

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/  
Couverture de couleur

Coloured pages/  
Pages de couleur

Covers damaged/  
Couverture endommagée

Pages damaged/  
Pages endommagées

Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées

Cover title missing/  
Le titre de couverture manque

Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées

Coloured maps/  
Cartes géographiques en couleur

Pages detached/  
Pages détachées

Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/  
Transparence

Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur

Quality of print varies/  
Qualité inégale de l'impression

Bound with other material/  
Relié avec d'autres documents

Continuous pagination/  
Pagination continue

Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/  
Comprend un (des) index

Title on header taken from: /  
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/  
Page de titre de la livraison

Caption of issue/  
Titre de départ de la livraison

Masthead/  
Générique (périodiques) de la livraison

Additional comments: /  
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

—THE—  
**HEALTH JOURNAL**

A Monthly Review and Record of  
**SANITARY PROGRESS**

—EDITED BY—

EDWARD PLAYTER, M.D.

*Public Health and National Strength and Wealth.*

No. 10.

OCTOBER, 1889.

VOL. XI.

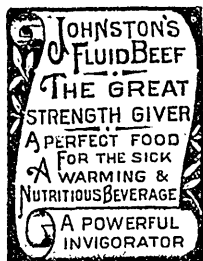
**CONTENTS :**

The Value and Duration of Life and the Art of Prolonging it.....	179-184	a Dominion Sanitary Organization—Education—Insanity—"Tak' Care o' Your Carkus"—Lack of Knowledge about Health Laws—The Moods of the Sane—An Important Contribution—The Diphtheritic Poison—Murat Halstead—A Charming View of Quarantine—Medical Inspectors—Official Murder, etc. etc.	191-198
Notes on Sanitary Progress—Discussions at the Meeting of the British Medical Association.....	185-188	Notes on Current Literature....	198
Extracts from Medical Health Officers Reports for 1888.	188-190		
EDITORIAL NOTES:—To Members of Parliament—The Public Health Question—The Mortality—A Definite Plan for			

Subscription Price, \$1 a year; Single Copy, 10 Cents.

ADDRESS:

"THE HEALTH JOURNAL," OTTAWA, Can.,



# A Household Requisite!

EVERY HOUSEKEEPER—

—Should have Always on Hand

A SUPPLY OF

## JOHNSTON'S FLUID BEEF,

THE GREAT STRENGTH GIVER.

It is useful for Making Rich Gravy and for Strengthening Soups. Its Greatest Value lies in its Convenience and Effectiveness in Times of Sickness. It is Easily Prepared—Readily Digested & possesses great Strength Giving Qualities.

### LIFE INSURANCE AT ACTUAL COST

Persons desirous of securing life insurance at actual cost, should write for circulars to

**SECURITY ·· MUTUAL ·· BENEFIT ·· SOCIETY,**  
233 BROADWAY, NEW YORK,

This Society claims that for six years the cost to a member of middle age has been

... LESS THAN TWELVE DOLLARS A YEAR ...  
for each thousand dollars of insurance.

### Libraries, Colleges, Schools Etc.

WE take pleasure in announcing that we are now fully prepared to supply all Libraries, Colleges, Schools, etc., large and small, with such Books as they may need. With our own house in Paris, and our agencies in London, Leipzig, Milan, Madrid, Yokohama, Mexico, etc., etc., and our own stores in New York and Chicago, our facilities are such that we are enabled to execute all import and domestic orders for

#### BOOKS, PERIODICALS, MAGAZINES, ETC.

on the most favorable terms, and with promptness. We will import for Libraries, free of duty, wherever possible under the law.

**OLD, RARE or SECOND-HAND BOOKS.** In any language will be supplied on the most reasonable terms. Our Binding Department is prepared to do Book Binding in any style at moderate prices.

Chicago—101 State St.  
Paris—17 Ave. de l'Opera.

**BRENTANOS,**  
No. 5 Union Square, N.Y.

On receipt of 10 Cents we will mail you a sample copy of BOOK CHAT, which we will thank you to examine and feel confident you will find it of sufficient value to favor us with your subscription.

Our Prices for Imported Books are Cheaper than any House in the United States.

# THE HEALTH JOURNAL.

A Record of Sanitary Progress.

VOL. XI.

OCTOBER, 1889.

No. 10

## THE VALUE AND DURATION OF LIFE AND THE ART OF PROLONGING IT.

**I**N a recent number of the Fortnightly Review, Dr. Robson-Roose gave a very lengthy and practical paper on this subject, from which we take the following copious extracts:

### VALUE OF LIFE.

The doctrine that a short life is a sign of divine favor has never been accepted by the majority of mankind. Philosophers have vied with each other in depicting the evils and miseries incidental to existence, and the truth of their descriptions has often been sorrowfully admitted, but they have failed to dislodge, or even seriously diminish, that desire for long life which had been deeply implanted within the hearts of men. The question whether life be worth living has been decided by a majority far too great to admit of any doubt upon the subject, and the voices of those who would fain reply in the negative are drowned amid the chorus of assent. Longevity, indeed, has come to be regarded as one of the grand prizes of human existence, and reason has again and again suggested the inquiry whether care or skill can increase the chances of acquiring it, and can make old age, when granted, as comfortable and happy as any other stage of our existence.

The question whether long life is desirable depends much upon the previous history of the individual, and his bodily and mental condition. The last stages of a well-spent life may be the happiest, and while sources of enjoyment exist, and pain is absent, the shuffling-off of the mortal coil, though calmly expected, need not be wished for. The picture afforded by cheerful and mellow old age is a lesson to younger generations. Elderly people may, if they choose, become centers of

improving and refining influence. On the other hand, old age can not be regarded as a blessing when it is accompanied by profound decrepitude and disorder of mind and body. Senile dementia, or second childishness, is, of all conditions, perhaps the most miserable, though not so painful to the sufferer as to those who surround him. Its advent may be accelerated by ignorance and neglect, and almost assuredly retarded or prevented. No one who has had opportunities of studying old people can shut their eyes to the fact that many of the incapacities of age may be prevented by attention to a few simple rules, the observance of which will not only prolong life and make it happier and more comfortable, but will reduce to a minimum the period of decrepitude. Old age may be an incurable disease, admitting of but one termination, but the manner of that end, and the condition which precedes it, are, though not altogether, certainly to a very great extent, within our own power.

From very early times the art of prolonging life, and the subject of longevity, have engaged the attention of thinkers and essayists; and some may perhaps contend that these topics, admittedly full of interest, have been thoroughly exhausted. It is true that the art in question has long been recognized and practiced, but the science upon which it really depends is of quite modern origin. Many new facts connected with longevity have been collected within the last few years.

### DURATION OF HUMAN LIFE.

What is the natural duration of human life? This oft-repeated question has received many different answers; and inquiry has been stimulated by skepticism

as to their truth. The late Sir George Cornwall Lewis expressed the opinion that one hundred years must be regarded as a limit which very few, if indeed any, human beings succeed in reaching, and he supported this view by several cogent reasons. He pointed out that almost all the alleged instances of abnormal longevity occurred among the humbler classes, and that it was difficult, if not impossible, to obtain any exact information as to the date of birth and to identify the individuals with any written statements that might be forthcoming.

The French naturalist, Buffon, believed that, if accidental causes could be excluded, the normal duration of human life would be between ninety and one hundred years.

If we seek historical evidence, and from it attempt to discover the extreme limit of human life, we are puzzled at the differences in the ages said to have been attained. The longevity of the antediluvian patriarchs when contrasted with our modern experience seems incredible. When we look at an individual, say ninety years of age, taking even the most favorable specimen, a prolongation of life to ten times that number of years would appear too absurd even to dream about. There is certainly no physiological reason why the ages assigned to the patriarchs should not have been attained, and it is useless to discuss the subject, for we know very little of the conditions under which they lived. It is interesting to notice that after the Flood there was a gradual decrease in life. Abraham is recorded to have died at one hundred and seventy-five; Joshua, some five hundred years later, "waxed old and stricken in age" shortly before his death at one hundred and ten years; and his predecessor, Moses, to whom one one hundred and twenty years are assigned, is believed to have estimated the life of man at threescore years and ten—a measure nowadays pretty generally accepted.

There is no reason for believing that the extreme limit of human life in the time of the Greeks and Romans differed materially from that which agrees with modern

experience. Stories of the attainment of such ages as one hundred and twenty years and upward may be placed in the same category as the reputed longevity of Henry Jenkins, Thomas Parr, Lady Desmond, and a host of others. With regard to later times, such as the middle ages, there are no precise data upon which any statements can be based, but there is every reason to believe that the average duration of life was decidedly less than it is at present. The extreme limit, indeed, three or four centuries ago, would appear to have been much lower than it is in this century. At the request of Mr. Thoms, Sir J. Duffus Hardy investigated the subject of the longevity of man in the thirteenth, fourteenth, fifteenth, and sixteenth centuries, and his researches led him to believe that persons seldom reached the age of eighty. He never met with a trustworthy record of a person who exceeded that age.

A short account of the experience of a few life-assurance companies will conclude this part of my subject. Mr. Thoms tells us that down to 1872 the records of the companies showed that one death among the assured had occurred at one hundred and three, one in the one hundredth, and three in the ninety-ninth year. The experience of the National Debt Office, according to the same authority, gave two cases in which the evidence could be regarded as perfect: one of these died in the one hundred and second year, and the other had just completed that number. In the tables published by the Institute of Actuaries, and giving the mortality experience down to 1863 of twenty life-assurance companies, the highest age at death is recorded as ninety-nine; and I am informed by the secretary of the Edinburgh Life Office that from 1863 onward that age had not been exceeded in his experience. In the valuation schedules, which show the highest ages of existing lives in various offices, the ages range from ninety-two to ninety-five. It is true that one office which has a large business among the industrial classes reports lives at one hundred and three, and in one instance at one

hundred and seven; but it must be remembered that among those classes the ages are not nearly so well authenticated as among those who assure for substantial sums.

Taking into consideration the facts thus rapidly passed under review, it must, I think, be admitted that the natural limit of human existence is that assigned to it in the book of Ecclesiasticus, "The number of a man's days at the most are an hundred years" (chapter xviii, 9). In a very small number of cases this limit is exceeded, but only by a very few years. Mr. Thoms's investigations conclusively show that trustworthy evidence of one hundred and ten years having been reached is altogether absent.

Whatever number of years may be taken as representing the natural term of human life, whether threescore and ten or a century be regarded as such, we are confronted by the fact that only one fourth of our population attains the former age, and that only about fifteen in one hundred thousand become centenarians.

#### HOW TO ATTAIN A HAPPY OLD AGE.

A capability of attaining old age is very often handed down from one generation to another, and heredity is probably the most powerful factor in connection with longevity. A necessary condition of reaching advanced age is the possession of sound bodily organs, and such an endowment is eminently capable of transmission. Instances of longevity characterizing several generations are frequently brought to notice.

It is difficult to estimate the influence of other contingencies which affect longevity. With regard to sex, Hufeland's opinion was that women were more likely than men to become old, but that instances of extreme longevity were more frequent among men. This opinion is to some extent borne out by Dr. Humphrey's statistics: of his fifty-two centenarians, thirty-six were women. Marriage would appear to be conducive to longevity. A well-known French savant, Dr. Bertillon, states that a bachelor of twenty-five is not a better life than a married man of forty-

five, and he attributes the difference in favor of married people to the fact that they take more care of themselves, and lead more regular lives than those who have no such tie. It must, however, be remembered that the mere fact of marrying indicates superior vitality and vigor, and the ranks of the unmarried are largely filled by the physically unfit.

In Prof. Humphry's "Report on Aged Persons," containing an account of eight hundred and twenty-four individuals of both sexes, and between the ages of eighty and one hundred, it is stated that forty-eight per cent. were poor, forty-two per cent. were in comfortable circumstances, and only ten per cent. were described as being in affluent circumstances. Dr. Humphry points out that these ratios "must not be regarded as representing the relations of poverty and affluence to longevity, because, in the first place, the poor at all ages and in all districts bear a large proportion to the affluent; and, secondly, the returns are largely made from the lower and middle classes, and in many instances from the inmates of union workhouses, where a good number of aged people are found." It must also be noticed that the "past life-history" of these individuals showed that the greater proportion (fifty-five per cent) "had lived in comfortable circumstances," and that only thirty-five per cent. had been poor. In his work on "Human Longevity," Easton says, "It is not the rich or great... that become oid, but such as use much exercise, are exposed to the fresh air, and whose food is plain and moderate—as farmers, gardeners, fishermen, laborers, soldiers, and such men as perhaps never employed their thoughts on the means used to promote longevity."

Merely to enumerate the causes to which longevity has been attributed in attempting to account for individual cases would be a task of some magnitude; it will be sufficient to mention a few somewhat probable theories. Moderation in eating and drinking is often declared to be a cause of longevity, and the assertion is fully corroborated by Dr. Humphry's inquiries. Of his fifty-two centenarians, twelve were

recorded as total abstainers from alcoholic drinks throughout life, or for long periods, twenty had taken very little alcohol; eight were reported as moderate in their use of it; and only three habitually indulged in it. The habit of temperance in food, good powers of digestion, and soundness of sleep are other main characteristics of most of those who attain advanced years, and may be regarded as causes of longevity. Not a few old persons are found on inquiry to take credit to themselves for their own condition, and to attribute it to some remarkable peculiarity in their habits or mode of life. It is said that Lord Mansfield, who reached the age of eighty-nine, was wont to enquire into the habits of life of all aged witnesses who appeared before him, and that only in one habit, namely, that of early rising, was there any general concurrence. Health is doubtless often promoted by early rising, but the habit is not necessarily conducive to longevity. It is, as Sir H. Holland points out, more probable that the vigor of the individuals maintains the habit than that the latter alone maintains the vitality.

Thus, to take only a few examples, the immoderate use of sugar has been regarded not only as a panacea, but as decidedly conducive to length of days. Dr. Stare, a physician of the last century, has reached the case of a centenarian who used to mix sugar with all his food, and the doctor himself was so convinced of the "balsamic virtue" of this substance that he adopted the practice, and boasted of his health and strength in his old age. Another member of the same profession used to take daily doses of tannin (the substance employed to harden and preserve leather), under the impression that the tissues of the body would be thereby protected from decay. His life was protracted beyond the ordinary span, but it is questionable whether the tannin acted in the desired direction.

The whole term of life may be divided into the three main periods; of growth and development, of maturity, and of decline. No hard and fast line can be drawn between these two latter phases of

existence: the one should pass gradually into the other until the entire picture is changed. Diminished conservative power and the consequent triumph of disintegrating forces are the prominent features of the third period, which begins at different times in different individuals, its advent being mainly controlled by the general course of the preceding years. The "turning period," also known as the "climacteric" or "middle age," lies between forty-five and sixty; the period may be considered as belonging to advanced life.

"In order to prolong life and at the same time to enjoy it, occupation of some kind is absolutely necessary; it is a great mistake to suppose that idleness is conducive to longevity." With regard to mental activity, there is abundant evidence that the more the intellectual faculties are exercised the greater the probability of their lasting. They often become stronger after the vital force has passed its culminating point; and this retention of mental power is the true compensation for the decline in bodily strength. Did space permit, many illustrations could be adduced to show that the power of the mind can be preserved almost unimpaired to the most advanced age. Even memory, the failure of which is sometimes regarded as a necessary concomitant of old age, is not infrequently preserved almost up to the end of life. All persons of middle age should take special pains to keep the faculties and energies of the mind in a vigorous condition: they should not simply drift on in a hap-hazard fashion, but should seek and find pleasure in the attainment of definite objects. Even if the mind has not been especially cultivated, or received any decided bend, there is at the present day no lack of subjects on which it can be agreeably and profitably exercised. The possession of some reasonable hobby is a great advantage in old age, and there are many pursuits of this character besides those connected with literature and science.

Whatever be the sphere of mental activity, no kind of strain must be put upon the mind by a person who has reach-

ed sixty-five or seventy years. The feeling that mental power is less than it once was not infrequently stimulates a man to increased exertions which may provoke structural changes in the brain, and will certainly accelerate the progress of any that may exist in that organ. When a man finds that a great effort is required to accomplish any mental task that was once easy, he should desist from the attempt, and regulate his work according to his power. With this limitation, it may be taken for granted that the mental faculties will be far better preserved by their exercise than by their disuse.

Somewhat different advice must be given with regard to bodily exercises in their reference to longevity. Exercise is essential to the preservation of health; inactivity is a potent cause of wasting and degeneration. The vigor and equality of the circulation, the functions of the skin, and the aëration of the blood, are all promoted by muscular activity, which thus keeps up a proper balance and relation between the important organs of the body. In youth, the vigor of the system is often so great that if one organ be sluggish another part will make amends for the deficiency by acting vicariously, and without any consequent damage to itself. In old age the tasks can not be thus shifted from one organ to another: the work allotted to each sufficiently taxes its strength, and vicarious action can not be performed without mischief. Hence the importance of maintaining, as far as possible, the equable action of all the bodily organs, so that the share of the vital processes assigned to each shall be properly accomplished. For this reason exercise is an important part of the conduct of life in old age; but discretion is absolutely necessary. An old man should discover by experience how much exercise he can take without exhausting his powers, and should be careful never to exceed the limit. Old persons are apt to forget that their staying powers are much less than they once were, and that, while a walk of two or three miles may prove easy and pleasurable, the addition of a return journey of similar length will seriously over-

tax the strength. Above all things, sudden and rapid exertion should be scrupulously avoided by persons of advanced age. The machine which might go on working for years at a gentle pace often breaks down altogether when its movements are suddenly accelerated.

Walking is a natural form of exercise and subserves many important purposes: not a few old people owe the maintenance of their health and vigor to their daily "constitutional." Riding is an excellent form of exercise, but available only by a few: the habit, if acquired in early life, should be kept up as long as possible, subject to the caution already given as to violent exercise. Old persons of both sexes fond of gardening, and so situated that they may gratify their tastes, are much to be envied. Body and mind are alike exercised by what Lord Bacon justly termed "the purest of human pleasures." Dr. Parkes goes so far as to say that light garden or agricultural work is a very good exercise for men past seventy: "It calls into play the muscles of the abdomen and back, which in old men are often but little used, and the work is so varied that no muscle is kept long in action."

With regard to food, we find from Dr. Humphry's report that ninety per cent of the aged persons were either "moderate" or "small" eaters, and such moderation is quite in accord with the teachings of physiology. In old age the changes in the bodily tissues gradually become less and less active, and less food is required to make up for the daily waste. The appetite and the power of digestion are correspondingly diminished, and although for the attainment of a great age a considerable amount of digestive power is absolutely necessary, its perfection, when exercised upon proper articles of diet, is the most important characteristic. Indulgence in the pleasures of the table is one of the common errors of advanced life, and is not infrequent in persons who, up to that period, were moderate or even small eaters. Luxuries in the way of food are apt to be regarded as rewards that have been fully earned by a life of labor, and may, therefore, be lawfully enjoyed.



Hence arise many of the evils and troubles of old age, and notably indigestion and gouty symptoms in various forms, besides mental discomfort. No hard and fast rules can be laid down, but strict moderation should be the guiding maxim. The diet suitable for most aged persons is that which contains much nutritive material in a small bulk, and its quantity should be in proportion to the appetite and power of digestion. Animal food, well cooked, should be taken sparingly.

It is an easier task to lay down rules with regard to the use of alcoholic liquors by elderly people. To quote again from Ecclesiasticus, "Wine is as good as life to a man, if it be drunk moderately, for it was made to make men glad." Elderly persons, particularly at the close of the day, often find that their nervous energy is exhausted, and require a little stimulant to induce them to take a necessary supply of proper nourishment, and perhaps to aid the digestive power to convert their food to a useful purpose. In the debility of old age, and especially when sleeplessness is accompanied by slow and imperfect digestion, a small quantity of a generous and potent wine, containing much ether, often does good service. Even a little beer improves digestion in some old people; others find that spirits, largely diluted, fulfill the same purpose.

It is not to be inferred from the hints given in the preceding paragraphs that the preservation of health should be the predominant thought in the minds of elderly persons who desire that their lives should be prolonged. To be always guarding against disease, and to live in a state of constant fear and watchfulness, would make existence miserable and hasten the progress of decay. Selfish and undue solicitude with regard to health not only fails to attain its object, but is apt to induce that diseased condition of mind known as hypochondriasis, the victims of which are always a burden and a nuisance, if not to themselves, at least to all connected with them. Addison, in the "Spectator," after describing the valetudinarian who constantly weighed himself and his food, and yet became sick and languishing, aptly remarks, "A continual anxiety for life vitiates all the relishes of it, and casts a gloom over the whole face of nature, as it is impossible that we should take delight in anything that we are every moment afraid of losing."

Sleep is closely connected with the question of diet; "good sleeping" was a noticeable feature in the large majority of Humphry's cases. Sound, refreshing sleep

is of the utmost consequence to the health of the body, and no substitute can be found for it as a restorer of vital energy. Sleeplessness is, however, often a source of great trouble to elderly people, and one which is not easily relieved. Narcotic remedies are generally mischievous; their first effects may be pleasant, but the habit of depending upon them rapidly grows until they become indispensable. When this stage has been reached, the sufferer is in a far worse plight than before. In all cases the endeavor should be made to discover whether the sleeplessness be due to any removable cause—such as indigestion, cold, want of exercise, and the like, and to remove the cause.

Warmth is very important for the aged. Exposure to chills should be scrupulously avoided. Bronchitis is the malady most to be feared, and its attacks are very easily provoked. Many old people suffer from more or less cough during the winter months, and this symptom may recur year after year, and be almost unheeded. At last, perhaps a few minutes' exposure to a cold wind increases the irritation in the lungs, the cough becomes worse, and the difficulty of breathing increases until suffocation terminates in death. To obviate such risk the skin should be carefully protected by warm flannel clothes, the outdoor thermometer should be noticed, and winter garments should always be at hand. In cold weather the lungs should be protected by breathing through the nose.

Careful cleansing of the skin is the last point which needs to be mentioned in an article like the present. Attention to cleanliness is decidedly conducive to longevity, and we may congratulate ourselves on the general improvement in our habits in this respect. Frequent washing with warm water is very advantageous for old people, in whom the skin is only too apt to become hard and dry, and the benefit will be increased if the ablutions be succeeded by friction with coarse flannel or linen gloves, or with a flesh-brush.

Such, then, are the principal measures by which life may be prolonged and health maintained down to the closing scene. It remains to be seen whether, as a result of progress of knowledge and civilization, life will ever be protracted beyond the limit assigned to it in a preceding paragraph. There is no doubt that the *average duration* of human life is capable of very great extension, and that the same causes which serve to prolong life materially contribute toward the happiness of mankind.

NOTES ON SANITARY PROGRESS—DISCUSSIONS AT THE MEETING OF THE  
BRITISH MEDICAL ASSOCIATION.

FOR the following valuable notes, mainly on subjects discussed at the August annual meeting of the British Medical Association, we are indebted chiefly to late numbers of the British Medical Journal, New York Medical Journal and Glasgow Medical Journal.

**SALE OF TUBERCULOUS FLESH AND MILK.**—At a recent meeting of the Scottish Veterinary Association, the government was petitioned to stop the sale of milk from animals suspected of being infected with tuberculosis, and to suppress the consumption of the meat of such animals, owners being recompensed for the value of the latter. This petition is the outcome of a recent trial in Glasgow relative to the question of condemnation of a whole carcass if tuberculosis was present in a limited portion, in which two carcasses were adjudged unfit for food. The grounds of the judgment were that tuberculosis in the lower animals was the same disease as tuberculosis in man; that it was transmissible by ingestion of flesh or milk; and that though the disease might seem limited to the viscera, the flesh appearing healthy, yet the tubercle bacillus might be there. It was ruled that "except on the footing that the meat was the medium of transmission of the disease, it would be unnecessary and wasteful to exclude from the food supply the carcasses of animals which had suffered from tuberculosis, however generalized and extensive." The interest of the public health, however, was paramount to the question of a small loss of food supply.

**INTERESTING RESULTS OF EXAMINING CHILDREN IN LONDON SCHOOLS.**—A committee to investigate the physical condition of the pupils in London schools was appointed by the psychological section of the British Medical Association, and, on account of the refusal of the London School Board to allow the investigations to be made in their schools, the observations had to be confined to fourteen elementary schools. The results of the examination

are given, without comment, in a series of lengthy tables. There were 1,944 boys and 1,987 girls examined: among these there were signs of nerve weakness—nervous hand, weak hand, lordosis (curvature of bones), toneless orbicular muscles of the eyelids and finger twitches—in 207 boys (10·6 per cent.), and 144 girls (7·2 per cent.); with defective nutrition there were 100 boys (5·1 per cent.), and 84 girls (4·2 per cent.); with mental dullness there were 153 boys (7·8 per cent.), and 78 girls (3·9 per cent.); with cranial abnormalities—rickets, large head, small head, narrow forehead, &c.—there were 166 boys (8·5 per cent.), and 65 girls (3·2 per cent.); with defects of the eyes—squint, myopia, disease of the lids, cataract, loss of the eye, &c.—there were 74 boys (3·8 per cent.), and 75 girls (3·7 per cent.) One or more of the conditions were found in the same child occasionally. Only in defective nutrition and ocular defects were the sexes equal; strange to note, nerve-weakness was greater in the boys than in the girls, and the other defects were almost twice as common in boys as in girls.

**TRAINING OF LOCAL HEALTH OFFICERS.**—The chairman of the Section in Public Medicine (Dr. E. Ballard), has presented the results of his extensive experience with local health officers in a consideration of their necessary qualifications. He considers that such an official should have a wider range of information than is requisite for the general practitioner, adding to the knowledge required by the latter, an acquaintance with meteorology, geology, sewer and water engineering, the construction and ventilation of houses, bacteriology, and the laws governing epidemic contagia, and even the pathology of animals. His scientific education should be supplemented by a course of training under a health official; and he must never forget that he is not an autocrat, but always display tact in dealing with his constituency. In the discussion on the paper it was agreed that the local health officer should be appointed by the state,

to hold office during life and good behavior, and that the salary should be sufficient to permit general practice to be prohibited, no one being appointed to such a position unless holding the special qualifications in hygiene above noted, and, in addition to his general duties, to have charge of vital statistics, medical registration and public vaccination.

**THE INCUBATION PERIOD IN INFECTIOUS DISEASES.**—Dr. James Finlayson in preparing a code for the regulation of the school attendance of children exposed to or affected by infectious diseases, found that there was a decided diversity of opinion among authorities as to duration of the incubation period and as to the time of quarantine for children that had been exposed. The incubation period in scarlet fever is given as low as 1 day and as high as 14 days, with an average duration of quarantine from 10 to 14 days; measles, from 3 to 17 days—quarantine 16 days; röteln, from 4 to 21 days—quarantine from 16 to 21 days; mumps, from 4 to 24 days—quarantine from 21 to 24 days; whooping-cough, from 4 to 14 days—quarantine from 16 to 21 days; chicken-pox, from 2 to 18 days—quarantine from 18 to 21 days; small-pox, 5 to 19 days—quarantine from 16 to 18 days; diphtheria, 1 to 14 days—quarantine 10 to 12 days; enteric fever, 1 to 30 days—quarantine 28 days; typhus fever, 1 to 21 days—quarantine 21 to 28 days; erysipelas, 1 to 13 days—quarantine 10 days.

**THE INFLUENCE OF SCHOOL CLOSURE ON AN EPIDEMIC OF MEASLES.**—The health officer of Cardiff, Dr. Edward Welford, reports that in the autumn of 1888 an epidemic of measles occurred among the children attending school, and, notwithstanding every effort to stamp out the outbreak by careful inspection, enforcing and advising ordinary precautionary measures, and distributing printed circulars of information, the disease became so prevalent that by the end of November almost one-third of the pupils were ill or confined at home. The schools were closed for four weeks, and the number of cases at once decreased: only four cases appeared among

twenty thousand scholars after the schools were reopened. The author considers that the material was not exhausted, but that the comparative isolation of the children stopped the epidemic. This opinion is supported by the fact that in a previous epidemic, when the schools were not closed, the mortality was double that in the present instance.

**DISINFECTING BY STEAM AT HIGH PRESSURE.**—Dr. A. D. Lubimoff (St. Petersburg Inaug. Dissert.), has experimented with the steam disinfection apparatus of Genest and Herscher and with a disinfection-chamber in the St. Petersburg Clinical Military Hospital. The steam current had a pressure of six atmospheres. Strips of Swedish filter paper saturated with various microbes were put into test-tubes, these were placed in pillows, mattresses, and bundles of clothing, and kept in the disinfecting chamber from half an hour to three hours. The inoculated paper was then introduced into agar-agar or broth cultivation media. The experiments demonstrated that sporeless bacteria were killed in half an hour, while pathogenic microbes were entirely destroyed after an exposure to steam at 123° or 114° C.; 140° F., or about 28° F. above boiling water temperature. It is not stated, but we suppose this degree of heat destroyed the spores as well as the bacteria. The disinfecting chamber must be able to maintain this temperature for an hour and distribute the steam uniformly to all parts of the apparatus. Articles to be disinfected must be dry, because if damp they interfere with the height of the temperature; and they should be distributed singly in the chamber, or be done up in small parcels. The management of such chambers should invariably be in the hands of medical men, and each municipality should have a public disinfecting chamber, as in Berlin. The disinfecting apparatus of Genest and Herscher is a metallic cylinder 1.8 meters (4½ feet) in diameter, and from 2 to 4 meters (6½ to 13 feet) long. The cylinder is closed and made air-tight by means of two doors, supported on wheels, one at each end, the doors are made steam tight

by clamp-screws. In the interior of the cylinder there is a car running on an iron track, on which the soiled articles are placed. Steam, generated by a neighboring boiler, enters the chamber by two sets of tubes—one to raise the temperature to 130° C., the other, pierced with holes 40 millimetres in diameter, to allow steam to enter the chamber when it is desired. The necessary pressure-gauges, thermometers, etc., are placed on the exterior of the cylinder.

**DISINFECTING AND ISOLATION IN CONTROLLING EPIDEMICS.**—Dr. Franklin Parsons, after referring to the epidemic diseases, mentioned the experiments of Koch in destroying the spore-bearing and non-spore-bearing micro-organisms, in which that observer had proved that carbolic acid had an inhibitory effect on their growth, spore-bearing forms requiring immersion for one or two days in a five per cent. solution, whereas a two per cent. solution only killed them in a week. Sulphurous acid gas, in a six per cent. mixture, failed to kill spore-bearing organisms after four days' exposure. Dry heat (284° F.) would destroy spores in three hours; but this temperature would injure all textile materials. Steam at 212° F. would destroy spore-bearing forms in five minutes; and articles to be disinfected were easily penetrated by it. A watery solution of iodine or corrosive sublimate (one per cent.), or chlorine bromene (two per cent.), would destroy spore-bearing organisms after one day's immersion.

**THE CARRIERS OF INFECTION** were the body of the patient, the excreta and the skin, the air tainted by exhalations from the sick, clothes, bedding, etc., articles of food, walls and floors of dwellings, collections of filth, dust on walls or in cracks, and sewage. The body may be disinfected by suitable washes, and, after death, buried in lime or charcoal. The air may be extracted from the sick chamber and burned in a furnace or in a ventilator containing burning gas jets. Discharges from the nose and throat may be received on rags and burned; those from the bowel and kidneys should be received in vessels containing a five per cent. corrosive-sublimate solution. Clothing, bedding, etc., should be exposed to steam, or, where that is impracticable, boiled after having been immersed for some hours in a bichloride of mercury solution. Books and letters

should be exposed to dry heat for some hours. Thorough boiling of water or milk, or cooking of food, will disinfect food stuffs. For house disinfection, sulphurous acid or chlorine is recommended, followed by scrubbing of the walls, removal of paper, and whitewashing where practicable.

Dr. P. C. Smith, of Glasgow, considered that there were two divisions of the subject: disinfection and isolation; first, in hospitals; second, at home. Cities should have pavilions for the different zymotic diseases, towns, a cottage hospital, with a tent (or portable house) for small-pox; they should have steam disinfecting chambers, and the clothing of typhus and small-pox patients should be burned. At home the room occupied should be in the top story, divested of carpet and furniture, save a bed and chair for the nurse. There should be no communication between the nurse and the occupants of the house; food, etc., being placed on a table at the door. Disinfection of discharges, clothing, the room, etc., should be done as mentioned by the first speaker.

Dr. Hope, of Liverpool, considered "domestic isolation" a fallacy, and instanced eighty cases of typhus fever so treated, in which the disease had spread to 386 individuals of the families, with 62 deaths, contrasted with three were eighty cases in which the patient was at once removed to the hospital and the house disinfected and cleansed, and no extension of the disease took place.

**ISOLATION AT HOME** (Dr. Cardwell Smith, Prof. of Hyg., Glasgow Med. School), is at all times a difficult matter. Among the poor it is absolutely impossible, and in cases of small-pox and typhus in all cases it should not be attempted. In cases, however, of scarlet fever, measles, diphtheria, and typhoid fever among the well-to-do it may often be carried out in a fairly satisfactory manner. The room should be at the top of the house, of course; no furniture but the bed, and perhaps a mat for the feet, which could afterwards be burned. Plain tables and chairs are all the furniture required, with a table on the landing outside.

**THE CONTAMINATION OF DRINKING-WATER WITH LEAD.**—Dr. Sinclair White, as the result of extensive experiments, concludes that acid water invariably acts on lead, the intensity of action varying with the acidity; new lead pipe being acted on more than old, the amount of lead dissolved increasing for the first twenty-four

hours, and materially decreasing at the end of six days. Other things being equal, the greater the pressure of the water the greater the amount of lead taken up, and the greater the temperature the greater the solvency. A small amount of lime or soda diminishes the solvent power of the water, and filtration through limestone, charcoal or spongy iron, causes the water to become inert; filtration of water containing lead through the two latter substances will remove the lead.

Dr. Fairclough believed that much of the anemia of town people was due to drinking water containing small quantities of lead. He referred to the fact that some waters formed an insoluble crust on the interior of new lead pipes in two or three weeks, thus forming a permanent protection.

**CHOLERA AND QUARANTINE.**—In an interesting review on the seventeenth annual report of the Local Government Board (for 1888), Lieutenant-Governor Hutchinson's "Note on the Present Prevalence and Extent of Cholera in Malta," and Dr. S. L. Pisani's report as chief government medical officer for that colony, the Practitioner for May, 1889, concludes that an analysis of these reports demonstrates that, in the interests of public health and of the commercial interests of the world, "the antiquated and ever failing quarantine restrictions should be done away with, and an efficient sanitary administration substituted for them." Dr. Pisani concludes that if the villages were drained and supplied with water, the houses of the poor inspected and improved, and all blind alleys opened, the island would become an

unfertile soil for the cholera germ. The Practitioner believes that a recognition of these facts—supported by the statistics of the towns of the island—and a disbelief in any efficiency in quarantine, will enable Malta (as well as other localities) to avoid future epidemics.

**THE ROYAL COLLEGE OF PHYSICIANS ON QUARANTINE.**—The arrival of the steamship *Neva* at Southampton, in June last, with one case of yellow fever on board, caused the Privy Council Office to order her into quarantine for seven days. The Practitioner thought the Privy Council was to be congratulated that the occurrence took place on the only spot on the British coast that maintained a quarantine station (two hulks at the entrance of the harbor). The Secretary of State for the colonies submitted to the Royal College of Physicians the question of the proper periods of detention for purposes of quarantine in yellow fever, cholera and small-pox. The college reported that the incubation period of yellow fever and cholera was uncertain, and that the committee was of opinion that it was unwise to impose quarantine restrictions in the case of these diseases. The committee was further strongly opposed to such restrictions generally, which it considered harmful and vexatious. In the case of small-pox the committee was of the opinion that the incubation period did not usually exceed a fortnight, and that suitable precautions based on this knowledge were desirable. The Practitioner does not consider the last paragraph of the report very helpful, especially as vaccination is the obvious means of preventing small-pox.

---

EXTRACTS FROM MEDICAL HEALTH OFFICERS REPORTS FOR 1888.

**D**R. TRACY, of Belleville, reports that they have reason to be thankful for the position the city holds in the total absence of those dread scourges, diphtheria and scarlet fever, this being the third year that there has not been a death from either of those diseases recorded in either of the cemeteries there. He again draws the attention of the City Council to the absolute necessity of drainage, and more especially that so many of the citizens are taking water from the water works. The greater part of the preventable diseases are caused in his opinion by

want of proper system of drainage, and bad water from the wells in the thickly populated places. He writes: "I have again drawn the attention of the Provincial Board of Health to the sewage of the Deaf and Dumb Institute, but nothing has been done so far. It is now over a year since the matter was brought before the Provincial Board, and in a case of such vital importance to the well being and health of the inhabitants of this city, it should have been, in my opinion, attended to before this. I may say that I stated in a communication to the Board, that should

our water system become contaminated with sewage from that source the city would hold the Board responsible.”

DR. GRIFFIN, of Brantford, reports that during the half year 137 notices were sent to the free library requesting that books be not delivered to persons from infected houses, and that any books returned from such houses be withdrawn from circulation until they shall have been examined by the Medical Officer. Under this regulation fifty-six volumes were withdrawn from circulation. Of these, twenty-seven volumes were restored to circulation, it being clear from the known facts that they were not infected, and twenty-nine volumes were removed to the Health Office. Those of small value and which have been handled by patients with diphtheria and scarlet fever, it is proposed to destroy, others may be returned to the library after disinfection.

The milk supply of this city is furnished by twenty-five dairies, nearly all in the township. The number of cows reported July 1st, was 357, and the daily supply 2,277 quarts. All were inspected in March by the Sanitary Inspector, in company with Veterinary Surgeon Stewart, with fairly satisfactory results; several of them have been inspected a number of times during the summer and autumn. Samples from all the dairies have been tested twice and from several of them three or four times. The results of the earlier tests were to show the milk in the majority of cases poor. Later tests showed considerable improvement. It is intended, with the approval of the local Board, that the work of inspecting dairies, testing samples and publishing results shall be continued as frequently as possible, having regard to the labor involved and the limited time at the disposal of your executive officers. Milk is often the main dependence of the sick and the quality of it is most important. Dr. Griffin seems determined that the city milk supply shall be good; for which at least the sick and the little ones should be thankful.

The work done in sanitary inspection during the year was large and well done.

“The Inspector’s books show that 1,207 house-to-house inspections have been made, exclusive of inspections of dairies, slaughter-houses, soap works, etc.; two or three times as great a number, in proportion to population, as have been made in any other city in Ontario.

DR. KEATING, of Guelph, reports as follows: “The inspection of milk and cow-byres during the year has been carried out, and has resulted, from what I can learn, in a marked improvement in the quality of the milk.”

“During the past summer a great many complaints have been made with regard to the bad smell of the river owing to the water being used by the Electric Light Company causing the banks of the river to be exposed all day to the heat of the sun. The Sanitary Inspector was instructed by the Board to notify all parties running nuisances into the river to stop it at once, and in the event of his instructions not being carried out, to instruct the city solicitor to take action. The persons notified acted promptly. I also gave instructions to have the river cleaned from rubbish which had accumulated and no less than twenty-five dead animals were found in it. Since the cesspools have been shut off and the river cleaned, no complaints have been made.”

DR. RYAL, of Hamilton, had been instructed to visit New York and Boston to enquire into their systems of milk inspection. He reports: In New York the inspection of milk is extensively carried out. Eight medical inspectors do daily duty; each of them being required to examine 200 samples and report weekly. One is detailed alternately for morning duty to inspect milk direct from the waggons. The Inspector is met at an appointed place by a policeman whose duty is to stop the waggons as they appear. The Inspector takes the sample from the vessel himself and examines the specific gravity with the New York Board of Health Lactometer; he then takes the temperature and corrects the specific gravity at 60 Fahrenheit. All milk which does not register 95 on this Lactometer, and which does not

also bear inspection with regard to, color, taste and odor, is confiscated and consigned to the nearest sewer. I saw forty quarts so disposed of one morning. It seemed to me very summary punishment; but the case did not end there, as the driver having the milk in his possession at the time was held responsible, as well as the party to whom the milk was consigned. Both were summoned before the District Court. I did not hear what the result was, but was informed that the fine would not be less than \$50. In Boston there are three inspectors of milk (not medical men). It is their duty to collect samples and bring them to the office of the city analyst. All samples are there examined with the Fesor Lactoscope, and when found necessary are subjected to a minute analysis. The Lactometer used here gives the specific gravity direct, which is corrected at the temperature at 60 Fahrenheit.

"I received also a good deal of information from Mr. McFarlane, Chief Analyst of the Inland Revenue Department at Ottawa, Dr. Ryal adds, and have followed out the directions of circular No. 2, issued by that Department. The system of inspection carried out in Boston is more suitable for our Health office than that of New York. The latter, though very efficient, is very expensive, but the people get good value for it."

DR. FEE, of Kingston, complains that the board of that city have not provided for a system of milk inspection.

In closing his report, he hopes that "the Local Board of Health will meet more regularly in future, and thus give its moral support to its officers in the carrying out of all sanitary measures."

DR. HUTCHINSON, of London, urges that the sanitary inspection of house plumbing is becoming more and more a necessity in the interests of the public health. "Much of the house plumbing done in the city is of the worst description. This is not so much the fault of the plumber as of those who build houses to let, and then have the plumbing done as cheaply as possible, without any regard for the safety of those who will occupy them." In referring to

the Dominion Analyst suggestion that in case the Government establish a milk standard for the Dominion it be not less than 3.50 per cent. Dr. Hutchinson says: "Although the quality of the milk sold in this city has greatly improved in the last six months, and no doubt will continue to improve, still, this standard, for the present at least, appears to be too high; I would recommend that it be not less than 3.25 per cent. of butter fat."

This JOURNAL would however urge for a high standard, in the public interests. It is not very difficult to attain it.

DR. ROBILARD, of Ottawa, reports: "It is a matter for public congratulation to note the progress made in some of the schools of this city during the last year, as to their mode of heating, ventilation and closet accommodation. Not only is this noticeable in the newly erected school houses, but in others also, where, regardless of expense, the requirements of hygiene have been complied with. Others which have not yet reached such a standard of hygienic perfection, it is to be hoped will soon emulate this praiseworthy example." Referring to the fact that the erection of a cremating furnace had been contemplated by the Board the Dr. says: "This mode of disposal of such matter is no doubt effectual, whatever may be said of its economic value, but, in my estimation, it is not for our present needs an indispensable necessity. With a properly organized system of scavenging under the control of the Board of Health; there is no reason why such matter could not be disposed of in a much more economical way for some years to come without endangering public safety."

TO BE CONTINUED NEXT MONTH.

THE COCAINE HABIT, according to Prof. Lennox Brown, the eminent London specialist, may be contracted by the use of this drug in the treatment of diseases of the nose and throat. The local disease is aggravated, and often numerous strange nervous symptoms appear. "Cocaine is unquestionably the most dangerous, because the most fascinating and the most deadly, of all drugs." We believe its cure is much more difficult than either inebriety or the opium habit.

## EDITORIAL NOTES.

TO MEMBERS OF PARLIAMENT, in much of what we write below, we would particularly address ourselves, now during the recess and as the time of the next Session of the House draws near. The death-rate in Canada, especially in many of our cities and towns is persistently very high, as shown again below. Surely there is no subject so important for the members of the Parliament of Canada to consider as this one of the health and lives of their constituents. We are convinced that if members *will but consider it sufficiently* they will see the absolute necessity of action.

THE PUBLIC HEALTH question is one of such great and far reaching importance that we need not apologize for pressing it repeatedly and even constantly upon the notice of all members of Parliament and indeed every one who has any influence with the members. Every life in this young country is needed to help to fill up its many unoccupied places. Everybody now knows and need not be told that many lives are lost in Canada every year, in fact every day, through both ignorance and neglect of ordinary sanitary requirements, and that by the free and liberal distribution of knowledge of the simple rules of health and by proper sanitary oversight and administration, many of the lives now thus sacrificed to ignorance and neglect might be saved and prolonged to many years of useful citizenship. We do not ask for any interference whatever with Provincial health proceedings; but that the inactive Provinces shall be influenced to efficient action, and that all shall be assisted in the work of promoting, in every practical way, the health of the people.

THE MORTALITY for the first half of the current year in the twenty-nine large cities and towns in the Dominion making returns to the Department of Agriculture shows that many thousands of our Canadian people died in Canada in that period who would not have died had not the mortality been higher here than it was in London, Eng. Accepting as correct the population of the Canadian towns as estimated by the municipalities, which is much more likely to be placed too high than too low, the death-rate in these towns for the half year was 21 per 1,000 of population per annum, while in great London during the same period it was but 17.75; and for the whole of England and Wales

18.35, per 1,000. This proves clearly that the mortality in the Canadian towns is over 13 per cent. higher than it is in London. Therefore, as there were 8 518 deaths recorded in these 29 Canadian towns during the first six months of this year, 1,533 of these deaths would have been prevented had not the mortality here been higher than it was in London. This means that, if the mortality in Canada were reduced from 21 per 1,000 of population to 17.75 per 1,000, by proper sanitary administration, as it has been so reduced in London within the last decade, there would be a saving of 3,066 lives in a year in our principal cities and towns, or about 20,000 lives a year in the whole Dominion. Every year now for many years we have shown that about 20,000 lives a year are sacrificed in Canada to ignorance and neglect of sanitary rules, which might be and should be preserved. Can Canada afford such a yearly sacrifice?

A DEFINITE PLAN for a Dominion Sanitary organization has been before the leading Sanitarians of the Dominion on several occasions: yet it has been said, by those not having taken the trouble to inform themselves, that no plan has been brought forward. An outline of what is desirable and practicable has been yearly proposed in this JOURNAL for many years, but we may again briefly outline it now. As a basis, a system of health statistics and statements or reports is essential. There should be a record of births and deaths and monthly returns of the same. For all practical purposes and for some years to come, it would suffice to obtain these from 150 centres. Sufficient money would not yet be granted by parliament for a monthly record of these events in all the outlying rural districts of the Dominion, but once a year they might be obtained through the assessors from all districts. Besides these statistics—and what would be, to a more practical value, it is essential to provide for monthly, or better, fortnightly or weekly, reports from these 150 centres of the general prevailing condition of the public health, especially as relating to any infectious or epidemic diseases in either mankind or the domestic animals. Returns of all these statistics and reports should be made to a Department, or a sub-department of one of the present Departments, of the Government at Ottawa. In this



department they should be utilized for the information and instruction of the public through a regular bulletin published monthly or oftener.

PROVISION FOR INVESTIGATING: by the health department the cause and source of all special outbreaks of infectious disease in man or animals reported thereto would be necessary. It would be the duty of the provincial authorities to see that municipalities employ prompt means to remove any cause of epidemics or of a high rate of mortality. If the provinces did not do their duty in this regard, there should be provision whereby the Federal authorities could act in this behalf; just as the Provincial Authority may now step in and act when a municipality neglects to act. The quarantines, and the department of the Dominion analyst, should be under the control of the health department. In this way, without interfering with the autonomy of the provinces, the Federal authorities while educating the people in health subjects and creating a general interest therein would have, as they most certainly should have, a certain controlling influence over the health interests and requirements of the people. A plan with details, very similar to the above outline, including provision for health reports, has been before the public for years. It has been endorsed by both the Medical Council and the Medical Association of the Province of Ontario, and was considered and adopted four or five years ago at a meeting of medical Members of the Senate and Commons along with many medical practitioners not members of parliament—probably the largest and most representative meeting of the kind ever convened in Canada, and a committee was appointed which urged it upon the Government and received a promise that it would receive consideration.

AT THE BANFF MEETING of the Canadian Medical Association in August the President of the Association, Dr. H. P. Wright, of Ottawa, referred at much length to this subject. He said: In Ontario we have a board of health in good working order. . . . If each province were equally well equipped, and all united to assist a central board the number of lives annually saved to the country would be very great, though difficult to estimate. . . . We, as a profession, ought to consider ourselves one great department of health, ready, as individuals, to devote some of our time and energies to the de-

velopment of its aims. . . . Now is the time to act. Let us have petitions signed in every district throughout the country. Legislators are willing to listen, and, among the medical members of parliament, never was there "such a strong feeling aroused as to the necessity of some central responsible body to look after the health interests of the Dominion." The great merit of this subject is my excuse for dwelling on it at such length. I hope it may not prove to be a "vain repetition," and that my successor may be able to announce from this chair next year that something has been accomplished.

THE GREAT INFLUENCE of the medical profession, if properly exerted, was referred to by Dr. Wright. He also alluded to the suggestions relative to a Dominion health department made before the Association a few years ago by the late lamented Dr. R. P. Howard, of Montreal, and also to Dr. Roome's notice or resolution before parliament, which was highly approved of. Dr. Wright said: "The importance of such a movement can hardly be over estimated." "I hope that resolutions passed here to-day may effect legislation in the near future. It is high time our Parliament recognized our Medical Associations, and if they do not, we ourselves only are to blame. And we are blameworthy, to our reproach be it said; for, are we not, as the belligerents of disease, the natural guardians of the public health? And should we not be a unit, not of apathy, but of earnest activity, in all matters of sanitary legislation? Can anyone for a moment imagine that if each medical practitioner would exert himself in favor of some one movement, which has for its sole object the prevention of disease, the protection of the people and the prolongation of life, that that object would soon be attained! Gentlemen, it is our duty to exert ourselves. It is our duty not only to support measures affecting the public health, but, as medical associations, to bring them before the notice of the different governments, and, as individuals, to gain the personal attention of our representative parliament. For surely we should be familiar with the necessities of sanitary reforms long before a body of legislators composed chiefly of lawyers, men of commerce and agriculturists. Let us then be up and doing, and while others go before the electors preaching national wealth, let our watchword always and ever be—NATIONAL HEALTH.

EDUCATION, EDUCATION of the people, all women and men, young and old. poor and rich alike, in the ways and means of invigorating the body and avoiding and removing the causes of disease, is the one chief means for the general promotion of the public health and the prevention of premature deaths. And the education must be systematic and persistent. On this question, of the value of such education, everybody is of the same opinion. In England and Scotland and even on the continent of Europe societies with numerous branches do a great deal of this sort of valuable work and accomplish incalculable good. Canada is a new country and there is not here the class of people with the leisure to undertake this work. But the necessity for it being even greater than in England, from the higher mortality here, the authorities—the Government—the Dominion Government, should take it up and make a systematic work of it. On this point, too, among the general public there is so far as we can learn but one opinion. It is, therefore, to be hoped that, for the sake of the suffering public, all members of parliament will consider this and be prepared at the next session of the House to support Dr. Roome's movement in this behalf.

INSANITY, TOO, seems already to be on the increase in Canada as well as in other countries. Insanity arises but from physical defects, hereditary or other—defects which a practical knowledge of the rules of health would gradually prevent and overcome. So, physical defects lead to intemperance and crime and fill our prisons as well as our asylums. The education of the masses in all matters pertaining to health will therefore prevent not only sickness and death but also crime and insanity. No fact is more clearly established, as we showed in the July number of this JOURNAL, than that physical education directly promotes mental and moral stamina and self-control. The future welfare of Canada is therefore largely bound up in this question of Legislation for the promotion of the sanitary interests of the country, and chiefly by the liberal education of the people in all subjects pertaining to health.

"TAK' CARE O' YOUR CARCUS," Charles Reade makes one of his characters, Dr. Sampson, say, when dilating on the value of life. And as Sir Andrew Wilson, M.D., etc., says, in an admirable article on the "Problem of Life,"

"there was great, very great, wisdom in the worthy doctor's remark, tak' care o' your carcus." The possession of perfect health, Sir Andrew continues, "is the first great essential for happiness: and it therefore forms the first item for our consideration when we ask the question, Is life worth living?" "The first essential to a pleasurable life, in my humble opinion, is a sound body. Let us, at least, begin with this plain dictum. It offers us a sound footing in a perfect quagmire of absurdities and trivial talk about the aims and ends of life. To the healthy man or woman who takes care of his or her "carkus" all things in the way of advance and enjoyment, physical and mental, are possible. Conversely it is with the body weakened."

FROM "LACK OF KNOWLEDGE about health laws," Sir Andrew Wilson declares, largely arises the incapacity to enjoy existence. I may be pardoned, he adds, for laying stress on this ignorance, "because I happen to be very practically associated with a certain [sanitary] work and labor of diffusing such knowledge broadcast, and because I know how much work yet lies ready to the hand of the reformer in things sanitary." And, "Do we need to go much further than this very primary matter of health as an all-sufficient cause for failure in most of the things, aims and aspirations which make up the Life beautiful?" He concludes thus: Following closely on the care of the "carkus" is a whole host of other ways and means of enjoying existence in fairly full measure.

THE MOODS OF THE SANE is the subject of another admirable article in the British Medical Journal, the outcome of a posthumous paper in a recent number of the Neurologist, by Dr. Milner Fothergill. "Speaking scientifically, we cannot affirm that anybody is perfectly healthy. If the pathologist can detect the symptoms of disease in the most apparently healthy body, no less certainly can the neurologist indicate subtle manifestations in the mental states of the sanest amongst us, which serve to warn us how perilously near we may all come to mental derangement." "What angry man amongst us may not find food for reflection, and learn the habits of self control from the incoherent ravings of frenzy? What garrulous self-centred man may not be rebuked when he sees his infirmity a little magnified in the flow

of the talkative maniac?" A bad habit or the dominance of an unfortunate predilection may disturb the balance of an otherwise healthy mind as effectually as the touch of a magnet on the balance wheel of an exquisite watch will impede its regular motion.

A VARIETY OF MOODS are caused by food alone! An old adage has it that, "he who drinks beer thinks beer." A hungry man can scarcely be termed quite sane in comparison with one who is comfortably digesting a good dinner. A disordered liver has made many a one think he has "sinned the unpardonable sin," and driven many to self-destruction. "The accursed hag dyspepsia," as Carlyle has put it, has been also prolific of suicides as well as responsible for a good deal of the gloomy theology of the past. The lesson to be learned, as the Journal says, is the importance of a firm will-control! "If our mental states are so often caused by pathological conditions, it is no less true that the mind can control the body; and the man or woman who, in popular phraseology, "gives way" to his moods, runs imminent risk of becoming their slave."

A SPECIAL SERVICE was held in the old parish church of Leeds during the recent annual meeting there of the British Medical Association and Dr. Boyd Carpenter, the Bishop of Ripon, preached the sermon, taking his text from the Gospel of St. Mark (viii. 1, 2), "Jesus called his disciples unto him, and saith unto them: I have compassion on the multitude," he drew a striking parallel between the work and aims of divinity and medicine. The fundamental aim was the same, and both professions, actuated by a deep sense of compassion for the sufferings of humanity, were ranged under one banner. The chaplain and the surgeon had fought together at Rorke's Drift, and if divinity could boast a Father Damien, medicine might be not less proud of men who risked their lives in the hope of restoring the power of breathing in a child who had been operated on for diphtheria. He recalled some of the triumphs of medicine, the disappearance of ague from whole nations, the enormous diminution of mortality and paid a remarkable tribute to the achievements of sanitary workers.

AN IMPORTANT CONTRIBUTION to our knowledge of the special poison of diphtheria was given in the June number of the Annals de

l'Institut Pasteur, a translation of which we find in "Public Health," the organ of the Minnesota State Board of Health. The first conclusion is, "The bacillus discovered by Klebs in the false membrane, and isolated, afterwards, by Loeffler, is the cause of diphtheria." Another very important conclusion is that, "The bacillus of diphtheria does not multiply in the organs of the body, but is found only at the point of inoculation, and disappears entirely if the disease be prolonged. Diphtheria is, therefore, an intoxication caused by a very active poison formed by the microbe in the limited place where it grows." The authors give as proof of this statement, their demonstration, by repeated experiment, that in pure cultures of the diphtheritic bacillus, there exists a special chemical substance which, injected under the skin of animals, gives them the disease, in the absence of any living microbe. A sufficient dose produces a rapid intoxication, with all the symptoms and the lesions which follow the inoculation of the bacillus itself except that the false membrane is not produced. Acids and heat rendered the poison much less active.

THE DIPHTHERITIC POISON is intensely virulent. Fifteen drops of a filtered culture, when dried, left a residue weighing 0.154 of a grain. Deducting from this the weight of the ash and the portion soluble in alcohol, neither of which are poisonous, there remains but the 0.06 of a grain and the most of this is made up of other substances than the diphtheric poison. This infinitely small dose is sufficient to kill at least eight guinea pigs, or two rabbits, and injected into the blood of a dog, it would make him very sick for a long time, if it did not kill him. But this poison, so fatal if introduced under the skin, may be eaten in large quantities by the same animals with impunity.

THE PAPER CONCLUDES in these words: "It is very difficult to accustom animals to this poison, because of its activity. Even in very feeble doses it produces effects which are very enduring. It is because of this energetic toxic power that we ought to prevent the formation of false membranes in the sufferers from the disease. If you allow the bacillus time to produce a sufficient dose of the poison, it will be of no use to destroy the croupal membrane or the bacillus itself, death will be caused by poisoning; for in diphtheria, contrary to what occurs in many

other infectious diseases, the infection is not produced by a microbe invading the tissues, but by the diffusion through the body of a toxic substance produced upon a mucous surface, by a specific bacillus, and, so to speak, outside the body."

MURAT HALSTEAD, the popular journalist, who speaks from recent experience, says that those who do not feel ambitious to cross the Atlantic in less than a week, and are willing to spare two or three days in addition to the time made by the "ocean grey hounds," will consult their comfort by taking slower ships and obtaining better accommodation. There is the element of danger in this high pressure progress. Speed, no doubt, is desirable if you don't happen to run into anything.

MRS. VIMPANY, one of the interesting characters in Wilkie Collins' story, "Blind Love," now being published in the Illustrated London News, is made to say: "I joined a nursing Sisterhood. Before long, a dispute broke out among them. Think of women who call themselves Christians, quarrelling about churches and church services—priest's vestments and attitudes, and candles and incense! I left them and went to a hospital, and found the doctors better Christians than the sisters.

A CHARMING VIEW of quarantine is in Harper's Bazar. "My boys and I have been shut up together for six weeks," said a little woman the other day, her bright face dimpling with sunny smiles. "Quarantined, and we've had a siege of it; but the dear lads were never really ill, notwithstanding the dreadful character of the disease which had them in its clutches. Of course we were terribly anxious, and the doctor kept warning that we could not be too careful; and I had such a horror of any infection wafting itself from our doors into the home of somebody else where there were children, that I could not sufficiently multiply precautions; but when all was said, and all the privations and disappointments borne, there were compensations. The boys and I grew so well acquainted! We read several splendid books through, from the first chapter to finish; we studied the New Testament; played games. They told me everything, just as when they were my babies toddling over the floor and coming to mamma with their questions and troubles; and

now that it is over I shall always look back with a certain gratitude and pleasure of memory on our six weeks in quarantine.

THE LIFE VALUE of the proper disposal of sewage is well illustrated by results at Hawick, Scotland. Seven or eight years ago the sewage of that town was disposed of partly in the river Teviot and partly in "old fashioned cess-pools," and the death-rate was then 22.4 per 1,000. During the last seven years, the sewage has been floated over four acres of land and so utilized in the soil. The death-rate gradually came down and last year was only 16.6 per 1,000. On the authority of the medical profession, the health of the people is better, there is less diphtheria, less typhoid fever, and less of the ordinary ulcerated sore throat. When diphtheria or typhoid fever appears now they can always localise it, and generally find deficiencies or defects in the house drainage.

MEDICAL INSPECTORS of local boards of health, to see that the boards are properly organized and doing their duty, is a sanitary requirement to which we have alluded on several occasions, and which will soon have to receive attention in Canada. By the new Local Government Bill which has just come into force in Scotland, the appointment of a medical officer and a sanitary inspector for each county is compulsory, and they must give their whole time to their official duties, unless with the "express written consent of the County Council." Their primary duty will be to exercise a general vigilance over the District Committees and their officers; and, if they have reason to be dissatisfied with the manner in which their sanitary work is accomplished, to report to the County Council, who may take the necessary steps for having the Public Health Acts enforced.

THE MORTALITY in July in the 29 principal cities and towns of the Dominion was at the rate of over 30 per 1,000 of population per annum. In August it was 27 per 1,000. During the first half of the year, ending June 30th., the mortality was 21 per 1,000, a fraction less than in the same period of 1888. These estimates are on the basis of population as estimated by the municipalities themselves. In London, Eng., the mortality in July was only 18.2, and in August it was but 15.7. The rate in Canadian cities being thus nearly 66 per cent. greater

during the two months than in great London. Is not this "terrible to contemplate."

ALL MEN are not equal, even in Heaven, it appears. Certainly some lives are of much more value to their fellow creatures than others; and it is as often the most valuable ones are destroyed by disease (especially by typhoid fever) as the least valuable. Many contend that all men are born equal and are all of equal value in the eyes of the Creator. We doubt it. At a recent convention of the Brotherhood of St. Andrew, at Cleveland, O., Dr. Holland, of St. Louis, said: "All men are not equal; we are not born equal and we never can be equal. The idea that God created men equal grew out of the superstition and the infidel ignorance of an age that has passed away. It is God's law that some men shall be greater than others, and all the anarchy and the communism and the atheism of the world cannot change it. Here in this country we are ruled by a Government that upholds this doctrine of equality, and our politicians and rulers are afraid to speak the truth, because the lower order of society has a vote." This popular extension of the franchise we have always thought was a great mistake.

OFFICIAL MURDER is clearly liable to overtake any one of us and the fact naturally makes one shudder. Many an innocent man has been hanged, from a rude faith, in illy cultivated minds, in circumstantial evidence. And now those men comprising the Grand Jury of the Wentworth Assizes, have immortalized themselves by refusing to bring in a bill against Policeman Hawkins, who "officially" shot the unfortunate Douglass. And so Hawkins is liable to escape punishment, Mrs. Maybrick came perilously near being hanged, and may now be suffering quite innocently of the crime of which she was charged. The highest medical evidence was equally divided as to the cause of the husband's death, and it is quite possible, rather probable, he died from his own indiscretions—his own outrages on nature's simple laws. Who will be the next victim of the law? Anyone of us may be if there be not some better way of administering the law.

HERE IS ANOTHER, from the Empire: Little 8-year-old Elsie Curry, the daughter of Mrs. Curry, of 187 Hamilton street, Toronto, had only attended the Bolton avenue school five days when she came home sick. She died. Her class occupied a basement room in the school, and it is alleged that her illness and subsequent death were attributable to the foul and damp atmosphere permeating this underground

apartment. Parents had complained of the unhealthy class room in which their children were FORCED to pursue their studies, but "nothing could be done until the new schools, in course of erection, were completed. And why could not SOMETHING be done, to avoid official murder? Surely if children are compelled to sit in death-dealing class-rooms the authorities are liable to actions at law for damages.

MANY simple rules of health are violated, the Sanitary News says, because it is considered inconvenient to obey them; but it is the violation of these same simple rules that burdens life with that greater inconvenience—ill health. The busy man will find that it takes far less time to comply with hygienic laws than it does to suffer the sickness resulting from their violation.

AMONG the other international congresses lately held in Paris there has been one against the abuse of tobacco. One sensible recommendation which was made is the enactment of laws interdicting the use of tobacco in any form (not of cigarettes only) by minors.

HEALTH OFFICERS are but shamefully paid in nearly all cases: The Michigan State Board of Health has recently published a paper in which it is asked, how much the average city or village can afford to pay its health officer? Statistics which can not be questioned prove that in those localities in Michigan where the recommendations of the State Board of Health are carried out about eighty per cent. of the deaths from diphtheria and scarlet fever are prevented by a system of thorough isolation and disinfection. Statisticians usually value a person in the prime of life as worth to the community about a thousand dollars. It is thought that in a village of fifteen hundred inhabitants a health officer can easily save the lives of two children and one grown person in each year, and that such a village can well afford to pay its health officer two thousand dollars for the prevention and restriction of scarlet fever, diphtheria and typhoid fever, and save money by the transaction.

IT IS HARDLY FAIR, says the British Medical Journal, to blame the vestries for the "bad smells" after they have been met by a refusal on the part of ratepayers to co-operate with them for their suppression, and it is evident that the remedy for the existing nuisances lies largely in the hands of the public, who, must first, of course, be educated as to the cause of the evils. This applies to Canada also.

AN ILLUSTRATION of the eminent Sydney Smith's celebrated saying about the burning of a bishop in a locked railway carriage is just now

being given. The services of Mr. Baldwin Latham, the eminent sanitary engineer, have been secured with a view to his preparing an exhaustive report on the best means of draining Cairo. This desirable measure has been arrived at through the instrumentality of Sir Evelyn Baring, whose eldest son lately went through a severe attack of enteric fever there.

A DELEGATION from the Provincial Board of Health of Quebec recently visited the Grosse Isle quarantine station, where they were received by Dr. Montizambert, medical superintendent. The medical gentlemen made a thorough examination of the island and its appliances, and were seemingly well pleased with everything they saw.

ANOTHER "Elixir of youth" is reported. Dr. Szikszay, a Hungarian physician, has been making experiments in the State Prison at Engelsfield by injecting a liquid, the composition of which is not revealed, into aged persons. The results are said to be remarkable. The strength of the "subjects" was tested with a dynamometer before and after the injections. In the case of a man aged 75 his strength was found to have been increased after the seventh injection from 14 to 19 kilogrammes, and after the thirteenth to 35 kilogrammes.

THE movement of population in France indicated by the summaries published for 1888 in the *Journal Officiel* cannot be read without regret. They are summed up pithily by M. Georges Michet in a few words: Diminution of marriages, augmentation of divorces, decrease of legitimate births, increase of illegitimate births, excess of deaths over births in forty-four departments.

DR. U. G. CURRIER, of New York city, has recently conducted elaborate experiments on the efficacy of various filters and other means employed to purify water. His conclusions are decidedly unfavorable as to the virtue of filtration. Moral: Boil all suspected water.

THE Vaccination Commission have presented their first report to Parliament, consisting of minutes of evidence, appendices, etc., but it will, in all probability, be a long time yet before the Commission are in a position to come to any conclusion upon the evidence laid before them.

WARTS may be removed by Unna's method: namely, mercurial ointment, containing 5 to 10 per cent. arsenic. The ointment is spread on linen, and applied over the wart, which gradually softens, and is finally absorbed without giving pain, it is said, or leaving any mark.

THE "PACKET" of Orillia, ever alive to Sanitary interests, says: Typhoid fever appears to be prevalent in most of the towns of this province. Penetanguishene has suffered severely, one of the latest taken down there being Dr. Bowman, who is under treatment in the general hospital at Toronto; there are a number of cases in Barrie; Orillia has not by any means escaped, and at Longford Mills and other places in this section many more cases are reported. Still sanitary measures progress with a tardiness almost disheartening.

THE American Public Health Association which holds its annual meeting on the 22, 23, 24 and 25 of this month in Brooklyn, N. Y., comprises over eight hundred members, all devoted, officially or otherwise, to its declared purposes—the advancement of Sanitary Science and the promotion of organizations and measures for the education of the public in all subjects pertaining to health. With the hope of still further magnifying this interest and effort it is the purpose of the Association, at this meeting, to provide an Exhibition of everything available adapted to the promotion of health.

A MOST SUCCESSFUL man, U. S. Post-Master General Wanamaker has been. In a recent address to his Sunday School Class, after relating the history of the killing of the Philistine giant, by David with a sling and stone, he said: "There were five stones which he thought were necessary for use against the many temptations of life:—Health, Education, Courage, Truthfulness and Faith in God." It is a significant fact that such a sagacious man as Wanamaker should place health first.

THACKERY'S HABITS, as regards health, seem to have been about as bad as possible, according to our exchanges. Like Dickens, he was a great eater; but Dickens compensated to some degree for his excesses at the table by taking a large amount of out-of-door exercise, sometimes walking twenty-five or thirty miles before breakfast. Thackery seldom took exercise of any kind. He constantly suffered as the result of his violation of the laws of health. When urged to obtain medical advice, he said: "What is the use of advice, if you don't follow it? They tell me not to drink, and I do drink; they tell me not to smoke, and I do smoke; they tell me not to eat, and I do eat. In short, I do everything that I am desired not to do, and therefore, what am I to expect?"

EVERY man is his own ancestor, and every man is his own heir. He devises his own future, and he inherits his own past.

EDISON, it is said, is a small eater. He says that a pound of food a day answers his needs.

THE TENTH INTERNATIONAL Medical Congress, of which we have received official notice from Berlin, will be opened in that City on the 4th and closed on the 9th day of August 1890. Detailed information as to the order of proceedings were to be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th instant.

THE MEDICAL RECORD, commenting on an epidemic of Diphtheria at Moscow, Ohio, says: The time will come when an epidemic of disease in a place will be looked upon as a disgrace to the community, as great, if not greater, than would be a series of robberies, or any other crime.

A VERY INTELLIGENT LADY recently remarked that she really felt that it was a disgrace to have a case of Typhoid Fever in her family. The time will doubtless come when those who are not usually in good health or who suffer from sickness will be regarded as not having received a good education.

THE CREDIT of the following classic observation is due perhaps to Homer in the description of the plague at the beginning of the Iliad, showing the ancients recognized the communicability of infectious diseases from animals to man:

First fell his wrath on the mules and the swift-footed hounds of the huntsman,  
And the night and the day were black, with the smoke of the corpse fires.

ANYONE contemplating a visit or stay in a Sanitarium would do well to remember the Medical and Surgical Sanitarium at Battle Creek Michigan. We believe it to be the best—the most complete in itself, the most successful in its results—of any on this continent if not in the world, which indeed it probably is, as it aims to be. It is the largest establishment of the kind in the world, we believe.

---

#### NOTES ON CURRENT LITERATURE.

SOME MOST EXCELLENT articles bearing upon health and life, scientific yet practical, by the eminent authority and physician, Sir Andrew Wilson, are now being given in the Illustrated London News. Good as this great periodical has long been, it seems to be still better of late. The illustrations are numerous and excellent, equal to, if not superior to, anything ever published. It is now only \$5 a year; American edition: Potter Building, New York.

THE CENTURY MAGAZINE closes its sixteenth year with the number for October, which, besides its leading serials on Lincoln, Siberia and the Old Masters, contains several highly interesting papers. One a study of "Moliere and Shakespere," by the eminent French comedian M. Coquelin, accompanied with a frontispiece portrait of Molière as Cæsar, and a portrait of Coquelin as Mascarille; another striking paper is "Reminiscences of the Herschels," by the celebrated American astronomer, the late Maria Mitchell. Illustrated articles on manual training presents this subject from three different points of view—the articles being by Professor Butler, of the New York College for the Training of Teachers; Professor Thorpe, of the Philadelphia Manual-Training School; and Dr. Felix Adler, founder of the Workingman's School and Free Kindergarten of New York. There is a good variety in the story element.

SEVEN WRITERS—clergymen, college professors and public men, some of them specialists of acknowledged standing, it is announced—have associated themselves to discuss special questions of social interest and import, and to prepare papers to be afterwards given to the public from time to time in the pages of The Century. The opening paper will be printed in the November number.

THE POPULAR SCIENCE MONTHLY for October is more than usually interesting; there are seventeen articles, many of which are of unusual interest, besides the "Editor's table," "Miscellany," &c.

"BLIND LOVE," the highly interesting illustrated story now in course of publication in the Illustrated London News, was the last work of the popular novelist, Wilkie Collins, who died last month.

THE FRONTISPIECE of the October ST. NICHOLAS is the favorite picture of the noble French hounds that belonged to the Count de Barral, and an article, "Among Dogs of High Degree," by Noah Brooks, using the pictures as a suggestive text, discourses entertainingly upon fine dogs everywhere. A story from the treasure-house of "Uncle Remus" recounts Brer Wolf's unprovoked attack upon "The Creature with no Claws," and the retributive result. E. Cavazaz tells the story of a volcanic eruption in the adventures of "A Doll on Mount Etna."