had known of a case of cancer cured by a most abstemious diet [now recommended by some physicians for the cure of acute rheumatism—Ed. S.J.] The Chairman, Dr. Sweetland, thought abstinence favored the removal of the effects of a cold, and suggested cool bathing as a good preventive. A number of other questions were asked and answered.

### SIMPLE TESTS FOR THE PURITY OF WATER.

In suspected potable water for persons who cannot command chemical analysis, the following tests are recommended in the *Sanitarian*, for March, as being generally available and reliable :

*Color.*—Fill a bottle made of colorless glass with the water ; look through the water at some black object ; the water should appear perfectly colorless and free from suspended matter. A muddy or turbid appearance indicates the presence of soluble organic matter, or of soluble matter in suspension. It should be "clear as crystal."

*Odor.*—Empty out some of the water, leaving the bottle half full ; cork up the bottle and place it for a few hours in a warm place ; shake up the water, remove the cork and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling, an odor is evolved sometimes that otherwise does not appear.

*Taste.*—Water fresh from the well is usually tasteless, even though it may contain a large amount of putrescible organic matter. Water for domestic use should be perfectly tasteless, and remain so even after it has been warmed, since warming often develops a taste in water which is tasteless when cold. If the water, at any time, has a repulsive or even disagreeable taste it should be rejected.

#### *Heisch's Test for Sewage Contamination.*

—The delicacy of the sense of smell or taste varies greatly in different individuals ; one person may fail to detect the foul contamination of a given water, which would be very evident to a person of a finer organization. But if the cause of a bad smell or taste exists in the water, the injurious effect on health will remain the

same whether recognized or not. Moreover, some water of very dangerous quality will fail to give any indication by smell or taste. For these reasons I attach special importance to Heisch's test for sewage contamination or the presence of putrescible organic matter. The test is so simple that any one can use it. Fill a clean pint bottle three-fourths full of the water to be tested, and dissolve in the water a teaspoonful of the purest sugar—loaf or granulated sugar will answer—cork the bottle and place it in a warm place for two days. If in twenty-four to forty-eight hours the water becomes cloudy or muddy, it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.

#### WHY PEOPLE TAKE MEDICINE.

In the *British Quarterly Review* Dr. Crofts explains in the following apt words why people will have medicine :

It is to be feared, that, to most people, medicine is not an erudite science, or a learned art, but is little less than the commonplace administration of physic. They cannot understand medicine without drugs, and its virtue and power are popularly measured by the violence of its operations. Its very name is, in ordinary parlance, synonymous with physic. Take from it its pills and potions, and for them you take away its whole art and mystery. They do not believe in a scheme of treatment, however deep-laid and skillful, which does not include a certain statutory dosage ; so that, as a rule, medical men are practically compelled to give their patients a visible object of faith in some form of physic, which may be at most designed to effect some very subordinate purpose. And it is remarkable how strongly, even among the educated classes, this feeling prevails. Cure by the administration of mixtures and boluses is so fixed and ancient a tradition, that it is only very slowly that the

world will give it up. The anxiety of the friends of the patient wants to do more than follow the simple direction of "nursing," which have been so carefully inculcated, and possess, apparently, so little remedial power. There is nothing of the unknown about them in which a fluttering hope of great advantage can nestle. Thus it is necessary to educate the world into a belief in medicine apart from drugs, which finds its power of curing in adaptations of the common conditions of life, and applications of physiological facts—a medicine which takes into its hands the whole life, and orders and fashions its every detail with scientific definiteness. It is found in every-day practice that this popular misunderstanding of the modern spirit of medicine constantly checks the little tentative advances of a more scientific treatment, and it is necessary that it should be generally understood how powerful the various processes of the economy may be affected by the manipulation of the conditions of common life.

#### HURRY, WORRY AND WASTE.

(*New York Medical Times.*)

Attention is every now and again called to the many irresistible proofs which exist that there is something radically wrong in our modern mode of working. It is not overwork, but worry, that kills. Our men of brain might do a great deal more than they do, if only they were less feverish in their haste; less harrassed by worry, and less wasteful of energy. We are all too much in a hurry in what we have to do. We have too many irons in the fire, too much business on hand at the same instant, and are far too energetic in our endeavours. With deliberation, calmness, and such reserve of strength as results from perfect restraint, a man may do an infinity of work without either trouble or injury.

The system of breathless haste and eager anxiety is rapidly undermining the human constitution. We are impatient for results. Statesmen and politicians are kept on the strain of sustained attention, and their brains are for many hours of the twenty-four in a state of ferment. The brains of speculators on the Stock Exchange, and even the brains of merchants in their private rooms, are equally taxed in the same way. All classes of the community share the turmoil. The period is one of brain-working impetuosity; of hurry, worry, and waste—the waste of cerebral energy and nerve force. The higher nerve centres are kept incessantly at work, and become, as it were, overheated, so that it is impossible they should quiet or cool down in the brief period of time allotted to repose. Too often they do not rest, even in sleep. The brain only dozes instead of sleeps, and, as a result, there are dreams of the recent day's work—that infallible symptom of impending mischief. The only marvel is that, looking to the utterly unphysiological character of our mental and nervous habits of work, the number of sudden failures is not greater than it is, and that we have not a larger percentage of brain-mortality to deplore.

#### PNEUMONIA (INFLAMMATION OF THE LUNGS)—IS IT CONTAGIOUS?

In the West end of Toronto there has prevailed, and is, indeed, it appears, prevailing now, what is like an epidemic of pneumonia. Two able Scientific papers have just appeared, which have a bearing on this. One is an account of some observations on the pneumonia of the Punjab frontier, by Surgeon G. M. Giles, published in the Appendix to the recently issued report of the Army Medical Dept., the other is a paper on the infectious nature of pneumonia, by Martin Mendelsohn, which ap-

peared some weeks ago in the *Zeitschrift für Klinische Medicin*.

Dr. Giles has proved (*Medical Times*) that in all his patients a peculiar micro-organism was present both in the blood and sputa during the whole of the illness, that these micro-organisms were similar in all the cases in which they were looked for, egg shaped bodies occurring singly or in short chains, and that when sputa containing these were injected into rabbits, they, too, were attacked by pleuro-pneumonia, to which they succumbed; and that the blood, pleuritic effusions and lungs of the rabbits were found to be crowded with numerous similar organisms. The paper shows that a form of pneumonia, closely allied to our ordinary acute pneumonia, is in all probability due to the presence of micro-organisms in the blood and lungs, and that the same disease can be conveyed to rabbits, at least, by inoculation; also that, in the opinion of good observers, the pneumonia occurring on the Punjab frontier is infectious.

The paper of Dr. Mendelsohn who has had all the advantages of a hospital and laboratory, with suitable apparatus, treats of the ordinary European form of pneumonia. Dr. Mendelsohn firmly believes that this disease is infectious in its nature, that it depends on the presence of bacteria, and that one form of bacterium is constant in all cases. He has collected observations, proving that numerous cases often occur simultaneously in small districts, sometimes among the troops stationed at one place, sometimes in private houses and prisons; and he shows that these epidemics can often be referred to miasmatic influences, especially in connection with bad sanitary arrangements and deficient ventilation. He has collected numerous cases of apparent infection of one person from another, and he shows that not only are those in immediate con-

nection with the sick in danger of taking the disease, but also that it appears capable of being carried from the sick to others by persons who do not themselves contract it. He next deals with the prevalence of pneumonia, which he shows to be independent of changes of temperature, but to vary with the amount of rain and the consequent rise and the fall of the subsoil water. The cause of the disease is, in Dr Mendelsohn's opinion, probably the bacterium described by Klebs as *monas pulmonale*, which Leyden and Günter were the first to obtain, by puncturing the living lung. These micrococci are egg-shaped, and generally occur in pairs, but also in chains of three or four. Similar but larger forms are found in the pleuro-pneumonia of horses. Dr. Mendelsohn states that the time of incubation appears to be about twenty days, and he places pneumonia in that class of infectious diseases, one attack of which predisposes to a second. In infected places strangers are more liable to be affected than natives, and a state of tolerance of the poison appears to be gradually developed.

#### SIMPLICITY IN PRACTICAL MEDICINE

In the *Louisville Medical News*, is published a very interesting paper entitled "a plea for greater simplicity in practical medicine," by James F. Hibberd, M. D., Richmond, Ind., advance sheets of which are published in the Journal of the American Medical Association. Below are the author's concluding "aphorisms" which he gives as his "professional creed."

That every physician should have an abiding faith in the power, and the value, and the necessity of medicine.

That all medicine that has force enough to do good if rightly given, may do evil if wrongly given.

That medicine should not be prescribed

unless a clear necessity is recognized for its employment.

That this necessity may arise from the patient's physical condition, from the patient's mental condition, or from the mental condition of others.

That in all cases the least disturbing remedies that will meet the indications should be prescribed.

That in all illnesses nature is the grand factor in restoring health; the role of art is that of auxiliary and assistant.

That much thought and talk about disorders may be a cause of ill-health in the parties so thinking and talking, and is at least a mark of ill-breeding, and a lack of good manners.

That details of personal distempers should only be made to the physician for his guidance, or to attendants, as an aid to nursing.

That routine in practice is never scientific, and is liable to be mischievous.

That fashions in therapeutics should be followed only when the new mode has the sanction of one's scientific knowledge, or is sustained by unimpeachable testimony.

That the guiding motto of every medical practitioner should be, "All diseases should be trusted to nature when art cannot declare an assured benefit by intervening."

That evolution in the direction pleaded for in this paper must come through the experience of the gray-beards in the profession; the young physician must practice what he has been taught, and he neither sees in a text-book nor hears from a professor's chair a remembered plea for simplicity in medical practice.



THE PHYLLOXERA, according to accounts from Oporto, is causing such devastation in Portugal as to threaten the very existence of the vineyard.

## THE OTTAWA SANITARY CONVENTION

Under the auspices of the Provincial Board of Health a sanitary convention was held in Ottawa on the 11th and 12th of the present month. The attendance was fair as to numbers, and of a most intelligent class. The proceedings were opened by Rev. Mr. Longley, who read an appropriate portion of Scripture and offered prayer. Dr. Sweetland, Sheriff of Carleton, occupied the chair, and had very great pleasure in welcoming the gentlemen who had decided to have their annual meeting in Ottawa. His Worship the Mayor of Ottawa was present, and he also had great pleasure in extending a welcome.

Dr. Oldright, of Toronto, chairman of the Provincial Board of Health, in his introductory address, said one of the objects of the convention was hard work. He referred to the importance of sanitary work and the saving of life and money which could be thereby effected. The rev. gentleman who had opened the meeting, he said, had given us the grandest and noblest example in that of our Saviour saving life. Some people said sanitarians were riding a hobby, but if they never rode any worse hobby they would do very well. The Dominion must eventually have a sanitary board, and he hoped that "eventually" would not be in the distant future. We had a great deal of disease imported with immigrants, and the Dominion Government alone could prevent this. The adulteration of food was another matter which came within the ken of the Dominion Government, as also did the work of preventing so far as possible loss of life in factories. He referred to the work of the Provincial Board, and of the urgent necessity for local boards throughout the province.

Dr. Coverton, of Toronto, drew attention to some further statistics concerning

the decrease of the death rate owing to the spread of sanitary science.

Dr. Robillard, of Ottawa, expressed his pleasure at seeing the convention held in Ottawa, and of seeing such a diversified programme. The object of the meeting he considered a noble one, and hoped that it would result beneficially.

At the afternoon session Dr. Canniff, of Toronto, read a paper on "The Sanitary Education of the Masses"; and Dr. Baptie, of the Ottawa Normal School, then delivered an interesting address on the ventilation of private dwellings, illustrating his remarks by means of a number of diagrams. Dr. Cassidy followed by an instructive paper on the "Ventilation of Public Buildings."

In the evening Dr. Covernton, of Toronto, read an interesting paper on "The Abuse of Alcohol and Increase of Nervous Diseases in Modern Times." He was not opposed to the moderate use of good wine, which he believed might be beneficial. As an instance that this would not be injurious, he pointed to the peasantry of France, whose principal beverage was pure light clarets. After referring to the numerous diseases arising from the excessive use of alcohol, he said the drunkard was in many cases entitled to pity, sympathy, and assistance; for although beyond a doubt drink leads to poverty, yet poverty often leads to drink.

Dr. Cassidy, of Toronto, believed the use of wine and beer should not be prohibited, but ardent spirits ought to be.

Mr. S. Woods, M.A., Principal of the Ottawa Ladies' College, read an instructive paper on "School Hygiene." He gave the results of his twenty years' experience in educational establishments, and he had come to the conclusion that close application never injured any one, but that most of the injuries to scholars resulted from

bad lighting or ventilation of school rooms.

Dr. Playter thought Mr. Woods' experience ought to be enough to convince any one that there should be a system of medical inspection of schools.

Dr. Canniff also thought there should be medical inspection of schools.

Dr. Bryce, Secretary of the Provincial Board of Health, next read an exhaustive paper on "Zymotic Diseases," giving illustrations of micro-organisms—various forms of bacteria, micrococci, etc., highly magnified.

On Wednesday, at the morning session, Dr. Playter, editor of this JOURNAL, read a paper on "Diet in Relation to Disease," a synopsis of which is given on another page.

Mr. Guerin, C.E., of the Public Works Department, next read an instructive paper on "Sewerage," which he illustrated by diagrams. He entered into a description of the various methods employed to drain cities and to prevent sewer gas entering houses, and pointed out wherein they were defective. He contended that brick drains should be egg shaped with the big end up, so that the greatest force could be got to put out the smallest amount of matter. If box drains were used they should be put in with an angle down. The ordinary "traps" used in closets, sinks and other places were not good. He displayed a newly invented trap, which he claimed would remedy the defects complained of, and which had been working successfully for a year past in the Department of Public Works, Ottawa. In regard to Ottawa sewerage he pointed out that there was really no system about it.

Mr. Boxer of Montreal, next read a paper on "Hidden Causes of Disease Exposed," and referred to foul wells and defective plumbing. He said 31 per cent. of the deaths in Montreal were caused by zymotic diseases, and that 50,-

000 deaths might be saved annually in Canada by means of preventitive measures [only about 80,000 deaths probably occur in Canada every year. This shows the reckless manner in which some people use figures, and do harm by throwing discredit on a good cause. Ed. S. J.]

Dr. C. Roger read a final paper on "Prevention Better than Cure," and dealt with the subject of contagious disease, and strongly advocated isolation to prevent their spreading.

On motion of Mr. Woods, it was unanimously resolved that in the interest of the public health local boards should be invested by law with power to make such regulations as might be deemed judicious by them.

On motion of Dr. H. P. Wright, it was resolved that a law should be passed forbidding any person laboring under or recovering from a contagious disease, entering any public conveyance without first informing the party in charge of it of his disease.

After resolutions of thanks to the Ottawa Corporation, railway companies, and the medical men who had assisted at the proceedings, the Convention adjourned.

#### OTTAWA SEWER SYSTEM.

By BEAUMONT SMALL, M. D., Ottawa.

The sewer system of a city is of vital importance, not only to the residents, but to every visitor, and when an eminent sanitarian declares that Ottawa possesses absolutely no proper system, our attention is naturally directed to the subject, and we are lead to enquire what our condition really is.

The efficacy of the many methods adopted for drainage depends to a very great extent on the natural conditions present. When a city is low and flat, rising but a few feet above the water into which the

drainage is effected, the probabilities of securing a perfect system are greatly lessened and every devi of the engineer and sanitarian has to be carefully followed that the desired end may be accomplished. If the place is so situated that a decided fall is given to the sewer, the conditions are greatly altered and the little deviations from theoretical exactness that in one case would produce dire consequences, in the other are without effect.

How is it with Ottawa? With an elevation of about one hundred feet, we have the most favorable conditions for securing all that is to be desired. Following a natural depression, the city has built in a most thorough manner, a main sewer, over two and a quarter miles in length, commencing at the head of Slater Street and emptying into the Ottawa River near the Rideau.

In this length there is a fall of sixty-two feet, and at the outlet a descent of thirty feet, allowing of a rapid stream and preventing any flowing back of sewerage. When, in addition to this, we remember that some three millions of gallons of water are pumped into the city each day, the greater part of which finds its way into the sewers, it is at once clearly seen that every facility is present to secure a thorough and rapid discharge of sewer matter. Mr. Surtees informs me that anything entering the main sewer is discharged within half an hour into the Ottawa River.

The result of this is to free us of the dangers arising from defective sewers. Decomposition does not take place—deleterious gases are not produced and the danger of living over a hot-bed for disease germs is not present. All this depends on the favorable conditions being maintained. Should any impediment to the flow occur, impurities at once accumulate and all the evil effects at once follow.

This, however, is not due to our system, but to neglect and want of care in its management. The offensive gases that arise are rather an advantage—like pain in human ailment; it is the warning cry of danger. Place sewer openings at the front doors of our mayor, city engineer, and a few leading officials, and the signal will be responded to quickly.

These remarks apply only to the main sewer, and unless this is efficient all lesser sewers are useless. The question of subsidiary drainage and the connection of houses are subjects for other papers, which I fear would not present such a satisfactory picture as this has afforded.

### Correspondence.

#### "GIVE THE ALARM."

To the Editor of SANITARY JOURNAL.

DEAR SIR—Much has been said in your journal concerning the "starving out of disease germs" as a means of preventing the spread of contagious diseases, and much has been written and spoken of late as to the duty of health boards and sanitary officers in this respect. Allow me to make a suggestion to members of the medical profession as to the practical every-day duty devolving upon them in this important matter. No disease can make an attack where there is no victim. Isolation in all cases of contagious disease is, after all, the only really practicable method of preventing the spread of such disease, and, so far as my observation extends, the average practitioner is sadly remiss in his duty in this respect. The constant desire to avoid occasioning alarm in a neighborhood—through fear of exciting anxiety and perhaps anguish in the home of his patient, he is content—rather he is induced to "make light" of the case; to say nothing about its contagious nature; to tell the neighbors "there is not much

danger" and to get away with as little conversation as possible. The dread of being considered an "alarmist" often militates against his judgment as to what his duty is in the premises, and with an apparent carelessness not by any means creditable to himself or his profession, he fails to drop a word of warning. Silence, upon such occasions, is always construed to mean immunity from danger to all who desire to visit the sick-room or loiter about the premises.

I am aware that in many neighborhoods there exists a strong inclination to ridicule and pooh-pooh the warnings of the medical attendant, but the practitioner who yields to fear of being thus ridiculed or blamed for exciting alarm, and perhaps for "closing up a school," falls upon the other horn of the dilemma, and renders himself open to the accusation that he is culpably negligent in the performance of his duty to the public. In my experience I have in mind several instances in which outbreaks of scarlatina or diphtheria have been confined to a single family, even in thickly-settled localities, simply by "giving the alarm" boldly and fearlessly. I have myself gone to the extreme of feigning anxiety and fear as to the result—forbidding the admission of any but certain named friends to the house—exhibiting my own caution—wearing a special covering when in the sick-room—carefully washing and disinfecting in presence of bystanders, and by every means in my power impressing upon the whole community that *nobody is safe who visits the house*. Friends and relatives and all others who have children at home, or who mingle with children in the neighborhood, must be rigidly excluded. If food, clothing, or other necessaries must be had, let them be carried to some point at a safe distance from the afflicted house, and thence by a nurse or other

occupant. The effect of one or two such exhibitions cannot fail to produce a beneficial effect. If carried out by the "doctor," it will make a lasting impression upon the mind of those who witness them.

Many people, and amongst them some physicians, have a *penchant* for advertising their valor and their fearlessness by reciting their experience with disease, and boasting that they never "took" any disease. This is always unfortunate, it is always blameworthy. Fear, absolute fear, is as yet our strongest defence against the spread of contagion. Why is small-pox so rare? Is it not because people keep out of its way? How do you receive this proposition, Mr. Editor? *When people become as much afraid of scarlatina and diphtheria as they are of small-pox, both of these diseases will become as rare as small-pox.*

I am confident, Mr. Editor, that while the knowledge of sanitary precaution is so limited as it now unfortunately is, medical men have a greater and grander opportunity for saving human life by "sounding alarm" that by their kindly offices at the bedside of the afflicted.

J. M. P.

OTTAWA, 18th March, 1884.

#### ON THE PROPOSED DOMINION HEALTH BUREAU.

A well attended meeting of medical men who are members of the Senate and Commons, and many of the medical practitioners in and around Ottawa, was held in the House of Commons on Tuesday, March 4th, inst., to consider the question of a Dominion Health Bureau. Amongst those present were the Hon. Senators Almon and Paquet; Drs. Bergin, Orton, Hickey, Fortin, Sproule, Landerkin, Grandbois, and Renfret, members of the Commons; and Drs. Grant, Church, Powell, Robillard, Logan, Horsey,

Small, Wilson, Cranston, Hunter, Kelly and Playter: Dr. Bergin, Chairman; Dr. Playter acting as Secretary. A plan providing for a Dominion Health Bureau and general sanitary system was submitted by Dr. Playter. It provided for a Deputy Minister or Chief Sanitary Officer, connected with the Department of Agriculture in Ottawa; a Sanitary Committee, representing the different Provinces, with Chairman and Secretary; and 145 or more Sanitary officers, in the various electoral districts, for making returns of disease, &c., monthly to the bureau. Dr. Playter had, he stated, received valuable suggestions from Drs. Hickey and Orton, and the plan, in many respects, was similar to one proposed and placed in the hands of the Government by Dr. Orton two or three years ago. The plan for obtaining a knowledge of the general condition of the public health throughout the Dominion, in connection with the bureau, was that proposed by Dr. Playter in 1882, which met with the unanimous approval of the profession in Ontario. After a good deal of discussion the plan was adopted, and a committee, consisting of Hon. Senator Dr. Fortin, and Drs. Bergin, Orton, Hickey, Grant, Church, Larocque, and Playter, was appointed to wait upon the Government and urge that measures be taken to have it or a similar one carried into operation at an early day.

The plan as adopted, with minutes of the action of the meeting, were at once sent to members of the Ontario Medical Council, the Public Health Committee of the Canada Medical Association, and others throughout the Dominion who had given attention to matters relating to the proposed bureau, asking their views, ("concurrency or otherwise, or suggestions") in order that any suggestions from any of these might be acted upon before Government could take any final action. A large

number of replies have been received from those in Ontario, Quebec, and Nova Scotia, fully and cordially concurring in the plan and the action taken in Ottawa, and expressing strong hopes that the plan would soon be carried into effect by the Government, and hardly any changes whatever have been suggested.

Though not one word, so far as we can learn, has been brought up against the plan adopted, it has been said that it might have been better if the Public Health Committee of the Canada Medical Association had been consulted before any action were taken. On the other hand the medical men in the Senate and Commons feel that the initiative ought properly to be in their hands; while a large proportion of the Public Health Committee have fully concurred, individually, in the action taken. It was time for some further action to be taken by some one, and the perfect right of any one man, or any body of men must be conceded to go to the Government and ask for anything he or they may deem wise and good, and without being regarded as showing discourtesy to any others, and it was certainly better to have a plan adopted by so representative a body of medical men as were present at the meeting to present to the Public Health Committee, in order to get their views, than the plan of any one man. No action could possibly be taken by the Government until there would be plenty of time for such views to be forwarded, and the Committee appointed by the late meeting to wait upon the Government would be glad and ready at any time to bring any views or suggestions of the Committee, collectively or individually, relating to the plan, before the Government. These views and suggestions, as above stated, were at once asked for by the Committee appointed by the meeting. We have no reason to believe that there

was a medical man at the meeting who did not entertain a feeling of loyalty toward the Canada Medical Association, and desired the views, and to act upon the views, of the Public Health Committee of that Association, but the exclusive right of that Committee to first bring forward or take the initiative could not be conceded, especially as it is not a Committee on Legislation.

#### RECENT SANITARY PROCEEDINGS.

On Thursday, March 20, a deputation of over thirty medical practitioners, aldermen, and other members of the Quebec Sanitary Association, visited Ottawa for the purpose of presenting a memorial to the Minister of Agriculture on matters affecting the public health, including the urging upon the Government the desirability of establishing a central Health Bureau at the Capital for the collection of disease reports, and generally concurring in the action taken by the meeting in Ottawa on the 4th March, and in the interests of their Sanitary Association recently organized. Owing to the illness of Mr. Pope, the deputation were received by Mr. Lowe, Secretary of the Department, who heard the representations made, gave the deputation satisfactory encouragement and promised to favorably report to the Minister. The members of the deputation were accompanied by local medical men and members of Parliament.

In the evening a conference was held in the Railway Committee Room of the House of Commons, which was attended by the delegates, members of Parliament, and local medical men. Dr. Desaulniers, M.P., presided, and Dr. Playter acted as secretary.

An interesting discussion took place, of more than two hours' duration, regarding the best means of promoting measures in the best interests of the health

of the people. The following resolutions were passed without opposition :

Moved by Dr. LaRocque, Health Officer of Montreal, seconded by Dr. Playter, of Ottawa, and

*Resolved*, Inasmuch as a large and influential deputation from the Sanitary Association of the Province of Quebec, have laid before the Minister of Agriculture a memorial in which it is specially desired that a Dominion Health Bureau be organized, which view appears to be in accordance with the feelings and desire of the entire medical profession and others interested in health proceedings, who have given the subject consideration throughout the Dominion,

Be it resolved, that this meeting earnestly requests that the Federal Government will at once provide means for the formation of an Advisory Sanitary Committee—similar to that recommended in the plan adopted at a meeting of medical men held in the Parliament Buildings, March 4th—consisting of one or more medical men from each of the principal provinces, which shall meet in Ottawa, say in June and September of the present year, and at the beginning of the next session of Parliament, and which shall consider all matters relating to the public health of the Dominion, and confer with the Minister of Agriculture as to the best method of completing the organization of the bureau and what legislation will best promote the public health, and which shall receive and consider suggestions, through delegates or otherwise, from medical associations and organized sanitary bodies, and shall report fully as to their proceedings to the Minister of Agriculture at an early period of the next session of Parliament ;

And furthermore, in order to obtain a general knowledge of the condition of the public health throughout the Dominion, especially as relates to epidemic diseases,

and furnish as much information as possible to the Advisory Sanitary Committee, a sufficient number of medical men be appointed in various localities or centres throughout the Dominion who shall make monthly reports or statements to the department as to the condition of the public health in regard to epidemic diseases, their nature, extent, course, etc., in their respective localities, which reports may be published monthly or from time to time as deemed desirable by the Sanitary Committee.

The following members of the Senate and Commons were appointed a Committee to co-operate with the Committee formed at the meeting on the 4th of March, to carry out the objects of the resolution ; Hon. Dr. DeBoucherville, Hon. Dr. Robitaille, Hon. Dr. Paquet, and Doctors Desaulniers, De St. Georges, Fortin, Grandbois, Lesage, Rinfret.

Moved by Dr. Grant, of Ottawa, seconded by Dr. Bergin, M.P., of Cornwall :

That in the interest of sanitary science, it is desirable that there should be a Dominion Sanitary Exposition embracing an exhibition of all appliances pertaining to the public health, which would tend to inform the public generally on this subject of great importance, such as drainage, disinfectants, heating appliances, baths, closets, etc.; and that the Dominion Government be requested to provide a suitable sum for premiums.

On motion of Mr. Laberge, seconded by Dr. Archambault, a vote of thanks was tendered by the Sanitary Association of Quebec to the members of Parliament and others who accompanied the deputation to the representative of the Minister of Agriculture.

## SLEEPING TOGETHER.

There is, to say the least, much truth in the following from the *Scientific American*: Somebody has said that more quarrels occur between brothers, between sisters, between hired girls, between clerks in stores, between apprentices in mechanics' shops, between hired men, between husbands and wives, owing to electrical changes which their nervous systems undergo by lodging together night after night under the same bedclothes, than by any other disturbing cause. There is nothing that will so derange the nervous system of a person who is eliminative in nervous force than to lie all night in bed with another person who is absorbent in nervous force. The absorber will go to sleep and rest all night; while the eliminative will be tumbling and tossing, restless and nervous, and wake up in the morning fretful, peevish, fault-finding and discouraged. No two persons, no matter who they are, should habitually sleep together. One will thrive and the other will lose.

IN BELLEVILLE, Dr. H. James keeps stirring up the roiled water, which it appears the people of that city are disposed to use. He is certainly deserving of the thanks of the people there for so persistently urging the importance of pure water. We fully agree with him when he states "that an infinitesimally small quantity of organic matter is able to produce an injurious effect upon health. Therefore, if a large proportion of organic matter was removed by the process of oxidation, the quantity left might be quite sufficient to be injurious to health. To think to get rid of the organic matter of sewage by exposure to the air for a short time is absurd." He is, too, very properly urging the admixture of ashes or earth with the excreta, where water-closets are not in use.

## Matters Recent and Current.

THE CHOLERA BACILLUS.—In the latest report from Dr. Koch, dated Calcutta, January 7, he states (*Medical Times*) that he and his associates have had an opportunity of making *post-mortem* examinations of nine cholera subjects, in all of whom they found the same bacilli as they discovered at Alexandria. They isolated them, cultivated them in gelatine, and observed in them certain characteristic features which enable them to differentiate them with certainty from similar forms of bacillus. Dr. Koch has also been able to identify the specific bacillus in the evacuations of living cholera patients. His next step was to examine the irrecidives of patients who had died from other diseases, as pneumonia, dysentery, phthisis, and Bright's disease, for the same bacillus, and in each case without success. He also examined the dead bodies of animals and other substances swarming with bacteria, but in none was the specific bacillus to be found. He intends to continue these investigations, and if he still finds the bacilli uniformly present in cholera cases, and uniformly absent in all others, he thinks that he will be justified in regarding them as the cause of the disease, even if his inoculation experiments in animals should fail. Since the last report was published, a statement has appeared in a Calcutta paper to the effect that the members of the Commission have discovered the bacilli in the matter contained in a water-tank supplying a village in the suburbs of Calcutta, in which sixteen cases of cholera had recently broken out.

MEDICO-LEGAL.—It appears from an exchange that in Philadelphia a new Society has been formed for the cultivation of Medical Jurisprudence, about fifty members of the bar and thirty physicians

of prominence in that city having already expressed their desire to join the Association. "This conjunction of the learned professions may be expected to work to the benefit of all concerned. The accustomed browbeating of experts will probably soon be a thing of the past now that the difficulties of scientific evidence are to be studied by the two professions side by side."

**THE COMMUNICABILITY OF PHTHISIS.**—In Germany, the Minister of the Interior, in view of the prevalence of phthisis in prisons, has not waited for the final solution of the problem, but having determined, in true judicial spirit, to give his prisoners the benefit of the doubt, has ordered the isolation of phthisical cases, the careful disinfection of linen and excreta, and all the usual sanitary precautions, such as are observed in the case of the well-recognized infectious diseases in all the prisons and kindred institutions in Germany.

**THE DETRIOT** *Medical Age* says: The water whence this city derives its drinking supply receives between its source and our water-works the refuse matter and debris of nearly a million people. At this point it receives the excreta of upwards of one hundred and fifty thousand more, and then passes on and is drunk by the cities between us and the sea board. Toronto has provided means to obtain its share.

**THE QUEBEC PROVINCE SANITARY ASSOCIATION** evidently means business, and gives promise of very useful work in promoting the public health. Dr. La-Kocque is deserving of much credit for his indefatigable exertions in instituting sanitary proceedings in that Province; while he is well backed up by other able men interested in the welfare of the people. We cordially wish them the utmost degree of success, especially in regard to their proposed health journal.

IN ONTARIO we should like to see the example set by Quebec followed, by the formation of a sanitary association for the province, which could be worked to most practical advantage; aid the provincial and municipal boards in their work, and help much to interest the people generally in health proceedings. Will Toronto or Ottawa move first in the matter? Indeed each of these cities, and others, might have an independent sanitary association of its own. A good many such are being formed in the United States.

**THE CITY STREETS** are now covered with a layer of horse droppings which will settle down as the snow melts away, and mingle with the soil of the streets and give rise to a very disagreeable and unwholesome dust during the summer. It would "pay," if it were scraped off the soft surface now, and it would be an easy and inexpensive matter to do it. We would urge that the Corporation have it done on the principal streets, in the interests of the public health. This is an important matter to which cities should attend. Montreal would do well to look to it, and it is not too late to do something at it, even in Toronto and other western cities.

**THE CITY WATER**, it appears, is used more liberally, proportionately, in Ottawa than in Montreal. Here, about 3,000,000 gallons are used daily, or an average of 100 gallons per head of population. In Montreal, the daily consumption of water is over 10,000,000 or about 75 gallons per head of population.

**BEEF PEPTONIDS IN SOUP.**—A tablespoonful or two of beef peptonoids, which may be obtained of any druggist, will make a small pot of any sort of soup very much more nutritious and will make it more easily digested. Try it.

A MAIN SEWER IN DETRIOT, according to the *Sanitary News*, was recently found to contain a deposit in places, seven feet in depth, of decomposing organic matter. This accumulation extended back more than a mile from the mouth of the sewer. *The Medical Age* says, in reference to this matter: While diphtheria has been endemic in this city for upwards of two years last past, it has been peculiarly prevalent in that part drained by the sewer in question. These are the facts. The other sewers have not, as yet, been systematically investigated, but when this is done it will not surprise us to learn that the 'visitations of God' in the form of diphtheria, will be found to be singularly closely associated with the delinquencies of man throughout."

#### DEATHS FROM EATING TINNED MEAT.

—Two boys in Glasgow died suddenly after partaking of a portion of tinned mutton. A surgeon who was called after the death of one certified that he had died from the effects of poison. From enquiry subsequently instituted, it was ascertained that twelve or fifteen persons had been supplied from the same tin, and that in each case sickness, accompanied by vomiting and purging, had followed on partaking of the meat.

#### THE DOMINION HEALTH BUREAU.—

The recent movement to have a health bureau for the Dominion, established in Ottawa, bids fair to bring about the desired result. A large number of letters have been received from leading physicians in the different Provinces fully concurring in the plan adopted at the meeting in Ottawa on the 4th inst., and expressing strong hopes that it would soon be carried into operation, and the five or six medical men in the Senate, who were not at the meeting, have sent in a written form of concurrence in regard to the plan. It had been felt

that as the session was so far advanced and the Hon. Mr. Pope continuing ill, a complete bureau could not be organized at the present time, and hence the resolutions at the meeting on the 20th inst., desiring that the advisory committee be formed at an early day to consider the details of the scheme, consult with medical and sanitary societies, and report at an early day of the next session; at the same time desiring that provision be made for commencing the collection of disease reports from as many localities as possible throughout the Dominion. This we believe to be much the better way, having desired from the first the fullest discussion and consultation, with others interested, as to the details or even general outline of any plan which might be first acceptable to the medical men in the Senate and Commons.

RESEARCHES ON PNEUMONIA—ITS RESEMBLANCE TO FEVERS.—For a long time there has been a growing tendency (says an exchange) to emphasize the many points of resemblance which acute idiopathic pneumonia presents to the infectious fevers. The acute onset generally marked by a rigor, the well-defined constitutional symptoms, the general tendency of the disease to come to a crisis on or about the seventh day, remind us so strongly of the acute fevers, that we are led again and again to consider whether pneumonia ought not to be removed from the group of simple inflammations and transferred to that of the acute infectious diseases. There probably exist few old practitioners who have not been often puzzled at the outset of a case of pneumonia, as to what was the nature of the disease they had before them, it being a matter of doubt whether the case were one of small-pox, typhoid fever, or even of erysipelas, in that rarer form in which constitutional symptoms appear for a day or two before the rash. After a period of from one to

four or even five days, the occurrence of signs of local inflammation, extending over a varying portion of one or both lungs, clears up the doubt, yet at first a certain diagnosis has been impossible.

**BUTTERINE VS. BUTTER.**—There is a good deal of butterine made and sold in Europe (*Scientific American*) and there, as here, people seem to have little apprehension how extensively it is used. The *Farmer's Gazette*, of Dublin, publishes a statement showing how difficult it is for ordinary judges to tell butter from butterine. Some fine Normandy butter, costing 48 cents a pound, and a sample of butterine, bought of a local retailer for 22 cents a pound, were submitted to a jury of nineteen farmers, who tasted and examined both samples. Ten out of these nineteen judges declared the butterine to be the butter. The makers of butterine in this country use all the way from 60 to 85 parts of neutral lard to 40 and 15 parts of good butter respectively, in making butterine. These are thoroughly mixed, salted, and coloured a golden yellow, and the tubs are branded with fancy names as from country creameries. It is said an infallible test is to melt the butterine and then suddenly chill it by surrounding it with cracked ice, when the lard goes to the bottom and the butter to the top, the line of separation being plainly visible.

**WHEN NEAR THE END** of his life an English physician said: "I have now but one remedy for fifty diseases, whereas, at the beginning of my practice I had fifty remedies for each disease."

**CHEAP BURGLAR ALARM.**—(*Detroit News*) Drive a headless nail into the casing over any door, and after closing the door, or it need not be tightly closed, hang a tin pan on the nail when you go to bed. If you are timid and want a cheap burglar alarm do this. It will work every time.

**AS SPRING COMES IN** do not leave off warm clothing too early or too suddenly. Much better and safer to be a little too warm—better to suffer from heat—being careful to cool off slowly—than to be cold and chilly for want of sufficient clothing.

Do not let the fires out in furnaces, hall stoves, &c., too soon. A little extra coal will be more than repaid in the health and vigor obtained by letting in more fully the fresh outer air through open windows or doors.

Have any and all accumulations of filth, refuse of kitchen, slops, &c., removed far away from the dwelling early before decomposition commences and gives rise to perhaps serious disease.

**THE GREAT DIO LEWIS**, of Dio Lewis' Monthly, ought to know better than to allow his picture to head a patent medicine advertisement in order to puff it, and to commend as he does a sort of cure-all in the lay press; but it appears he does not. It is the mark of a quack.

**THE USE OF PATENT MEDICINES** is enormous, and their sale will soon require restriction, as well as does the sale of alcoholic spirits. They do a vast amount of harm and lead often to intemperance in the use of spirits.

**THE EMPEROR OF CHINA**, it is recorded, inquired of Sir George Staunton about the manner in which physicians were paid in England. When he was made to understand the custom, he exclaimed—"Can any man in England afford to be ill? Now I have four physicians and pay all of them a weekly salary; but the moment I am sick that salary is stopped, and until I am well again; therefore, my indisposition is never of long duration.

**THE SAFEST** and cheapest sugar for any one to use is pure loaf sugar. It is the sweetest and most economical.

**UNSAFE.**—In *Hall's Journal* it is stated that half a teaspoonful of common table salt dissolved in a little cold water and drank will instantly relieve "heart burn" or dyspepsia. If taken every morning before breakfast, increasing the quantity gradually to a teaspoonful of salt and a tumbler of water, it will in a few days cure any ordinary case of dyspepsia, if at the same time due attention is paid to the diet. We warn our readers against even trying any such remedies without first consulting a qualified physician. Much harm might result. We are surprised to find such cure copied into a respectable scientific journal. People are always safe in using preventive hygienic measures, and never safe in attempting means of cure without medical advice in the particular case.

**A NEW WATER TEST.**—Dr. Angus Smith, F. R. S., reports to the Local Government Board, that in all natural waters sugar ferments and hydrogen gas is given off, the proportion varying with the amount of organic impurity in the water. The proportion of hydrogen evolved will prove a quantitative test of the virulence of the microbes present in the waters.

**AN ONION DISEASE**—In the *Rev. Scientifique*, it is stated that M. Joannes Chatin has found a parasite in the common onion that gives rise to disease. M. Pasteur, who has examined it, finds it similar to the parasite of mildew in wheat, but with less vitality.

**BALL'S HEALTH CORSETS.**—We cannot too strongly impress upon our readers the great advantages of Ball's health corsets for ladies. It is impossible to lace very tightly with them, with their coil spring, elastic sides, yet they fit snugly and firmly while permitting the free action of the lungs. This is a most important point for ladies to consider and act upon. No

other corset that we know of can approach Ball's in its conformity to the requirements of health.

### Questions and Answers.

We will devote a certain amount of space to questions and answers of correspondents on all subjects pertaining to health. Any question relating to health, addressed to this JOURNAL, will be answered as satisfactorily as possible. Answers solicited from correspondents.

**WM. ANGUS, MONTREAL.**—The proportion of carbolic acid and chloride of lime as a deodorant and antiseptic may be varied according to circumstances. One part by weight of the former to two of the latter may be used, and made in solution, strong or weak as required.

**G. N. ABBOTT; S. NEWBORO, VERMONT.**—By communicating with the Secretary of the Ontario Provincial Board of Health, Toronto, Canada, you will be able to obtain the papers you want, in the first and the second annual report of the Board. Prof. Arnott's address is London, Ontario, Canada.

**PICTON.**—Some one has sent one year's subscription to this JOURNAL, enclosed in a note headed "Picton, February 5th, 1884," but without signature. Hence we do not know who it is from. Please send name.

**NOTICES OF BOOKS AND PAMPHLETS,** a good many of which have been received, we are forced to hold over for next number.

**THE TORONTO SHOE COMPANY,** Store corner of King and Jarvis Streets, Toronto, have a special ladies' department or parlor, a great convenience for ladies.

**AT THE OTTAWA PLATING WORKS** 170 Sparks Street, old, worn plate can be made as good as new, and at moderate costs.

**HIMALAYAN TEA** makes a most delicious, refreshing beverage, and at a very moderate cost. It is a kind of black tea, and is believed to be much less liable to adulteration than most other teas. So far as we can learn, all who have tried it are so well pleased with it that they will not use any other.