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CANADA HEALTH JOURNAL

A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—
EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

For Contents see next page.

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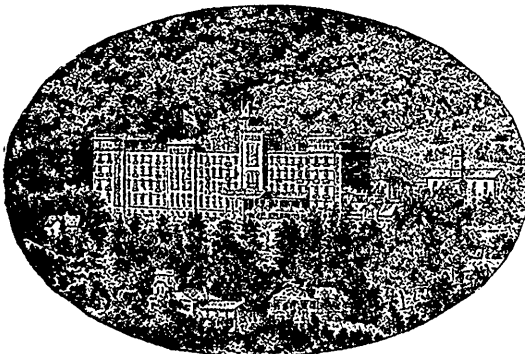
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A LONG LIFE AND A MERRY ONE.

IT is not merely *length* of life that is meant when the question of prolonging life is discussed. It is not merely length of days that is commonly, or that should be, aimed at when one uses means to prevent disease, early decay and premature death. Hygienic measures are recommended and practiced largely, if not chiefly, with the view of making the latter days,—the “old age,” free from disease and suffering, and happy and useful, instead of, as is too often the case, even at sixty odd, decrepit and miserable, childish and troublesome to relatives and friends.

So many appear to have strangely erroneous views relative to the objects of public and individual hygienic efforts that it seems desirable to endeavour to set them right. We often hear persons say, “Give me a short life and a merry one;” or, “I do not want to live to be old and a trouble to my friends.” It is quite possible, indeed natural enough and not difficult, to live a “long life and a merry one” (which surely is better than a short merry period), and on to the end of a hundred years, and not be any trouble to friends, but on the other hand, a comfort and help to the younger and less experienced in life.

We need not think back to Parr or Cornaro, or to the hermit, St. Paul, or Cardinal De Falis, who lived long ago and were happy and useful long after the age of one hundred years; nor of Messonier, Montifloere, Chevrueil, Kossuth, Newman, Whittier and Bancroft, recently dead; but of Tennyson, Gladstone, Von Moltke, De Lesseps, Pope Leo, Dr. O. W. Holmes, Marshal McMahon, and, near home, of Father Dawson, and, last but by no means least, of Sir John A. Macdonald. True, the last named is not yet a very old man,

but hundreds of deaths are every year in Ontario recorded as from “old age” of persons less than seventy years old. A man should be ashamed to have lived such a life as to die of *old age* before reaching at least his eightieth year, except it were under peculiar circumstances of heredity or environment. Or think, on the other hand, of the late Secretary Windom or Gen’ls. Sherman and Grant, or of some members of the late Canadian parliament, who sadly dropped out of the race just when they had become most useful to their fellow men.

If life is worth living at all, surely it is worth more after we have lived through seventy years of usefulness and experience, and have children with their children and grand children around us, and perhaps have then too acquired the means of living an easy life for a quarter of a century, doing good to others, and ending it with a happy euthanasia.

If a man of sixty years or over, perhaps with unsound heart or cerebral arteries, will indulge at a banquet and then make a long speech, or seek exciting pleasures or business as he might safely do at thirty or forty, he is about as unwise as the man who strikes a match in a powder magazine, and it need not surprise any one if he suddenly go over into eternity. Or, who even while young

“Riots with pleasure by night and by day
Must expect that, in time, there’ll be something to pay.”

But if with a very indiscreet life one chances to live to be forty or fifty or even more, one may even then by great care prolong life to one hundred years, but it will require much greater care than if one had began at a much earlier period.

KEEP THE STOMACH CLEAN, AS WELL AS THE SKIN.

SOME persons are very particular in regard to cleanness of the skin of the body who are not at all particular in regard to the cleanness of that continuation of the integument, the mucous membrane, which covers the inner parts of the organism—the whole digestive canal from the lips throughout. In order to keep this inner skin clean, it requires attention, just as much as does the outer skin. And this brings us directly to the subject of diet. It is as wonderful as it is disgusting to think of the promiscuous concoctions which some people take into their stomach, and which do not, cannot digest, but on the other hand, ferment and putrefy, not only befouling the whole alimentary canal, but giving rise to poisons both gaseous and fluid which pervade and poison the entire organism. Just think of the various ingredients in the different courses of an average "first class" dinner, or even of an average "good" breakfast. And think of these all chewed up together and in a solution of tea, coffee or cocoa, and perhaps of wine or beer. There are but few who would not much dislike to have such a mixture touch the outer skin. This is not a pleasant subject to think of. But it is less unpleasant than a violent head ache, a "bilious attack," or a severe fit of illness—a fever or an inflammation, which the poisoned body is not able to repel or resist. Worse than this, the indiscriminate eating goes on from day to day, from month to month and year to year, and often with a large measure of constipation, and this digestive track is never washed out, never once bathed in clean water in any way approximating that in which the skin is commonly bathed.

Sir Andrew Clark, the eminent London physician, is convinced from careful investigation that the cause of impoverished blood and chlorosis (the anæmic, "green sickness") so common in young girls, is disorders of digestion and poisoning by the absorption of fecal matter from the intestines. And it is easy for any one to understand that the excess of the indis-

criminate mixed food, so universally eaten, fermenting and putrefying (for it cannot be all digested) in the stomach and bowels cannot fail to be very injurious to the health. We believe indeed that this unclean condition of these parts is one of the most fruitful causes of disease and premature death in what would otherwise be healthy people.

Is it not high time that in this civilized age more attention were given by the average cleanly disposed human being to the cleanness of this inner skin?

To be sure this inner tract cannot be washed or sponged out as we bathe the outer surface. But vastly more discrimination and delicacy might easily and should be exercised in regard to the quality and quantity of the food consumed, and the utmost regularity in regard to the bowels should be secured. Abundance of water, hot or cold as suits best, should be drunk at one period, or more, of the day; as on going to bed or rising in the morning. This not only helps to cleanse the stomach and bowels, but the whole internal economy. Most excellent effects have resulted in cases of indigestion by repeatedly washing out the stomach, with a stomach tube and syringe; and this is now a constant practice with some physicians, even in the case of young infants.

TO AVOID some of the dangers of labor to which many mothers are liable, Dr. Prochownick (in Brit. Med. Jour.) controls the diet during gestation. Three successful cases are given of pregnancy with contracted pelvis in which the women were carried to labor at full term and the children saved. The principle of the dietary is the diminution of the quantity of fat ingested by the woman and stored away by either mother or fœtus. The diet consists for example, for breakfast, of a small cup of coffee with about one ounce of bread dried in the oven; for dinner, meat, egg, or fish, with but little sauce, some green vegetable, salad, cheese, &c. The prohibited articles are chiefly water, soup, beer, sugar, and potatoes. What a vast amount of troubles to which mankind are subject may be prevented by proper diet.

THE POLITICAL ECONOMY ASPECT OF A SIMPLE NATIONAL DIETARY.

ASIDE altogether from the great hygienic advantages of a simple, spare diet, the saving to individuals, communities and nations, from the general use of such a diet, as compared with that of luxurious abundance which is now consumed, would be incalculable. On the other hand, history affords abundant proof that the successive degeneracy and downfall of each of the various nations which have in succession ruled the world, had its commencement in a luxurious costly diet. We find not only individuals, but communities—such as in monasteries, as well as whole nations consisting of millions of people, living in unusual health and vigor, often to extreme old age, on the most simple kind of food, costing not one-fourth, perhaps not one-tenth as much as the average consumed by Canadians, or by Americans or Europeans. Elsewhere in this number of the JOURNAL are given numerous instances and abundant evidence of this. Is it not then the duty of the Government of a country entrusted as it is with the welfare of the people—with all affairs of political economy—with revenue, taxes, cheap food and surpluses—to give

some special consideration to the manner in which the people are fed, with the view to the cost of the food, as well as, also, to its healthfulness, and not only as regards those who require to be confined in prisons and asylums, but the entire masses of the people of the country? Sacred writings inculcate the principle here indicated. The renowned Plato went so far in advocating simplicity in national dietary as to insist that all books which pictured gratification in eating and drinking should be suppressed. Should "prohibition" in respect to alcoholic beverages ever prove to be of practical effect, why should not there be then legislation with regard to diet,—with the prohibition of costly, injurious articles of food? The wisdom of legislation of this sort, however, is very questionable. But a great deal might be done in this behalf by a systematic education of the people in regard to economy in diet. And the people will listen and give heed to advice on economy in diet more than they will to that on health in diet. The time will come again when Governments will see the wisdom of giving attention to this subject.

DIET IN RELATION TO HEALTH, COMFORT AND LONG LIFE.

THE following facts are from a paper read not long ago before the California State Medical Society, by Dr. Remondino. "Old Parr," as he was long called, who died at the age of one hundred and fifty-six years, had always lived on a very simple, spare diet. A post mortem examination on his body was made by the eminent anatomist, Harvey, who reported that he found no morbid condition of any organ indicating chronic disease, nor any apparent reason for death, and that the old gentleman might have lived a quarter of a century more as well as not, if he had not deviated from his usual frugal mode of life. The immediate cause of the death of this remarkable man was an unusual

surfeit occasioned by a visit to the king, who made a feast in his honor, in partaking of which "Old Parr" departed from his usual simple regimen, and induced a fit of indigestion from which he died.

Jonas, a monk in the monastery of the Mochans, in Egypt, lived to the age of eighty-five years on a diet of raw herbs. The Trappist monks during one-half of the year eat but once a day, and the rest of the year but twice a day. Their fare is of the most frugal character, being composed wholly of fruits, grains, vegetables and milk. They never take meat in any form, and fast a large number of days in each year. St. Anthony and his followers ate only bread with a little salt and water, and

he himself lived to the age of one hundred and nine years. St. Paul the Hermit lived to the advanced age of one hundred and fifteen years, his daily rations consisting solely of a few dates. St. Francis de Paul lived to the aged of ninety-one. His dietary was of the most simple character possible. He took but one meal at night, and drank nothing but water, often fasting several days in succession. Cardinal De Falis died in the year of 1785 at the advanced age of one hundred and five years, after living a most abstemious life. The oft quoted Cornaro, the famous Italian, lived sixty years on a diet consisting of twelve ounces of plain, solid food and sixteen ounces of drink daily, abjuring flesh food altogether,—after he had been completely broken down by excesses and given up to die at the age of forty. A famous Roman, Pomponius Atticus, suffered so much from a disease supposed to be incurable that he determined to end his life by starvation. Instead of dying, however, he recovered his health as the result of his abstinence. Fothergill, the eminent London physician, tells a story of a gouty old priest who was captured by Barbary pirates, and was cured by the meagre diet and hard labor to which he was compelled to submit.

Over two thousand years ago, the celebrated Greek physician Aristotle, who was the first writer to publish a regular treatise on physiology, said: "Eat little and labor if you wish to be well."

Galen, the celebrated Roman physician, (physician, to the Emperor Aurelius) who wrote about two hundred distinct treatises on medicine, remarked that "delicate persons could be made to reach old age by a careful dietary and frequent fasting," and insisted that health depends chiefly on a spare diet.

The eminent Sir Henry Thompson, a physician of our own day, and a well-known writer upon diet, says that "the typical man of eighty or ninety years is lean and spare, and lives on a slender diet."

The famous physician Addison remarked, "When I see a fashionable table set out in all its magnificence, I fancy I see gout and dropsies, fevers and innumerable distempers, lying in ambuscade among the dishes."

And Diogenes, the philosopher who lived in a tub, and who went about in the day time with a candle looking for an honest man, one day captured a young man whom he found going to a feast, and car-

ried him to his friends, declaring that he had rescued him from imminent danger.

The influence of a spare diet upon the body is well illustrated by a remarkable circumstance related by Sir Thomas Brown, that in the wars waged by Rome in the Orient, while the bodies of the Romans underwent decomposition, those of the slain Persians remained untainted and uncorrupted, drying up like mummies. The Persians and Syrians were a remarkably abstemious people. Their usual diet consisted of a little flour with a few herbs. According to Xenophon, King Cyrus of Persia accustomed his people, and himself to subsist on one meal a day. The Persians were noted at that time, and are at the present, for great endurance and longevity. The diet of the Persian is still almost exclusively vegetarian in character. The sturdy natives of South America who engage in the laborious occupation of gathering gum from the India-rubber tree, are vegetarians, and eat but two simple meals a day. The vegetarian coolie of China carries upon his back a load that would break down two Englishmen. The vegetarian peasant woman carries off upon her head a weight which the average American college student could scarcely lift, and could carry off the young man himself if she chose. Among the most hardy specimens of the human race to be found anywhere are the Canary Islanders, who live wholly upon gofio, which is simply corn or other grain parched, ground up and eaten with milk or water.

The health advantages of fasting have long been recognized by prominent writers in the Catholic Church. A prominent Catholic writer, Lessius, remarked that "the fast was the greatest blessing that the Church had given to mankind, as it increased their days on earth."

In the New York Hospital for Children no flesh food is allowed during the first five years of life. It has long been noticed that the children of these institutions are less subject to disease, and recover more quickly when ill, than children who are allowed to eat flesh food. It is also a well known fact that nursing children are much less liable to take disease than older children. Is not this probably due to their simple diet? A dog or a caged lion fed upon so promiscuous a diet as are children in most families, would soon die.

The majority of people use better sense in feeding their dogs and their horses than in feeding their children and themselves.

ON THE DISPOSAL OF SEWAGE—SOILS BEST ADAPTED FOR IT.

BELOW are extracts continued from the excellent paper written for the State Board of Health of California, by Rudolph Hering, Civil and Sanitary Engineer, of New York, commenced in the February number of the JOURNAL, Regarding the purification of sewage by land filtration: The Massachusetts State Board of Health have for several years been engaged in experimenting on this subject at Lawrence, Mass., where a station has been erected for the purpose. They at present still continue and results are being reached, which, for the first time, place the entire subject of sewage filtration upon a scientific basis. The filtering grounds comprise about two-thirds of an acre. Upon them are ten tanks, about seventeen feet in diameter, and allowing for material to be filled in five feet deep. The tanks were filled with different materials, as follows: No. 1, very coarse, clean mortar sand; No. 2, very fine, nearly white sand; No. 3, peat; No. 4, river silt; No. 5, brown garden soil, well manured; Nos. 6, 7 and 8 were filled with three feet eight inches of coarse and fine sand, ten inches of yellow sandy loam, and six inches of brown soil; No. 9, very compact, sandy, hardpan of clay, sand, and gravel, covered with nine inches of brown soil. No. 10 was used to measure the rainfall and evaporation. The sewage used in the experiments was taken from a main sewer draining a portion of the city. From the last report of the Board the following statements were obtained: Sewage can be much more efficiently filtered through open sand than through sand covered with soil. Very fine material, like dust, in the upper layers of a filter, prevents free access of air, and when wet, may exclude air so completely as to render purification impossible. With soil or sand containing dust at the surface, periods of intermission in the application of sewage may be made so long that the surface, becoming dry, may allow air to enter, and a high degree of purification may result; but the quantity of sewage that can thus be purified is very much less

than when the upper layers of the filter are composed of open sand, through which the sewage will rapidly disappear, and will leave room for air to enter and come in contact with the thin laminæ of liquid covering the particles of sand. Filtering areas of sand covered with soil, or areas of very fine sand, may be much increased in efficiency, in both summer and winter, by digging trenches in the direction of a slight incline, about two feet deep, one foot wide, and six feet apart, and filling them with coarse sand. The sewage should be applied to this coarse sand, and once in a month or two, a half inch in depth should be taken from its surface and replaced by clean sand.

A very few vegetable organisms that can be identified by the microscope have been found to occasionally pass through the coarser filters; but in general none come through.

Of the still more minute organisms, the bacteria, it was found that soon after sewage was first applied to the tanks they came through in great numbers, but became reduced in number, and during the later winter and spring months amounted to 2 per cent. and less of those of the applied sewage; but after nitrification commenced they decreased rapidly, and continued through the summer, in many cases, less than one hundred, and, in some, less than ten, while the number in the same quantity of applied sewage was about a million. The experiments made to the present time show that the number of bacteria in the sand decrease very rapidly from the surface downward. In the finer sands they nearly or quite disappear before the bottom is reached. In some of the tanks it appears, that of the large number of species found in the sewage, a single species only lives to reach the outlet. There is reason to hope that the filters may be so made and managed that all disease germs may be, with certainty, removed, and this important subject will probably be pursued to definite conclusions.

The tanks, which were filled with clean,

coarse mortar sand, received sewage at, the rate of thirty thousand, sixty thousand and one hundred and twenty thousand gallons per day. Until nitrification commenced—after periods of forty-one, thirty-one, and twenty-seven days, respectfully—97, 94 and 80 per cent. of the impurities of the sewage were removed. When nitrification reached its height, the ammonias were reduced to 1 and $1\frac{1}{2}$ per cent. of those of the sewage.

Fine sand was found to make the best filter, and could purify the sewage to a higher degree at a rate of twelve thousand gallons per acre per day, so that the number of bacteria in the cubic centimeter was reduced from five hundred and ninety-one thousand to two, and ammonias to one fourth per cent. of that of the sewage.

Garden soil was found to make a very poor filter or purifier. After applying only ten thousand gallons per acre per day for eight months, the effluent was "more impure than the applied sewage."

A mixture of coarse and fine sand and gravel filtered sewage very satisfactorily at the rate of twenty-five thousand gallons per day in the winter, and forty-two thousand gallons per day in the summer. The bacteria of the effluent numbered fourteen, while those of the sewage numbered three hundred and fifty thousand.

Peat was found to be entirely inefficient as a purifier, the ammonias in the effluent being equal to those in the sewage.

The filter containing loam and sand gave an effluent very nearly as pure as that from the sand and gravel alone, but the quantity of sewage which could be filtered was only one-third as great.

A report giving a very full description of the details of the investigation and further conclusions will soon be issued, and will form a most valuable contribution to the knowledge of the world upon the subject of sewage disposal. Much of the information too applies to a climate which for several months is both damp and cold, much like that of a large part of Canada.

The land disposal of sewage is a question of special interest. Besides accomplishing a sanitary benefit, it may also be made remunerative from a financial point. However, to make sewage farms pay a profit should always be a secondary consideration, the sanitary question being held uppermost.

Regarding the often expressed fear that sewage farms create a nuisance and injure the value of neighboring property, we quote the following paragraphs from a report upon the disposal of the sewage of Los Angeles City, made in December, 1889: Sewage farms need not cause any nuisance. Some smell may be noticeable at the ditches towards evening when the air is damp, and on muggy days. It may particularly be the case when the sewage is not delivered fresh. There is no well authenticated case where sewage farms have caused sickness. In England people reside on lands adjoining them. In Paris and Berlin new villages have sprung into existence since the sewage has been used for irrigation, and the death rate is recorded as being little over one-half of that of the respective cities. In order to have a minimum amount of odor, it is necessary to convey the sewage in open, artificial, and smooth channels or carriers, and allow it to run in earth ditches only for temporary purposes; and where it immediately filters away, these ditches should be frequently raked over to be kept clean and pure. Those who have inspected the successful sewage farms in Europe and America can bear testimony to their freedom from nuisance, when proper care is taken with the distribution of sewage and the ditches. This care simply consists of faithful attention. It is neither irksome nor expensive, and is capable of being secured by appropriate legislation.

THE London Vegetarian Society reports a membership of 541, and the movement is said to have spread throughout England, Europe, and the colonies.

DIPHTHERIA, ITS HISTORY, NATURE AND PREVENTION.

ABSTRACT OF THE MILROY LECTURES BEFORE THE ROYAL COLLEGE OF PHYSICIANS, LONDON, ENG., BY R. THORNE THORNE, M.B., F.R.S., F.R.C.P., MED. OFFICER, LOCAL GOVERNMENT BOARD, LECTURER ON PUBLIC HEALTH, ST. BARTHOLOMEW'S HOSPITAL, &c. &c., WITH NOTES FROM PROF. KLIEN, OF THE ROYAL SOCIETY, DRs. GRANCHER, LOEFFLER AND OTHER EMINENT MEDICAL SCIENTISTS.

DR THORNE THORNE showed by statistics that during the last decennium there had been a substantial increase of diphtheria mortality especially in the metropolis. This was the more remarkable because zymotic diseases—notably those amenable to sanitary administration had undergone steady diminution. He next referred in detail to the statistical researches of Dr. Longstaff, and from these it was shown that, whereas antecedent to 1860 the diphtheria rate for the rural districts was double that for the dense districts, the rates during the period 1871-80 for these districts had come to be nearly equal. The incidence of diphtheria was undergoing a change, and the preference which it had formerly shown for rural areas was being transferred to dense communities;—The urban districts having in 1889 a diphtheria mortality of 0.26 per 1,000 as opposed to one of only 0.14, in 1871. The circumstances were such as to call for a searching inquiry into the natural history of the disease, especially as regards its causation and prevention.

As to the historical aspect of diphtheria, it was shown that a disease indistinguishable from it was known before the Christian era; and the quaint writings of Noah Webster were quoted, in which comets, meteors, and other phenomena were conjured up to account for epidemics of throat disease which vividly recalled the several features of diphtheria prevalences in our own day. The first recognised prevalence of diphtheria in England, alleged to have been imported from Boulogne, was discussed in connection with the writings of Simon, Greenhow, and Burdon Sanderson.

Dr Thorne said two areas where diphtheria had caused the highest rates of mortality were shown to lie along the exposed north-eastern and eastern coasts of Eng-

land, and in the mountainous districts of Wales, and this especially in the damp valleys so abundant in some Welsh counties. Where water was upheld in clays or gravels, and where to the resulting dampness was superadded a cold bleak air and vegetable decomposition, there it was that conditions favourable to diphtheria existed: but, at the same time, other conditions favourable to the disease were shown often to out-weigh all considerations of climate and soil.

As to season, it was shown that over a long period of years excess of diphtheria mortality had occurred during the fourth quarter of the year, a circumstance that had been held to favour the view of a fungoid origin of the disease. On the question of sex, Dr. Thorne expressed the opinion that the excess of diphtheria in females over males during the first fifteen years of life was probably due to the fact that female children were likely to be brought into closer contact with the infected sick than was the case with boys. This had been generally accepted by Dr. Downes as applicable to females who had passed the age of childhood, but the latter observer had brought forward a number of statistics and other considerations which he thought tended to show that there was also some physiological proclivity amongst females to take the infection, beyond that which attached to males. As to age the greatest proportion of total diphtheria deaths was shown to fall in the period 3 to 15 years; this period could be narrowed, to 3 to 12 years, or even 2 to 5 years. The comparative scarcity of diphtheria mortality under 1 year of age was probably from avoidance of exposure to infection, the use of breast milk and of milk preparations practically sterilised. The age 3 to 12 years was essentially the school age too,

and so-called school influence here came into operation.

Professor Klein has reported the discovery of two distinct kinds of microbes in diphtheritic membranes, one of which is much more virulent than the other. He calls attention to the further fact that in human diphtheria the microbe that causes the disease is present only in the membrane that forms in the throat, and is not found in the blood nor in the diseased visceral organs. The case is the same with cats and guinea-pigs inoculated with artificial cultures. The bacillus multiplies at the seat of inoculation, its growth there producing the chemical poison which so seriously affects the whole organism. In the cow, however, the bacillus passes from the seat of inoculation into the system, and makes its appearance in the milk; an eruption appearing on the cows teats, as has been mentioned in this JOURNAL. This is most important, as giving a clue to the dissemination of the disease in cases that puzzle the sanitarian. A relation has been found to exist between a disease in cats and human diphtheria. When children have nursed a cat affected with this disease, they have sickened afterwards with well-marked diphtheria. On the other hand, when children have been ill with diphtheria, their cats have been found to die of a similar disease and a post-mortem examinations of the cats, and of others that died from diphtheria produced by inoculations, appear to have demonstrated the identity of the cause of death in the two cases. The conclusion seems to be inevitable that in many instances children contract this dangerous disease from their feline pets. But from what source does the cat derive it? Professor Klein suggests that in many cases it is from drinking the milk of cows that are suffering from diphtheria. He gives an instance of an epidemic of diphtheria affecting sixteen cats, thus produced:—An attendant at the experimental station, contrary to orders, gave to two cats some of the milk from a cow ill with diphtheria, induced by inoculation with the human diphtheria bacillus. From these two, the

disease was communicated to the others, and some died of it. Had they been free to wander about the neighborhood the disobedience of the attendant might have caused the death of a number of children, and been the starting-point of a wide-spreading pestilence.

On measures for the prevention of diphtheria, Dr. F. Lafler says: The bacillus found in excretions of diseased mucous membranes is the cause of diphtheria. Bacilli are disseminated by excretions deposited on articles within reach of patient. Viable bacilli remain several days after disappearance of membrane. Patients should be strictly isolated as long as bacilli remain in excretions. Children should remain from school at least four weeks. Bacilli are viable in fragments of dried membrane for four or five months. Every article in the room should therefore be either boiled in water, or subjected to a current of steam 212° F.; floors should be scrubbed repeatedly with 1. to 1000 bichloride solution; and walls and furniture rubbed down with bread. Damp rooms should be thoroughly dried, and a flood of light admitted before they are used again. Bacilli still grow at 68° F.; they grow readily in milk. The sale of milk from dairies in which diphtheria abounds should be prohibited.

Dr. A. Chaille says: In the present state of our knowledge the possibility of preventing diphtheritic sepsis cannot be denied. As one of the means of securing this end, the daily inspection of school children is necessary. The municipal control of diphtheria in large cities is inadequate, and methods of personal prophylaxis are more apt to prevent infection. A daily prolonged washing of the naso-pharynx by means of weak antiseptic solutions is a trustworthy method of prevention, in the absence of filthy carious teeth and enlarged and inflamed tonsils. The naso-pharyngeal bath is indicated for all those who are exposed to diphtheritic infection, and also as routine treatment in every case of chronic naso-pharyngeal catarrh, pertussis, scarlatina, and measles.

Dr. Grancher, in a report presented to

the Comité Consultatin d'Hygiène Publique de France, and adopted by that body (*Rev. d'Hygiène*, Dec. 20th, 1890), argues against the view that the infection of diphtheria is prone to be carried by the air, and contends that in nearly all cases it is conveyed by contaminated clothes or articles of furniture. He believes that there is evidence that the disease may arise spontaneously in children whose health has been depressed, especially by measles. He would explain this by supposing that the non-pathogenic, or non-infectious, pseudo-diphtherial bacillus of Löffler, which is often present in the mouth in health, may, *under conditions favoring its development*, take on pathogenic, or poisonous properties.

Apart from these exceptional events, he shows that the spread of diphtheria may be prevented by ordinary precautions directed to effect disinfection of articles used by the patient. He illustrates this by the experience of one of the wards set apart for diphtheria in Paris; among the 1,741 children admitted, it was subsequently discovered that 153 were not suffering

from diphtheria, yet not one of these 153 children contracted diphtheria.

Experiment has shown that the Klebs-Löffler bacillus is killed at a temperature of 60° C. in a moist atmosphere, but in a dry stove it will survive a temperature of 93° C.

Grancher has found it possible to prevent the spread of diphtheria in children's wards by simple antiseptic precautions. The bed is surrounded by a metal screen; all articles used by the patients, such as spoons, forks, napkins, etc., are immediately disinfected by being placed in boiling water containing carbonate of soda in the proportion of 50g. to a litre of water. All linen, clothes, etc., are disinfected by heat, and the floor, bed, and walls are washed with corrosive sublimate solution. Finally, the medical attendants and nurses are required to wear over their clothes blouses which are stoved daily, and are recommended to wash their hands with minute care in acid corrosive sublimate solution or in carbolic acid 5 per cent. The report is strongly in favour of special wards for cases in which the diagnosis is doubtful.

MISCELLANEOUS NOTES AND EXTRACTS.

ON BACTERIA AND VENTILATION.

Researches and experiments published by Stern (in *Zeitsch. f. Hygiene*) give the following results; Bacteria-bearing dust particles in a room settle on the floor when the air is absolutely quiet; within one-half hour the air is almost free from germs. The floor then being washed with some antiseptic fluid and the furniture wiped with a moist cloth, the room may be considered fairly disinfected. Ventilation alone—which produces about a fourfold renovation of the quantity of air contained in the room in the course of an hour, has no considerable influence on the removal of germs. Only a strong draught, causing the air of the room to be changed at least seven times in an hour, has the power of expelling the germs rapidly and completely. Experiments undertaken with a view of precipitating the germs more rapidly by the means of aqueous vapor, fail to give favorable results. Germs attached to the floor, furniture and paper-

hanging are not removed even by strong currents of air; they are to be removed by special means, as disinfection.

PARASITIC AND SAPROPHYTIC BACTERIA.

At the last meeting of the Epidemiological Society of London (Feb. 18, 1891) Dr. Louis Parkes read a paper on "The Relations of Saprophytic to Parasitic Micro-organisms." Saprophytes, he said, were those bacilli, micrococci, etc., which, living on dead organic matter only, swarmed everywhere in the air, earth and water, and to which, in conjunction with moulds and yeast fungi, all fermentative and putrefactive processes were due. The parasitic micro-organisms, on the other hand, preyed on living matter only, or equally with dead. The power of attacking non-living matter, which was evidence of a certain degree of saprophytism, enabled us to cultivate many pathogenic organisms in artificial media. These,

which included the microbes of tubercle, diphtheria, anthrax, erysipelas, tetanus, and many others, were called "facultative" parasites, while those which were not as yet known to develop out of the living animal were termed "obligate." To the latter class belonged the micro-organisms of small-pox, vaccinia, whooping-cough, measles, etc., and of them we necessarily knew but little. The division, however, was only provisional.... Closely corresponding with this division was that of the respective diseases into epidemic and endemic on etiological considerations. Whatever the explanation of immunity conferred by one attack against subsequent infection, it was peculiar to the epidemic class, the endemic diseases, as a rule, conferring little or no protection, though it would seem that some degree of insusceptibility was acquired by long residence in infected localities. It was an interesting question whether such pathogenic organisms might not be developed by a long process of evolution from the non-specific saprophytes of the place, and that the comparative insusceptibility of the native populations might not be attributable to the previous influence of transitional and less virulent microbial forms, not sufficient to give rise to the disease, but conferring immunity, which was the opinion of Professor Hueppe and Dr. Cartwright Wood. The attenuation of pathogenic micro-organisms by cultivation under unfavorable conditions, and the fact that these degenerative microbes grew more luxuriantly in artificial—that is, non-living—media than their original forms, seemed to indicate a retrograde tendency or reversion to the saprophytic character. If such processes of evolution were still going on, we could well understand the striking contrast between the uniformity of the phenomena of diseases depending on obligate parasites and the anomalous cases and variety of symptoms exhibited by those caused by the facultative, as enteric fever and diphtheria, and we might yet expect new forms of disease to arise in the world as the result of long previous evolution.

THE FASTING CURE.

Some papers are giving reports of fasting cures, from Washington. We cannot vouch for the truth of them, and would advise caution on the part of anyone disposed to try the treatment. Caution against carrying the fasting too far. It is reported that a number of Washington women have tried it. Mrs. Hannah

McLaren Sheppard, of Washington, a daughter of Bishop MacLaren, of Illinois, has, it is said, endured a fast of sixty days, taking nothing during that time but a teaspoonful of "nutriment" three times a day. Mrs. Sheppard had been a sufferer for many years from rheumatism and heart disease. Physicians pronounced her incurable, and she adopted the fasting system as a last resort. After the second day of her fast she began to feel better; instead of losing strength, she gained it. When she began to fast she was hardly able to walk across the room. On the tenth day she walked three miles; she was able to attend to her household duties, make her social calls, and in every way enjoy life perfectly up to the end of the sixty days, and then she began to eat because it was deemed advisable, not because she really felt hungry, as she did not. Another faster is Mrs. Conger, wife of ex-Senator Conger. "I believe," said she, "I was afflicted with ever ill that flesh was heir to,—rheumatism, neuralgia, heart disease, dropsy and others. Life was misery to me. I was not able to walk or sleep; everything I ate seemed to distress me. In despair I determined to try fasting. My friends told me I would die if I did not eat. I told them I would surely die if I did, so there was about an even chance. My first fast was for fourteen days, at the end of which time I ate the inside of a ripe watermelon. The next day I ate a roast potato." She insists that she felt no inconvenience from hunger or weakness; only felt as if something were lacking, she hardly knew what. She "supposed it was force of habit; most habits are hard to break, and the habit of eating food is no exception." She so far recovered as to take a long trip through Minnesota. She now lives on one meal a day, consisting chiefly of brown bread and roast potatoes. She believes she would have been dead had it not been for this system of fasting. As it is, she enjoys life as well as most women of her age, rides, drives, visits, etc. Mrs. Lippitt, widow of General Lippitt, is another. But she suffered continually during her fast and since: the necessity of living upon one meal a day and the necessity of doing without a great many things of which she was fond, made life more or less of a burden. Still she insists that it is the only way that she can be well and she is willing to crucify her appetite in order that she may have good health.

VITAL STATISTICS OF JEWS IN THE UNITED STATES.

A highly interesting bulletin devoted to vital statistics of Jews in the United States has been issued by the superintendent of the late census. Their excellent home sanitation is shown in the statistics of birth and survival of children. Of children under five years the proportion is less among the Jews than among the other population of the country in the ratio of 9 to 13, but between the ages of five to fifteen it is greater, in the ratio of 29 to 23, indicating their success in averting infant mortality. For the past five years 2,062 deaths were reported; giving an annual death rate of only 7.11 per thousand, probably not one-half of the actual annual death rate in the United States. This astonishing figure is discussed in the bulletin, and the conclusion reached is that there is every ground for trusting its accuracy. If the deaths for the year 1889 only are taken, a death rate of about 10 per thousand is given, which is exceedingly low. The life tables show great powers of survival to old age. Thus out of 100,000 individuals there are of survivors at the age of 85 over 20,000 Jews, against an average of 4,000, general population by English life tables, and nearly 7,000 by the Massachusetts five years' life tables. These figures for the Jews are based on the year 1889 only. For the five years 1884-1889 the record is still more favorable. The expectancy of life therefore is on the average much higher, ranging for some ages up to thirty per cent. more than that given by the general English and American life tables. In causes of death the mortality from tubercular and scrofulous complaints is less relatively than from diseases of the respiratory, digestive, circulatory, and nervous systems. The marriage rate and birth rate appear to be less for this class than for the average population. This coincides with the latest summary of rates in Europe. With prolonged residence in this country the death rate seems to increase, and the birth rate to diminish. As regards the defective classes, deaf and dumb, blind, idiotic, etc., the returns indicate so few among them that the figures are doubted by the census experts. The bulletin is only a preliminary one.

A POWER OF WOMEN—GREATER THAN THE FRANCHISE.

Oh, this grand world, filled with millions of humanity, made after "God's own image," capable of the highest degree of strength, what could we not attain under the influence of robust health! But from out these millions of people there are thousands standing on the brink of a precipice, which means premature death, to promising men, lovely women. Mothers are childless; children are motherless;—broken homes; heartaches untold. The cause? Impure drinking water, poor drainage, damp cellars, unventilated houses, over-excitement, intoxicants, tobacco, the correct fashions folly, over-fed stomachs, adulterated food, etc., etc. Can we study this list and yet fail to understand why so many find untimely graves? Our work, not God's. Oh! women, you have a power greater than franchise. You forget that you hold a reformation in your hands, You can mold the physical, mental and moral forces of your children and thus make them strong men and women. In your clamor after the ballot you forget the influence you already possess. You call yourselves down-trodden. American women down-trodden? You have a power, if prudently used, that will settle "woman's rights" most effectually. The first care of mankind has been given to woman. The babe was placed in her arms. From her it learns the first lessons of life; to her it looks for protection in its helplessness. She can make or mar its life, plant the seed that will send it to a premature grave, or field it for a long and useful life.... It is safe to believe that nine-tenths of the crime with which the world is cursed comes from the reaction of a diseased mind (in a diseased body). We all know how differently the world and people appear to us under the balm of health, how then every thing seems well. The true elixir-of-life is not to make decrepit old men young, but to teach them how to remain young. And when old age does appear it will come so happily through the consciousness of a life well spent, and be crowned with so much glory, that the change from life to death will be a blissful step. Thus writes Mrs. Cary Ebner, of Wordsworth, Ohio.

A NOTE TO BE MET.

“My jolly young fellow,” said Health,
 “now you really
 Have lately been drawing on me rather
 freely ;
 Who riots with Pleasure by night and by
 day
 Must expect that, in time, there’ll be
 something to pay.
 For the pleasures you’ve had, that you
 may not forget,
 Suppose you just give me your note for
 the debt,
 With the interest, of course. Let me see.
 —twenty years.—
 Time enough, though you’ll then be still
 more in arrears.
 Write as I dictate : Twenty years after
 date
 I promise to pay to my Health, sure as fate,
 For value received in sin, folly, and
 pleasure.
 These prominent parts of estates I should
 treasure :
 My limbs to be racked by rheumatics and
 gout ;
 My teeth to decay till they mostly fall out ;
 My brain to grow soft and my memory to
 fail,
 My eyes to grow dim and my hair to turn
 gray,
 While dropsy and asthma take turns day
 by day ;
 My nerves and by lungs together give way ;
 My stomach to fall to dyspepsia a prey ;
 My taste to forsake me, my voice to grow
 weak,
 While my ears cannot hear save when
 conscience shall speak,—
 All of which to be paid, with the interest,
 in pains.
 At the corner of Misery and Poverty Lanes.
 Now sign it. When due, pray don’t waste
 your breath
 For extension. Remember, the protest is
 death.”

SINGULAR AND INTERESTING STATISTICS.

It is computed that there are about \$82,-
 000 more males than females in the United
 States. Of the centenarians, 1,409 were
 men, and 2,607 were women. The boys
 start out nearly a million ahead, and are
 in the majority until the sixteenth year,
 when the girls are a little more numerous.
 “Sweet sixteen” is a numerous age, after

that, first one and then the other is in the
 majority, the girls gradually gaining after
 thirty-six, and leaving the men far behind
 after seventy-five. To balance this long-
 evity of the females, in almost every state
 a few more boys are born—not many more,
 but always a few. It is astonishing to see,
 where the census gives thousands and
 hundreds of thousands of boys and girls
 under one year old, there are, with one or
 two exceptions, always a few hundred
 more boys. In only six of the forty-nine
 States and Territory are more girls born,
 and in these states they are slightly in
 excess from eleven to eight. These excep-
 tions are Arizona, Delaware, Florida,
 Louisiana, Montana and North Carolina.
 The fact that the females are in the major-
 ity in all of the original thirteen States but
 Delaware and North Carolina—especially
 in Massachusetts and new England—has
 created the impression that there is some-
 thing in the climate or in the people that
 produces more women than men. This is
 a popular error. In Massachusetts there
 were in 1890, 437 more boys than girls
 under one year of age. The males are in
 the minority in almost all the eastern
 states, because many of the young men go
 west. All over the west there is an excess
 of men, and those who are not foreigners
 have withdrawn from the States farther
 east. In the new States and Territories
 this is most noticeable. In Idaho, for
 instance there are twice as many males as
 females, but the male infants are only a
 little in excess of the females. The west
 is drawing heavily on the manhood of the
 east. Massachusetts seems to have lost
 more than any State. There are parts of
 Northern Ohio which are portions of New
 England removed. Massachusetts shows
 the loss. Ohio the gain. Another curious
 fact is that, while all over the county more
 boys than girls are born, in cities and
 towns there are more girls. Between the
 ages of five and seventeen, inclusive, there
 are 4,680 more girls than boys in New
 York County, 1,708 more in the city of
 Baltimore, 1,013 more in Suffolk County,
 Massachusetts; 2,009 more in Cook County,
 Illinois; 2,131 more in the city of St. Louis;
 1,971 more in Philadelphia County, and
 2,633 more in the parish of Orleans. All
 these cities except New Orleans, are in the
 States where more boys than girls are

born. In Georgia there are 137 Counties, and in all but twenty-six of them there are more boys than girls. These twenty-six counties include the large towns and cities. Strange that not one of the cities should be left out. Stranger still, the excess of girls is in proportion to population. Savannah though it has a somewhat smaller population than Atlanta, has a larger excess. This seems to be peculiar to old cities. It is so with Baltimore, New Orleans, and New York. The excess is greater in New Orleans than any where else.

STRIKING REPORT OF TRANSMISSION OF TUBERCULOSIS BY COW'S MILK.

At a meeting of the Académie de Médecine on February 24th (*Bull. de l'Acad. de Méd.*) M. Auguste Ollivier presented a communication on the transmission of tuberculosis by cow's milk. Two months previously he had been called in to a girl, aged 20, at Chartres, who was suffering from acute tuberculosis meningitis. Her parents were both very robust, and she herself had had no previous illness to speak of, and lived under excellent hygienic conditions. On December 14th, 1890, she complained of headache, which gradually became worse and she died on the 26th. The girl had been educated at a convent in Chartres, where within a few years, tuberculosis had attacked twelve pupils, five others (now six in all) of whom have died. On November 26th, 1889, the veterinary inspector had condemned the flesh of a cow which had been slaughtered that morning in the Chartres abattoir. The animal seemed to be in good condition, but there were tubercles in the lungs, peritoneum, and paunch, while the udder was "completely stuffed with them." This cow had belonged to the convent where the patient had been educated, and its milk had for many years been consumed by the pupils and others in the house. Between October, 1887, and the date of the slaughter of the cow, one of the pupils died of tuberculous peritonitis, one of general tuberculous commencing in the mesenteric glands and three of pulmonary phthisis. Another pupil developed tuberculous disease of the elbow, and six others showed evident signs of tubercle of the lungs, but on being removed from the school, and kept for considerable periods in the country, recovered. In none of these was there any family history of tubercle.

RELATIVE FREQUENCY OF HEART DISEASE AT DIFFERENT ALTITUDES ABOVE THE SEA.

Dr. Neonilla Iwanoff, at the suggestion of Professor Vogt, of Berne, has recently made an analysis of the 25,500 cases of death from organic disease of the heart that occurred in Switzerland during the years from 1876 to 1886. The results of her study, together with some comments by Prof. Vogt are given—in *Med. Rundsch.* Feb. 1st, 1891. On grouping the various regions of Switzerland according to their altitude above the sea, Dr. Iwanoff found an annual mortality from organic disease of the heart (calculated for 100,000 living) of 103 at the first elevation (from 650 to 1,300 feet above the sea-level), 92 at the second elevation (from 1,300 to 2,275 feet), 82 at the third elevation (from 2,275 to 3,900 feet), and 47 at the fourth elevation (3,900 feet or more);—Thus showing clearly that the liability to cardiac affections diminishes steadily as the altitude increases. It appeared further that the mortality from heart disease was greater in the cities than in the country. "These facts are interesting," says the *New York Medical Journal*, "especially when we consider that formerly sufferers from organic disease of the heart were cautioned against all active physical exertion. They also seem to sustain Oertel's theory of cardiac therapeutics, which is still so strenuously combated by many writers." Prof. Vogt adds that the comparative immunity from heart disease at the higher levels was especially marked among the agricultural population. In the industrial districts there seemed to be a deviation from this rule. He thinks that this deviation is more apparent than real, and calls attention to the fact that the artisans in the mountain towns are mainly employed in indoor work, such as watchmaking and machine embroidery, whereas in the lower regions they are engaged in the building trades and similar occupations calling for constant movement of the body. This explanation receives support from the results of an investigation of 120,000 recruits for the army, from which it appeared that occupations involving a sedentary life in confined air showed a prevalence of heart disease above the average in almost every instance.

HUNGER AND INFECTION.—There is a popular notion that a person is more likely to take a contagious disease when the stomach is empty. Although this fact seems to be well established by experience, nevertheless until recently it had never been established as a scientific fact. Experiments have lately been made upon pigeons, by two Italian physicians, which demonstrate beyond any reasonable doubt that hunger is favorable to the activity of the infectious element, whatever it may be. Pigeons that had been starved, were found to be very susceptible to the contagion of anthrax, although when well fed, they were not at all subject to it. Thus it appears that hunger in some way lessens the ability of the body to defend itself from the attack of disease germs. This is probably largely due to the fact that when one is hungry, there is no gastric juice in the stomach, so that the protecting influence of this fluid is lost; while the lowering of the vital powers as the result of want of food, lessens the resistance of the body to disease.

DR. MACAN, ex-master of the Rotunda Lying-in Hospital, Dublin, gave an instructive lecture on the subject of The Health of Mothers before the members of the Ladies Sanitary Association, in which he said: Lawyers did not go about, at the instance of philanthropic ladies, giving lectures as to the best way of avoiding the law or of escaping from it at the least cost by those who were unfortunate enough to get into its meshes. But the self-sacrificing character of the medical profession had emboldened the hororary secretary of this Society to ask him to give a lecture to mothers as to the way in which to keep themselves in health. Something might be gained by him in this if it were the custom in this country, as in China, for the doctor to be paid for keeping people in health, and his salary stopped when they got ill; for then he might hope that some of his hearers might come and employ him to keep them in health, and not wait until they were really ill to consult him.

VAN MOLTKE, at ninety, it is authentically reported, rises at five o'clock, makes his own cup of coffee over a spirit-lamp, and busies himself with garden and farm till ten, when he takes a bowl of soup, or a biscuit, with a glass of wine, for a second

breakfast. After this he attends to his correspondence or other business till one. From one to two he lies down. At two he dines sparingly, and works again till friends drop in, with whom he talks or walks, till his eight o'clock tea, and at ten he is in bed. He attributes his clear head and good health to his regular and abstemious habits.

AN EXCELLENT proposal has been made,—that there be cheaper steam-ship travelling across the Atlantic, chiefly it appears by reducing the expenses of the table on the boats. H. P. in the *Illustrated London News* says: "This would be quite possible if the living on board the splendid vessels between New York and Liverpool were less costly. Plain, substantial, and enough is all that is required. Under the new diet regime, of course, there would be less ground-bait for the fishes, yet more comfort for the passengers." This *JOURNAL* strongly supports this wise proposal.

A LITTLE KNOWLEDGE, especially in regard to medicine, is said to be a dangerous thing. But it is not a dangerous thing, provided it be knowledge. The self-reliant and pitiable conceit that so often crops up in those who possess the merest smattering of it, is a dangerous thing however.

"**TOMATO POISONING**," is a headline rough on the tomatoe. Dr. Mills (*Int. Den. Jour.*) describes a form of recession of the gums of the superior molars, which he believes to be due to the use of tomatoes as food. Great sensitiveness is manifested along the line of recession, similar to that of an exposed nerve. The only remedy was found to be abstinence from tomatoes. If the disease continues, the teeth gradually fall out.

DIED OF DINNERS, and not of "overwork," is what Miss Kate Field asserts of the late Justice Mathews. She cruelly exposes the sad fact that Chief-Justice Waite and Justice Miller also died of dinners, and that the other members of the Supreme Court are in imminent danger of going, from the same cause, to a sphere where "dinners are unknown."

THE CIGARETTE VICTIM is becoming a daily feature of the current news now, says a Philadelphia paper, and it took the filthy little rolls rather longer than was expected to perfect their work, but they are now making a brave showing, which may be expected to increase rapidly as the constitutions of the victims give way.

NAPLES was called "the typhoid preserve of Italy," but she has banished that disease from her bounds by introducing a supply of pure water from the hills.

DR. J. S. TENNANT, medical officer of Kinloss Township, regrets to have *again* to draw the attention of the Provincial Board of Health to the very unsatisfactory sanitary state of the schools and school grounds in Kinloss. "The ventilation of the school room has received little if any attention, the only supply of air being from the door or peradventure a broken window. No attempt has been made to drain the grounds and nature has been left to adorn them. It is to be hoped that during the next season some efforts will be made to remedy these evils."

ON DRAINS and diphtheria. Dr. Thorne Thorne, in his recent Milroy lectures before the Royal College of Physicians says, drains may possibly retain a diphtheria contagium received through the sputa and dejecta of the sick; but the main influence of drain effluvia in relation to diphtheria is held to be the preparation of a soil by means of a morbid surface of the fauces, ready to receive and promote the development of the wandering specific organism.

RELATIVE to poisonous baking powders again, observe that the Scientific American recently published a list of ninety-five baking-powders, including the Royal (which is claimed by its manufacturers to be absolutely pure), everyone of which contained either alum or ammonia. Ammonia, as well as alum, is harmful, and should never be used, in any form, in connection with foods.

THE Minnesota State Legislature has recently passed a law requiring that all baking powders containing alum shall be labeled, "This baking-powder contains alum." "Every body ought to know that alum is a poisonous substance, and is productive of serious diseases when used in the form of baking powder." Nearly all baking-powders now selling in the market contain alum or ammonia.

TO DETECT alum in bread, an exchange says: "macerate in three or four table-spoonfuls of water a half slice of bread. Strain off the water, and add to it twenty drops of a strong solution of logwood. Then add a large teaspoonful of a strong solution of carbonate of ammonium. If alum be present, the mixture will be changed from pink to a lavender-blue. This test will discover a grain of alum in a pound of bread.

THE MEDICAL OFFICER of the Township of Ops, Dr. T. W. Poole of Lindsay, in his report to the Provincial Board of Health says: "As in this community, as well as in extensive areas of country both in Europe and America, by far the greater number of deaths, amounting to about one in seven, is due to pulmonary consumption, I think the fact now fairly established, that this terrible disease is contagious, ought to be more widely known, and greater precautions taken both in public and private to protect the healthy from a source of danger to which they are often unwittingly exposed."

WIRE is rapidly replacing hems, linen, &c. in cloths lines. It was found that the old fashioned ropes harbored minute life, and in some instances were infected with the germs of malignant diseases. This caused a rush for wire clothes-lines, which are becoming almost universal. There are now also manufactured wire pillows, wire bolsters, and wire upholstery lining, all of which meet with large and increasing sale. Wire affords no soil for vermin or disease germs.

IN A NEW BOOK, by Dr. Pauline Tarnowsky, the author believes, with Lombroso, Morel, and others, that the criminal is a degenerate, pathological being, in whom are accumulated the morbid elements of his ancestors, whose diseases (such as phthisis, syphilis, and alcoholism) give rise to weakened vitality and the anatomical and psychical deviations from the normal type in their offspring. Hence, to diminish crime it is not sufficient to punish the criminal, but the social conditions from which he springs must also be ameliorated.

PEOPLE are willing and eager to speak in warmest praise of the physician who has brought them safely through some awful crisis, of disease; and rightly. But how seldom do they recognize or appreciate that greater skill which prevents disease on that detects it in its early stages, and so promptly and wisely treats it that the patient does not go down into the shadow of death. The greatest skill is habitually displayed in treating the every day ailments, so commonly regarded as trivial and unimportant; and almost every physician of large experience knows that much of his best work passes unrecognized and unthought of.

EDITORIAL NOTES.

MEMBERS ELECT of the new Parliament may well be reminded, and now as soon as possible after the excitement and worry of the elections, that directly after the general elections to the late parliament, the mortality amongst the members began to increase abnormally. Fifteen of the members died during the first three years, up to March, 1890. This was at a rate of mortality more than double that of men at about the average age of the members, or about three times over that amongst persons whose lives are insured. Attention has been called to this before now in this JOURNAL, but in view of the value of such lives, it may not be out of place to frequently remind members of the fact, in order that such loss may, if possible, be avoided.

THE CAUSES of, and the remedies for, the high rate of mortality among the elected members of the last parliament it is not possible to give with certainty. We believe the mortality was much the same in the previous parliament. There must be some special cause for the life of the politician being much the most hazardous of all ordinary occupations. It is not probable that the chamber of the Commons has any connection with it. As we have already said, it must be from want of care on the part of each individual member for his own physical well-being. He is in most cases too much occupied in other ways to pay reasonable attention to the simple requirements which health and life demand, while very few indeed at their average age have such a constitution as will permit them to ignore these requirements with impunity. The health of the members, like that of almost everybody else, is, in each individual case, in their own hands. The many deaths among them, however, should at least put them upon their guard.

IN THE INTERESTS of the public health, it is to be much regretted that so many of the medical members of the last parliament will be absent from the present one. Some new ones have been elected, but the places of Drs. Platt and Ferguson, who took special and active interest in the question of Public Health legislation, it may not be easy to fill. It is gratifying to find that Dr. Roome, who had taken the leading part, has been returned, and we hope that his election by such a largely increased majority has

been the result of his most prominent action on behalf of the interests of the health of the people. It is at least a good augury.

SPRING CLEANING TIME is at hand and it may be that some of the local boards of health as well as individuals may require to be reminded that the hot weather is a bad time to disturb accumulations of winter refuse or filth, and such should be invariably removed and disposed of before the very warm season commences. It is now high time that preparations were everywhere in Canada being made for "cleaning up," and also for the most THOROUGH work in this behalf. In nothing is routine, perfunctory or incomplete work so objectionable or so bad as in sanitation.

THE CHOLERA is keeping very quiet it appears just now. It may possibly be the "lull before the storm" In Syria it has not appeared afresh since January 22nd, and clean bills of health are now being given to vessels leaving Syrian ports. In Japan the disease appears to have subsided. It is impossible to predict the possibilities of the warm or hot weather in these places or elsewhere. The only safety is in being prepared for it, in every city, town and village—to keep a "clean bill of health" in "standing" order.

THE MORTALITY rate in England and Wales in 1890 is given in the last British Medical Journal, February 28th. The death rate which in the previous two years, 1888 and 1889, had been only 17.8 and 17.9 per 1,000 respectively, the lowest on record, rose during 1890 to 19.2, which was, however, a lower rate than in any year prior to 1881. The recorded death rate in each year of the past decade, 1881-1890, was lower than in any year since the establishment of civil registration more than fifty years ago. During the ten years 1881-90, the mean annual death rate did not exceed 19.0 per 1,000, while in the preceding ten years, 1871-80, it averaged 21.4. It is quite natural that there should be an occasional break in the gradual decline. It is probable that in a year or two it will fall lower than ever before. In the twenty-nine towns last year, the mortality was 21.3, higher, too, than in the previous two years; but between 1871 and 1890 it averaged 24 per 1,000. In London last year the rate was 20.3.

THE BIRTH-RATE declined to about 30 per per 1,000 last year in England and Wales. It has steadily declined since 1876. when it was 38 per 1,000. The amount of emigration from each division of the United Kingdom showed a considerable further decline from that recorded in 1888 and 1889.

THE FRENCH capital, like the greater part of the rest of Europe, has suffered severely from the recent Arctic weather. Frost set in on November 26th, and lasted without intermission till January 21st. In the third week after the beginning of the cold weather, the death-rate rose above the average for the time of the year. The greater mortality was entirely due to diseases of the respiratory organs. On the other hand, the effect of the thaw on the death-rate was immediate, the mortality falling at once.

IN CANADA, after the census, soon to be commenced, we shall be enabled to estimate the mortality in our cities and towns in a much more satisfactory manner than has been possible in recent years with such discrepancies in the reports as to the population of the various places. So unsatisfactory was the result of the effort to estimate the rates that we gave up the effort entirely for the time. But last-year's record shows, according to the estimated population, that the mortality here was much higher than in England and Wales, or as stated in the JOURNAL of January, about 21.5 per 1,000.

BY ACCIDENT—without, usually *from want of foresight*—569 deaths were brought about in 1889, in the twenty-nine principal cities and towns in Canada, according to the special bulletin issued from the vital statistics branch of the Department of Agriculture here, and as largely noticed by the press,—569 sudden, violent deaths, mostly from want of care, and forethought ! If "everybody" were familiar with the ready method for restoring the apparently drowned, many of the 102 cases of death from drowning would doubtless have been saved. Stringent legal measures relative to the labelling of poisons might have saved many of the 26 deaths from "accidental" poisoning. While a heavy tax on revolvers and guns might have prevented the deaths from the "I didn't know it was loaded" cause.

THE SUFFOCATION of nearly one hundred infants in the the twenty-nine cities and towns of

Canada in 1889, as shown by the special bulletin sheet above mentioned, did not create quite such a feeling of honor as would have been the case had they all been suddenly suffocated together, in a mine, for example. Yet why should it not ? Is the calamity lessened by the fact that they were killed one at a time and place ? What an inconsistent "public" mankind make up ; especially in all things concerning health and life.

THE LATEST on the "Koch cure" is somewhat as follows : At a recent meeting of the Faris Societe de Dermatologie (Brit. Med. Jr., Sup. Feb. 21st), M. Besnier, as the senior member of the committee appointed to study the effect of Koch's treatment at the Hopital St. Louis, presented the first report of 50 cases, mostly of lupus, treated by the committee. He says, "In not one of the patients inoculated have we obtained a result superior, or even equal, to that which we should have got by our ordinary methods of treatment in the same space of time. The action, he declares to be insufficient to effect a cure in the immense majority of cases. The remedy cannot produce its effect without causing systematic disturbance, which may be dangerous or even fatal. It may further quicken into mischievous activity tuberculous foci which till then were latent, and might but for it have remained so."

DR. GEO. T. ROSS, Prof. of Physiology, University of Bishop's College, Montreal, who has just returned from Berlin, in a paper recently read before the Medico-Chirurgical Society of Montreal, said "Koch's method was born of reason, of logical deduction ; it must be nurtured and developed and applied likewise, if it shall prove a permanent beneficence. While we have a most potent ally to the forces which modern medicine has not unsuccessfully marshalled against consumption in the past—viz., fresh air, exercise, diet and hydrotherapy—we must still depend upon these for establishing that resistance to the disease which they have so often afforded us in coping with it.

AT LAST Toronto has appointed a Medical Officer, at about half pay. Well, possibly if good results follow the efforts of the new man the honorarium may grow—slowly, doubtless, at best. Dr. Pyne who had been so long acting officer was hardly well treated, and it appears withdrew from the "contest." Dr. Allen will have

abundance of work to do, and by the time he has conquered all the many causes of disease still flourishing in the Queen City of the Dominion—flourishing chiefly for want of money which should be forth coming to surpass them—he will not probably long much for more such “worlds to conquer.” He is to be congratulated however on the confidence in his ability which has apparently been placed in him, and this JOURNAL wishes him success.

OTTAWA may fairly be proud of Her Lady Stanley Institute for Trained Nurses,—A fitting and lasting monument to the memory of the lady to whose efforts we are mainly indebted for it, and by whose name it is deservedly known. It will we trust provide many fair co-agents in the direct promotion of health. The situation of the building is admirable as to healthfulness and convenience and the structure itself seems to be all that could be desired, with one important exception: there is no special provision whatever for the admission to the lungs of the proposed occupants of the first essential of life,—pure, fresh air. It is a great pity that in an Institute of the kind, and too in this somewhat advanced period of hygienic progress, a better example could not have been set forth in this essential of ventilation. True there is provision for one important part of this process,—flues connected with warmed chimneys for withdrawing the breathed or foul air; but that in any such building reliance should now be placed only upon drafty windows for fresh air inlets, manifests marked want of architectural, or ante-architectural, skill or forethought. We would urge that some money be expended in yet supplying this important defect, before the building is occupied.

AN EPIDEMIC of diphtheria at Croydon, Eng., invading 65 dwellings, has been conclusively traced to the milk supply. The farm and dairies supplying the milk were carefully examined but Dr. Philpot, the Medical Officer, was unable to point any condition which could be said to cause the effect. With regard to the cows, however three animals which had been brought to the sheds at a recent date were found to be suffering from an eruption of the teats, and the disease had spread from the new comers to other of the cows. Subsequently Dr. Klein on examination said “that the disease was identical with that which has been known to occur in cows in other diphtheria epidemics, and with the diseases which he had actually produced in cows by injecting them with the diphtheria bacillus”;—referred to in the article on this disease on other pages herein.

ON THE PREVENTION as well as “cure of consumption, a correspondent of the British Medical Journal writes: While we all recognise the efforts made lately towards the prophylactic and hygienic treatment of tuberculosis, yet Professor Koch’s “cure” only intensifies the long-urged medical dictum, that, for some amelioration of consumption, cancer, and such germ diseases, it is not alone sufficient to improve the vital resisting force, or to starve the bacilli by cutting off their pabulum; but it is essential that the public be instantly roused to enact, that in such cases, the sputa, discharges, etc., should be carefully destroyed; and more especially that the corpse should be cremated instead of being consigned to the earth to be shortly after “imprisoned in the viewless winds and blown with restless violence round about the pendent world,” along with other poisons not less dangerous to the living.

A New York doctor asserts that to his positive knowledge the persistent habit of gum-chewing has produced mental weakness in fourteen cases of young girls who are now under medical treatment “Good Health” says “it is a question whether the mental weakness is the result of gum-chewing, or the gum-chewing the result of intellectual feebleness.” Certainly the habit is not one indicative of a high grade of mental development.

DR. EICHENBERG from experiments made on himself has found that a small dose of strong alcohol—*e. g.*, brandy—shortens the time that food in general, whether animal or vegetable or a mixture, remains in the stomach, by more than half an hour. A similar but not quite so marked effect is produced by a dose of dilute hydrochloric acid or mustard. Pepper and condurango diminish the time the food remains in the stomach by about a quarter of an hour. Beer and an infusion of rhubarb had no effect.

DR. R. T. MORRIS, OF NEW YORK, in the Section on Surgery and Anatomy, at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn. last May, said, (as published in Jour. of the Am. Med. Assoc.) “As the ferret hunts the rat, so does Peroxide of Hydrogen follow pus to its narrowest hiding place, and the pyogenic and the other micro-organisms are as dead as the rat that the ferret catches when the Peroxide is through with them. Peroxide of Hydrogen, H₂O₂. in the strong 15% volume solution, is almost as harmless as water; and yet, according to the testimony of Gifford, it kills anthrax spores in a few minutes. For preventing suppuration we have bichloride of

mercury, hydronaphtol, carbolic acid, and many other antiseptics; but for stopping it abruptly, and for sterilizing a suppurating wound, we have only one antiseptic that is generally efficient, so far as I know, and that is the strong Peroxide of Hydrogen. Therefore I have qualified it, not as "good," not as "useful," but as "necessary."

OBSERVATIONS made in Buenos Ayres, where diphtheria has been very prevalent, go further to show the intercommunicability of this disease between man and animals. Most of the houses in that city have open spaces within, known as *patios*. These are not paved, and among the poorer classes horses and hens are kept in them. The soil is retentive and always damp, and hens living in these places are subject to a throat disease which is without doubt diphtheria. From the statistics given, there seems to be no doubt that children in large numbers contract the disease from these animals. It is well known too that in the French army diphtheria is three times as prevalent in the cavalry regiments as in the infantry. The same holds true in Germany and in other countries.

DR. OLIVER WENDELL HOLMES, who has uttered many wise sayings, never said a truer thing than that "the best prescription for longevity is the acquisition of an incurable disease," whether regarded satirically or seriously. How frequently we hear of the death of some one, whom we supposed to be in robust health, while the "chronic invalid" "hangs on" for years. The knowledge that one has some chronic disease brings about that regard for hygiene which tends to counteract the fatal tendency of the disease and to indefinitely prolong life; while, on the other hand, the feeling of supposed perfect health renders one less prudent if not absolutely reckless.

ORDERS have been given the Prussian Army Surgeons to measure the chests of recruits every four weeks. All are to be regarded as narrow-chested the circumference of whose chests is less than half the length of the body. Narrow-chested men, whose bodies are not widened by drill, are to be regarded as predisposed to consumption and to be discharged as soon as possible, lest they infect healthy soldiers.

AN ENGLISH PHYSICIAN suggests that the reason why the women of the present day have such small waists in comparison with those of the women of some generations back, is because they are undergoing a process of evolution by which their brains are getting larger and their waists smaller. Although corsets have doubtless caused many deaths—badly made corsets

and weak young women not knowing how to wear them—and so has Koch's "cure" caused many deaths, already, but we have always maintained that this much abused under garment has done much good—made women more graceful, and, it *may* be, developed the brain. The only ones we can recommend, however, are Ball's Elastic Health Preserving Corsets, made by Messrs. Brush & Co., Bay Street, Toronto. All ladies over whom we have much influence wear only these.

THE MODEL FEMALE FORM of average size, scientists says, should measure about as follows: Height, 5 feet 4 inches; circumference of neck, 13 inches; chest, 34½, with an expansion and contraction of about 4 inches; arm, largest point above elbow when straight, 11½ inches, when bent, 12½; arm below elbow, largest point, 10 inches; waist, 27½ inches; hips, 37 inches; thigh, 20 inches; calf, 14; and weight without clothing, 129 pounds.

THE Committee on Public Health of the Massachusetts Legislature recently passed a resolution that the State Board of Health should undertake an investigation into the dangers to human life and health arising from tuberculosis in the food products of cattle. It was recommended that authority be given to spend a sum not exceeding 15,000 dollars on the inquiry.

STATISTICS of longevity just published by the German government, show that in 1888 there were ninety-one persons in Prussia who were over a hundred years old, and between 1864 and 1888 upwards of seven thousand persons of over a hundred died, and of these one hundred and fifty-five were more than one hundred and nine.

FURTHER, in relation to longevity, Dr. Chas. Cotton, M.R.C.P., etc. (Ramsgate), writes to the British Medical Journal (March 7th inst.) "During the years 1879 to 1889 there were 177 deaths amongst the patients in my practice in Ramsgate (not including infants under one year of age); their aggregate ages amounted to 10,258 years, an average age of 57 years, 7 months 8 days. Of the total number, 42 died between the ages of 70 and 80, 27 between 80 and 90, and 7 between 90 and 99. Thus five-twelfths (or nearly one half) of the whole number lived to be over 70 years of age.

PROF. F. W. NEWMAN, of London University, brother of the late Cardinal Newman, and one of the most eminent literary men in England, has been a strict vegetarian for more than thirty years, it is said, and during a considerable portion of that time has been president of the Vegetarian Society of England. He is still active, although more than eighty years of age.

PURE OKUM toilet paper is coming into use, and will doubtless be very suitable for the purpose intended. It is specialy prepared from oakum, and possesses the odour of the tarry matters contained in the original rope. It is very tough and does not tear with moisture, and becomes soft and unirritating when gently rubbed.

DYER'S IMPROVED FOOD FOR INFANTS is another baby food now in the market, prepared by Messrs. W.A. Dyer & Co. of Montreal. The good effects of long continued heat in rendering all starchy foods more digestible are well known. The process in preparing this food consists in converting the starch, by means of continued heat, largely into a form of Dextrin, but not into Maltose or Glucose; thus allowing the digestive organs of the baby to accomplish what it can without being overtaxed.

AS A BREAKFAST dish for all who use porridge we believe there is no other food in the world equal to the Desiccated wheat of the Ireland National Food Co., of Toronto. Wheat we believe to be the most natural food for man, and in this crushed or cracked desiccated form it makes the most digestible and nutritious of all cereals.

FROM AN EXPERIENCE of several years we have pleasure in recommending Vick's garden seeds. We believe there are no better, few so good. His roses, too, and bulbs, we have found all that could reasonably be desired.

NOTES ON CURRENT LITERATURE.

THE ILLUSTRATED LONDON NEWS (Amer. ed'n, World Buil'g New York) is surpassing itself in excellence in some recent numbers. That especially of Feb. 21 is like a holiday number, giving some very fine tinted illustrations of "D reams," by Jerome K. Jerome. Such well-known writers too as James Payn, Andrew Lang, Walter Besant, Robert Buchanan, Clement Scott, Dr. Richard Garnett, William Archer, Edmund Gosse and Frederick Greenwood are frequent contributors to this paper; while recent extensive alterations in the literary make-up of its columns has made that department much more interesting and attractive than ever before.

The DOMINION ILLUSTRATED is steadily improving under its present energetic management, and is, it appears, as steadily growing in public favour. The enlargement afforded opportunity for great improvement in its literary contents, the contributors to which now include many well-known writers, Historic

sketches, healthy fiction, crisp editorials on current topics, bright correspondents from London, New York, Toronto and other cities, sports, etc., make up, with the numerous illustrations dealing chiefly with Canadian scenes, events and personages, an excellent journal for Canadian readers, which should have a large circulation.

THE METHODIST MAGAZINE for March is one of the best numbers of this interesting monthly that has ever been issued, and gives strong evidence of a permanent improvement in the periodical. Besides many "Footprints of Wesley" and much other matter, it contains two very interesting articles—"Through Hungary," and "On the Track of St. Paul"—Cyprus Rhodes and Smyrna," both well illustrated.

THE CENTURY for March has a third instalment of the famous Talleyrand Memoirs dealing with Napoleon Bonaparte, Josephine, and the Emperor Alexander. The California series takes up the Fremont explorations, first with a brief paper giving a resume of the first exploration; second with a paper by Mrs. Fremont on the "Origin of the Fremont Explorations"; and third, with a post humorous narrative of the terrible experience of the fourth expedition under the title of "Rough Times in Rough Places," being a personal record of Micajah McGehee of Mississippi. It is an excellent number.

A DECIDED ACQUISITION to the staff of the Cosmopolitan Magazine is Mr. Brander Mathews, President of the Nineteenth Century Club, the well known litterateur, who takes charge of the department of book reviews. His keen critical taste and fine judgment in literary matters will make his opinion valued in every household. Added to his name are that of Edward Everett Hale, in charge of "Social Problems;," Murat Halstead, reviewing "Current Events;," and Miss Bisland, with her European articles, which give the Cosmopolitan a staff of exceptionally good writers.

In the POPULAR SCIENCE MONTHLY for April the subject of Street Cleaning in large cities will be treated by General Emmons Clark of New York. The article will include explicit practical suggestions for the proper performance of this important work. The battle between Prof. Huxley and the defenders of theology is still going on in the monthly. That for April will have an essay by the Duke of Argyle, entitled Prof. Huxley on the war-path.