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A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—

EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

No. 12.

DECEMBER, 1889.

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CONTENTS :

On the "Open Air" Cure for Consumption.....	219-221	Sewage Disposal—Distribution of Disease in Southern India—New Process of Sewage Treatment—Physical Education in Children—Uniformed Health Inspectors—On Second Attacks of Infectious Diseases, etc., etc.....	229-232
The Art of Cooking, by Edward Atkinson, LL.D.,—Concluded.....	221-223	EDITORIAL NOTES:—To Health Officers—The Education, Training and Qualifications of Medical Officers of Health—Annual Report of Dr. Griffin, M.O. of Brantford—Report of Dr. Hutchison, M.O. of London, etc., etc.....	233-237
Plain Words on the Woman Question.....	223-225	Notes on Current Literature....	238
Education and the Medical Practice of the Future.....	226-227		
The Destruction by Cremation of the Garbage and Refuse of Towns and Cities.....	227-229		
MISCELLANEOUS NOTES AND EXTRACTS:—Old Truths Turned Up—Dyspepsia, the Diet and the Humors—Does Salting Meat Destroy Bacteria?—			

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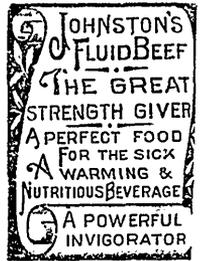
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THE HEALTH JOURNAL.

A Record of Sanitary Progress.

VOL. XI.

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ON THE "OPEN-AIR" CURE FOR CONSUMPTION.

IF some one, say under the *nom de plume* of a "retired clergyman" desiring only to benefit others, were to advertise extensively a "sure cure" for consumption, charge a large fee for the secret, and on receipt of which send this advice: "Live constantly out-of-doors," properly clothed, of course, the remedy would probably soon become popular, and a vast amount of benefit would be the result. The open-air treatment is now the one most relied upon by the best authorities in the medical profession. For twenty-five years we have urged that the advantages to consumptives of changing to a warmer climate were all in this, the ability there to remain more out of doors; and that if consumptives even in this climate would not commence "housing up" as the weather in autumn becomes colder, but persist in remaining out, properly clad, and in the sunshine as much as possible, they would be vastly better in the long run; and probably many, if in the early stage much better than if they had gone to a warmer, less invigorating climate. At first, from being out in colder, less pleasant weather, the cough might be worse and greater irritability of the bronchial tubes and larynx might alarm or discourage the patient. But after a little perseverance and persistence in remaining out, this trouble would abate and improvement would follow. This we know from experience, in many cases. It is possible there may be cases in which harm would follow this treatment, but we have never met one. By keeping out constantly during the fine weather of summer and continuing the practice as the weather becomes gradually colder I doubt if there be ever a case, accustomed to this climate,

which would not be so benefitted, unless it were one in that late stage of the disease in which nothing would be of any real service.

The British Medical Journal (of Nov. 16) in an editorial advocating this "open-air treatment" says: "Among the many changes which have taken place in the treatment of phthisis in the last forty years, none is more marked than the substitution of a system of bracing and hardening the patient for one of "coddling," and foremost in this plan is the principle of open air, or exposure of the patient as much as possible by day and by night to the influence of the atmosphere. The great object of change of climate is to afford greater facilities for this process, and it appears from the testimony of most authorities that the meteorological phenomena which interfere with the success of the system in England are not the coldness of the climate, but its humidity and the prevalence of fog and mist, and the fear of exposure to these elements prevents it being completely carried out here. There is no question now that cases not only of non-pyrexial (without fever) but also of pyrexial phthisis are favorably influenced by open air treatment, which produces a diminution of the troublesome symptoms, such as high temperature and night sweats. It is doubtful whether in England we are sufficiently alive to the advantages of the open-air treatment in phthisis, for though in our palatial hospitals the systems of ventilation and warming have been carried to a high state of perfection, and the atmosphere is changed frequently and without draught, the exposure of the consumptive patient on a terrace or balcony to the sun's rays and

free breezes of heaven would probably be far more beneficial, provided the effects of chill and damp were guarded against."

In most parts of Canada, where there is much less humidity in the atmosphere, the climate is, of course, much more favorable for this treatment than in England. The plan, though systematically adopted at several places on the Continent of Europe, is said to be most completely carried out at Dr. Dettweiler's large establishment at Falkenstein, in the Taunus Mountains. at an elevation of about 1,300 feet above sea level. There the consumptives are placed on open balconies, sheltered from wind, and exposed to the sun. Here, on mattresses or bamboo couches, they recline in loose but warm clothing, with tables alongside for books, etc., or they sit in shelters movable on pivots to protect them from wind. or in kiosks with open sides, but, whatever the form of protection, the invalids live all day in the open air, independent of the state of the weather.

Early rising is enforced, and the patient commences the day with a friction to the skin in the form of a dry rub, or with a towel moistened with water or alcohol, the stronger ones being submitted to the action of the douche. After a rather simple breakfast, they betake themselves to their couches, from which they occasionally rise to take short walks, generally up a gentle slope, at the same time throwing back the shoulders, and each quarter of an hour drawing at least ten full deep inspirations through the nose and thus emptying and filling completely the organs of respiration. The more hardy take long walks through the neighboring forest. The dinner and supper are both substantial meals. Milk is taken between meals. Expectoration into handkerchiefs or on the ground is forbidden, spittoons being provided. The patients sleep with the windows of their bedrooms open at the top and all curtains, carpets, or hangings are removed. Stoves appear only to be allowed to be lighted during dressing in the morning, and never at night, but sleeping in woollen underclothing, and the avoidance of too many coverings to the

bed is advised. French physicians appear to be advocating this open-air treatment of phthisis, and especially sleeping with windows open.

The open-air treatment pursued at Davos and St. Moritz differs from that at Falkenstein in the larger amount of lung gymnastics it includes, and surpasses it in results, it is said; but these may be due in a measure to the effect of the mountain climate.

At the Banff meeting last August of the Canada Medical Association, Dr. G. Kennedy, of Fort McLeod, Alberta, read a valuable scientific paper on the climate of Southern Alberta in relation to health and disease.

He said that from a private record kept during the five years, ending December, 1888, he was able to state that the number of days recorded as overcast, raining and storming was respectively, 51, 49, 56, 53, and 44: or an average of a fraction over fifty, all the rest being noted as fine. Over fifty per cent of these (fifty) were simply overcast, so it is fairly presumable that in the large majority, confinement to the house would be unnecessary. These observations were taken very close to the mountains, where local storms are more prevalent than on the plains.

For certain classes of cases, Dr. Kennedy says, "Southern Alberta offers inducements hardly excelled by any place on the continent." "We have the dry aseptic atmosphere the dry soil, the clear sunshiny days, and the necessary elevation." "Seekers after health are not obliged to remain for a few months at the approach of winter or summer, only, and then go away again. They can live here with equal benefit all the year round. And being a stock-raising country, it is easily possible to spend almost all one's time in the saddle. It was Sydenham who said that 'unlimited horseback exercise is almost as good a cure for phthisis, as quinine for ague.' Alberta is in Canada, so why should Canadian physicians send their patients to Colorado, when they have a climate equally as good within the confines of their own Dominion?

He concludes: "To most people the bright sunny skies, the pure, bracing, intoxicating air, the exhilarating freedom of out-door life, and the unrivalled scenery of Alberta will amply compensate for the artificial pleasures of Eastern life which they are obliged to forego.

We would recommend any Canadian who is suffering from this disease, in any stage, or who is only predisposed to or threatened with it, not to seek a warm climate. He should undoubtedly live in a dry aseptic atmosphere, and hence, of course on a dry soil. Such conditions are indispensable, but rarely found except on elevated situations. If the home of such a one be not in a locality of this kind, he should change it. For the earlier stages of the disease, the out-door life of Alberta would probably promote a cure. But we have no doubt that there are many elevated, dry, somewhat protected localities in every province of the Dominion in which such cases would improve, and recover if the out door life were persisted in, as above indicated.

The night—the bedroom—usually presents one great difficulty. A window should be kept open, as practised in Germany and advocated in France. In very severe weather in Canada, of course a very small opening would suffice, and in moderate weather a larger one. But we contend that this is not enough. One opening, as

of a window, affords but poor ventilation. The air cannot thus be properly changed or renewed. Some means **MUST** be employed, for withdrawing the breathed air from the room if the full benefit, or near it, of the fresh or open air treatment is to be obtained. Opening a window top and bottom even is not enough: except it be in mild weather when those openings can both be large. An open grate, fire-place, or open stove, with ever so little fire makes the best "outlet." If such be not available some sort of connection must be made between the room and a warmed chimney flue or stove pipe, either directly, if one be in a wall of the room or pass through the room, or indirectly by making a flue from an opening in a wall of the room to the warmed flue. An opening cut into a stove pipe of 25 to 30 square inches if one passes through the room, affords good ventilation. But the room should be kept cool; warm air is depressing and the change from it to the outer air during the day may prove irritating to the lungs.

There are probably not less than 10,000, if not more, deaths in Canada every year from this fell disease. If such treatment as above indicated, were adopted in the earliest stages of every case, this high mortality would soon be greatly reduced and many thousands of lives saved.

THE ART OF COOKING, BY EDWARD ATKINSON, LL.D.

EXTRACTS FROM A PRACTICAL PAPER READ AT THE BROOKLYN MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.—CONCLUDED.

MY Aladdin ovens, so called, are adapted to methods of cooking corresponding to broiling, roasting, baking, and braising; but they can also be used for boiling and simmering.

My Aladdin cooker, so called, in which the heat is conveyed through water, is devoted wholly to boiling, stewing, and simmering, especially the latter. I neither attempt or desire to *fry* anything in either kind of apparatus. About nine-tenths of all the cooking of my somewhat large family has been done with this apparatus for nearly two years, and I also have an office lunch-room for the use of about twenty employes, in which no other apparatus is or can be used. My summer kitchen at my sea-side house is fitted with

a grill which is very seldom used; it proves to be most convenient to use the cooking stove, heated with hadwood chips, for boiling the water for tea and for occasional frying.

My winter kitchen is a large one, and it depends upon the range for warming it. The range, therefore continues to be used to some extent for cooking, mainly for preparing breakfast, but I contemplate substituting a special stove without any oven, which will heat the room with much less coal, the top of the stove being fitted for cooking in the ordinary way. Neither the oven of the stove in summer nor of the range in winter are now used for cooking: therefore, the kitchen is never overheated and the food is never

spoiled. We have occasionally failed to cook a large joint of meat a sufficient time, but we have never spoiled a dish in the process of cooking since the pulp or jacketed oven was adopted.

What, then, are the simple principals of the science of cooking? I think they may be stated in a few very plain terms :

1. The heat should be derived from fuel which can be wholly consumed or wholly converted into the products of complete combustion without any chimney except that of the lamp or burner.

The same may be said of illuminating gas when used in one of the burners of the Bunsen type which supply an excess of oxygen and yield the blue flame.

The combustion of oil and of gas can be brought under absolute control by gauging the size of wick or burner to the work to be done.

2. The oven in which the food is to be subjected to this measurable and controllable source of heat must be so constructed that the heat imparted to it may be entrapped and accumulated up to a certain measure or degree and then maintained at that temperature without substantial variation until the work is done. This can be done by jacketing the oven in a suitable way with material which is incombustible and also a non-conductor of heat.

3. There should be no direct communication between the true oven or receptacle in which the food is placed and the source of heat, least the food should be exposed to being in places burned or scorched.

These three conditions are all accomplished in the two somewhat crude and probably incomplete inventions which I have named the "Aladdin Cooker" and the "Aladdin Oven," in both of which the heat derived from common lamps, such as are used for lighting, may be stored or accumulated so as to do the work of cooking in a very perfect manner. In the cooker the heat is imparted to water in an attachment to a metal-lined wooden box corresponding to the water-back of the common range or stove, and the work is

done by the contact of the hot water with the outside of the porcelain vessels in which the food is placed, or by the steam generated when the water is heated to the boiling-point.

In the oven a column of heated air is carried from the chimney of the lamp to the inside of an outer oven made chiefly of prepared wood-pulp, but outside of the inner sheet-iron or metallic oven in which the food is placed, which inner oven is separately ventilated.

I do not claim originality in these simple principles or in the idea of jacketing an oven with non-conductors of heat. All these matters are well understood by every intelligent stove-manufacturer, but it is practically impossible for any one to apply them in making stoves such as will meet the demand of the market, for two reasons :

1. The greatest demand for stoves is that of people of very moderate means, who are too much controlled by the price in making a choice, making the common error in confounding cheapness with low price, an error which leads to great waste not only in the matter of stoves but in many other ways.

2. The absolute and imperative preference of the public for a stove in or upon which the work can be done very quickly.

The custom of cooking quickly is in part a matter of choice, and in part due to the necessity to which a great many working people are subject to cooking their meals quickly or else to go without hot breakfasts and dinners.

Another great obstruction to improvement in the art of cooking is the almost universal misconception that the finer cuts of meat are more nutritious than the coarser portions, coupled with the almost universal prejudice among working people against stewed food. This prejudice is doubtless due to the tasteless quality of boiled meat ; boiling toughens each of the fine fibers, and deprives the meat almost wholly of its distinctive flavor.

All these blunders and misconceptions must evidently be removed before any true art of cooking can become common practice.

The more necessary, however, does it become to invent apparatus in which meat can only be simmered and can not boil, as in the Aladdin cooker, and also to invent a stove or oven in which neither meat nor bread can be overcooked, dried up, or rendered indigestible by too much heat, as in the Aladdin oven.

Next, people must be persuaded that a better and more nutritious breakfast can be made ready to eat, as soon as the family are out of bed, by putting meat stews, oatmeal, brown bread, and many kinds of puddings, into the cooker and simmering all night by the use of a single safe lamp, than in any other way.

People must be taught that the dinner can be put in the oven, when the husband and wife go to the mill to work, and so treated that it may be found perfectly cooked at noon, without requiring any attention in the interval.

People must be taught that the best of

bread, raised with good yeast, can be mixed and kneaded between 12.30 and 1 P. M., placed in a bread-raiser, which will raise it ready for the oven at 6 or 7 P. M., and that this bread may be perfectly baked in two hours by the heat of the evening lamp, which at the same time serves to give light for reading or sewing.

All this can be accomplished with my crude apparatus, but, until some skilful stove-maker takes up these inventions and makes the ovens in large numbers at low cost, my own efforts must be directed mainly toward ameliorating the condition of the rich, saving the houses of the well-to-do from the heat and smell of the present bad methods, and in this way creating a demand for my ovens which, while made in small numbers by hand-work, are too costly for general use, although in an ordinary family they will pay for themselves in six months.

PLAIN WORDS ON THE WOMAN QUESTION.

MR. GRANT ALLEN has contributed to a recent number of the Fortnightly Review, a very suggestive paper under the head of "Plain Words on the Woman Question," the chief points of which cannot be too widely read. In this age when there appears to be a decided increase in the number of young women who are averse to the responsibilities of married life and maternity, it is very desirable to have the well known facts put together by Mr. Allen well pondered over by all intelligent people.

Mr. Allen states that a short time ago he received an angry letter from a correspondent in Iowa, "full of curious bluster about 'doing without the men altogether.'" Apparently this lady really imagined, he writes, "that the human race could be recruited from the goosberry bushes."

"Let us," he says, look briefly at the needful conditions under which alone the human race can go on reproducing itself. If every woman married, and every woman had four children, population would remain just stationary. Or rather, if every marriageable adult man and woman in a given community were to marry, and if every marriage proved fertile, on the average, to the extent of four

children, then, under favorable circumstances, that community, I take it, would just keep up its numbers, neither increasing nor decreasing from generation to generation. If less than all the adult men and women married, or if the marriages proved fertile on the average to a less degree than four children apiece, then that community would grow smaller and smaller. In order that the community may keep up to this normal level, therefore, either all adults must marry and produce to this extent, or else, fewer marrying, those few must have families exceeding on the average four children, in exact proportion to the rate of abstention.

"In Britain at the present day, I believe I am right in deducing (after Mr. F. Galton) that an average of about six children per marriage (not per head of female inhabitants) is necessary in order to keep up the population just stationary. And the actual number of children is a little in excess of even that high figure, thus providing for the regular increase from census to census and for overflow by emigration.

"All the children born do not attain maturity: on the contrary, nearly half of them die before reaching adult age—in

some conditions of life, indeed, and in some countries more than half. Roughly speaking, therefore, in order that two children may attain maturity and be capable of marriage, even under the most favorable circumstances, four must be born. The other two must be provided to cover risks of infant or indolent mortality, to insure against infertility or incapacity for marriage in latter life, and to make up the categories of soldiers, sailors, imbeciles, cripples, and incapables generally.

"It is pretty clear," says Mr. Allen, "that the best ordered community will be one where as large a proportion of the women as possible marry, and where the burden of maternity is thus most evenly shared between them. Mr. Galton has shown that a certain amount of over-population is necessary for survival of the fittest; and also that if the best and most intelligent classes abstain, the worst and lowest will surely make up the leeway for them. Admitting that certain women may have good reasons for avoiding maternity on various grounds—unfitness, or, what is probably much the same thing at bottom, disinclination—and admitting also that where such good reasons exist, it is best those women should remain unmarried, we must still feel that in most cases marriage is in itself desirable, and that limited families are better than large ones. In other words, it is best for the community at large that most women should marry, and should have moderate families: rather than that fewer should marry and have unwieldily large ones: for if families are moderate there will be a greater reserve of health and strength left in the mothers for each birth, the production of children can be spread more slowly over a long time, and the family resources will be less heavily taxed for their maintenance and education. Incidentally this will benefit both parents as well as the community. That is to say, where many marriages and small families are the rule the children will, on an average, be born healthier, be better fed, and be launched more fairly on the world in the end.

Where marriages are fewer and families large, the strain of maternity will be most constant and most heavily felt: the father will be harder worked, and the children will be born feebler, will be worse fed, and will start worse equipped in the battle of life.

"I have the greatest sympathy with the modern woman's demand for emancipation. I am an enthusiast on the Woman Question. Indeed, so far am I from wishing to keep her in subjection to man, that I should like to see her a great deal more emancipated than she herself as yet at all desires. Only, her emancipation must not be of a sort that interferes in any way with this prime natural necessity. To the end of all time, it is mathematically demonstratable that most women must become the mothers of at least four children, or else the race must cease to exist. Any supposed solution of the woman problem, therefore, which fails to look this straight in the face, is a false solution. It cries, 'Peace, peace!' where there is no peace. It substitutes a verbal juggle for a real way out of the difficulty. It draws the attention of thinking women from the true problem of their sex to fix it on side-issues of comparative unimportance. And this, I believe, is what almost all the Woman's Rights women are sedulously doing at the present day. They are pursuing a chimera, and neglecting to perceive the true aim of their sex. They are setting up a false and unattainable ideal, while they omit to realize the true and attainable one which alone is open to them.

"Most women should, therefore, be trained physically, morally, socially and mentally, in the best way fitting them to be wives and mothers; and that all such women have a right to the fullest and most generous support in carrying out their functions as wives and mothers.

"Women ought equally to glory in their femininity. A woman ought to be ashamed to say she has no desire to become a wife and mother. Many such women there are, no doubt—it is to be feared with our existing training, far too many; but, instead of boasting of their sexlessness as a matter

of pride, they ought to keep it dark and be ashamed of it—as ashamed as a man in a like predicament would be of his impotency. They ought to feel they have fallen short of the healthy instincts of their kind instead of posing as in some sense the cream of the universe, on the strength of what is really a functional aberration. Unfortunately, however, just at the present moment, a considerable number of the ablest women have been misled into taking this unfeminine side, and becoming real ‘traitors to their sex’ in so far as they endeavor to assimilate women to men in everything, and to put upon their shoulders, as a glory and privilege, the burden of their own support.

“In the first place,” Mr. Allen continues, “the movement for the higher education of women, in itself an excellent and most praiseworthy movement, has at first, almost of necessity, taken a wrong direction, which has entailed in the end much of the present uneasiness. Of course, nothing could be worse than the so-called education of women forty or fifty years ago. Of course, nothing could be narrower than the view of their sex then prevalent as, eternally predestined to suckle fools and chronicle small bear. But when the need for some change was first felt, instead of reform taking a rational direction—instead of women being educated to suckle strong and intelligent children, and to order well a wholesome, beautiful reasonable household—the mistake was made of educating them like men—giving a like training for totally unlike functions. . . . In the second place, a certain real lack of men to marry, here and now, in certain classes of society, and those the classes that lead thought, has made an exceptionable number of able women at present husbandless, and thus has added strength to the feeling that women must and ought to earn their own living.”

Again, “A scheme of female education ought to be mainly a scheme for the education of wives and mothers. And if women realized how noble and important a task it is that falls upon mothers, they would ask no other. If they realized how magnificent a nation might be moulded by mothers who devoted themselves faithfully and earnestly to their great privilege, they would be proud to carry out the

duties of their maternity. Instead of that, the scheme of female education now in vogue is a scheme for the production of literary women, schoolmistresses, hospital nurses, and lecturers on cookery. All these things are good in themselves, to be sure—I have not a word to say against them; but they are not of the center. . . . What is essential and eternal it neglects in favor of what is accidental and temporary. What is feminine in women it neglects in favor of what is masculine. It attempts to override the natural distinction of the sexes, and to make women men—in all but virility. The exact opposite, I believe, is the true line of progress. We are of two sexes: and in healthy diversity of sex, pushed to its utmost, lies the greatest strength of all of us. Make your men virile: make your women womanly.

“Both in England and America, the women of the cultivated classes are becoming unfit to be wives or mothers. Their sexuality (which lies at the basis of everything) is enfeebled or destroyed. In some cases they eschew marriage altogether—openly refuse and despise it, which surely shows a lamentable weakening of wholesome feminine instincts. In other cases, they marry, though obviously ill adapted to bear the strain of maternity; and in such instances they frequently break down with the birth of their first or second infant.

“That independent-minded women should hesitate to accept the terms of marriage as they now and here exist, I do not wonder. But if they have it really at heart to alter those terms, to escape from slavery, to widen the basis of the contract between the sexes, to put the wife on a higher and safer footing, most sensible men, I feel sure, will heartily co-operate with them. As a rule, however, I observe in actual life that “advanced” women are chary of either putting forward or accepting modifications in this matter.”

“In conclusion, Mr. Allen says: “Whether we have wives or not, we must at least have mothers. And it would be well, if possible, to bring up those mothers as strong, as wise, as free, as sane, as healthy, as earnest, and as efficient as we can make them. If this is barren paradox, I am content to be paradoxical; if this is rank Toryism, I am content for once to be reckoned among the Tories.”

EDUCATION AND THE MEDICAL PRACTICE OF THE FUTURE.

A SECOND edition of Dr. D. B. St. John Roosa's excellent book, "A Doctor's Suggestions to the Community," has been published. One of the papers in it, "The Coming Medical Man," is full of suggestions, to both the profession and the public. The following are brief extracts from it:

There are several relations which, I may, perhaps, classify under three heads, in which the coming medical man will occupy an advanced and enlarged position from the one of to-day. One is in relation to matters pertaining to education.

By matters pertaining to education, I mean not only the education of the child, but also that of the man, or education in its largest sense. In his relation to the present system of educating children and youth, the physician is in a position that often becomes embarrassing, and which is sometimes wrong. He stands powerless in the midst of abuses that he cannot correct, and he seems to aid and abet them. We have practically nothing to do with the education of young children. On every hand in this city (and I fear the state of things is worse in other places) we see puny children going to and from school with books tied in their straps, or in their satchels, almost numerous enough to form a small private library. . . . We see their little forms wasting, their soft bones bending, their eye-balls lengthening and thus producing short sightedness from too continuous employment in the school-room, and over the study-table at home, but our advice is not asked until the deplorable consequences are painfully evident. Even then the great anxiety of parent and teacher, an anxiety often yielded to by the physician, seems to be, not to get and keep the child in a physiological condition, but to enable him to go on, without any interruption of his very important study of books—the incorrect notion being held that education consists wholly in the study of printed words. We are sent for when the defective sewerage, the leak in the waste-pipe, the over-crowding and insufficient ventilation and lighting of the school-room, the want of physical exercise and food, the excessive employ-

ment of the brain, have done their work, and we have to deal with a febrile, short-sighted, catarrhal, and puny patient. We are expected to cure the fever, to put glasses upon the eyes, and set the poor machine at work again, without a remonstrance against the system that has produced all this misery. We have not until very lately, been asked to look after the public and private school-houses, to see how the seats are constructed, or the rooms lighted and aired, to examine into the drainage of the college grounds, to prescribe the diet and the proportionate hours of study and exercise. Perhaps we should not all know how to perform these duties well, were they required of us, but they will certainly be among the functions of the coming medical man.

Some of the most horrifying reading of the day is contained in the annual reports of the New York Prison Association. In them are found detailed accounts of the condition of the Tombs Prison and other county jails throughout the state. The dampness, filth, and overcrowding of some of these places are set forth in a manner so graphic that a report of facts becomes highly sensational. If a committee were appointed to go up and down the land, visiting our colleges, public schools, academies and seminaries for young women; and if this commission should be brave enough to tell the whole truth about insufficient drainage of grounds, imperfect ventilation, and lighting of rooms; if they were to tell how many hours were devoted to study, sleep and exercise respectively; what was the quality of the food; how many recitations occurred when the stomach was entirely empty, or containing only stimulating but slightly nutritious liquids; if they told also how many young women were violating ordinary physiological precautions—we should have some more of the same kind of literature as that furnished by the Prison Association, except that it would deal with a much pleasanter class of subjects. If an investigation were made as to the quantity of air in the lecture rooms of our medical colleges, where, among other things, lectures on hygiene are delivered, I think this commission

would have a somewhat startling remark to make on that subject; and as for our churches it has long been decided by the architects that a sufficient quantity of fresh air is not to be obtained in them.

The medical man of to-day lives in the very midst of these abuses. He attends the churches, he lectures in the colleges, where he is poisoned by carbonic acid gas. He even goes into the school as a medical

advisor. He is permitted to vaccinate the young ladies when there is an epidemic of small-pox, and to deliver lectures upon anatomy and physiology, and here his work usually ends, but I am glad to say that it ends, not because the medical man is entirely unconscious of his true duties, but because he is not allowed to perform them.

THE DESTRUCTION BY CREMATION OF THE GARBAGE AND REFUSE OF TOWNS AND CITIES.

EXTRACTS FROM A PAPER READ AT THE LATE MEETING, IN BROOKLYN, N. Y., OF THE AMERICAN PUBLIC HEALTH ASSOCIATION; BY DR. KILVINGTON, HEALTH COM., MINNEAPOLIS, MINN., AND CHAIRMAN OF ASSOC. COM. ON DESTRUCTION OF GARBAGE.

IN the majority of our cities, this great problem of the disposal of waste matter is still practically unsolved, and that it is so, is due, not to the absence of methods, not to the paucity of inventive skill, nor to a lack of ingenuity in devising means to this desirable end, but, in a very large measure, to official indifference and popular ignorance of sanitary essentials.

If we do not share the fate of the ancient cities of the plains and be overtaken by no Nemesis in the way of regenerating fire and brimstone; if, like the Europe of the middle ages, we are not to be purified by the plague; if the cholera, in some of its periodic travels from its Indian home does not find a foothold upon our shores, it is simply because we are endowed with a wealth of air, of soil and of water, which permits us to violate, for a time, with seeming impunity, the laws of health.

But an end to this period of abused privilege is at hand. The characteristic feature of our economic development is the increasing concentration of people in cities, and it carries with it a menace to the public health. We can no longer leave to nature the chemistry of our waste products without danger to ourselves. She demands acreage per capita for her operations where we can afford to give her a beggarly allowance of square feet.

The refuse materials these cities have to dispose of come under seven heads: 1,

ashes; 2, garbage; 3, offal; 4, dead animals; 5, manure; 6, night-soil; 7, sewage. What becomes of them? The first item, ashes, may be dismissed with the statement that this material is commonly and wisely employed in the making of roads, the leveling of alleys, and the filling of low lots. There is nothing objectionable in this provided sufficient care be taken to keep the ashes free from animal and vegetable waste. The three succeeding items, garbage, offal and dead animals, may be discussed in common, for they are usually subjected to the same treatment and are alike susceptible of the superior methods of disposal. But they have a widely varied destiny in different cities. (1) They are fed to domestic animals! notably to milch cows and swine; (2) Dumped into neighboring rivers, lakes or ocean; (3) Buried in many instances, outside the city limits; (4) They are rendered either by ordinary soap and grease producers or by a process known as the "Merz system"; or (5) Burned either in open fires or by means of some one or other of the several crematories now in use. Animal manure usually goes with these other materials into the water-courses; it is sometimes buried, is seldom burned, and oftener carried to the country districts and used for fertilizing in its raw form. Night-soil is occasionally composted and employed to enrich the soil; is more commonly used to improve the water supply; is once in

a while destroyed by fire; and is quite generally buried upon a dumping-ground or left in privy vaults which are economically covered and replaced by new ones so soon as they are filled. Sewage is carried into river, lake or ocean, as the case be, save in those rare instances, of which the city of Pullman, Illinois, is a type, where it is disposed of upon sewage farms.

Now what of the results? Comment upon the practice of feeding garbage, offal and carrion to animals destined for use as human food, is unnecessary. . . . The protest which should be uttered against the pollution of either river, lake or ocean by the deposit therein of waste materials, must differ only in a degree proportioned to the character of the body of water and the domestic usage to which it is put. The practice is undesirable at the best, and is intolerable, so far as river and lake is concerned, when either is the necessary source of water-supply to communities resident upon its shores. The extent to which this crying abuse is carried is sufficient to call forth alarm and to emphasize the necessity for a radical reform.

In the Mississippi River 8 cities alone deposited during the past year 152,675 tons of garbage, manure and offal, 108,250 tons of night-soil, and 3,765 dead animals. Into the Ohio River, 5 cities dumped 46,700 tons of garbage and offal, 21,157 tons of night-soil and 5,100 dead animals. Into the Missouri River, 4 cities have cast 36,110 tons of garbage, manure and offal, 22,400 tons of night-soil and 31,160 dead animals.

Recall the fact that a large proportion of these animals have been killed because they were suffering from glanders, farcy, hog-cholera, hydrophobia, pleuro-pneumonia, and tuberculosis, multiply these figures by the lowest possible multiple, and add to this great mass of decomposing material some thousands of miles of sewage discharged into these three rivers, and the mind can form some dim conception of the degree of their pollution. No theory of the self-purification of running water will suffice to dwarf the magnitude of this sanitary crime. Happily the United States Corps of Engineers has taken cognizance of this evil, in its recent reports to the Government, and it is to be hoped that the National authorities will, ere long, put a peremptory veto upon its continuance.

Like condemnation should be put upon the practice of earth-burial of waste materials in large masses and in close proximity to our great cities. What shall be said of communities, ranging in population from 100,000 to 1,000,000, which boasts the possession of fifty or a hundred acres of land just inside or outside their corporation limits, upon which they dump or bury, in close'y planted shallow pits, thousands of tons of night-soil, garbage, offal and dead animal? The human cemetery, fraught with peril to the purity of air and soil and water, and destined to endanger life and health as a spreading population hems it in, is innocent in comparison to this.

But even while we view with consternation these crude attempts at the disposal of refuse, we greet with pleasure the evidences that a better time is coming in the sanitary management of these materials. Two methods remain which commend themselves to the student of this important theme, viz.: 1. Rapid decomposition of these waste products, by the speedy withdrawal of the water and gases they contain, with a view to converting them into profitable forms of fertilizer. 2. Rapid and complete combustion of these materials, with a view to their entire destruction.

The first of these methods have the advantages of intended economy. It is eminently proper that animal and vegetable waste matter should if possible, be returned to the soil, of which they constitute the natural and necessary nutriment. Animal manure and stable refuse may be safely conveyed, in their raw form, as it were, to farm and garden lands, provided the latter, in need of fertilization, exists within so short a distance from the limits of the city that the cost of the carriage of so bulky a fertilizer will not put it beyond the reach of the agriculturist. As a rule, however, he demands soiling materials in concentrated form and the process, and the apparatus that will produce these safely and cheaply is the hope of the future. . . .

In the meantime, the crematory, under several patents, has proved itself to be a practical success in many places. The Egal, the Rider, the Patrick and the Mann furnaces are actively in use in several cities. Out of thirty-five health officers who have favored us with a reply to my request for an expression of opinion upon

the disposal of garbage and other refuse matter, twenty-three endorse the practice of cremation. Thus is public sentiment manifesting itself throughout the country.

To begin with first principles, I would educate the people, if possible, up to an appreciation of the advantages of this method. The household cremation of animal and vegetable waste is a sanitary and an economic possibility. The ordinary kitchen range or the house furnace is a good incinerator. If the habit of banking up table-refuse to dry upon one side of the stove or heater, fire be adopted, it will be found that this material, freed of its excess of moisture, is an excellent form of fuel in itself. This complete destruction of household waste does away with all necessity for its accumulation and removal. The owners of markets and commission houses, restaurants and hotels would find it equally profitable to provide themselves with small private crematories for the destruction of refuse. Such a device, easy to operate, economic in its cost of support, and sanitary in its results, can be readily obtained.

After all private effort can do in this way, there will still be a large measure of municipal needs. A somewhat varied and difficult experience in the attempt to educate the public in this faith, has taught me that in order to its best success, a crematory must be carefully constructed, after a chosen model, and should be continu-

ously operated. So built and so constructed, I believe it will most safely and economically dispose of all the coarser and combustible kinds of waste material. My own choice has fallen upon the Engle Patent as being, with certain modifications, the most promising in its results. Its essential feature, without which, in some form, a crematory cannot be a satisfactory success is the provision of a second fire intended for the destruction of the noxious gases and vapors which inevitably escape the primary fire.

To return to our general theme: Among the hopeful indications of sanitary reform, the effort being made in several of our large cities toward the abolition of the privy-vault system is deserving of especial mention.

New York, is, I believe, the only city where this reform-measure is an accomplished fact, but other communities are following in its wake. When sewage does not exist, decided preference should be given to the well-constructed earth-closet; where the sewer is available, connections should be ordered as rapidly as possible.

The most important bar to the progress of the health-measures we have discussed lies in the torpor of public sentiment, and it should be the highest functions of this Association to stimulate the education of the people in these interests.

MISCELLANEOUS NOTES AND EXTRACTS.

⁵OLD TRUTHS TURNED UP.—In the year 1840 a commission was appointed under the authority of this Commonwealth to make a sanitary survey of the State, "with a statement of such facts and suggestions as they may think proper to illustrate the subject." The commission prepared a report and introduced their statement with the following words:—"We believe that the conditions of perfect health, either public or personal, are seldom or ever attained, though attainable;—that the average length of human life may be very much extended, and its physical power greatly augmented;—that in every year, within this Commonwealth, thousands of lives are lost which might have been saved;—that tens of thousands of cases of sickness occur which might have been prevented;—that a vast amount of unnecessarily impaired health and physical debility exists among those not actually confined to sickness;—that these prevent-

able evils require an enormous expenditure and loss of money, and impose upon the people unnumbered and immeasurable calamities, pecuniary, social, physical, mental and moral, which might be avoided;—that means exist, within our reach, for their mitigation or removal;—and that measures for prevention will effect infinitely more than remedies for the cure of disease."—Dr. H. P. Walcott, of Cambridge, Pres. Mass. State B'd. of Health, in his annual discourse in Boston before the Mass. Med. Soc.

DYSPEPSIA—THE DIET AND THE HUMORS—The answer of the wife of the good-natured husband to that of the ill-natured one, was, if coarse and blunt, also philosophical. When asked how she managed to keep him so good-natured, she answered, "I feed the brute." Lauder Brunton in his Lettsomian Lectures, quoting Sidney Smith, said: "Happiness is not impossible without health, but it is very difficult of attain-

ment. I do not mean by health merely an absence of dangerous complaints, but that the body should be in perfect tune, full of vigor and alacrity. The longer I live the more I am convinced that the apothecary is of more importance than Seneca; and that half the unhappiness in the world proceeds from little stoppages, from a duct choked up, from food pressing in the wrong place, from a vexed duodenum or an agitated pylorus. The deception as practiced upon human creatures is curious and entertaining. My friend sups late: he eats some strong soup, then a lobster, then some tart, then he dilutes these excellent varieties with wine. The next day I call upon him. He is going to sell his home in London and retire to the country. He is alarmed for his eldest daughter's health. His expenses are hourly increasing, and nothing but a timely retreat can save him from ruin. All this is the lobster; and when ever-excited nature has time to manage this testaceous incumbance, the daughter's health recovers, the finances are in good order, and every rural idea effectually excluded from his mind. In the same manner old friendships are destroyed by toasted cheese, and hard salted meat has led to suicide. Unpleasant feelings of the body produce corresponding sensations in the mind, and a great sense of wickedness is sketched out by a morsel of indigestible and misguided food. Of such infinite consequence to happiness is it to study the body."

DOES SALTING MEAT DESTROY BACTERIA ?

—Prof. Forster, of Amsterdam, has published an account of some investigations made in his laboratory, having for his object the determination of the effect of the common process of salting or pickling meat on various forms of bacteria. It was found that cholera bacilli were soon destroyed under the abundance of salt, usually in a few hours; but that typhoid bacilli, pyrogenic staphylococci, the streptococci of erysipelas, and the bacilli of the infectious diseases of swine frequently retained their vitality for several weeks, or even months, in spite of the presence of abundance of salt. The same was also true of the bacilli of tubercle. In some cases these bacilli were found alive after being two months in pickle, their vitality being proved by their capacity for infecting new cultures. Portions of the viscera of a tuberculous animal, preserved for a considerable time in salt, were found capable of causing tubercularis in a healthy animal when introduced into its peritoneal cavity. Experiments on the spleen of an animal

which had died of malignant anthrax showed that salt destroyed the bacilli of this disease in about eighteen hours.—*Brit. Med. Journal.*

SEWAGE DISPOSAL.—In an exhaustive paper on "Town Sewage and its Treatment," by John Paterson, Assoc. Mem. Inst. C. E., read at the recent annual meeting of the Sanitary Association, of Scotland, the author gave the following summary, in order of merit of the different methods of disposing of town sewage 1. Discharging it into the sea, which should be adopted in the case of towns situated near the sea-coast. 2. Irrigation either broad or intermittent, or with the two combined together. This system should be used for all inland towns where suitable lands are available. Sandy loam with gritty gravel, best; stiff clay or peat bog not suitable. 3. Precipitation by chemicals.—This should only be resorted to when Nos. 1 and 2 are inapplicable

DISTRIBUTION OF DISEASE IN SOUTHERN INDIA.—In a paper on this subject by Surgeon-General George Bidie (*Brit. Med. Jour.*, July 20, 1889), the results of a long residence in the Madras presidency are given. The territory has an area of about 149,000 square miles, with a population varying from 91 persons in Kurnool to 583 in Tanjore to the square mile. During the past five years the mean annual death-rate in the towns was 24.9 in a 1,000, in the rural districts 19.9 in a 1,000. The cold season is most fatal to natives, the hot months being healthiest. The moisture in the air, the daily range of temperature, and the character of the soil are determining causes of disease. The cold, damp clay soils cause pulmonary diseases, the alluvial soils cholera and bowel complaints, while the sandy and gravelly soils are generally wholesome. During twenty years the mortality from cholera was at the mean rate of 44.02 to 1,000 inhabitants, the disease occurred in the water-logged alluvial land, the villages and towns being very dirty, and the drinking water being taken from filthy irrigation ditches and shallow wells. Malarial fevers are generally prevalent in the low-lying districts, shunning the coast as a rule, and are rather rare in the rice districts; the death-rate is greater in the country (8.6), than in towns (6 in 1,000). Fogs seem to increase the prevalence of fever, the moisture containing the malarial germs that are introduced

through the lungs. Small-pox is quite prevalent — endemic, the author says. There is popular opposition to vaccination, and not more than 16 or 17 per cent. of children are protected by vaccination: the mean annual death-rate is from 1 to 4 to 1,000 of the population. Phthisis and syphilis are common, and the author considers that the latter predisposes to the development of the former.

NEW PROCESS OF SEWAGE TREATMENT.

—A private demonstration was given at the Wimbledon Sewage Farm on Friday last of a new process for the treatment of sewage which is known as the "Amines" process. It consists in mixing with a solution of lime a certain portion of "hering brine," and then passing the mixture into the crude sewage, which is afterwards in the ordinary way passed along the culverts into the settling tanks. It is claimed for the process that it recognizes the fact that the principal evil to be dealt with is the presence in sewage in teeming numbers of bacteria, to whose vitality the putrefaction of the organic matters in solution and all the attendant phenomena are primarily to be attributed. The result of the chemical union of the two substances above mentioned is the evolution of "Amine" gas, which is very soluble, and spreads with great rapidity through every part of the liquid sewage. By experiment this gaseous reagent has been found to be antagonistic to the existence and propagation of every species of bacteria occurring in sewage and other similar waters. Thus, the effluent, after the sewage has been treated by the "Amines" process, is found according to Dr. Klien, to be perfectly free from micro-organic life, and it is at the same time inodorous and without color. The *Therapeutic Gazette* says of this: "Undoubtedly a great step has been made towards the solution of the great problem of sewage treatment."

THERE seems to be an almost universal coincidence of opinion, not only among lay, but professional persons as well, says Dr. Mann, of Alleghany, Pa., that so long as any one disease does not assume a distinctly and overwhelming epidemic form, there is no reasonable excuse for attempting in any way to limit the spread of preventable diseases. Or, in other words, the function of preventive medicine is to stand idly by, with folded hands, waiting

listlessly until some terrible scourge fastens itself upon the community, before attempting even the simplest hygienic measures. Perhaps this opinion is not openly expressed in words, but general apathetic inaction speaks louder than any set phrase, and the responsible parties must either acknowledge this sentiment, or plead guilty to the equally bad alternative of having been negligent in the case of the lives entrusted to them.

PHYSICAL EDUCATION IN CHILDREN. Dr. A. H. Louf (in *Arch Pediatrics*) gives the following excellent points: 1. The object is to develop the material body, and with it, of necessity, the mind and morals. 2. Like most potent agencies, it is much abused and far too little understood. 3. It absolutely forbids smoking. 4. It absolutely forbids the drinking of alcoholic or malt beverages. 5. It insists upon the necessity of regularity in living, especially as regards the time of sleeping, eating, exercise, and recreation. 6. It enforces a good substantial dietary that will never be forgotten. 7. It discourteases all kinds of vice. 8. It is rigid in discipline without seeming so to those disciplined, and develops implicit and willing obedience to advisors. 9. It has a marked effect upon the growth of the body and mind. 10. It develops to a high degree the valuable qualities of hope, confidence, courage, deference, obedience where proper, independence, perseverance, ambition, temperance and determination. 11. It is, in short, the most valuable preparation of the young for the cares and trials of adult life, and aids young and old alike to ward off disease and mitigate its effects.

UNIFORMED HEALTH INSPECTORS.—Health Inspectors should be known as *Sanitary Police*, and as such should, in the pursuit of their duties, have the same emblems of authority, powers of arrest, and privileges of search that are given to other police officers, in preservation of the peace. The moral effect of a properly uniformed, efficiently directed sanitary police force, would be invaluable in the enforcement of sanitary regulations. Dr. Mann, before the Alleghany (Pa.) County Med. Soc.

VALUABLE GOVERNMENT REPORT ON SECOND ATTACKS OF INFANTILE DISEASE.—The Commission of the United States Department of Agriculture, appointed to investigate swine plague and hog cholera, according to a recent number of the

New York Medical Journal, has made a report, of which the chief conclusion is that these are distinct diseases, and not the same disorder, as has been maintained by some physicians. The Commission, composed of Dr. E. O. Shakespeare, of Philadelphia, chairman, and Dr. Meade Bolton and Dr. T. J. Burrill, journeyed far and wide and experimented diligently in order to settle the points in dispute. Their report is provisional and introductory to further and closer laboratory work. One important observation made by the Commission is worthy of mention, as having an application to human infective diseases since it recognizes a principle of cumulation in infection which explains what is called the alleged deficiencies of vaccination and other protective agencies. To quote from the report briefly: "There is no known infectious disease, either of man or beast, capable of producing by one attack a degree of protection which is surely and absolutely effective against a second attack. Experience has abundantly shown that animals which are naturally or artificially protected can be *practically overwhelmed* by enormous doses of the germs of the disease and thus be made to suffer a recurrent attack which may even be fatal." Thus it is that we not infrequently observe a second attack of small-pox in a person who, having "no fear of the disease," as it is often expressed by some such thoughtless person, so comports himself that a needless and wanton degree of exposure is incurred. That such an exposure does not engender the second attack oftener than is the case is surprising. In other words, the antidote being limited in its supply or potency, there ought to be nothing surprising, or, indeed, contrary to a rational expectation, in the recurrent attack as a result of an excessive exposure to the germs of infecting diseases. In such instances it is not the correct view to ascribe them to the "failure" of the protective agency applicable to each respective case: They are simply cases where the doses of poison have been so great as to overwhelm the protection.

THE DANGER IN TINNED FOODS:—Captain Segrave, the British Consul at Baltimore, the British Medical Journal says, has sent a report to the Foreign Office upon the provisions preserved in tins for export from the United States. Warnings as to the risks which may attend the use of tinned foods have appeared at rare intervals in professional papers, and have

ultimately found their way into the daily press; but beyond a passing reference to the sluggishness of "the authorities" who do not "do their duty" by taking steps to protect the public from peril, little, if anything, has been done to call general attention to this matter. Captain Segrave points out that a serious danger lies in the use of certain materials for soldering the tin cans and making them air-tight. There have been serious cases of poisoning which have been attributed to the use of certain tinned foods, and which have been placed upon record by those who were concerned in their treatment. It is not unreasonable to suppose that there has been many cases of this kind—probably of a mild description—which have never found their way into print; but, apart from this, the peril to the public is sufficiently obvious, and, having regard to the well-known cumulative effect of continued small doses of the salts of tin, lead, and zinc, it must not be thought that the absence of numerous and startling cases of metallic poisoning is a proof of the generally innocuous nature of canned goods. The outer layers of substances preserved in tins have occasionally been found, on analysis, to contain metallic salts, obviously derived from the containing vessel. It is suggested that a law should be passed rendering it compulsory to solder cans of provisions on the outside only. Whilst this might be useful, such matters cannot be adequately dealt with by piecemeal legislation. To deal properly with the impurities and adulteration to which our food supplies are liable, far more comprehensive laws than those at present in existence are required.

PURE GELATINE.—No food probably is more liable to change, and become in fact dangerous, than gelatine, and many warnings have been sounded. Its purity may be easily tested thus: Pour upon dry gelatine a quantity of boiling water; if pure it will form a thick, gluey, colorless solution, free from smell; but if made of impure materials it will be a very offensive odor and have a yellow, gluey consistence. No article manufactured requires such careful selection of material and such nice and cleanly manipulation to insure a good marketable character; and those anxious for purity should avoid all artificially-colored varieties, however temptingly got up, unless they are required for merely decorative purposes and not for food.

EDITORIAL NOTES.

IF HEALTH OFFICERS of municipalities would kindly send us an early copy of their annual or any other report, we would often be enabled to obtain notes therefrom which would be suggestive and useful to our co-workers in health promotion. Will all medical officers please bear this in mind.

WITH THE NEXT NUMBER of this JOURNAL, volume twelve will commence. We desire to make it more a local, — i. e. Canadian, organ, as indicated above, and trust to be in a position to devote somewhat more time to editorial work; although it will still continue the purpose to make the JOURNAL, as heretofore, a "Review and Record of Sanitary Progress" throughout the world, giving a synopsis or notice of every thing worthy of space.

THE EDUCATION, Training and Qualification of the Medical Officer of Health was the subject of the address of the president, H. F. Armstrong, F.R.C.S., &c., at the November annual meeting of the Society of Medical Officers in England. It is a subject which has received a good deal of attention in Great Britain. There the Sanitary Institute (of Gt. Brit.) is the only public body which holds examinations and grants certificates in public medicine, and it is chiefly for inspectors. Universities there grant degrees of course in State Medicine and kindred subjects, relating to the work of health officer. The President (as above named) says: "There was a growing feeling that the medical officer of health should no longer be allowed to learn his profession after his appointment to office, and gain his sanitary knowledge, perhaps after a series of ghastly failures, at the expense of the community by whom he was engaged." He said, while "the necessity for acquaintance with sanitary science by all medical men was already recognized, how much more was a thorough knowledge of preventive medicine incumbent on those who chose it for their profession? This was now becoming felt even by the public."

IN CANADA even, while the standing of the medical profession is as high as in any other county, so long as the present relations between it and the public continue, and the public regard the physician chiefly as a CURATIVE rather than a PREVENTIVE agent, so long will a somewhat different education and training for the medical health

officer be necessary. We therefore would urge that the time has come when this question should receive consideration in this country. A sort of post graduate course in one or more of the medical schools, for example, would probably provide the best necessary training. But this would require improved facilities in the schools for teaching this special Branch. With a good organized body for teaching, examining and granting degrees or certificates in public medicine, public health or sanitary science, the health officer would be placed on a proper footing, and he would then no longer, as Dr. Armstrong said, have "to grope his obscure way with uncertain step."

FROM THIS we have just written, no one we trust will be ungenerous enough to think we in any way reflect upon the efficiency of the medical health officers of Canada, for we think, and have no hesitation in saying it, that as a class there are none superior in any country. But when a physician who has been in the active practice of cure only, assumes the position of medical officer for a municipality, he is naturally at a loss for a time: and we think, with Dr. Armstrong, that he should learn well this specialty before, rather than but "pick it up," so to speak, as best he can, after his appointment; for we think the present short course in the schools at best gives but imperfect fitness for so responsible a position.

THE ANNUAL REPORT of Dr. Griffin, Medical Officer of Brantford, which is before us, in the Brantford Courier, gives evidence of much good work, and evidently gives, as it should, great satisfaction to the citizens. Relating to typhoid fever, the doctor reports that circulars were issued early in July advising the public against the use of raw water and strongly urging the previous boiling of all drinking water during the summer and autumn months. A large number of families acted on the advice and cases of fever were probably thus prevented. Numerous enquiries among the 89 reported cases in the year show that few if any of them practised boiling their drinking water, and it is a reasonable supposition that had they all done so we should have had a less number of cases. The location of the 89 cases is recorded, and 58 or nearly $\frac{3}{4}$ occurred in situations where the sanitary condi-

tions are known to be especially objectionable, having regard to the contamination of the wells or to the pollution of the soil from long saturation with liquid refuse.

OF DIPHTHERIA there were 58 cases in Brantford in the year. Dr. Griffin states that 7 of the deaths from it, or over one half of all the fatal cases, besides a number of other cases not fatal, sprang from the case of one little girl. In a healthy neighborhood in a clean and tidy kitchen this child was accustomed to play at the kitchen sink, to pump water and watch it run down the water pipe which led to a *buried sink pit*. She contracted fatal diphtheria; her father took the disease from her and also died; and the other five deaths occurred in one house, that of an immediate neighbor visiting and directly exposed to this case. Nine other non-fatal cases occurred among the immediate neighbors also exposed. A rigid exclusion of the children from school and isolation of exposed persons prevented the wide extension of this local attack. We should be glad if Dr. Griffin would inform us if the sink was trapped in any way.

THE SUCCESS of the Dry Earth system, Dr. Griffin says, has been something remarkable. No new pit has been allowed to be constructed for four years, and many hundreds of old ones had been emptied, cleaned and filled up with clean fresh earth. "The system is now exclusively in operation in all the public schools, the county and other public buildings and factories, and in nearly one thousand private premises. Of the 425 pits emptied during the year, 190 were forever abolished, the pits being refilled with fresh earth." This is a good showing, and will give good results. The public milk supply had received a great deal of attention. The mortality had been at the rate of only 14.3 per 1000 of population (14,272) during the year, but 16.25 during the two previous years. The city expects to soon have a new sewerage system, which a new system of water supply will render indispensable. The Health department have now a steam sterilizer, operated by means of a gas jet, for disinfecting books and other small articles.

THE FOURTH ANNUAL REPORT of Dr. Hutchinson, medical officer of London, Ont., as given in the Free Press of that city, has just reached us. It is for the year ending October 31st last. It states that, "the health of the city during the year has been exceedingly good.

Much good work has been done; innumerable complaints have been attended to; many have been compelled to connect their yards and premises with the public sewers; forty-seven wells have been closed, and a large number cleaned; and sixty-eight samples of well water and ninety of milk were analyzed at this office. 365 deaths took place during the year, 438 last year and 455 the year before. Estimating the population at 27,000, this gives a death rate of 13.14 in the 1,000, last year it was 16 and the year before 17 per 1,000. The death rate has decreased in four years from 23 in each 1,000 to 13.14. The mortality from preventable diseases largely decreased, except from consumption, which as usual, carried off the largest number—30.

TYPHOID FEVER of mild form prevailed in London during the autumn, which, with the exception of three imported cases and four doubtful ones, were all traced to the contaminated well water. In a group of six dwellings, five families used well water, which, upon examination, was found to be wholly unfit for domestic purposes. These five families—of fifteen persons—contracted typhoid, while the families living in the centre of the group used the city water and remained entirely free from the disease. Seventy per cent. of all the wells examined in the city this year were found more or less contaminated. Some discussion followed the reading of the report at the board meeting, relative to a certain creek reported to be a cause of disease, which shows how reluctant the non-medical mind is to admit that certain sanitary defects are certain to give rise to effects.

DR. SMALL, of Ottawa, in a paper on the Classification and Nomenclature of Mineral Springs, read at the Banff meeting of the Canadian Medical Association, suggested a simple and convenient classification. He would have three divisions, according as the waters are neutral, alkaline or acid. No classes for sulphur, iron, etc.; but, when any of these constituents were present the term would be used as a prefix, and we would refer to waters as sulphuretted salines, sulphuretted alkalines, sulphuretted acids; or ferrated salines, ferrated alkalines or acids, as the case might be. The Banff springs, commonly known as *thermal sulphur*, if called *thermal sulphuretted alkaline water* this at once conveys an idea of its nature.

NURSES for "sick country folks" are being provided for in England. A pamphlet has been written by a Miss Broadwood, of Ockley, explanatory of the working of a nursing association established seven years since at Ockley and Dorking, and which has been further developed in nine separate centres in Surrey and adjacent counties. In all fifty-eight country parishes have adopted the principles, while many more in different parts of the country have the system in contemplation. The association utilizes the services of the "more humble classes" than are usually found in hospital or nursing institutions. Although the standard of training of the nurses is not high, a great want is supplied, and even in this country a similar organization might prove itself very useful. Physicians practising in the country often feel the want greatly of a trained nurse.

SCIENCE has translated (from Bull. Med.) the occurrence of an epidemic of diphtheria on one of the Grecian isles. Old and reliable practitioners assert that not a single case of diphtheria had been known on the island for thirty years previous to June, when a child aged twelve years was attacked with diphtheria and died. Seven other cases occurred in the immediate neighborhood, five of which died. Within a period of five months, one hundred persons were attacked, of which thirty-six died. Three weeks before the sickness of the first child, a flock of turkeys had arrived from Salonica. Two of these were sick on the arrival, and each of the others was subsequently attacked. In the throats of the sick fowls were patches of false membrane. The glands of the neck were swollen, and in one the disease had extended to the larynx. Although there had been no immediate contact between the sick birds and this child, still the distance between them was slight, and a wind had been favorable for the transportation of the disease germs.

THE COUNCIL of Hygiene in Paris, it is said, is about to take steps to suppress the use of old magazines and newspapers for wrapping up foods. The Austrian government has prohibited the use of such papers, and also of colored papers to inclose articles intended to be eaten.

IN THE Therapeutic Gazette, Dr. J. L. Markley records a case of measles of which he himself was the victim, in which the period of incubation was undoubtedly thirty days.

DR. FOXWELL, at a meeting of the Midland (Eng.) Medical Society, showed a girl with

advanced phthisis—cavities at the right apex, breaking down at the left—who had been under his care for eighteen months. He said she first came to him for dyspepsia, which soon disappeared, and ever since she has been in good health, so much so that it had been extremely difficult to keep her under observation. She had remained well nourished and quite able to work, though meanwhile the disease had made considerable progress.

ON WET-NURSING, to which so many leading physicians now strongly object, Dr. Love, of St. Louis, at the last annual meeting of the American Medical Association, said that seventy-five per cent. of his private practice was among the better social class, and that 90 per cent. of the inability to properly nurse their offspring was due to physical weakness and not moral turpitude upon the part of the mother. He was inclined to think, however, "that the profession had not been sufficiently alive to the fact that by proper effort, moral, hygienic and medical, the natural nourishment could more frequently be secured."

THE National Review draws attention to the foulness and entire absence of sanitary arrangements in Chinese towns and villages. Yet they enjoy an immunity from dangerous outbreaks of disease almost as complete as that of well drained European communities. The cause of this is puzzling, and more so when taken in connection with the contaminated water supplies of Chinese towns, the effect of which on Europeans has been manifested over and over again in heavy mortality. The healthiness has been ingeniously attributed by some people to the universal habit of fanning which keeps the atmosphere in constant circulation. The Review believes the real secret of the immunity lies in the universal custom of boiling all water intended for drinking. The Chinese never drink cold water.

SOME IDEA of the completeness of the great International Hygienic Congress at the Paris Exhibition, may be gathered from the following division of it into eight sections:—(1) The hygiene of childhood, milk supply, overwork in schools, &c.; (2) Industrial and professional hygiene, work of children in factories, unwholesome industries, &c.; (3) Town and rural sanitation, construction of dwellings, over-crowding, ventilation, &c.; (4) The germ theory applied to hygiene, infectious fevers, &c.; (5) International hygiene, and sanitary police; (6) Food adulter-

ation, water supply, filtering processes: (7) Demography, sanitary statistics: (8) Cremation.

AT THE CLOSE of the Paris Hygiene Congress, all the resolutions adopted by the various sections were read over, those relating especially to French legislation were referred to the French Committee, and those partaking of an international character were confirmed by the Congress as a whole. The latter included resolutions in favor of a permanent inquiry into the cause of excessive infant mortality; the publication of methods of food and water analysis; the teaching of hygiene in schools; and the vigorous enforcement of regulations for the prevention of diphtheria.

THE INTERNATIONAL Workers' Congress, convened by the Possibilist party or the workman's party of France to deal with sanitary legislation, was the largest and most representative Congress of the kind ever held. The resolutions they carried were that the day's work should be fixed at ten hours as a maximum: that one day's rest out of seven was a necessity; that night work for men should be abolished as much as possible, and absolutely for women and children; that overtime should always be paid double the usual wage, and that it should never be more than four hours in twenty-four.

THE LONDON Sanitary Record says, if only the resolutions at the Congresses could be carried into effect straight away, what healthy peoples all ought to be. But unfortunately, as well as in all reform, time is the great factor, and we must wait patiently and work step by step ere we see the realization of the demands. The Congresses have done splendid work, if only in arousing the public mind to the necessity of assisting their fellow-creatures to live purer and healthier lives.

ONE OF THE BEST PAPERS read before the recent meeting of the American Public Health Association was by an able and much experienced physician of Richmond, Dr. Hibbard: We clothe too warmly, rather than too scantily, for our best health. In our anxiety to avoid the least exposure to the cold air, we put on too many and too thick garments, thereby perverting the normal functions of the skin, lessening its power by resisting the influences of meteorological changes and forging the initial link in the chain of morbid processes that lead to serious constitutional disturbances. Less heavy clothing and more vigorous exercise is what the body needs to enable it to resist the chilly blasts.

STERILIZED MILK has been delivered since Aug. 1, to children in their dwellings under treatment at the Philadelphia Polyclinic. The milk is sterilized by the Visiting Nurse Society of Philadelphia, and taken to the child by the nurse in attendance, in the bottles in which it is prepared. Milk and bottles are furnished the parents at cost. The results have been excellent.

ANOTHER DANGER from cigar smoking has been discovered of late by a German physician of an investigating turn of mind. It is the cigar. It appears that cigar makers having scrofula and phthisis are in the habit of moistening the tips of the cigars with saliva. The physician made a microscopical examination of a number of these tips, and asserts that many of them contain the tubercular bacilli.

THE Infectious Diseases Notification Act came into force in London on Wednesday last, and in future every medical practitioner will be bound by law to notify to the medical officer of health for his district every case of small-pox, cholera, diphtheria, erysipelas, or scarlet, typhus, typhoid, relapsing, continued or puerperal fevers, which he may be called upon to attend.

THE LANCET, commenting on the passage of the English infectious disease notification bill, says: "One thing is remarkable in this legislation: the slight resistance which politicians of advanced views have been able to offer to its fundamental principle—viz., the right of the community to insist on knowing the affairs of individuals and families where these are likely to involve in any degree the health of others; in other words, the subordination of the individual to the community. This is of course the fundamental principle of society, but it is ever undergoing fresh development. National education, vaccination, isolation, and notification of disease are all illustrations of the same principle.

THE RECENT MEETING of the American Public Health Association, held at Brooklyn, N. Y., according to the Sanitary Volunteer, which is edited by the secretary of the Association, was the largest and perhaps the most important ever held. The character of the papers and discussions was of a very high order. Nearly every state in the Union, the Army, Navy, U. S. Marine Hospital Service, Dominion of Canada, and the Provinces, were represented.

IN RELATION to the curability of phthisis, Dr. Thomas Harris has recorded some observations on the frequency with which signs of involuted tubercle was found in the lungs of persons who had died from various diseases or injuries. He

had found such signs in 38.84 per cent. of all the bodies of persons over 20 years of age who had died in the Manchester Royal Infirmary.

DR. ALTSSES' discovery that the bacillus of Koch may exist in the intestines of a fly that has fed on phthisical sputa, has drawn attention to various instances of the propagation of contagion in this manner. It has been said that the lamented Father Damien attributed his leprosy to the inoculation, through the agency of flies, of an abrasion on the scalp.

AN English scientist has been making experiments to determine the important part which light plays in the development of animal life. A dozen tadpoles were confined in a box, from which every ray of light was excluded. The result was that only two of them developed into frogs, and those were short lived. The others increased considerably in size, but never left the tadpole form.

SOME Italian and German investigators some time ago advanced the theory that tobacco smoking is a good means of preventing infection during exposure to diphtheria or other contagious diseases. The British Medical Journal has given the weight of its influence against the practical application of this use of tobacco.

BY THEIR DIET we shall know them. As the Dietetic Gazette says, "By searching we might find that the egotism, conservatism, and tenaciousness of the Englishman are as much the results of his beef and ale as is his gout; that the sparkling *bohemie* of the Frenchman comes from his *cuisine* and bubbling champagne, as do also his mercurial disposition and his passionate life; that the macaroni and fortified wines bestow song and art on the Italian, as do beer and *zauerkraut* stamp solidity and patriotism on the German. America, ever able to give the world a lesson, contributes rush and dyspepsia as the production of hog and whisky.

REST, as well as exercise, is indispensable to health and life. Good health says, a retired manufacturer, watching the strife from which he has withdrawn, tells of five business men under forty-four, in the circle of his personal acquaintance, who within one year died of brain or kidney disease, or went to the mad-house; all from overwork.

A STRONG man, under forty, was accustomed, during the four months of winter, to leave home at six a.m., and return from business at eleven p.m. "In about three years his body grew so tired that it retired from business to a quiet place under the sod, where it is now taking a long rest."

FIVE women are at work as inspectors of factories for the Health Department of Chicago, in those factories, doubtless, where women are chiefly employed.

As illustrating the abundance of the germs of tuberculosis in tuberculous sputum, Dr. Heller says that a single expectoration of a consumptive patient may contain 900 million of the bacilli.

AN exchange says do not begin the pernicious practice this fall of muffling up the neck as cold weather approaches. By so doing colds are invited rather than avoided.

WHAT are all the abominations to be gathered from drinking water, says the New York Medical Times, as compared with those we give our children in cheap confectionery?

LABOUBENE says that the tears contain the contagious agent of measles, and that inoculation with them always produces a mild type of that disease.

THE State Board of Health of New Jersey, have just ordered a thorough examination to be made of the sanitary condition of all premises where persons lodge or board—including all hotels, restaurants, boarding houses, colleges and seminaries in the State, whose inmates have no control over the water supply, drainage or other local conditions which may affect health.

LITTLE Johnny Day lies here,

He neither cries nor frets;

He had just reached his thirteenth year—
Cigarettes.

THE life insurance of the future is to be unquestionably on the mutual plan, or, if stock companies are to continue to live they must insure on a very greatly reduced premium scale—reduced at least one-third. At the present rate of mortality life can be safely insured for less than half the average of the stock companies. Many of these have piled up colossal sums. The Canadian Mutual Aid Association, of Toronto, (10 King St., E.) is a Canadian Mutual association in good standing, and we believe just as safe as ANY stock company.

THE "WORLD" typewriter is really an excellent little machine. Almost any one can work well with it after a few minutes practice. It is simple and does good work. Its low price (\$10) brings it within every one's reach.

BOVININE is a fluid food which is highly recommended. Dr. W. F. Waugh, of Philadelphia, reports in a medical journal that in a case of obstruction of the thoracic duct, for a number of weeks in the hospital, under his care, Bovinine was the one thing he took eagerly, and it always agreed with him. "Every variety of artificially digested food was given; but he found that only this one thing agreed with him—bovine.

CURRENT LITERATURE.

IN THE PHYSICIAN'S LEISURE LIBRARY, Dyspepsia, by Frank Woodward, A. M., M. D., &c., (Geo. S. Davis, Pub., Detroit, Mich.) is one of the late numbers. As the writer says, the past few years have witnessed a marked advance in our knowledge of the chemistry of digestion and of the role of the micro-organisms in the digestive canal, as there also has been in diagnosis, and he gives the latest information relative to the symptoms and treatment of the disease. The Hygienic treatment receives fair attention:—"For a man to be as hungry as a hunter, he should apply to nature's laboratory for his tonic rather than to the corner drug store";—exercise and attention to the skin is especially necessary. We find a good chapter on "Dietetic Hints;" but, as the author says, in some cases "the patient often needs to be told how to live rather than what he may eat."

ACCIDENTS AND EMERGENCIES, a Manual of the Treatment of Surgical and other Injuries in the Absence of a Physician, by Charles W. Dulles, M. D., etc., has reached its third edition, and this is revised and enlarged, with new illustrations (Philadelphia: F. Blakiston, Son & Co.). The fact that the numerous readers of this admirable little book have required a third edition of it, and that the medical press write of it in terms of high praise, are sufficient evidence of its value and usefulness. The treatment of accidental poisoning is given; and if the book were in every household and after having been read by every father and mother, laid aside for ready reference, a vast amount of human suffering and many deaths would doubtless be prevented. The price is not given in the copy we have received but probably is not more than 75c., or possibly 50c.

THE CENTURY COMPANY are keeping up well the high standing of their excellent monthlies—The Century Magazine and St. Nicholas—and this year, these promise to be better than ever before. A most attractive "bill of fare" is given for both the publications, and a continued satisfactory increase in their circulation may be safely predicted. St. Nicholas especially is brighter and larger.

THE ILLUSTRATED LONDON NEWS has recently given us some quaint and highly attractive illustrations on the "Lord Mayor's Show." "The Song of Spring," double page, is from a fine picture by Bouguereau, in the Paris Exhibition. "A Roumanian Maiden" is very pretty; "Winter Fuel" is touchin'; "Your Health Papa" is

very sweet; and "A Learned Judge" (all four, full page) is very good and funny. We get a double page portrait of "Walt. Whitman." "A view of London from St. Paul's on Lord Mayor's Day", double page, with a key, is a complete and clear panoramic view of the great city, and worth the price of the periodical. The river and its old historic bridges, and Victoria embankment, Ludgate Hill, Fleet st. and the Strand, filled with the enormous procession, commemorative of the annual "Mayor's Show" of many centuries, with the million buildings of the city, form a highly attractive picture. Wilkie Collins' last story continues to be superbly illustrated and the interest is becoming intense. More interesting reading matter is given of late in the "News" than there was some years ago.

THE POPULAR SCIENCE MONTHLY'S table of contents for December is in part as follows: The Descendants of Palæolithic man in America, by Dr. Charles C. Abbott; Glass Making, by Prof. C. H. Henderson; The Evolution of a glass bottle, (Illustrated); Plain Words on the Woman Question, by Grant Allen; New Phases in the Chinese Problem, by Willard B. Farwell; Governmental aid to Injustice, by George M. Wallace; Israelite and Indian, II., (concluded); Mental and Physical Training of Children; The Struggle of Sea and Land; The Royal Society of England; Speech and Song, by Sir Morell Mackenzie; IL., Song; Suspension of Vitality in Animals; Sketch of Robert Koch, (with portrait); Editor's Table, &c., &c.

THE CANADIAN QUEEN.

This elegant home magazine is sure to please every Canadian woman. It is devoted to Fashion, Art, Literature, Flowers, the Toilet, and Household Matters. It is handsomely illustrated, and is equal to any of the high-priced foreign publications. The imported designs for Fancy Work and Home decoration, are worth, alone, the entire year's subscription. No intelligent housewife can afford to keep house without its "Hints on Cooking," so ably conducted by the superintendent of the Toronto Cooking School. It already has a circulation from Nova Scotia to British Columbia and every lady pronounces it "Charming." To introduce it into every cultivated home at once, it will be sent on trial for three months for only 25 cents. Address.—The Canadian Queen, Toronto, Ont.