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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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VOL. XII.

AUGUST, 1890.

No. 8.

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CHECK TOO EARLY MARRIAGES.

ONLY a few months ago we protested against early marriages. It is a subject, however, which is not considered and discussed as fully and as publicly as it should be. Early marriage means early maternity, with its great responsibilities and often troubles and trials, to the wife. This is, indeed, a very serious question, and one which all parents who have at heart the future well-being of daughters, should deeply consider. A vast amount of sickness and misery has resulted from too early marriages. As we have said, in more primitive times the early marriage of young women or even girls was less objectionable than it is now when marriage involves greater responsibilities and duties. A recent number of the *Lancet* says: "A variety of arguments, based on science, prudence, and economy, have often been urged against the headlong folly of very early marriage. Reasoning of this kind, however, has unfortunately but little influence with such as those who commit the folly in question, for, indeed, it is not reason in any recognizable degree, which guides their crude calculations. If it were, the probability of overstrain in childbirth, which is the natural counterpart of early

functional activity, of domestic discord and beggary, and their too common social accompaniments, would not be so freely and frequently encountered. These matters are part of the tribute which will always be paid while, for the want of native sense and sound home-training, fancy is allowed to guide one of the most important concerns of life. The one available means of cure for this prevalent evil consists in a just exercise of parental control, but this, we need hardly remind ourselves, is only too easy of evasion." The Holborn Board of Guardians have decided to notify the Registrar-General as to the wisdom of instructing an official to make personal inquiry, in suspected cases, respecting the wishes of the parents in regard to the matrimonial ventures of their children. "The proposal is certainly a sound one," says the *Lancet*, "and represents the minimum of justifiable interference."

What is the age to first marry? Complete maturity—completion of growth—womanhood and manhood. This period varies in different families, but is rarely reached in temperate climates in the female before the age of twenty, often of twenty-five years.

DIPHThERIA IN CATS AND COWS—IMPORTANT EXPERIMENTS.

THE following is an extract from a communication from the London Special Correspondent of the *Therapeutic Gazetteer*, in the last issue of that journal:—An interesting communication has been made to the Royal Society by Dr. Klein relating to the etiology of diphtheria. The research will appear in full in the Re-

port of the Local Government Board for 1889-90. From these separate and independent sources accurate information was obtained as to a disease of cats occurring at the same time as outbreaks of diphtheria. This disease killed the animals, and appeared to consist chiefly of an inflammation of the lungs, —a kind of broncho-pneu-

monia. This was the fundamental fact which led Dr. Klein to investigate the subject, and the questions to which an answer was attempted to be given were as follows: Is this disease of the cats the same disease as diphtheria in the human subject? Is it caused by the same pathogenic micro-organisms? The results of Dr. Klein's experiments with cats correspond to what Löffler and others found in human diphtheria; in which the organisms are found only in the false membrane and near its surface, and not in the blood or in any other part of the body. The conclusion is that the general symptoms of diphtheria are due to a chemical poison manufactured by the bacillus in the false membrane or other local lesion. The disease and lesions as caused by the bacillus, separated from human diphtheritic membrane, is the same as that which is found in cats who become ill with a peculiar disease when diphtheria is epidemic; and, moreover, from this natural disease in cats, the same bacillus was found and separated as in human diphtheria. There seems no reasonable doubt, therefore, of the identity of the two diseases, an identity which is well confirmed by the remarkable kidney lesion observed in the cats.

Important however, as this connection of the domestic cat with the etiology of diphtheria, the experiments on the action of the diphtheria bacillus on cows are, if anything, more important. Many sanitary officers who have investigated epidemics of diphtheria have come to the conclusion that milk may be a vehicle for the transmission of the poison. Whether the milk derived its infection of diphtheria from the cow itself or from a case of human diphtheria is, on the face of it, an all important question. Dr. Klein inoculated two cows with the diphtheric bacillus, and found that they exhibited symptoms practically similar to those noticed as occurring in cats,—viz., a local œdema and necrosis of the soft tissues, with a subsequent bronchopneumonia and fatty degeneration of the cortex of the kidneys. Inflammatory vesicles developed on the teats and udder of the cows which rapidly became pustular

and scabbed over. These vesicles, therefore, resembled cow-pox, and indicate, what was often suspected, that there are probably several distinct diseases included under the term cow-pox. However this may be, and it is a matter for future research, the fact had, previously to Klein's researches, been noticed that in these epidemics of diphtheria, where the source of infection was traced to the milk-supply, an eruption on the udder like cow-pox had been noticed. The vesicles and ulcer contain the diphtheritic bacillus: does the milk also contain it? In the cows experimented upon by Dr. Klein, the milk was withdrawn with all antiseptic precautions, care being taken that the vesicles, etc., were not touched. The milk as obtained was found to contain the same diphtheritic bacillus that had been subcutaneously injected into the animal.

We have here, then, a possible explanation of the mode by which a disease of the cow can convey to the milk the poison of diphtheria. That the milk so obtained in Klein's experiments was infective was shown in a curious way. The attendant was told to throw the milk away, but instead of doing this, he gave it to two cats, which were then in the laboratory (Brown Institution). Both these cats died, and not only so, but they infected over a dozen cats which were in the same room with them, and these cats had the typical diphtheria of the cat. This natural experiment is naturally very important; but a crucial test will have to be applied by feeding healthy cats directly with the milk derived from a cow suffering from diphtheria, and seeing whether they succumb to the disease.

THE Secretary of the N. Eastern Sanitary Protective Association of England, says: "You do not permit a little clean sand to be added to sugar—lard to butter—or water to milk. Much more good may be effected by transferring your carefulness to the department over which you have absolute control—by seeing that your Lung Food (pure air) is not tainted before you swallow it.

SANITATION IN RELATION TO BUSINESS. :

THE Sanitary News, of Chicago, gives a very suggestive article on this subject, which business men, (and who is not a business man?) would do well to give heed to. In every community there is, aside from all other interests, a business interest. Where there is no business, no commercial activity, and no effort to produce something, there can be no prosperity and no happiness. A community being the aggregate of individual units—a multiplication of the individual, its character and collective energy is the whole of its individual parts, just as an army is strong because its individual soldiers are. As the character of everything depends on that of the parts of which it is composed, so, the business prosperity of a community depends on that of the individuals composing it. But on what does the prosperity of the individual depend? Everything else being equal it depends on the physical ability to render some service, the ability to do something, the health, in short, the physical condition of the individual. Other things equal, the prosperity of a man depends on his physical capacity for work. Render him physically incapacitated and his personal means for gaining a livelihood cease. Make him strong and healthful, and he has the elements to attain prosperity. What is true of the individual is true of a collection of individuals, and, hence, the prosperity of a community depends on its healthfulness. "Health has a money value outside of every other consideration, and those interested in the industrial and business progress of a community cannot ignore the important element of health and attain the highest prosperity. Notwithstanding this fact we must confess to a lack of interest in the preservation and promotion of health on the part of that portion of a community generally designated as 'our leading business men.' These 'leading business men' seem not to recognize the importance of health as an element of great value in the

business progress of a community. They give that over to municipal machinery, which too often is run by political motors in the interest of party ascendancy. It would seem unreasonable that business men, interested in the means of developing industrial progress, would neglect so important a factor as health, but they do. It probably results from a lack of proper realization of the value of this element, or an ability to see wealth, or the means of producing it, as only tangible objects. To such an extent is this true that we often see our business men opposing schemes for the promotion of the general health on account of their cost, and too often prove themselves unfriendly to health boards, building inspectors, inspectors of plumbing, smoke inspectors and like offices maintained for the promotion of health. Of so much importance is the factor of health in the general progress of industrial and business interests, that the most cordial co-operation should enlist itself in support of health ordinances and agencies designed for its promotion. This liberal spirit should be so thoroughly and actively operative as to set the bounds of political influence and interference to the extent of establishing independent and unhampered administration of health laws. It is the office of sanitary science to preserve and promote health. It has its agencies through which it operates to this end. It asks at the hands of the state and city laws and ordinances by which officers may be selected to enforce the observance of hygienic laws. The efficacy of these depends largely on public support and the co-operation of all citizens. The business interest of every community should enlist itself in this cause, and lend its support as a profitable investment. Sickness is not only a cost to be borne, but, by lessening the power of production, it retards business progress. As a business proposition the healthfulness of a community is worthy of the deepest consideration."

ITALY'S ADMIRABLE PUBLIC HEALTH ACT.

LAST year Italy made a great stride in public health legislation and has now what is probably the most complete sanitary system in the world. A good example for Canada. It has been designated by English sanitarians as a masterpiece of scientific legislation, a "complete code in outline, the details of which can be from time to time filled in without necessitating the repeal of a single clause," strongly contrasting with many clumsy and imperfect efforts in the same direction. Two ideas.

Besides the care of the public health the act provides for the medical relief of the poor, the hygienic aspects of manufacturing and other industries, the health of the army, navy, and mercantile marine, the control of the sale of food, the purity of water supplies, diseases of domestic animals, the pollution of rivers, the practice of medicine and pharmacy, registration of births and deaths, all of which are co-ordinate and inter-dependent branches of one great department of social economy and legislation.

The control of the public health is not to be entrusted to boards elected by popular suffrage or other issues than that of special fitness; the boards are to be distinct from the local authorities, be composed of experts in the several branches of the science and art, and be, together with the higher sanitary officials, appointed by an independent authority, viz., the Crown, so as to be uninfluenced by the fear or favour of the rate-payers and the public, over whose interests they have to watch.

Instead of the precarious method of "catching" a dealer in provisions or drugs unawares, or, more often, on the alert, the Italian law enjoins a deliberate inspection of all his wares at uncertain intervals, while the penalties, fines, and imprisonment, are much heavier than in most other countries.

A noteworthy feature of the Act is the judicious balance of the relative claims of central control and of local self-govern-

ment, with a corresponding distribution of the fiscal burdens.

While the administration of the public health in the widest meaning of the word devolves on the Ministry of the Interior, the prefects of the provinces, and the syndics of towns and communes, the minister and the prefects respectively are advised by a superior and provincial councils appointed by the Crown, (somewhat as advocated by this JOURNAL for this Dominion) composed of specially qualified physicians, engineers, chemists, pharmacutists, veterinarians, jurists, and members conversant with administrative business; the medical and engineering members varying in number with the population of the provinces, and each of the other professions having but a single representative. The heads for the time being of the medical services of the army, navy, and mercantile marine, the agricultural department and statistical office, with a principal law officer of the crown, were *ex-officio* members of the superior council. The provincial medical officers of health are appointed by the crown on the recommendation of the superior council, are restricted to such practice as is consistent with their official duties, and are irremovable *dum se bene gesserit*, the members of the provincial councils being appointed by the crown for three years, but eligible for re-appointment. The inferior or communal medical officers of health are appointed for three years, renewably, by the provincial boards, from the most competent in their opinion, of the practitioners in their districts.

THE Traction Company, of Philadelphia which controls the majority of the street car lines have had cards conspicuously placed in all their cars to the effect that "spitting in cars is positively forbidden." This rule it is said has resulted from the publication of the fact that the expectoration of consumptives contains the seeds of the disease.

MENTAL STRAIN.

BY M. CHARLES RICHEL.—TRANSLATED FROM THE REVUE SCIENTIFIQUE FOR THE POPULAR SCIENCE MONTHLY FOR AUGUST.

A BOOK on mental over-pressure has been written by Madam Manacéine for the protection of the men who are to follow us. A continuance of the kind of life that is now led in the great centres of civilization will involve the risk of compromising the lot of future generations. We are going blindly, groping, towards a new humanity, to issue from us, of which we can not predict the character. This humanity is in danger of being a poor affair indeed, from whatever point of view we may regard the case, unless we conduct ourselves better. Madame Manacéine has undertaken to analyze the present conditions of existence, physiological and psychological; to exhibit us to ourselves as we are; to draw a balance-sheet of our mistakes in habits and education, for the avoidance of a threatened decay. We owe her thanks for her generous and patient attempt.

We have no right to be unconcerned about the future of man-kind. We have an account to settle with the men of coming ages. We must be careful for them. They are worthy of our interest and forethought, and we should be very culpable if we did not have some care for the fate of our great-great-grandchildren.

The prominent characteristic of living beings, of whatever kind, is the tendency to resemble their parents. It is fatally irresistible, and dominant in all biological laws. By heredity we acquire this or that trait of our fathers, whether it be natural or acquired in them. The consequence of this fact is momentous, and has been admirably set forth by M. Marion in his book on Moral Solidarity. It is, that our children will be the same as we have been. They are our image and the faithful portrait of ourselves. A vice acquired by us will become natural with them. An accidental, physical or moral blemish, brought on by our faults, or errors, or carelessness, will become in them a natu-

ral blemish, and they will transmit it to their descendants.

Unless we are now able to preserve our mental and bodily forces intact, our grandchildren will be victims to our faults. They would even have the right, to a certain extent, to call us to account for our careless conduct. "What did you do with that vigorous body and healthy and sturdy mind that were given you by your parents? for it is by your fault that we are miserable and sickly." The importance of the question is thus well established. Since the future depends on the present, it is no less than a question of the future of men. This being fixed, the query arises, Is there mental overstrain? A careful examination of the facts gives us occasion to answer affirmatively. In consequence of the prodigiously artificial conditions of existence which our advanced civilization has imposed upon us, we have greatly modified the habitual and physiological life of our organism. A close study of the habits of contemporary men, such as the author of this book has made, will show that nothing is less in agreement with a healthy vitality than the mode of living of to-day.

From very early years children are shut up in work-rooms for many hours with tiresome books. They have no sufficient distraction from these books, no better prospect of good to be derived from them than the hope of some time passing an examination, complicated, hard, and encyclopedic, of a compass surpassing that of the knowledge of the wisest man that can be imagined. Then, in youth there are still examinations, still hours of study, still books, with only the scantiest provisions for diversion and recreation, except by resorting to fatiguing dissipations. Too much civilization, too much mental culture, with too little care for the physical part. Do we forget that the material structure is the organ of the mind, and

that the mind can not maintain itself in an enfeebled body? We ought to realize that sooner or later the body will avenge itself. We can not break away with impunity from the laws of sound psychological hygiene. The muscle that is not exercised becomes atrophied; the muscle that works too much becomes diseased. The mind that is not exercised decays; the mind that labors too much is distorted, and we reach the sad result of weakening the understanding by the excess of labor to which we subject it, of destroying the instrument we use.

The philosophers of the eighteenth century extolled what they vaguely called a return to the state of nature. They imagined that man was primarily a perfect being, and that, as his intellectual and social growth have gone on he has correspondingly degenerated and become vicious. Nature did well, they said, but civilization made him wicked. The reverse of this, however, is nearer the truth; and if we had to look for types of moral perfection, we should not go among savage peoples. Neither do savages excel the civilized races in vigor and health of body. But while we recognize that savages are not men whose bodies and minds are in a supreme condition of excellence, we have to acknowledge that civilized man has singularly neglected his body, that vesture to which it is necessary to attach some importance: for, without that vesture, there is no man.

It is indeed hard to maintain the equilibrium of body and mind. If we should try to lead an exclusively animal life, devoted to eating, walking, sleeping, and making love, we should find such existence insipid enough. We could not maintain it if we would, for there are a thousand features of our present life that we could not eliminate. But we can and should recommend and require that a considerable place be given to physical exercise. English youth, who practice passionately at cricket, cycling, and canoeing, are at the same time good Hellenists, and often excellent mathematicians. It is all the better for the mind to work, on condition that the body is also exercised. A

sound mind in a sound body was the ancient maxim of the school of Salerno, and no better formula has yet been found. Let us, then, have some regard for the well-being of the body. Let us learn to keep our muscles in full energy, to breathe the fresh and bracing air of the mountains and the sea; or, if these are too far away, the air of the fields around our towns. By brief distractions of this kind we will benefit the mind.

The sad thing about the matter is, that it is not so much intellectual labor, of which the mind is capable of doing a great deal, as irregularities in that labor, that do the harm. We are satisfied that the great workers who have performed grand achievements by genius or patience, owe their triumph less to a temporary excess of labor, than to continuous, regular, persevering work, interrupted by regular and systematic recreations. Above all—and it is the most important point—it is necessary to abstain from excess. Moderation, the just mean, which has been so frequently and so foolishly ridiculed, is in this matter, as in many others, true and practical wisdom. Not to force children to excessive work in school, to be able to take rest, to limit our ambition and desires as much as possible, to live for a few hours a day a purely animal existence, are what we ought all to try to do; and we should be recompensed for it very quickly by better moral and physical health. The value of that boon can not be over estimated. If we represent the co-efficient of happiness 100, 95 of the marks should go to health, while fortune and fame would only deserve the other 5. The affair is one of habits rather than of regulation, and legislation can have little effect upon it. Our duty is clear. The first thing is to reform the education of children and youth. Everybody should be made to understand that mental labor can be good only as it is moderate and accompanied by bodily exercise. Bodily activity should be encouraged, class hours diminished, and play hours increased. All this appears simple enough, and easy, for every body is at bottom agreed upon it. They all preach

moderation, and it has a fine sound. But is it ever easy to be moderate—that is, wise?

Civilization has certainly enormously extended our knowledge of every kind. A well-informed man to-day must know some three times as much as he would have to know two hundred years ago; and in another hundred years he will have to know as much more. But there is a limit to our mental capacity. We must learn to restrain ourselves. Instead of being encyclopedists, we shall have to be specialists, and even in our specialty will have to moderate our studies. We must never let physical needs—the open air, ex-

ercise, and sleep—be sacrificed to the demands of school examinations or the life of society.

We will end with a trite quotation. But trite quotations are the best, because they recall uncontested and incontestable truths. "Man," says Pascal, "is neither an angel nor beast." We shall have to submit to being, partly at least, animals, and consequently to take care of the animal which is half and perhaps a little more than half of ourselves. If the animal suffers, the angel will be ill. The future is for races that do not sacrifice their bodies.

DISINFECTION—HOW TO DO IT WELL.

COMPLETE and thorough disinfection is one of the most effectual means at our command for preventing the spread of infectious diseases. The process however is often done in a sort of perfunctory manner and is then of little use. The following brief outline of how to do it thoroughly is a somewhat altered extract from a good article which is now being given in the public health Journals:

The special germ which is carried from person to person in all infectious diseases, is a living thing, usually of a vegetable rather than an animal character, akin to moulds, mildews &c., and in each disease peculiar to that disease; but all are alike killed by certain agents used for that purpose. This killing of the specific poison is disinfection. This is the scientific use of the word but, in practice, we include under this process every measure which diminishes, or removes, the infection from the room, or house. Different diseases can be most successfully attacked in various ways, but there are certain rules which apply to all. These poisons agree in growing most luxuriantly in the bodies of persons who live in foul air, and in damp, uncleanly, ill-lighted places; some of them growing outside the living body. Overcrowding too many persons in a house or

room helps them, not only in this way, but by aiding their direct transmission from person to person. Hence the value of isolation.

The first essential in dealing with infectious diseases is to forefend them, by cleanliness of persons' clothing, and everything in the house. The only way to use this method of absolute cleanliness, is to make it a *rule of life always, before, during, after sickness*. When such diseases come and find such precaution not taken, it should not be neglected another hour, but all possible done IMMEDIATELY to make up for lost time. Among the means to this end, FREE VENTILATION is the most important; through and through ventilation, through windows and doors. This is possible in all rooms, even the cellar, not occupied by the patient, and should be repeated often enough to destroy the stuffy and mouldy odor peculiar to crowding. The dusting of rooms is best done at this time, so that the dust, the source and carrier of much foulness in the air of the house, may be taken away by the wind and oxydized and destroyed in the open air.

Another general fact, applicable to all eruptive diseases—scarlet fever, measles, small pox—is that a good greasing all over

with simple ointment—one part mutton tallow to two parts lard—is always in order, almost always a benefit as well as a remedy, and always does more than any other measure to keep the poison, ripening in the skin, in the body clothing instead of being carried about to others. The housewifely objection that it soils the clothes is true, but an advantage, as it compels more frequent change, not only of night dress but sheets and pillow cases. Put these immediately after changing into BOILING water. Use a little soap, but no chemical substance. It is the WATER, HOT TO HARD BOILING, which kills. Boil for ten or better twenty minutes, and then treat the clothes as if they had not been infected; they are perfectly safe.

Blankets, pillows, and bed ticks may be treated in the same way, and the clothing of the nurse. After recovery, the warm bath should be freely indulged in, with plenty of soap, repeated as need be till the last evidence of disease has disappeared. After death, the body should be wrapped in a sheet saturated with strong solution of chloride of lime and then put in tight casket for prompt and private burial.

As to the room: All else that cannot be

boiled, must be fumigated with moist sulphurous acid gas, and the room should be well steamed at the same time, by the boiling water in a tub, which may be helped by sprinkling the floor and walls with hot water before lighting the sulphur. After the fumigation, thorough "through and through" ventilation. Use hot soap-suds to the floor, and to the walls if wood or painted. If papered, the paper will have suffered by the moist acid, so that it will come off all the more easily. When it is once thoroughly off have the walls well washed, and never put on any more, but paint the walls. The ceiling may not be painted, but whitewashed with *hot* and *fresh* lime-wash. Remember one important point, especially as respects diphtheria. After disinfecting a room, or house, see that no moist, damp places remain. Have floor, wall, closets, every bit of wood work thoroughly dry, before occupation of the room again, and put off such occupation as long as possible.

Use plenty of sulphur,—3 or 4 lbs. to a small sized room, in a dish on a tub of water. A spoonfull of alcohol will help to ignite it.

CRIME AND THE PUBLIC HEALTH.

THE prevention of crime is a matter closely related to the public health, and now that prison reform is engaging attention it will be well to draw public thought to this close relationship. It is now well known by all persons of intelligence and education that all criminals are physically defective, in a small or greater degree, and furthermore, that all physical defects are the result of transgressions of the physical laws—the laws or rules of health—by the ancestors, generations back, of the criminals. These may be regarded as facts well established by anthropological studies, by the well known evil consequences of a neglect through several generations of ordinary physical

or hygienic requirements and by the excellent results upon the mental faculties of criminals of proper physical culture for even a short period; even the adult brain and mind may be improved by the various procedures included under the head of physical culture. The Ontario prison commission it appears have visited the New York State Reformatory at Elmira, N. Y. They would probably there learn something of the experiments of the resident physician, Dr. Hamilton Wey, one of which was briefly as follows: Dr. Wey selected twelve men who had been convicted of burglary, grand larceny, and crimes against the person. Many of them had faces indicative of criminal tendencies;

and among the entire number there was not a face which did not express either mental hebetude or moral obliquity, or both combined. During the previous two years these men had made no appreciable progress in school-work, and seemed incapable of prolonged mental efforts. They were subjected to hot baths—three weekly, the Turkish and common baths alternating; massage—kneading of the muscles, friction &c., manual drill, free gymnastics and exercise with dumb-bells; and substitution of a special dietary for the regular prison fare. The experiment was continued only five months—long enough to demonstrate the value of the method, but not to determine the full measure of success probably attainable. At the end of this period, nine of the eleven men then living had risen from the third or refractory to the intermediate grade. During the six months immediately preceding the experiment, the average marking for shop-work, school-work and conduct, had been forty-six per cent. During the experiment, the average for school-work, previously lowest of all, rose to seventy-four per cent., the conduct improving at about an equal rate. Shop-work had been discontinued. During the six months following the term of the experiment, the average marking of the men in the three departments of shop-work, school-work and conduct rose to seventy-one per cent. Dr. Wey then reported that “although the men had been remanded to the former routine mental development was still going on; six of the number had reached the first grade in school-work, and two of the remaining five had every prospect of soon doing so.” Their skins had acquired the softness and smoothness of childhood (several having had some form of skin disease); their muscles had greatly improved; their former stooping attitude, slow movements and shuffling gait had given place to an appearance of alertness and vigor; and their faces had developed an expression of comparative brightness and intelligence.

All this is not surprising to those familiar with the recorded results of inquiries extending over a period of forty years made of hundreds of members of the Cambridge and Oxford University crews, by Dr. Maclaren, director of the Oxford University Gymnasium, regarding the effects of physical training; and of the benefits experienced by the members of these crews—increased stamina, energy, enterprise, executive power, fortitude in endurance of trials and disappointments, and general self control.

Now would any one knowing all this doubt the good effects, the grand results that would follow some such physical culture (according to requirements) as mentioned above in the public schools,—a *rational* education, in which the culture of the body would rather precede, or “go hand in hand” with, the culture of the mind,—instead of as now, cramming the undeveloped and unprepared organism with mental food too “heavy” for it—indigestible—much of it as useless in the circumstances as improper for the physical condition, and so, injurious to both mind and body: making many weak, unstable, uncontrollable beings, without stamina, fortitude or, worst of all, without self control; if not criminals, such at least as criminals are made of?

Where are our public health officials during all these years that these facts have been known, that no effort has been attempted to change the monstrous, body and soul destroying method of mental cram now practiced in the schools for a more rational education of both body and mind?—with vastly less “text books” and more water and muscle culture. It is not a matter of wonder that crime has steadily increased, and faster than ever, under such a system, with its foul air, foul skin and foul brains.

Plainly, crime, as well as insanity, is closely—directly, associated with sanitary wants—with defective public health administration.

CONSUMPTION, ITS VAST MORTALITY. PREVENTION AND CURE.

THE Ontario Mortuary statistics and the Mortuary returns from the Canadian cities show that about one-ninth of all the deaths in Canada are caused by consumption. As great as this proportion is, it is greater in most other countries. With a total mortality in Canada, from all causes, of not less on an average than at least 20 per 1,000 of population, per year, there are not less than about 120,000 deaths every year in the Dominion, and therefore at least 13,000, in round numbers, from consumption alone. It is estimated that for every death from consumption there are four constantly suffering from the disease.

According to the above figures then we have 13,000 deaths of human beings every year in Canada from this great "white of warm clothing and "sit around," or lie on a cot or hammock. Thousands are treated or treat themselves in this way in cold snowy weather on the continent of Europe, and with the best of success. If you must be in a room, as at night, contrive in some way to have a constant supply of pure fresh outer air to breathe and have your foul once-breathed air drawn off constantly by a small open fire; or an opening in a warm chimney flue or stove pipe makes a good exhaust ventilator.

Nutritious, digestible, plain food, all that the stomach will digest, is of the next importance;—good milk, eggs raw or cooked, beef and mutton and bread, and if the digestion be good, some fruit. No compound dishes or fancy food of ANY sort should be eaten when full nourishment is wanted.

If the digestion has begun to fail much or other symptoms are troublesome, consult your physician as to remedies for these. Hot water may be advisable before meals, for the stomach, for example.

All expectorated matter—sputa; must be destroyed, best by fire. This contains the infection,—the bacillus, and will, if allowed to dry in exposed places, not only reinfect the diseased and destroy their chance of recovery, but will infect others, perhaps friends near and dear. Use then, and carefully, a spittoon, to be frequently emptied

plague." and over 50,000 CONSTANTLY suffering from it.

Cannot something be done to lessen this great mortality and this vast number of sufferers? Yes, much: if the sufferers and their friends would but make a reasonable effort in the right direction.

Pure fresh air, with its oxygen, in abundance is the one great remedy for all suffering or threatened with this disease; not only around the individual but drawn freely into the lungs and blood and every part of the body by full, deep inspirations of it. Keep out of doors, don't house up as the weather becomes colder,—KEEP out. If you are not strong enough to move about in order to keep warm (and much exertion is not good, remember), put on abundance into a good fire or a strong solution of corrosive sublimate, or use bits of rags for taking the sputa from the lips. The burning must be carefully done, with a hot fire, or many bacilli may escape.

In view of the large proportion of consumptives whose circumstances will not permit them to carry out measures for checking the disease, as above indicated, the government should aid in some way in providing Sanitariae in healthy localities, as adjacent to pine forests, for aiding in the work. No hospitals are so important or essential, in view of the frequency of this disease.

In England there are eighteen hospitals for the treatment of tubercular diseases, chiefly consumption, in which are now treated about 7,000 patients. With the increase in this hospital accommodation it is said the mortality from consumption has decreased, and at a more rapid rate than has the mortality from all causes. This, it is stated, has not been the case in France and other countries without such hospital accommodation. In forty years the mortality from consumption has been reduced fifty per cent., while from all causes it has only been reduced twenty-five per cent.

Will not Ontario set the example on this continent of providing a complete hospital or sanitarium, in some choice locality, for consumptives alone; for both those able to pay and those who are not able?

SOME one once said: "It will beggar a doctor to live where orchards thrive." Fruits are a well known enemy to a torpid liver, to many forms of indigestion, and hence to general derangement of the bodily functions. The author of "Eating for Strength" says: Writers on dietetics, because they are guided by the chemist, do not rank fruits as highly as they deserve. From the standpoint of the chemist, who finds but little solid matter in them, fruits rank low as foods; but they possess precious qualities hardly yet known to the chemist. "Their juices distilled pure in nature's laboratory" need no boiling or filtering to destroy or remove the germs of disease: while they go easily through the tissues of the body "leaving their valuable salts, and taking up and carrying off" the waste products. "Their acids, how refreshing; their salts, how stimulating; their delicious flavours, how they play on the nervous system." The aroma of good ripe fruits is believed to have an animating, exhilarating "inspiring" effect on the human body, when they are eaten. And while it appears that the "Fruit of the tree" was the special food of man in his earliest purified or glorified condition, it appears that more special attention is now given to the cultivation of fruits than to almost any other product of the earth.

But while we would thus highly extol pure ripe seasonable fruits, we would as strongly condemn any in any way damaged, and all unripe fruits. It appears that in nature it is very common that the best—the finest and the most elegant, things are the most perishable, the most easily injured and destroyed. Fruits being given to man in such great variety, "come in" ripe at all seasons: but being so especially perishable, they can be eaten with safety only in their season, only as they ripen, unless most scientifically, well and carefully preserved, and even then they are not nearly so valuable. Probably the only evil effects ever arising from eating fruit, when not eaten in glutinous quantities, arise from damaged or unripe fruit.

No particle of anything that has commenced to decay or decompose should ever be used as food by any one having regard for bodily cleanliness, purity and health.

Even moulds will not grow on fruit until a certain amount of decay has commenced in it, forming suitable soil for the new growth. The heat of cooking checks the decay, but the fruit has lost much of its value, more in proportion than most people would suppose, while it is not nearly so wholesome and is more likely to disturb digestion than pure sound cooked fruit. Unsound fruit in an uncooked state is of course still much more objectionable. While it is always best,—most economical of both life and money, to buy and use only the best purest foods of their kind, this is especially so with regard to fruits. It is very much better to buy only a small quantity of that which is good and sound, than much more that is deteriorated and sold at a low price.

During hot weather the digestive tract is in a measure, like the entire body, in a relaxed condition and is then much more easily irritated and disturbed by improper food, and at this season great care should be exercised in selecting fruit, and all should be very carefully looked over, in a good light, and every bad spot or part cut away and rejected. Mouldy fruit remember is decayed fruit.

A system of careful inspection, and with a small magnifying glass, should be carried out wherever fruits are marketed. This point is sadly neglected.

Some plan too is much needed by which consumers could obtain fruits more directly from the producers, by which the fruits would be not only fresher but cheaper.

ON OBESITY. Dr. N. E. Yorke-Davies writes (in Brit. Med. Jour.): "The successful treatment of corpulency must be dietetic; it need not be hard, it need not be too rapid, it need not be unpleasant, but each case must be treated on its merits as in every other diseased condition, having regard to habit, age, and constitutional peculiarities." Undoubtedly.

MISCELLANEOUS NOTES AND EXTRACTS.

ON THE USE OF WATER AT MEALS.

Opinions differ, says the British Medical Journal, as to the effect of the free ingestion of water at meal-times, but the view most generally received is probably that it dilutes the gastric juice and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided that the peptones are removed as they are formed. The good effects of water, drunk freely before meals, has, however, another beneficial result: it washes away the mucus which is secreted by the mucus membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food, and convert it into soluble compounds. The accumulation of mucus is especially well marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The tubular contracted stomach, with its puckered mucus lining and viscid contents, a normal condition in the morning before breakfast, is not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass through the "tubular" stomach, and even if food be present, they only mix with it to a slight extent. According to Dr. Leuf, who has made this subject a special study, cold water should be given to persons who have sufficient vitality to react; and hot water to the others.

PHYSICAL CULTURE IN CHILDREN.

Dr. A. H. P. Leuf (*Jour. Amer. Med. Assoc.*) says: 1. The object of physical

culture 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 time of sleeping, eating, exercise and recreation. 6. It enforces a good substantial dietary that will never be forgotten. 7. It discourages 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."

SUN LIGHT AND HEALTH.—Most people are afraid of sunlight. The direct rays of the sun, when not excessively hot are no doubt very beneficial, and a few thoughtful persons always try to get on the sunny side of the street. Most persons would suppose that the outside light is two or three times as strong as that within our houses. But the difference is vastly greater. Carefully prepared tables show that (in the words of "Health") for a view at the seashore, comprising sea and sky mainly (with a lens and plate of a certain speed), an exposure of one-tenth of a second is sufficient. An open landscape, away from the sea would, with the same lens, the same aperture, and the same plate, require one-third of a second. A fairly lighted interior would require two and a half minutes, while a badly lighted interior, such as rooms which most ladies prefer to occupy, would require half an hour to obtain an equally good picture. In other words, patients strolling on the seashore in sunny weather, are in a light not two or three times, but eighteen thousand times stronger, than that in the ordinary shaded and curtained rooms of a city house; and the same patients walking along the sunny side of a street are receiving more than five thousand times as much of the health-giving influence of light as they would receive indoors in the usually heavy curtained rooms.

SPECIAL TO EDITORS.

It is within your power, more than in that of any other class of the community, to aid in spreading the "Gospel of Health"—the "New Gospel," as some leading clergymen have termed it. Through you, every family in Canada may receive the "glad tidings" of this gospel.

In this JOURNAL we give every month articles specially calculated for the masses of your readers, compiled and prepared from only the highest established medical authorities, carefully culled from the leading medical and sanitary publications of the world, nearly all of which are received by the JOURNAL; and the JOURNAL is now mailed free regularly to at least two or three of the principal papers in every county in the Dominion.

Health literature may not be very "popular" reading; but editors can make almost anything popular by giving it space from week to week; and readers must soon see the good there is in a knowledge of this sort and want more of it.

We are not at all particular about receiving the usual credit for our articles when given by other papers, a subscriber is never obtained in this way; although we are always glad to receive a marked copy of any paper giving an extract.

To any daily or weekly that would publish an article, say twice a month, we would be pleased to send advance sheets.

IT IS ALL WELL ENOUGH to talk of educating the plumber, says the Sanitary News, but an equally important matter is the educating of the public up to a proper understanding and appreciation of good plumbing. The great majority of our plumbers—all real, genuine plumbers are educated, but the ignorant public keep on employing men who know nothing about plumbing to save a few dollars at the expense of health.

The Boston Board of Health have added membranous croup to its list of contagious diseases.

EDITORIAL NOTES.

THE OBJECT of this JOURNAL has ever been, from the first issue, sixteen years ago, rather to EDUCATE the public in regard to health than to promote legislation for COERCIVE measures. It urged the formation of provincial health boards, and even also of local boards, more with the view that they would educate the people in regard to the greater value, and the methods, of prevention, instead of cure, than of trying to compel the people to comply with health regulations. The larger proportion of the many who, it is true, require coercion, require it because they do not know or understand the value—the greater advantages of employing timely preventive measures, and how really easy it is to keep well.

THE SANITARIAN has still to go forth to try to teach, as the medical officer of Birmingham, Dr. Hill, said the other day in an address at the fifty-eighth annual meeting of the British Medical Association which was being held there (July 29th to August 2nd), "to teach that, without cleanliness, health is impossible, and that though much has been done in this direction, very much indeed still remains to be done. In order to effect the required amelioration, we must in the first place secure, as far as possible, cleanliness and purity of air, water, soil, and food. This is the object to which human effort has been directed more or less from the earliest historic times.

THE Jewish code of laws clearly provides for such conditions with a precision and detail which strike the modern mind as over-elaborate; while the Romans had a system of sanitation which, as regards its baths, its aqueducts, and its gymnasia, magnificent evidences of which, after more than 2,000 years, remain to bear witness of it, excites wonder and admiration. The fact that cleanliness and purity, so much inculcated and practiced thousands of years ago, should have been almost entirely neglected in modern times, is not only incredible but for the indisputable proof of it, but is absolutely humiliating.

MUCH has been done in recent years. If two hundred years ago, as Dr. Hill said, anyone had predicted that the then death-rate of 50 per 1,000 in London would be reduced to 20, his statement would have only excited ridicule. If

so late as 1873 the prognostication had been made that the sanitary activity then commencing would result, in the comparatively short period of seventeen years, in a reduction of the death-rate in the twenty large English towns to the extent of 22 per cent., and of that of Salford to the extent of 30 per cent., or of Maidstone by 40 per cent., such a forecast would have been regarded as visionary. But it must not be supposed that the limit of improvement is reached.

IF ASKED what have been the principal agencies by which the past triumphs of preventive medicine have been achieved, there would be little hesitation in answering that the majority of the scourges which have afflicted mankind and been overcome have yielded to CLEANLINESS. The plague and the mediæval and early epidemics were banished by cleanliness. Typhus was influenced by cleanliness as if by magic. Cholera, so fatal in its first visitations before its favouring conditions were understood, wrought terrible havoc where filth conditions prevailed. And so it goes on.

ALTHOUGH plague and the other epidemics of the Middle Ages are vanquished, and small-pox, ague, typhus, and cholera, and perhaps hydrophobia, have been rendered amenable to preventive measures, there yet remain, in Dr. Hill's words, the less alarming because familiar but no less fatal diseases, measles, scarlet fever, whooping-cough, summer diarrhoea, fever, and diphtheria—a formidable array of preventable, but as yet unprevented, diseases—to occupy the attention and the energies of investigators and sanitary officers for some time to come.

CONSUMPTION, aptly termed the great white plague, Dr. Hill, like nearly all other sanitarians in like circumstances, does not mention. Why is it that this, and the other forms of tuberculosis, the most fatal of all diseases, is not more generally attacked in the war against disease. It is a preventable disease and could be exterminated as well as "the plague" or small-pox. It is as strange and incomprehensible as it is inconsistent for health boards to neglect to use preventive measures in regard to this disease while bestowing energy on the prevention of far less destructive ones.

AND WHY do some eminent men, like Dr. Ballard, for example, try to throw the responsibility of summer diarrhoea principally on good

"old Sol"—on "summer heat"—without which nothing can live? They call this the primary cause and "impure surrounding conditions" with "errors in diet," "secondary or predisposing circumstances." If by any form or process of logic or ratiocination this can be made to appear to be the correct relationship of cause and effect in this particular, practically it is misleading to the mostly-illogical masses and tends to retard sanitary progress and the approach of the clean period which sanitarians are hoping and striving for. The sun, thank God, will continue to shine in spite of all our preventive measures.

SIR WALTER FOSTER, M.D., M.P., gave an admirable "address in medicine" at the annual meeting last month of the British Medical Association. "Theology and history may turn their gaze regretfully backward towards a vanished golden age; Medicine gazes hopefully onward to the days which are to come; in them she places her highest expectations. And so the wise physician is ever an optimist." He pictures the time when "its proud distinction shall be to have found great masses of mankind deeply ignorant of much that concerned their health and happiness, and to have left them better protected against illness and misery," and when the State shall awaken to the value of such services, and recognise in the trusty dispenser of a nation's charity, or the wise saviour of a city's health, servants of the State more worthy of its honours than the successful soldier or the astute diplomatist."

AT the annual gathering of members of the Society of Medical Officers of Health held at Birmingham July 19th, visits were paid to the sewage farm, and the sanitary depots of the city. In the afternoon a meeting was held at which Dr. Alfred Hill, medical officer of health for the city, explained the method of treatment of sewage and refuse. He said the sewage farm cost £54,000 a-year to work, and entailed a loss, after the sale of produce, cattle, etc., of £10,000 or £12,000. To dispose of the sewage of half-a-million of people at a loss of £10,000 a-year, he regarded as very satisfactory. They have a sewage farm there of twelve hundred acres, which is situated at a lower level than the output of the sewage, and the great expense of pumping is avoided. The treatment of sewage by electricity is proving successful in England.

ANOTHER Royal Commission on tuberculosis was appointed on July 22nd, consisting of Lord Basing, Dr. George Buchanan, F.R.S., Principal Medical Officer to the Local Government Board, Dr. J. Frank Payne, Lecturer on Pathology at St. Thomas's Hospital, Prof. Burdon Sanderson, F.R.S., and Prof. Brown, C.B., of the Agricultural Department. The instructions to the Commission are "To inquire and report what is the effect, if any, of food derived from tuberculous animals on human health; and, if prejudicial, what are the circumstances and conditions with regard to the tuberculosis in the animal which produce that effect upon man." The Commission is to take evidence, and is given a roving commission to visit and personally inspect such places as may be "deemed expedient." &c.

THE British Medical Journal says of the Commission (Royal, on Tuberculosis) that a great deal of information has already been accumulated by physicians, pathologists, sanitarians, and veterinarians, but there are still some hiatus the Commission may find it necessary to supply in the investigations conducted under its direction. This JOURNAL would add that, if all legislators would but act more promptly, as they have recently done in France for example, on Medical "findings," reports, and commissions there would be much more practical use in such commissions.

THE EVIDENCE just given by Dr. Bell, the principal of the Laboratory of the Inland Revenue Department, before Sir Lyon Playfair's Committee on British and Foreign spirits fully confirms the accuracy of the results of a special analytical inquiry conducted for the British Medical Journal some years ago, that the statement frequently made as to the adulteration of alcoholic beverages are unfounded. The chemical changes which attend the maturing of whisky, and the conditions which determine them are not yet fully understood, though they consist, in part at least, in a breaking up of the fusel oil into aromatic ethers, but it would appear that this does not always occur to the same extent in different samples of whisky kept under similar conditions. In one sample of three-year old whisky examined for the Inland Revenue Department none of the fusel oil had disappeared. A good deal of difference could be detected between the products of different

distilleries; but it was said that roughly speaking the mellowing of whisky depends upon the amount of fusel oil present when first made.

IN THE British House of Lords last month, in the discussion of the second reading of the Bill to amend the Act relating to the "Housing of the Working Classes," Earl Compton said: "Landlords and house-farmers who were responsible for the insanitary condition of many of these dwellings ought to be subject to imprisonment and not merely to a fine." In reply Mr. Bartley said that a certain amount of the insanitary condition of the dwellings was due to the tenants themselves. If the penalty were made too severe upon landlords it would tend to make the best class of landlords avoid that kind of property. No doubt the present state of things was unsatisfactory, but enormous improvement had taken place. The sanitary condition of the people could not be improved except by improving the education and ideas of the people themselves.

CORSETS were the subject of invective by most of the lady speakers at a meeting in London last month at which was organized a "Dress Reform League"; so the Sanitary Record states. The Record adds, however, "it will be a very long time before this article of apparel disappears from human sight, and after all, if judiciously used, it is not the terrible monster usually portrayed."

THIS has always been the contention of this JOURNAL. The Corset has contributed greatly to a graceful human form: but there are many people who will abuse the best gifts to mankind. Ball's Elastic health corset, probably the best made, judiciously worn, is a useful article of apparel and cannot, so worn, do any harm.

A SOCIETY of clergymen of Topeka, Kan., passed resolutions opposing the custom on the part of pall-bearers and friends, of uncovering the head at the commitment of bodies to the grave, and requested the local medical society for their opinion on the matter. The society of course unanimously endorsed the ministers' views.

"PUBLIC OPINION, we think," says the New York Medical Journal, "will hardly permit another criminal to be executed in this manner"—i.e. in that which terminated the life of Kemmler.

IN THE Forum of last month, Dr. Cyrus Edson, medical officer of New York city, in an article on "Protection from Epidemics" says: Let us now consider the means by which we may prevent and destroy the causes that produce zymotic disease. The first effort of the sanitarian is to compel people who are gathered together in cities and towns to live in a way conducive to health; to construct their dwellings so that they shall be well ventilated; to prevent filth from accumulating; to regulate noisome industries; above all, to protect the food and water supplies. To effect all this, an elaborate system of police has been devised which enforces the laws relating to health matters. But notwithstanding all precautions that can be taken, zymotic or filth diseases will creep in and destroy life. These diseases can be kept under control only by isolation of the patients, and by thorough disinfection of all rooms, clothing, etc., infected by them. In the case of small-pox, we have an additional safeguard in vaccination.

SULPHUR fumigation, notwithstanding some opposition, on the ground of inefficacy, is still highly recommended by the best authorities as the best disinfectant after steam for rooms, when properly done. It has certainly a long history to back it up.

IN STEAM disinfection an authority says: For the steam to thoroughly penetrate feather beds, hair mattresses and upholstered furniture, it should be kept up from two to three hours. Where there is nothing more compact than carpets and woolen clothing, from twenty minutes to half an hour is sufficient.

THE "Senseless Panic Over Leprosy" is the title of an editorial in N. Y. Medical Journal, (Aug. 2nd) "To deprive an individual of his liberty is a very serious matter, and, in view of the fact that contagious diseases of far greater danger to public health than leprosy are treated at the domicile, there seems to be no good reason for arbitrary action."

BUT FEW know, still fewer give heed to, the fact that, the quantity of air used daily by an adult is *in volume*, about 3,000 times, and in *weight*, 4 times, as much as that of other food, solid and liquid combined.

The meeting of the American Public Health Association for this year will be held in Charleston, S. C., Dec. 16-20.

The next International Congress of Hygiene will be held in London, next year. April 24th is the date fixed for its opening.

The Sanitary Inspector (Maine) says: In warm weather, "water, water!" is often the meaning of the baby's cry, when it is mis-translated milk or other food.

NOTES ON CURRENT LITERATURE.

"AN AMERICAN GIRL IN LONDON," now being published in the Illustrated News of the World (Am. edition Illust. London News—5th Ave. and 16th sts., New York) is by Miss Sara Duncan (Garth Grafton), who spent the greater part of the Parliamentary session of '88 in Ottawa as special correspondent for the Montreal Star. Her writings are well known throughout Canada and she is rapidly winning a reputation in England.

DR. ANDREW D. WHITE will take up "The Fall of Man" in the next of his Warfare of Science papers, in the September Popular Science Monthly. The belief that man was a perfect being when he first appeared upon earth, is found in both classical and Hebrew mythology. Dr. White attempts to show how scientific evidence has gradually forced on the conclusion that man had no fall, but that, from low beginnings in the distant past he has been continuously rising;—one of the strongest papers in the series.

AT Gen'l Fremont's death he had just been engaged on the manuscript of a paper for the Century's forthcoming series on the California Gold Hunters. It was to be entitled "Finding Paths to California." The work will be continued by Mrs. Fremont. A first draft of the article had been made, and the subject had been so recently and closely discussed by General and Mrs. Fremont that she will have no trouble in completing the manuscript. A fine portrait of General Fremont will appear in the September Century with portraits of Stockton, "Duke" Gwin, and others, in an article giving account of "How California Came into the Union."

SIX YEARS IN CENTRAL AFRICA, a stirring narrative of personal adventure in the wilds of that great lone land, by one of Stanley's pioneer officers, began in the April St. Nicholas.