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CANADA HEALTH JOURNAL,

A MONTHLY MAGAZINE OF
PREVENTIVE MEDICINE

EDITED BY

EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

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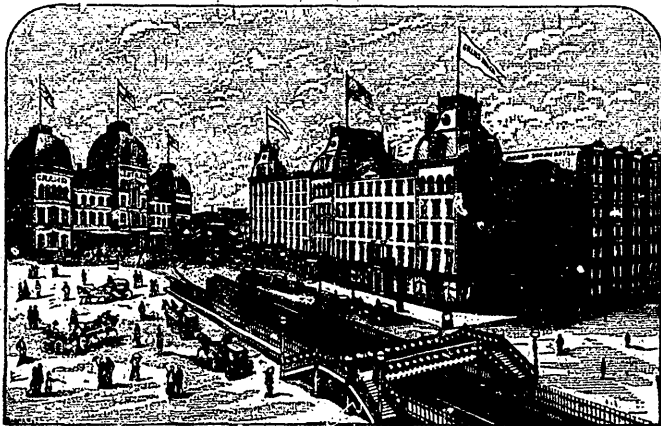
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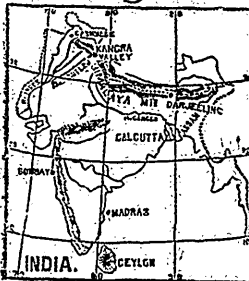
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THE CANADA HEALTH JOURNAL.

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SEPTEMBER, 1886.

No. 10

THE HIGHER EDUCATION OF WOMAN.

AN ADDRESS DELIVERED AT THE FIFTY-FOURTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, HELD IN BRIGHTON, AUGUST 10TH, 11TH, 12TH AND 13TH, 1886, BY WITHERS MOORE, M.D., F.R.C.P., SENIOR PHYSICIAN TO THE SUSSEX COUNTY HOSPITAL, BRIGHTON, AND PRESIDENT OF THE ASSOCIATION. FROM THE BRITISH MEDICAL JOURNAL.

. . . . It seems to me that on a public, and, in a certain sense, popular occasion such as the present, it may be well that our President should devote a large portion of his allotted time to some subject of current and popular interest, upon which, as custodians of the public health, instruction and guidance may naturally be looked for from us. And such a case may be taken all the more suitably when, as on the present occasion, you have bestowed the honor of your presidency, not upon some famous scientist or specialist, but upon one of those whose humble (yet not less needful) function it is to take the knowledge which, at the feet of scientists and specialists, they have acquired, and apply it to the actual use and benefit of mankind, in the persons of their patients.

Such a subject—at once popular and professional—may be found, I think, in what is called the higher education of women, meaning, by “higher education,” one which aims at raising women (as it imagines) to the masculine level, by fitting them for the exercise of brain-power in competition with men.

This, then, is our question. Is it for the good of the human race, considered as progressive, that women should be trained and admitted to compete with men in the ways and walks of life, from which, heretofore (as unsuited to their sex) they have been excluded by feeling and usage, and largely indeed, by actual legislation? Will it be well that we should have female doctors and divines, lawyers, mathematicians and astronomers, professors, publicists, and Ministers of State? Might not one add, female gene-

rals and commanders of armies? For Amazonian ambitions are still alive; witness the Dowager Mahranee of Baroda's recent offer to the Viceroy of India, of a corps of women warriors, to aid him in solving the African frontier difficulty. “The fighting capabilities and horsemanship of the Mabratta ladies can be no secret to your Excellency; and I hope that the offer which I make, and which I am prepared to carry out at the shortest notice, will be accepted, and that it will prove a precedent to the ladies of India and of England, and show the prowess with which the female race is capable of bearing arms, and that they can fight side by side with the military forces of the empire.” Will it be well, then, that our women should be equipped and encouraged to enter into the battle of life shoulder to shoulder and on equal terms with men? Do the “rights of women,” does “justice to women” demand it? Do the “duties of women” (due to the whole human race, and to their own sex and selves, as a part of that whole) admit it?

The old chivalrous ideal, certainly, was a very different one. It was that sweat of the brow and sweat of the brain should be mainly masculine—that man should go forth to venture and achievement, “to his work and to his labor until the evening,” while women should wait at home and welcome him back again, and lend her ear to his tale of doing or of suffering, and reward him with her gentle sympathy and loving appreciation.

“She loved me for the danger I had passed,
And I loved her that she did pity them.”

To the men of “the old time before

us," those words of Othello's seemed merely natural. Their thought was, not that woman should have her fair chance with man in the battle of life, but that she should be shielded and sheltered from that rude battle, if possible, altogether; that man should fight it for her. But, if we are to "change all that" then those who enter into the conflict where cuffs are going—man or woman—must be content to be cuffed, and to cuff back again; and the age of chivalry and chivalrous courtesy (so far as woman is concerned), with all which that courtesy did to make life noble and beautiful, must indeed be held finally to have passed away.

But such words may seem too sentimental and somewhat out of place. Well, then, as a professional man to a professional audience, though not without thought of the non-professional many whose attention this address (just because it is your President's) may be expected to command, let me lay before you my reasons for replying in the negative to the question proposed. I think that it is *not* for the good of the human race considered as progressive, that women should be freed from the restraints which law and custom have imposed upon them, and should receive an education intended to prepare them for the exercise of brain-power in competition with men. And I think thus, because I am persuaded that neither the preliminary training for such competitive work, nor the subsequent practice of it in the actual strife and struggle for existence, can fail to have upon women the effect of more or less (and rather more than less) indisposing them towards, and incapacitating them for, their own proper function—for performing the part, I mean—which (as the issue of the original differentiation of the sexes) nature has assigned to them in the maintenance and progressive improvement of the human race. For bettering the breed of men, we need and claim to have the *mothers of men*. This "higher education" will hinder those who would have been the best mothers from being mothers at all, or, if it does not hinder them, more or less it will spoil them. And no training will enable themselves to do what their sons

might have done. Bacon's mother ("choice lady," says the biographer, and "exquisitely skilled," as she was) could not have produced the *Novum Organum*, but she—perhaps she alone—could and did produce Bacon.

Such, stated briefly is my contention. I proceed to set forth more fully the facts and arguments upon which I found it; but, before doing so, let me, at the threshold of my subject, disclaim all covert intention of proving that women are unfit for the practice of *medicine*; for, if my question be answered in the affirmative, I see no reason why an exception should be made in favor of our profession. Nor need we, in that case, fear the result. Music, painting, poetry, literature and cookery, have been as free to women as to men; and yet a Beethoven, a Titian, a Shakspeare, a Bacon, or a Soyer has never yet appeared in their midst; and we may rest assured that the day is far distant when a Hippocrates, a Harvey, a Haller, or a Hunter, will adorn the ranks of the lady doctors. Be this as it may, we are citizens first, and medical men after; so that whatever is proved to be for the greatest good of the greatest number we, as true philanthropists, will cheerfully acquiesce in, even to the sharing of the practice of our profession with our sisters.

What we put before us, then, is the progressive improvement of the human race, the bettering of the breed of man. As Mr. Herbert Spencer (*Education*, page 146) reminds us, "The first requisite to success in life is to be a good animal; and to be a nation of good animals is the first condition to national prosperity." We may add that, to be a race of good animals is the first essential of human well-being. Now, how striking is the contrast when, with the way in which, in the case of the human animal, conjugal and parental unions are left to the haphazard of individual fancies we compare the persistent painstaking care bestowed upon such unions by the breeders of the inferior animals. . . .

Mr. Youatt speaks of the principle of selection as "that which enables the agriculturalists not only to modify the character of his flock, but to change it altogether. It is the magician's wand, by means of which he may summons in-

to life whatever form or mould he pleases." In the absence of any still superior animal to the human, which might exercise an analogous exactitude in the systematic improvement of the breed of man, it would be vain to hope (perhaps wrong to wish for professional or scientific regulation of the conjugal and parental unions of our own race.

But since there can be no interference with individuals, so much the more, surely, should social and political arrangements be free from any tendency to exclude a whole class (and that the fittest class) from its share in those unions and their results—any tendency to shut the fittest mothers out from motherhood. We are still far from being able to assign to father and mother, exactly, their respective influences in determining the original powers and qualities of the organism, which is their common offspring; but this, at least, we may say safely, that it is their common offspring; that it derives from both of them, and cannot be healthy and well-conditioned as their common product, unless they be healthy and well-conditioned, so as to make healthy and well-conditioned contributions, severally, in producing it. When therefore we consider that the mother cannot be thus healthily and well-conditioned if her powers have been persistently strained and overtaxed by competitive efforts and struggles against strength superior to her own, and consider, also, that the strength of man is thus superior, we see already the ruinous un wisdom of encouraging the competition of woman with man, in the severe brain-work of those "higher" studies which make such vast demands upon the vital powers. But how much more does this become apparent when in production and reproduction we include not merely the original powers and qualities of the fertilized germ-mass, as they exist in the new organism's earliest stage at the moment of conception, but take into account, also, all the after-cost to the mother's store of vitality during gestation and after parturition, until the offspring is full-fledged enough to take flight out of the nursery. And, having counted the after-cost, add in next, also, the previous cost of building up and preparing the maternal structure for dis-

charging duly those expensive functions of pregnancy and maternity. When we reflect, moreover, that compared with the total cost of maternity to woman, the cost of paternity to man is almost inappreciable, does not the conclusion seem to force itself upon us, that if women are to make the outlay of force which severe competition with man, especially in brain-work, will render necessary, their remaining stock of strength will be inadequate to meet the demands of motherhood—of brain-work especially? for we must remember that, of all activities, none seems so antagonistic to reproductiveness as that of cerebration, which, indeed, follows inevitably from the large outlay of vital capital which cerebration involves.

In Mr. Herbert Spencer's words: "if, of the force which the parent obtains from the environment, much is consumed in its own life, little remains to be consumed in producing other lives. . . Great is the physiological cost of that discipline by which high mental capacity is reached." In short, education is very expensive, physiologically as well as pecuniarily, and growing girls are not physiologically rich enough to bear the expense of being trained for motherhood, and also that of being trained for competition with men in severer exercises of the intellect. Before citing facts and further authorities in proof and exemplification of this over-expensiveness, it may be worth while (well-worn though the topic be) to dwell a little longer upon the part which the mother has in the making of the man—in determining, that is, the progress of the race:

"Children, like tender osiers, take the bow,
And as they first are fashioned, always grow."

Look at the man newly born—his one experience of the extra-uterine atmosphere that it is cold and sets him shivering. Now, some nine or ten years later, look at him again. What a different being has he become! What a wonderful growth and development has there been of his knowledge and faculties, habits and character! Never again in any other ten years, or any number of them, even to the three score and tenth year, will there be anything approaching to an advance and differ-

ence equal to that of the first ten. These first ten years have done more to fix the bent of his life and character than all the long years he may live through in days succeeding. In them, as the poet said, has been the main fashioning of him; and whose has been the chief part in that main fashioning? Has it not been his mother's? How momentous a matter for him, then, what sort of a one that mother has been—vigorous or feeble, healthful or ailing, hopeful or depressed, cheery or complaining, composed or irritable, systematic or chaotic. How much does it matter what sort of a mother he has had to the individual. How much does it matter what sort of a succession of mothers it has had for its successive generations to the race. Is it surprising that there should be that adage as to remarkable men and remarkable mothers? And human excellence is not exclusively that of those who have been remarkable.

“A man's fate,” said an Oxford tutor, looking back upon his college experience, “a man's fate all depends on the nursing—on the mother, not on the father. The father has commonly little to do with the boy till the bent is given and the foundation of character laid. All depends on the mother.”

Galton, in his *Hereditary Genius*, after citing, as examples of remarkable women, the mothers of Bacon, Buffon, Condorcet, Cuvier, D'Alembert, Gregory, Watts, and others, adds: “It appears, therefore, to be very important to success in science that a man should have an able mother. . . . Of two men of equal abilities, the one who has a truth-loving mother would be more likely to follow the career of science.”

Again, who—in Lewes' *Life of Goethe*—can read the poet's early history, with its absorbingly interesting account of the training he received from his mother, without feeling how much the marvellous material owed to its marvellous manipulation; how what the son grew into was very largely what his mother made him into; or, at lowest, prepared and fitted—in fact, enabled—him to grown into? What if Goethe's mother had never married? Would she have written *Faust*?

These questions suggest that, from the training of the man—the manipulation, that is, of the human material—we go back to the material itself; to the making of that which, after it had been made, the mother's training had to manipulate—from the infant new born to the infant unborn. Here, doubtless, we are in a region of far less certainty. Here, we bethink us of the Psalmist's: “We are made secretly.” Nevertheless, even here there are such considerable probabilities as, I cannot but think, ought to have great practical weight with us. “Material,” why the word itself is but Latin for mothering, a lengthened out form of *mater*. We have no corresponding *paterial*.

A few moments since, we had before us the wonderful contrast of what man was on the day of his birth, and what, in nine or ten years from that birthday, his nursing and training had made or manipulated him into. But, now, let us look at a still more wonderful change and transfiguration, transcending that other one even far more than it transcends all those of later life—change and contrast brought about, too, in a period much shorter, one counting, indeed, by months, instead of years.

Instead of nine or ten years forward, from his beginning on the day on which he was born, go nine months backwards, to the true beginning and starting-point of him, when, by growth, and development, he had to be built up and prepared for being born. “What,” asks Mr. Herbert Spencer, “can be more widely contrasted than a newly born child and the small semi-transparent gelatinous spherule constituting the human ovum? The infant is so complex in structure that a cyclopaedia is needed to describe its constituent parts. The germinal visicle is so simple that it may be described in a line.

But, that all but structureless and unspecialised cell, or cellule, is itself a minute bit, more or less detached, of the maternal organism; and (except for the other scarcely distinguishable paternal cellule which originally coalesced in it), that whole wonderful antenatal structure, with all its perplexities, is merely and exclusively made out of the mother's living substance; it has been

subjected to influences and impressions exclusively maternal; it is mother-stuff throughout. And this goes on thus all the time during which it is developing into readiness to become the new-born babe—the man that is to be. Blood and bone, nerve and muscle, are all made out of mother-stuff. Can we exaggerate the importance to the future man of the quality of that mother-stuff?

Here, naturally, there rise in recollection the many stories (more or less well authenticated) of the results on the bodily configuration or mental disposition of the offspring, occasioned by accidents occurring to the parent during her pregnancy. How, for instance, King James the First's want of personal courage, and congenital horror of edged weapons, are attributed to the impressions produced upon him, or, rather, wrought into him, while still unborn, by what Mary Queen of Scots, his mother, felt and suffered at sight of the naked blades which were slaughtering David Rizzio in her presence. Or again, how Napoleon's bent of genius towards war and strategy has been regarded as the outcome of his pregnant mother's share in her soldier husband's campaigning, and the consequent occupation of her thoughts and feelings with the movements of war. Such examples make Coleridge's sentence seem less startling, that "the history of a man for the nine months preceding his birth would probably be far more interesting, and contain events of greater moment, than all that follows it." Manifestly, it is before his birth, mainly, that the man is made. From and after his birth, he has mostly not to be made, but to grow; the making of him has been begun and carried on, and well towards completed in his mother's womb. The food which his developing organism has fed upon has been, in fact, his mother. If it has been good and wholesome food, it is so because she was in a good and wholesome condition, had a sound mind in a sound body, possessed an unshaken constitution, a well balanced brain, a healthy digestion—in short, was altogether in such a vital state as to fit and adapt her for discharging duly the arduous functions of maternity.

To return to my facts and authorities

in proof that the "higher education" of women tends to indispose them for matrimony and unfit them for maternity. Mr. Herbert Spencer, in his *Principles of Biology*, after noticing that too much bodily labor probably renders women less prolific, proceeds as follows:—"That absolute or relative infertility is generally produced in women by mental labor carried to excess, is more clearly shown. Though the regimen of upper class girls is not what it should be, yet, considering that their feeding is better than that of girls belonging to the poorer classes, while in most respects their physical treatment is not worse, the deficiency of reproductive power among them may be reasonably attributed to the overtaxing of their brains, an overtaxing which produces a serious reaction on the physique. This diminution of reproductive power is not shown only by the greater frequency of absolute sterility, nor is it shown only in the earlier cessation of child bearing; but it is also shown in the very frequent inability of such women to suckle their infants. In its full sense, the reproductive power means the power to bear a well developed infant, and to supply that infant with the natural food for the natural period. Most of the flat-chested girls who survice their high-pressure education are unable to do this. Were their fertility measured by the number of children they could rear without artificial aid, they would prove relatively very infertile."

In confirmation of the foregoing, I may quote the weighty authority of Dr. Matthews Duncan, who, in replying to the question "Do you find that girls who go in for what is called the higher education have the catamenia lessened, or rendered irregular?" writes:—"I do. I have this as a distinct opinion;" adding, "Amenorrhœa and chlorosis and development of great nervousness are frequent results of overpressure at or near the important epoch—fifteen to twenty years of age. To the same cause I have often attributed destruction of sensuality of a proper commendable kind, and its consequent personal and social evils."

Writing on the same subject, Sir Benjamin Brodie says:—"The mind, in the

case of girls of the affluent classes, is educated at the expense of the physical structure, they spending more time in actual study than their brothers." The same eminent practitioner once said to a sister of my own who was consulting him (what, perhaps, he might have hesitated to put into writing), "When I see a girl under twelve with a book in her hand, I feel an inclination to throw it at her head."

The late earnest and scholarly Dr. Ed. H. Clarke (U. S. A.) (I am availing myself here of Sir Crichton Browne's very valuable *Education and the Nervous System*) collected a large amount of testimony bearing on the effects on health of the higher education of women in America, where it is pushed with a remorseless vigor as yet but little known in this country; and all the testimony collected by Dr. Clarke is in favor of one conclusion—that severe brain work for girls, kept up continuously, is most injurious to health. In his *Sex in Education* (Boston, 1882) Dr. Clarke writes:—"It is not asserted that all the female graduates of our schools and colleges are pathological specimens, but it is asserted that the number of those graduates who have been disabled in a greater or less degree by these causes is so great as to excite the greatest alarm, and to demand the serious attention of the community. If these causes should continue for the next half-century, and increase in the same ratio as they have for the last fifty years, it requires no prophet to foretell that the women who are to be mothers in our Republic must be drawn from transatlantic homes."

There is hardly an American physician who has specially treated the diseases of women who does not corroborate these words. For instance, Dr. Emmet:—"I hold that it is not practicable to educate a girl by the methods found best for a boy, without entailing serious consequences. The ovaries will always be arrested in their growth if the brain is forced.... I not only endorse Dr. Clarke's views so far as he has gone, but my own experience leads me to believe that the evil is even more serious than he has represented." And Dr. Goodall:—"From the age of eight to that of sixteen, our daughters spend most of their

time in the unwholesome air of the recitation room, or in poring over their books, when they should be at play.... As the result, the chief skill of our milliners seems to be directed towards concealing the lack of organs needful alike to beauty and maternity, and the girl of to-day becomes the barren wife or invalid mother of to-morrow. Such a civilization, which stunts, deforms and enfeebles, must be unound."

So, too, Professor Loomes, of Yale College, looking at the increasing deterioration of American girls, remarks:—"The cry in our colleges and time-honored institutions is, 'Open your gates that the fairer part of creation may enter, and join in the mental toil and tournament.' God save our American people from such a misfortune." And our own lamented Dr. Thorburn, of Owens College, to whose article on Female Education I am indebted for my last quotations, having said that "The struggle for existence on the part of single women, and the capacity of a few of their number to ignore, with safety, the physiological difficulties of the majority, are demanding opportunities for education, and its honorable as well as valuable distinctions, which cannot and ought not to be refused them," is constrained to add:—"Unfortunately, however, up to this time, no means have been found which will reconcile this with the physiological necessity for intermittent work by the one sex. It becomes, therefore, the duty of every honest physician to make no secret of the mischief which must inevitably accrue, not only to many of our young women, but to our whole population, if the distinction of sex be disregarded."

In like strain, Mr. Lawson Tait, in his *Diseases of the Ovaries*, after declaring himself an advocate of women's rights, says:—"At the same time, I cannot help seeing the mischief women will do to themselves and to the race generally, if they avail themselves too fully of their rights when conceded..... To have only the inferior women to perpetuate the species, will do more to deteriorate the human race than all the victories of Girton will do to benefit it. This overtraining of young women is wholly unnecessary in the interests of human

progress, and it is most mischievous alike to themselves and to humanity. . . . Exceptional culture will infallibly have the tendency to remove the fittest individuals, those most likely to add to the production of children of high-class brain power, from out of the ranks of motherhood."

Much of what has been adduced has reference chiefly to Mr. Herbert Spencer's "upper-class girls," and Sir B. Brodie's "girls of the affluent classes." How much more may over-education be expected to work its ruinous results upon those growing girls who, with antecedents far less favorable as to food and rearing, are stimulated to excessive mental efforts in the preparations for, or practice of, competition in brain-work with men. That such competition has in it the terrible strain of contest of the weaker with the stronger, might have seemed a truth too nearly a truism to bear much insisting on. So, indeed, might that other truth which, granted unreservedly, would free me from all necessity for further argument—the truth that women are meant to be not men, but the mothers of men. It used to be said that Parliament could do anything but turn a man into a woman. But, in these days, there seems to be danger, both in and out of Parliament, that the attempt may be made to turn women into men.

Let us recall to recollection, therefore, some of the natural difficulties in the way of that transformation. The power of the human brain varies with its weight and size. But the brain of woman is 10 per cent lighter than that of man, so Tiedeman says; and Dr. Thurnam's carefully collected observations indicate a greater and more significant disproportion. Giving 10 per cent, as the excess of weight in the male cerebellum, in the two hemispheres, he tells us, man has the advantage by 12 per cent. Nor is this difference accounted for by difference of stature, which, between the two sexes, is, on the average, not more than 8 per cent.

And, as Gratiolet remarks, this internal smallness of brain has its natural accompaniment in the external frontal development, so that, while "Man's fair large front and eye sublime," as

Milton tell us, "Declare absolute rule" in woman, on the contrary, a large forehead is felt to derogate from beauty. Not that woman is without her proper compensation, as in the line that tells "Of man's imperial front and woman's roseate bloom." So Professor Laycock: "Experience shows that woman has less capacity than man for dealing with the abstract in philosophy, science and art; and this fact is in accordance with the less development of the frontal convolutions."

To proceed with our evidence as to results. Dr. Hertel, speaking of over-pressure in the high schools of Denmark, writes that: "Of the boys, 29 per cent, and of the girls, 41 per cent., were found to be in a sickly state of health. The diseases most prevalent were anæmia, scrofula, and headache."

In confirmation of Dr. Hertel, I may cite the evidence of Professor N. J. Byströff (I quote from our own able journal), "who has examined 7,478 boys and girls in the St. Petersburg schools during the last five years, and found headache in 868; that is, 11.6 per cent. He states that the percentage of headache increases in a direct progression with the age of the children, as well as with the number of hours occupied by them for mental labour; thus, while headache occurred in only 5 per cent. of the children aged 8, it attacked from 28 to 40 per cent. of the pupils aged from 14 to 18. The author argues that an essential cause of obstinate headache in school-children is the excessive mental strain enforced by the present educational programme, which leaves out of consideration the peculiarities of the child's nature, and the elementary principles of scientific hygiene." Even as regards the immediate object—mental progress—it has been well remarked in the *Lancet*, that "a system which leads to such disastrous results as regards bodily health, is no less pernicious in checking mental advance and improvement; for at no epoch of life is the necessity for maintaining the balance between construction and destruction of nervous energy greater than in the period immediately preceding adolescence; and it is just at this time that keen competition is most severely felt in the subjec-

ting, as Dr. Ross remarks, the latest evolved portions of the nervous system to a strain so great that only those possessing the best balanced and strongest system can escape unscathed."

Dr. Tuckman [Cleveland, U. S.] relates that, in 1881, "of 800 pupils in a particular High School, nearly 25 per cent. of the girls, and 18 per cent. of the boys, from one cause or another, had withdrawn; and that it was found, on investigation, that of the girls so withdrawn, 75 per cent. had left wholly or in part on account of ill-health—were in poor health while at school. Here, it appeared that, whether from necessity or from choice, the girls studied more hours out of school than the boys did."

Quite in accordance are the results arrived at by the extensive investigations of our able co-associate, Sir Crichton Browne, before referred to. But, indeed, there are facts daily emerging in this direction of such painful significance, that I might almost say, a cry of remonstrance has arisen from one end of England to the other. All great dangers are apt to be greatly exaggerated. This one of over-training may, perhaps, not have been an exception to the rule; but the danger does exist and is a great one; and the sequence of punishment, after transgression, is sure and certain. Degeneration and impaired nutrition come in place of development; evolution passes into dissolution. And, with mental training, the danger is far greater than with bodily training. The rules of health, sedulously attended to during the latter, are too often disregarded in the former; and thus, the nervous system is developed at the expense of the nutritive. In the case of young children, the consequences of over-training are things of frequent observation. The wonderful Westminster Boy, "the learned Pig," was an imbecile before manhood.

In our contemporary school reports, how many do we find resembling that of Mr. Tyson's [Penrith School Board], respecting the deaths of two children, "the immediate cause, in both cases, being brain fever, undoubtedly resulting from overpressure at school."

Again, to come back to the special subject of this address: "There can be

no doubt," writes Mr. Alderson, one of Her Majesty's Inspectors of Schools, "that the work required by the code presses more heavily upon girls than boys. They work more willingly and they feel the strain more. They require to be protected from their own willingness to study."

But time admonishes me to make an end. My argument may be summed up very simply. Excessive work especially in youth is ruinous to health, both of mind and body; excessive brain work more surely so than any other. From the eagerness of woman's nature, competitive brain-work among gifted girls can hardly but be excessive, especially if the competition be against the superior brain-weight and brain-strength of man. The resulting ruin can be averted—if it be averted at all—only by drawing so largely upon the woman's whole capital stock of vital force and energy as to leave a remainder quite inadequate for maternity. The Laureate's "sweet girl-graduate in her golden hair" will not have in her the fulfillment of his aspiration, of his

"May we see, as ages run,
The mother featured in the son."

In the prophet's words, "She will not have strength to bring forth;" her productive system will more or less have been atrophied; she will have lost her womanhood's proper power. With the power she will have lost largely also the inclination; of "Love's sweet want," as Shelley calls it, she will know little, for, in Dr. Duncan's more matter-of-fact language, she will have lost "sensuality of a proper commendable kind" Unsexed it might be wrong to call her, but she will be more or less sexless. And the humane race will have lost those who should have been her sons. Bacon, for want of a mother will not be born. She who should have been his mother will perhaps be a very distinguished collegian. That one truism says it all—women are made and meant to be not men, but mothers of men.

A noble mother, a noble wife—are not these the designations in which we find the highest ideal of noble womanhood? Woman was formed to be man's helpmate not his rival; heart, not head; sustainer, not leader. Many times in-

deed, woman's fate has set her in the foremost place; in some of those times, no doubt, such place has been well and grandly filled by her. Yet even then, our admiration is not untinged with compassion. Even in this year of approaching or commencing jubilee, is it not so with us when we think of that Crown, Royal and Imperial, which splendid as it is, has so long been left "a lonely splendour"? "Victoria Regina et Imperatrix"—bravely, proudly, gloriously is the burden borne; but would she, who knows its weight, wish a like weight to be laid upon any daughter?

Let this address come back to the humbler life which more belongs to it. "I am king of the household, and thou art its queen," says the happy husband in Longfellow. Permit me to conclude to-day with King Solomon's eulogy for the happy home-queen, the happy wife.—"Who can find a virtuous woman?—for her price is far above rubies. The heart of her husband doth safely trust in

her; she will do him good and not evil all the days of her life. She rises while it is yet night, and giveth meat to her household, and a portion to her maidens. She girdeth her loins with strength, and strengtheneth her arms. She perceiveth that her merchandise is good, her candle goeth not out by night. She layeth her hands to the spindle, and her hands hold the distaff. She stretcheth forth her hands to the poor, yea, she reacheth forth her hands to the needy. Her husband is known in the gates, when he sitteth among the elders of the land. Strength and honour are her clothing, and she shall rejoice in time to come. She openeth her mouth with wisdom; and in her tongue is the law of kindness. She looketh well to the ways of her household, and eateth not the bread of idleness. Her children arise up and call her blessed; her husband also, and he praiseth her. Favour is deceitful, and beauty is vain; but a woman that feareth the Lord, she shall be praised."

THE USE AND ABUSE OF TEA.

FROM THE BRITISH MEDICAL JOURNAL.

A FRENCH observer has recently tabulated the evil results which, in many cases, follow the excessive use of what is now the favorite beverage of Teutonic and Slavonic nations. The list is a formidable enumeration of neurotic and dyspeptic affections, which are not the less worthy of attention because they are mainly functional disorders, tending to the embittering of existence rather than the shortening of life. English clinical teachers are somewhat divided on this question. Some make light of the alleged evils of tea-drinking, and regard the prohibition of tea as, in many cases, merely a professional fad. Others teach that the mischief, of which they admit the existence, is due less to excessive use of tea than to the omission from the regular dietary of the really nutritive and sustaining elements. A third class regard tea drinking as an evil almost comparable to alcoholism.

Tea has won its way to favor among civilised nations mainly, it would seem, as an agreeable nerve stimulant. As Sir William Roberts points out, in his

interesting lectures upon dietetics, a craving for nerve-stimulation is one of the most marked characteristics of advanced civilisation, although savage man is by no means devoid of this universal human instinct. The stimulants in common use are tea, coffee, and alcohol—not to mention such agents as opium or *haschish*, which are perhaps less stimulant than narcotic. Of this group, tea and coffee are favorites, as they suit the taste of both sexes; and their beneficial effects undoubtedly far outweigh the evils which occasionally spring from their abuse.

Tea is an agreeable cerebral stimulant, quickening intellectual operations, removing headache and fatigue, and promoting cheerfulness and a sense of well-being. It is known to all English-speaking people as the "cup that cheers but not inebriates;" and it has long been a favorite with students, literary men, and others engaged chiefly in brain-work. Tea is also a mild sudorific, and is largely consumed in hot countries, especially our Australian colonies, where it is found to exercise a cooling influence,

after the preliminary effect due to the imbibition of a hot fluid has passed off. The influence of tea upon the digestive tract has not been so definitely made out; but the most recent observations seem to show that, while it somewhat retards primary digestion, it aids the absorption and metabolism of the food-elements. From such physiological facts, it is clear that tea is chiefly of service during or after physical or intellectual effort, and at the time when absorption of the products of primary digestion is in process. It cannot too strongly be asserted that tea is not in any exact sense a true food, and that its nutritive value, in itself, is practically nought.

As might be conjectured from the nature of the physiological action of tea, the effects of its abuse fall chiefly on the nervous and digestive systems. Nervous irritability, palpitation, insomnia, and sense of brain-fatigue are among the most prominent of the neurotic symptoms; and, although it is unquestionable that these symptoms are often etiologically connected with other sources of nervous disturbance as well as tea-drinking, it is not less clear that they are greatly aggravated by the excessive use of tea. The digestive symptoms are impairment of the appetite, pain and flatulence during the process of digestion, and defective intestinal action—the symptoms, in fact, of one of the varieties of atonic dyspepsia. How far these symptoms are due to the tannin contained in tea, and how far to its tannin, is a question. Sir William Roberts has shown that the most rapid infusion does not prevent the dissolving out of a large proportion of the tannin, and we are disposed to conjecture that the digestive symptoms may to a large degree be safely attributed, not to any chemical action, but to the same cause which produces the neurotic disturbance, namely, the tannin.

The sufferers from excessive tea-drinking may be grouped into three classes.

First, there is the large class of pure brain-workers, who speedily discover that, while alcohol is pernicious to them, tea affords the stimulus which they desire. They indulge in it without fear of mischief, and often to an unlimited extent. Dr. Johnson's tea-drinking was proverbial, and many distinguished writ-

ers could tell a similar tale. After a time, the neurotic symptoms enumerated above begin to make their appearance, and, in many cases, do much to impair temper, and to limit the capacity for sustained intellectual effort.

Secondly, there is the large class of women of the better classes who, beginning with afternoon tea, often end by using their favorite stimulant in the intervals between all the meals of the day, and as often as the humour takes them. The result is that appetite becomes impaired, and the prostration due to insufficient nourishment is combated with more potations of the ever welcome stimulant, until the vicious circle is well established.

Thirdly, in all our large manufacturing towns there are numbers of factory-operatives, especially women, who, finding it difficult to provide a cheap and appetising mid-day meal, fly to the teapot, and do a large amount of severe physical labour on this miserable dietary. It is most important to impress upon this class, who are usually profoundly ignorant of everything concerning health and diet, that tea is not food, and that the delusive sense of satisfaction which it bestows is a dangerous snare.

In addition to the above classes, there is a small group of persons to whom tea seems a positive poison. We know that idiosyncrasy accounts for the most extraordinary departures from the normal rule in matters of diet or the action of medicine; and the number of persons whose idiosyncrasy included an intolerance of tea is considerable enough to make the subject worthy of professional attention.

Sufferers from the abuse of tea should abstain from its use, and substitute either coffee or cocoa. It will be found that many of those who are unfavourably affected by tea are equally susceptible to the action of coffee, but this is by no means universally true, and the substitution can often be made with decided advantage. Cocoa suits almost all cases, and, whatever may be its deficiencies on the score of palatability, it is a genuine food, and its modern preparations are becoming more and more elegant and pleasing to the taste.

CONDIMENTS.

BY W. A. HAMMOND, M. D., SURGEON-GENERAL U. S. ARMY, (RETIRED LIST), PROF. OF DISEASES OF THE MIND AND NERVOUS SYSTEM, NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL, ETC.—FROM THE "JOURNAL OF RECONSTRUCTIVES."

CONDIMENTS are those substances of an alimentary character which give piquancy or flavor to the food. Another effect which they possess is that of stimulating the action of the salivary glands and stomach by reason of their irritating qualities. Though of doubtful or low status as ailments they are yet extremely useful by making the food more savory by promoting digestion or by acting as agents for the development of nervous force. The principal condiments are pepper, cayenne, mustard, horseradish and vinegar. Salt may in some of its relations be considered a condiment, but it is more important as an alimentary principal entering as it does into the composition of the tissues of the body.

The use of condiments is not altogether to be commended, although there is no doubt that when employed with discretion they are capable of being advantageous to the organism, especially in the direction of promoting the digestion of substances which would otherwise be slowly acted upon by the digestive organs. But it must be recollected that the continual use of irritants is always eventually productive of debility in the tissue to which they are applied. In the case of the condiments mentioned the disturbance produced when they are employed in moderation is scarcely appreciable and is more than counterbalanced by the good effects which follow. But if used in excess irritation and inflammation of the parts with which they immediately come in contact may be excited, but distant organs are often injuriously affected.

It is very easy to demonstrate the action of condiments in increasing the amount of saliva and gastric juice secreted. In regard to the first it is a matter of common experience that those substances capable of effecting powerfully the nerves of taste, cause an augmentation of the quantity of saliva, and the same fact is readily proved by experiments on the

lower animals, as for instance, the dog has been done by Bernard and others. It is, however, a more remarkable fact, and one which shows the intimate sympathetic relation existing between the several functions concerned in digestion that whatever increases the amount of saliva secreted, likewise increases the quantity of gastric juice. This can be readily shown by putting any strongly sapid substance, as for instance, mustard, in the mouth of a dog in which a gastric fistula has been formed. In a few seconds the gastric juice will run from the fistulas opening in the stomach, although no part of the mustard may have been swallowed.

I have alluded to the power of condiments in rendering the food more savory than it would otherwise be; when they exercise this influence they act as promoters of the appetite and thus cause us to eat more than we otherwise would; they rarely produce this effect with persons of naturally good appetites, their action being more strongly manifested in those who from some cause or other are not disposed to eat as much as the system requires. A bed-ridden woman, for instance, cannot eat a piece of roast-beef without great repugnance, and sometimes not at all, unless she can put a little French mustard upon it or accompany each morsel with a modicum of horseradish. One of my patients, a lady of delicate constitution, rarely ate any breakfast, and was therefore weak and unfit for mental or physical exertion all through the morning, until, at my suggestion, she spread the piece of toast or bread and butter that she could not eat with aromatic mustard. This roused her latent desire for food, it stimulated her secretions, improved her digestive powers and gave her the fuel that her body required for its morning's work. I have frequently known persons sit down to the dinner table with repugnance to all the articles on it to have their feelings entirely reversed at the sight of a pot of

horseradish or freshly mixed mustard. They knew by experience how these substances would spur their languid appetites.

It is rarely the case that sufficient attention is given to the use of condiments in the sick room, they are altogether excluded, or the patient is allowed to take them at his discretion, whereas much benefit will frequently be obtained by the judicious employment of these important agents. In certain low fevers of typhoid type, and in almost all malarial disorders, condiments may be largely used with advantage. Probably no one of them is more generally efficacious than black pepper. In inflammatory affections of the stomach and bowels the condiments, such as pepper, cayenne, mustard and horseradish are seldom admissible, but many cases of diarrhoea are very decidedly benefitted, especially when they occur in persons who have somewhat run down in general health by black pepper, cayenne or mustard in quantities far above those which a healthy person would be likely to ingest. I have frequently

known severe cases of diarrhoea to be cut short by a few doses of twenty or thirty grains each of cayenne, taken either in a little water or syrup. Black pepper is well known to be a remedy of no mean power in the common fever and ague of this country; it will often cut short attacks with as much promptitude as would large doses of quinine.

Cayenne appears to be particularly useful in nervous dyspepsia in which there is an atonic condition of the stomach and a tendency for the food to ferment instead of undergoing digestion. It is also especially beneficial when used with those foods of a vegetable character, which are not ordinarily digested without the evolution of large quantities of gas. Whether this gas comes from the food or from the patient is not definitely known, but no matter what its origin its evolution is prevented by cayenne.

These then appear to be some of the chief advantages attendant on the use of condiments, and they are such as entitle them to rank high in the scale as accessory articles of food.

THE PLUMBER AND THE PUBLIC HEALTH.

WITH the manifest progress in architecture in its relations to health—more care in drainage of sites for dwellings, better foundations, and more adequate provision for ventilation—the intelligent plumbers in Europe, in the United States and in Canada, are manifesting a desire to keep pace. With all the “Modern improvements” in dwellings, the plumbers’ art has become one of the most vital importance; and it is gratifying to observe that he is becoming alive to this fact. As Prof. Orton, L.L.D., &c., said at the last annual meeting of the Ohio State Sanitary Association, “The plumber is connected with the healthfulness of the modern dwelling in a more intimate and vital way than even the architect. Just how far the world can safely go in the line of what are called modern improvements is still a debated question. But it is altogether certain that we are wholly at the mercy of the plumber from the moment that we introduce water, bath-rooms, closets, and sinks into the buildings which we occupy. The plumber of to-day must be

an educated sanitarian. Plumbing is becoming a branch of engineering science. I accept all the claims made for him in the excellent paper which we heard this afternoon. He is rising to the demand. The progress in the art within the last ten years is astonishing. I know it is the fashion “to point a moral and adorn a tale” at the plumber’s expense, to represent his work as light and his charges as large, to make out that he rolls in ill-gotten wealth and is resplendent in gems and gold that he never earned. The charges implied have no adequate foundation. Good plumbing is expensive work. It cannot be done cheaply. It costs, especially in time and skill. There is not a great deal of it that makes a show. It is mainly under cover, but upon the plumber’s intelligence and conscience the health of our homes depends. There is no other craft or calling that has anything like as close a relation to the public health as the plumber’s.

“Honor belongs to him instead of ridicule, for he is fast rising to the de-

mands made by the public health. He is broadening his knowledge and improving his skill. We occupy the modern dwelling solely at his pleasure. Where his work fails in intelligence or fidelity, the modern house becomes a source of the gravest peril."

At the meeting of Ohio State Sanitary Association just alluded to, two good papers upon plumbing were read by practical plumbers. In one of these Mr. Wm. Halley, representing the master plumbers of Columbus, O., after some general remarks in relation to the law of self-preservation and to preventable diseases, spoke as follows:—"It is a fact that there are few avocations in which skillful work is so little appreciated as that of plumbing. People are not interested in the work because it has no reference to ornamentation and is almost wholly out of sight. When they appreciate the worth of good plumbing and the baneful effect of that which is bad, they will exercise the same care in the employment of a plumber that is bestowed upon the selection of a lawyer or a physician. When they learn how unventilated traps and untrapped waste pipes may become the means of communicating disease, then will the dignity and worth of sanitary plumbing assert itself. Every trap, every pipe and every closet adjusted give complexion to house sanitation. The sanitary plumber is a veritable practitioner of preventive medicine. His work involves the skill of an artist and the technical knowledge of a scientist. Natural laws and physical forces must be mastered at every step. Questions in pneumatics, hydrostatics, chemistry, and hygiene must receive intelligent solution and *application*. The importance of house drainage, as well as its complications and difficulties, increases *pari passu* with the growth of cities and the tendency to metropolitan life. The conditions of healthy living are compromised proportionately with the increase in population. A city without a perfect system of sewerage—of which house drainage is a unit—would be in as great danger as though it were destitute of a fire department or a police department. Good plumbing is worth all it costs, while cheap plumbing is, in the long run, extravagant, expensive,

and dangerous. This last paves the way to frequent repairs, petty annoyances, foul odors, sickness, doctor's bills, impoverishment, and short life. Sanitary plumbing reduces such evils to a minimum, and is the ounce of prevention where a ton of trouble is pending.

"The popular indifference about the nature of plumbing work has caused the plumber to chafe under the abuses imposed. He is considered a dirty laborer, who is supposed to follow the imperious dictates of the architect, owner, and builder in accordance with specifications. A first-class architect will make none other than sanitary specifications for plumbing. Unfortunately for the plumber and for sanitary effect, the architect is too apt to ignore plumbing, giving undue attention to other matters which serve better to display his æsthetic conception. House drainage is made subordinate and subservient to convenience and display. At the last moment it is remembered that the house must be drained, and plumbing specifications are made to fill in the cubby-holes. The contractor is interested in the plumbing only to the point of sub-contracting to the lowest bidder after subjecting the plans to cut-rate competition. The plumber is handicapped at every turn. The architect ignores his wants as a sanitary artist; the contractor does not know the value of trapping all fixtures and ventilating all pipes, and so the lowest bidder omits these essential features. The plumber has nothing to do with the specifications, and is not permitted to give his work proper sanitary direction. Being subjected to the thumb-screw of ruinous competition, he must either make a bargain with the devil to put in poor material and scamp work, or allow some conscienceless "scab" to underbid him."

... "For the most part our architects (of Columbus) are sanitary artists. They consult with the plumbers as to the best means and methods of plumbing. . . . Notwithstanding this green spot, the relation of the plumber and architect throughout the country is unsatisfactory and fruitful of evil results. . . .

"What the plumbers want, what the interests of sanitary science demand, is

reform in the matter of the *design* and execution of plumbing work. Popular education is one means, legislative enactment is another. Either public sentiment or legislation must force unsanitary plumbing out of existence, else the people must continue to suffer the dire result.

"If one-half be true of what is alleged of *bacteria* and the capacity of sewer-gas for their propagation and the spread of disease by them, then plumbing—*sanitary* plumbing—is the most powerful prophylactic agent known, and the plumber one of the most cogent factors of practical sanitation.

"Then in the name of sanitary science, in the name of philanthropy, in the name of disease-stricken homes, I ask this Association to put forth its best endeavors in the promotion of house-drainage, and to secure for its humble representative—the plumber—a recognition—not for his own sake, but for the sake of humanity—among architect, sanitarians, and health boards, and protect the mandates of his practical wisdom by popular education and legislation."

Mr. James Allison, of Cincinnati, President of the National Association of Master Plumbers of the United States, in another interesting paper read at the same meeting, made the following observations:—The only correct plumbing is that which *accomplishes* the object which sanitary law has in view—in a word, it is *sanitary plumbing*. Popular ignorance contends against this variety of plumbing, partly from a mercenary desire for cheap work, but chiefly from an inability to apprehend, much less to comprehend the curious facts and wondrous laws upon which a science of health preservation has been erected. Such persons doubt the necessity of what they call new-fangled contrivances to draw more money from their pockets, and it is difficult to make them understand why the methods which Moses commanded the children of Israel to observe in regard to excreta would become impossible in a city. Such people do not hesitate to spend double the cost of a good safe job of plumbing work in an oil painting, jewelled window, or finely frescoed wall. But in spite of all obstacles sanitary science has continued

to expand, and sanitary plumbing slowly grows into popular favor, and the progress of statistics shows a corresponding diminution in the occurrence of zymotic diseases. . . . The more conscientious, earnest and intelligent the plumber, the better the work will be done, and the more effectually the public welfare will be promoted. In order to secure such a result legislation has come to be the imperious demand of the hour—so that the community may obtain all the benefits arising from the demonstrations of sanitary science and the inventions and improvements of sanitary art, enforced by proper and judicious laws."

In England, as the *Sanitary Record* states, the Plumbers' Company has been for some years past successfully striving to raise the status of the plumbers' craft, and in doing so it has drawn into a common bond of sympathy not only the chief members of its own craft, but also those connected with all branches of sanitary science and the building trade. The Court of the Company seem fully impressed with the fact that, in order to carry out their object and secure the greater efficiency of plumbing work in dwelling-houses, it is essential that sanitarians, architects, and builders should unite with them in a common effort to stop the present haphazard and uncontrolled state of affairs pertaining to plumbers' work generally.

At a recent meeting of the Plumbers' Company there were not only representative plumbers, but representatives of the Royal Institute of British Architects, of medical officers of health, of the Local Government Board, of the Metropolitan Board of Works, and of the Surveyors' Institute, with numerous sanitarians, comprising such men as Mr. Ernest Hart, chairman National Health Society and editor of the *British Medical Journal*, Prof. Ray Lancaster, and Drs. Winter Blyth, Corfield, Thorne-Thorne and others whose experience and co-operation must be of the greatest value to the future progress of the movement for raising the standard of their craft.

This association is one of the oldest of the London Guilds, and can trace its origin back through many centuries; while besides a long and an honorable

pedigree it can boast of "Ancient ordinances and disused powers."

The Dominion plumbers should not be content to be behind those of other

countries. We are not aware of any movement in this country toward the objects above indicated. If there are or have been we shall be glad to learn of it.

THE ADULTERATION OF FOOD AND THE LAST ANNUAL REPORT THEREON OF THE DEPARTMENT OF INLAND REVENUE.

THE efforts being made by the Department of Inland Revenue can hardly fail to check the villanous practice of food adulteration. Pure food is absolutely essential to good health, and besides the vast sum in money, in the aggregate, of which the people of Canada are being yearly defrauded through paying high prices for cheap adulterants, a great deal of damage to health must result from the use of adulterated foods. On the fraudulent part of food adulteration, it is not the province of this JOURNAL to dwell at great length. Readers may as well be reminded however that their pockets are depleted to a greater extent than many suppose. Let us note for example how it is with Coffee, as shown in the Departmental report on adulteration of food and drugs for last year. Eighteen samples of coffee were analysed by the public analysts with the result that only five were reported as genuine. All the others were more or less sophisticated. One was reported as little else but chicory; another one half chicory; a third "chiefly roasted cereals, with but little coffee;" a fourth "highly adulterated." The remainder contained from 10 to 25 per cent of chicory and roasted peas. Not any of the samples probably were retailed at less than 30c. or 35c. per pound; nearly the price of good coffee. Chicory is worth only about 5c or 6c. per pound. The purchaser therefore pays about five or six times as much more for such stuff than it is really worth. Peas and cereals costless than chicory. The report states that in no case was the fact of these samples being a mixture stated on the label; but, on the contrary, the most flagrant instance of practical substitution was presented to the public as a special brand of "concentrated Turkey coffee."

Of ground pepper, black and white, sixty samples were examined. Of these, thirty-one were reported as adulterated,

one doubtful, and twenty eight all more or less adulterated—the generality of them to the extent of from 10 per cent. to 20 per cent, but the more flagrant cases from 30 up to even 75 per cent., in one case. The adulterant was chiefly farinaceous matter, also mustard husk, pepper hulls, clay, sand, and not the least conspicuous, *ground cocconut shells*.

Twenty-four samples of cayenne pepper were examined, of which eleven were reported adulterated with wheat flour and colored earth, in one case to the extent of 50 per cent. The other ten samples were reported unadulterated, save one, which was doubtful.

Of sixty samples of ground ginger, twenty-nine were reported as being adulterated, for the most part with wheat flour. This sophistication was practiced to the extent of from 10 to 40 per cent; the pungency being imparted to the compound by the "judicious admixture of cayenne pepper."

Other spices—cloves, cinnamon, &c., were found to have been equally fraudulently dealt with. A larger proportion of samples of pure cinnamon however were found than in the previous year, when nearly all samples were chiefly cassia.

In relation to spices the samples analyzed were all obtained from either the actual producer or wholesale distributor; and the results show that whether or not the retail vendor still further "improves" his spices, &c., before retailing them, his demand for a cheap, adulterated article is amply provided for by the manufacturing dealer.

"For the most part, the producers of these sophisticated goods expressed themselves anxious for the enforcement of the law to their suppression, but objected to the requirements of the law, that if sold, they should be distinctly labelled as impure. Some, on the other hand, contended that the public was benefited

by a slight admixture—that a really better article could be supplied at a lower price, if the finest and freshest spices were ground with an admixture of inert matter, than a thoroughly pure article, but ground from old or perished spices—a specious contention, utterly untenable in the true interests of the public.

“But have not the producers of these sophistications some justification: is not the supply of a demand, which, undoubtedly, has existed, a justifiable enterprise, whatever that demand may be so long as it is within the law? [?? Ed.] Ignorance does, undoubtedly, demand cheapness, and a demand thus ignorantly made is only too surely supplied, and hence the need of costly legislation to protect an ignorant and thoughtless public against itself, for it does demand the very goods which the analyst must condemn, and the vendor be prosecuted and fined for selling; whereas, the public's reckless ignorance is the chief cause, and should suffer some measure of the penalty. It is time that through the operation of this Act such ignorance should be cleared away, and the public enlightened and awakened to its own true interests.”

Plainly, the producers of these substances cannot be sincere in their expressions of a desire for the enforcement of the law for the suppression of adulteration, or they would not object as they do to adulterated articles being distinctly labelled as impure. The fact is, adulteration is but another term for robbery, and so long as it can be indulged in and the prison evaded there will be any number of creatures who obtain their livelihood, and often wealth, by “trading”—buying as low as they can and selling as high as they can—instead of producing and so contributing something to the public wealth, or for the public good, who will indulge in it in order to “make a penny” or a dollar. With the frequency of such “tricks of trade” it is not hard to understand why Matthew Arnold and others entertain a sort of contempt for the whole class of traders.

Coming to the more important food stuffs, as milk, butter and cheese, which are “handled” for the most part by a different class of men, and in which it is true there are not the same facilities

for adulteration, we find less dishonesty.

Of milk, one hundred and seventy four samples were subjected to analyses during the year, and of these twenty three were reported to have been adulterated, either by the removal of cream or the addition of water.

“A milk inspection,” as stated in the report, “to be really efficient for the protection of the public, should be a constant and daily unremitting one, and this it is impossible it can be if left only to the officers of Inland Revenue, whose other duties are incompatible with such an inspection. The framers of the Act evidently premised this condition, and wisely made provision for the appointment of civic inspectors by municipalities. Until the municipal authorities of the country avail themselves of this provision, no inspection of substantial value can be effected of this most important of all articles of food.

“In those cities of the adjoining Republic where milk inspection is enforced, the cities are charged by the Legislature to appoint inspectors, and the inspection is carried out daily. In the City of Boston, Massachusetts, from fifty to sixty samples are submitted daily to the inspector, and the result, in the improved supply of milk to the city, has been most marked. By a ready method the samples are sifted out, and only those showing indication of adulteration, or of having been tampered with, are subjected to a complete analysis, upon which the prosecution of the milkman or dealer is founded. Such a system should prevail in our cities, and it is to be hoped ere long the civic authorities of some of our larger municipalities, at least, will appreciate the value of the powers given them, under the Act, and make the necessary appointments of inspectors.

One hundred and forty-one samples of butter were submitted to the analysts, of which eighteen were returned as adulterated—in seven cases with excess of water, in three of water and salt, in one of salt, and in four of an excess of caseine, indicating imperfect or careless manufacture rather than designing fraud, and in two cases only with foreign fat.

“From these results it is satisfactory to note that the butter supply of the

country would appear to be, in the main, good, and that the chief causes of inferiority are careless or imperfect manufacture and excessive, if not fraudulent, addition of salt and water. It would appear that but little foreign fats have found their way into the butter market, and that for the present at least, the Dominion is free from importations of oleomargarines, butterines, &c., &c., so abundant in the United States.

Of cheese only a few samples were examined, as a report thereon is expected from Prof. Saunders. No adulteration was reported.

Of bread-tuffs, a few samples of bread, flour and baking-powders were examined, but, the report states, the results scarcely call for any special comment. It would be well, however, that the analysts should make the most careful search for the contamination of alum. Its detection is simple, but the temptation to its use, in foisting off damaged flour is so great, that it is singular its presence has not been more frequently reported.

Of potted meats and fish, fifty three samples were examined, and for the most the contents were found in a sound and wholesome condition; eight samples were reported more or less contaminated with tin iron or lead, but chiefly only to the extent of traces. Two samples were reported as dangerously unfit for food.

Sixty-three samples of canned fruits and vegetables were submitted for examination, with the result that twenty-four were more or less impregnated with metallic impurity, derived from the action of the fruit juices upon the tin of the can and the solder. In five instances this contamination, with decomposition of the fruit, existed to an unsafe extent. Two were reported adulterated with other fruit.

Of ardent spirits: twenty-four samples of whiskey were examined by the different analysts, and, with the exception that some of them had been considerably reduced in strength by the addition of water, they were reported favorably upon. Rye whiskey was found the freest from all injurious contamination, and the most innocuous spirit in the market; and this may be mainly credited to the enlightened policy which offers the rectifier the high premium upon purity

—that of allowing him a drawback of Excise duty upon the fusil oil abstracted from his spirit and destroyed in the presence of the Excise officer. And it may be remarked here, that where injurious heavy ethers, such as fusil oil or its derivatives, were met with in potable spirits, they were of imported origin, and not the products of our home distilleries. The only adulteration, however, of any moment, reported, is that of water.

Seventeen samples of brandy were submitted to analysis, and of these five were found to be "spurious mixtures of alcohol and water, artificially colored and flavored." The remainder were, for the most part, favorably reported.

Twenty-seven samples of wine were examined, of which five samples of sherry, submitted by the Department of Customs, proved to be fictitious compounds of alcohol and water, artificially colored.

The native wines examined were reported as sweetened artificially. These the report states, "deserve greater attention than they have hitherto received, and it is to be desired that a systematic examination of them should be made. Their main fault, at present, is the crudeness of their manufacture and a fatal readiness to adopt a system of fortifying the grape juice by the addition of foreign saccharine matters, rather than devoting greater care and attention to the culture of the grape, thereby increasing the natural richness of its juice, a practice which, in the best interests of this increasingly important industry, must be regarded as an adulteration most perilous to its welfare. There can be little question that wine is one of the natural productions of the country, destined to prove a source of immense wealth. The climate and soil point to conditions naturally favorable to the production of a wine which, with proper attention to its manufacture and maturation, is destined to compete favorably with the productions of the most noted districts of France, Spain or Germany."

Thirty-five samples of aerated waters drawn from the fountain at the latter part of the season were submitted to examination, and eight were found to be more or less contaminated with lead or copper—the latter amounting in two in-

stances, to a dangerous quantity, viz., of about 1 grain of metallic copper to the gallon.

Forty-three samples of cream of tartar were analysed, of which twenty are reported as being pure, but of the remainder nineteen were found, most scandalously adulterated, some with starchy matter, but the majority with gypsum or terra alba—in other words, plaster of Paris, in varying quantities, but averaging high percentages, up to 85 per cent.,

together with alum in one case as high as 60 per cent. These two adulterants are truly reported as "likely to prove prejudicial to health." One sample however, proved an entirely fraudulent substitute, being a composition of starch, gypsum and super-phosphate of lime, without a vestige of cream of tartar.

In the next number of the *JOURNAL* the names of those who have sold fraudulent articles will given.

THE CANADA MEDICAL ASSOCIATION AND THE QUARANTINES.

AT the meeting last month in Quebec of the Canada Medical Association, after routine business, the election of a number of new members and receiving and reading reports, Dr. J. J. Cassidy, of Toronto, member of, and ably representing, the Ontario Provincial Board of Health, laid before the meeting a letter from Dr. Ycomans, of Mount Forest, Chairman of the Committee on Public Health of the Association, desiring Dr. Cassidy to discuss some portions of the supplementary quarantine regulations which had just been issued for the Dominion. He expressed great satisfaction with these regulations and gave it as his opinion that they were calculated to do great good in forwarding the health interests of the country, and if properly carried out were likely to give satisfaction not only in the Provinces of the Dominion, but also to the State and other health organizations of the neighboring republic. Referring, however, to section 4, which provides for cases of infectious disease being landed at Grosse Isle, disinfection of the vessel, &c., he stated that he did not deem the precautions sufficient, and offered the following as a substitute, viz.: Should cholera break out on any ship, the quarantine officer should, besides the exercise of the precautions taken in the instance of small-pox and other infectious diseases, remove all passengers from the ship at Grosse Isle, detain them till the period of incubation from the date of the outbreak of the last case has elapsed, and also disinfect to his own personal satisfaction all their personal effects and luggage, as also the vessel and cargo,

before allowing either the vessel, passengers or their luggage to proceed to port. Referring to the inspection of vessels at Quebec, he suggested that the port physician should prior to inspection be required to ask for clearance papers from Rimouski or Grosse Isle. Dr. Cassidy also suggested a much larger sum than \$400—with imprisonment un'til paid, in case of contravention of the regulations by masters of vessels, as provided by the regulations—and thought \$3,000 a proper amount, with imprisonment for the second offence.

There was no expressed concurrence in the changes suggested by Dr. Cassidy.

The following resolution was however moved by Dr. Eccles, of London, seconded by Dr. Daniel Clark, Superintendent of the asylum for the insane, Toronto, and carried unanimously, "That the Canadian Medical Association at its annual meeting, convened at Quebec, views with pleasure the action taken by the Dominion Government in the issue of the quarantine regulations which have been put in force during the present month. We consider that the prompt and thorough enforcement of the aforesaid regulations will be of incalculable benefit to the health interests of the country, and moreover it is our opinion that when intelligently applied they are calculated to conserve the best interests of the trade and commerce of the Dominion."

In relation to the suggestions of Dr. Cassidy we would state that, scientifically and theoretically they are very well, but in practice they would be liable to defeat their object. The tendency is, in late

years, by all the best authorities, to relax in quarantines, on account of the impracticability of extreme measures, and to rely more on other prophylactics. And even at our chief sea port, when there are so many other inlets, we believe the extreme measures suggested by the doctor in reference to section four of the regulations would be unwise. The regulation already provides that an infected vessel may "be detained in such manner as may be deemed expedient by the Medical Superintendent for the protection of the public health." To so detain all passengers, as suggested by Dr. Cassidy, would be an impracticable or defeating measure. The following extracts from a report of the cholera epidemic in Egypt in 1883, and a paper read at the International Medical Congress at Copenhagen, on the prophylactic, medicinal, hygienic and quarantine measures to be adopted during the prevalence of cholera, by J. A. S. Grant-Bey, A.M., M.D., LL.D., &c., Sen. Surg., Egyptian Government Railway Administration and Medical Adviser to Her Majesty's Consular Court, Cairo, will explain and support our views on this question: Dr. Grant-Bey said, "I have passed through two severe epidemics of cholera in Egypt, which have clearly demonstrated the merits and demerits of the *cordon sanitaire*"—[plainly meaning quarantines of all sorts]. "I would simply institute sanitary measures that would be as effective as possible without increasing panic and not so troublesome as to make people try to evade them." "In my opinion there is much more risk to a country by imposing a prolonged quarantine on vessels coming from infected ports than if there were to be a very short quarantine combined with an effective disinfection." "I admit that in this plan there is still

some risk, but I consider the risk is less than in the alternative plan of detaining by force the healthy and the sick for several days on a pest ship or in a lazaretto. [Hospital or place for infectious diseases.] Besides, I don't believe it can be done unless the infected vessel be immediately sent away to some distant island from which there is no chance of escape, there to undergo a purgatory of quarantine, such that even the most conscientious captains would feel themselves justified in falsifying their log in order to avoid it. Escapes from lazarettoes are too common to allow of their being looked upon as effective institutions for preventing the spread of contagious diseases."

From the last (August) number of the London Sanitary Record we learn that, at a recent meeting of the Piedmontese Section of the Royal Italian Society of Hygiene, the society, after assenting to the order compelling passenger ships on the Adriatic and Mediterranean coasts to have on board an officer charged with the medical superintendence of the people on board, and the disinfection of goods and merchandise which form the cargo, addressed a plea to the Italian Government, asking for the revocation of the compulsory seven days' quarantine. The society considers that this quarantine is most prejudicial to commerce, and is besides, hygienically superfluous and useless. The society also likewise repeats the request that the Government should prohibit sanitary cordons round the parishes, postal disinfection and individual fumigation, which only serve to increase the panic among the population.

Most experienced sanitarians will I think contend that the regulations in relation to the St. Lawrence quarantine are quite as stringent as are practicable.

THE CANADA MEDICAL ASSOCIATION MEETING—PUBLIC HEALTH
AND VITAL STATISTICS—CRIME AND INSANITY—HYGIENE
AND SUPPERS.

AT the recent annual Meeting of this Association, questions relating specially to the public health as usual received a fair share of attention. The President, Dr. Holmes, of Chatham, in his highly interesting address made

some valuable suggestions; an important one of which was that efforts should be made to have established in Canada an endowed institution with laboratory &c. for making original, scientific medical research, such as exist in other

countries. It is time that the attention of Canadians were being turned toward this subject. The President said, "As physicians, the part we assume is not an insignificant one. . . . To cure disease, to alleviate suffering, to extend the limit of human life, to enlarge the field of human usefulness, to be able to prevent disease by removing the cause; surely the profession that devotes its energies to the accomplishment of these objects is entitled to the fostering care of governments and to the liberality of wealthy citizens."

Dr. Daniel Clark, of the P. L. Asylum, Toronto, read a paper on "The Medical Jurisprudence of Crime and Responsibility." The writer stated that the legal profession were governed by precedent, whereas the views of the medical men were constantly advancing with the increase of our knowledge of brain pathology. For this reason, the views of the two professions on the subject are now much at variance.

The doctor drew the following conclusions: 1. The natural history of crime shows that brains of chronic criminals deviate from the normal type, and approach those of the lower creation. 2. That many such cases are impotent to restrain themselves from crime, as are the insane. 3. That the moral sense may be hidden from expediency by the cunning seen even in brutes until evoked by circumstances. 4. No man can make himself free from the physical surroundings in which he is placed. 5. Crime is an ethical subject of study outside of its penal relations. 6. Insanity and responsibility may co-exist. 7. Some insane people can make competent wills, because rational. 8. The monomaniac may be responsible, should he do acts not in the line of delusion, and which are not influenced thereby. 9. Many insane are influenced in their conduct by hopes of reward or fear of punishment, in the same way as the sane. 10. Many insane have correct ideas in respect to right and wrong, both in abstract and concrete. 11. Many insane have power to withstand being influenced even by their delusions.

The recent quarantine regulations of the Department of Agriculture (and

Health, may we not write?) at Ottawa were discussed and highly approved of by resolution and discussion, as noted in another article.

A paper on "Alimentation in Sickness" was read by Dr. Jenner, of Picton. He first spoke of the importance of hygienic alimentation, both in health and disease, and said that in many cases medicine was not needed so much as strict attention to diet and general regime. Dr. Dupuis, of Kingston, spoke of the difficulty of carrying out hygienic rules in country houses, as many had a prejudice against fresh air and sunlight for sick people. This is alas too true, but medical men may do much to overcome this. Dr. Eccles, of London, agreed with the opinions expressed in the paper. He instanced the prejudice many people have against suppers. He thought that in most cases light suppers promoted health, and prevented sleeplessness. A general discussion followed on the subject of supper, just before going to bed, for those in health, in which Drs. R. P. Howard and F. W. Campbell, of Montreal, Canniff, of Toronto, and others joined. The opinion of all was in favour of not going to bed with an empty stomach, and, in accord with the views of Sir Henry Thompson, a noted London physician, as published last year in the *Nineteenth Century* (extracts from which appeared in this JOURNAL), that it is decidedly better, especially for persons on into and after middle life, to partake of a moderate allowance of plain digestible food on going to bed. Dr. Howard favoured milk and bread. Persons partaking of a full dinner at 6 or 7 o'clock would naturally require much less than those dining about the middle of the day.

The value of vital and health statistics was the subject of a paper by the editor of this journal, Dr. Playter. He first gave the history of the origin of mortality statistics in England, and of the high state of efficiency attained there in this branch of the public health service. He urged the necessity for the establishment of a bureau for such statistics in this country.

A special committee of the Association was appointed on the following day to consider the question of a uniform sys-

tem of vital statistics for the Dominion, and to urge upon the Federal Government the desirability of early action for the establishment of some system for the collection of births, marriages and deaths throughout the Dominion. The names of the committee are as follows: Hon. Senator Dr. Sullivan, Drs. F. W. Campbell and A. B. Larocque, of Montreal, J. Ahern, Quebec, Canniff and Daniel Clark, Toronto, and Grant and

Playter, of Ottawa. The subject was talked over by the members of the committee who were present, Dr. Sullivan was named as Chairman, and it was decided to arrange for a meeting of the committee in Ottawa at an early day.

Dr. J. E. Graham, of Toronto, was elected president of the Association for the next year, when the meeting will be held in Hamilton.

THE PUBLIC HEALTH IN CANADIAN CITIES.

THE DEATHS IN THE LAST TWO MONTHS, AND IN THE LAST HALF YEAR, AND YEAR ENDING JUNE 30, 1886.

TWENTY-THREE cities and towns now make monthly returns of deaths to the department of Agriculture at Ottawa; the City of Hull, Q., having commenced the record in June last.

THE MORTALITY IN JUNE.

During the month of June there was a marked increase in the total number of deaths returned from these places, which much more than counterbalanced the decrease already noticed in May, from April. The total number in June being 1,495, 29 of which were from Hull. The mortality in April and May in the twenty-two cities and towns was 1,422 and 1,313 respectively. With the fine weather of June there should not have been an increase in the mortality. In Ontario the returns, though not perfect, invariably show a decrease in the total mortality for June, as compared with the previous month; and I think this is universally the case in England. In most of the 22 cities and towns previously noticed there was a decrease, but in a few of them the increase was sufficiently large to give the total increase above mentioned. Of the large cities, Montreal returned the largest increase, or about 45 per cent. more deaths in June than in May:—i.e. 564 and 387 respectively; an increase over May of 177 deaths. In Quebec there was an increase from 147 in May up to 191 in June; in Ottawa, from 78 in May to 90 in June; in Sorel, from 18 to 22; in London, from 33 to 36; in Three Rivers, from 20 to 27; in Sherbrooke, from 16 to 18; in Guelph, from 8 to 9; in Peterboro', from 14 to 15;

and in St. Thomas, from 7 to 16—more than double. These cities and towns therefore show in June an increase in the mortality, over May, of 260 deaths, or about 35 per cent.

The most noticeable increase is that of Montreal. In a much smaller city like St. Thomas, such variations are much more likely to occur, during a short period of time. It is only amongst large numbers of people, or during a long period of time, as six months, at least, or a year, that fair comparisons in relation to mortality can be made. The chief cause of the great increase in Montreal was diarrhoeal affections. While in May only 13 were there recorded under this head, in June there were 162; giving at once 149 of the 177—the total increase in June. The 162 deaths from this cause we may be sure were chiefly of young children. This is a serious matter, and indicates abundance of legitimate work for the health authorities there. There was also in June 40 more deaths than in May from developmental diseases, such as premature births, old age, teething, &c. There was a decrease in the number of deaths from diphtheria, from 21 in May to 15 in June; also a slight decrease in the number from constitutional diseases (such as consumption, cancer, dropsy), and from local diseases (as inflammation of special organs—pneumonia, pleurisy, apoplexy, heart disease, &c).

In Quebec also the same diseases, diarrhoeal and developmental gave rise to the increased mortality; while there was

too a decrease in the number of deaths from diphtheria and constitutional diseases.

In Ottawa likewise the increased mortality was chiefly owing to like causes. There was an increase in the number of deaths caused by diarrhœal affections, from 17 in May to 29 in June; no increase in developmentals, but the deaths by diphtheria increased from 1 in May to 8 in June. This is a bad "showing."

In St. Thomas the increased mortality was chiefly from local diseases, with a slight increase from diphtheria and diarrhœal affections.

The other twelve cities and towns returned a mortality in June nearly 20 per cent. lower than in May—574 and 478 deaths respectively in the two months. The greatest proportionate decrease was in Belleville and the next in Hamilton.

It will be interesting and profitable to notice here more clearly the marked difference in the mortality of the ten cities and towns which show an increase in the death rate in June, and the twelve cities and towns which show a decrease. Montreal, Quebec, Ottawa, London, St. Thomas, Three Rivers, Guelph, Sherbrooke, Peterboro', and Sorel, comprising an estimated population of about 330,000, returned a total for the month of 688 deaths; or at the rate of over 36 per 1,000 of estimated population per annum. The twelve cities and towns—Toronto, Hamilton, Halifax, Winnipeg, St. John, Kingston, Galt, Charlottetown, Belleville, Chatham, Fredericton and St. Hyacinthe, comprising an estimated population of about 300,000, returned a total of 478 deaths; or less than 20 per 1,000 of population, per annum. The high death-rate in the first group was due chiefly to the high mortality in three of the principal cities—Montreal, Quebec and Ottawa, and the cause for the most part was diarrhœal affections, which during hot weather prevail chiefly among young children. Although there was in Guelph a small increase in the mortality in June as compared with May, the death rate there in June was exceedingly low, less than 10 per 1,000, per annum; while the mortality in Peterborough was not much over 20 per 1,000, and in St. Thomas less than 20.

In Montreal the mortality was at the rate of 40 per 1,000 of population, per annum; in Quebec it was 34, and in Ottawa 34, per 1,000; in Three Rivers, 33; in Sherbrooke, 24; in St. Hyacinthe, 36; in Sorel, 44; the total death-rate in these seven cities and towns, all of Quebec excepting Ottawa, averaging about 39 per 1,000 of population, per annum; while as above stated, the death rate in the other cities and towns, of the other provinces, was less than 20 per 1,000, or barely more than half that portion.

In England the death rate for the same month was 17 per 1,000; in London there it was only 15, and in Brighton less than 13. For the three previous months, March, April and May, in England the rate had been about 25, 20 and 19, respectively.

This fearful mortality in our chief Canadian Cities is a serious question certainly, demanding serious consideration, and indeed investigation by somebody, why the mortality in these seven cities and towns, during even this one month, is about double that of the other cities and towns in other parts of the Dominion. It must be remembered that there is in the Province of Quebec, including doubtless Ottawa City, a larger average birth-rate than in the other provinces, and also that the record of deaths is more accurate in Quebec Province and the returns therefore are probably in consequence more complete. This will account for a portion of the difference in the death rate, say possibly 25 per cent. of the difference. What are the other causes?

From diphtheria there were 83 deaths (exactly the same number as in May) in the 23 towns and cities: in Montreal, 15; in Toronto, 10; Quebec, 9; Hamilton, 8; Halifax, 4; Ottawa, 9; Three Rivers, 6; Fredericton, 5 and London, 3; with 1 and 2 in a few other places.

From measles there were only 15 deaths recorded, a decrease from 26 in May; 9 of the 15 were in Ottawa. These make a total of 30 deaths from measles alone in the capital during the four months, March to June; with 4 more in July (more than in any other of the 23 places) as in the following table. Ottawa shows to greater disadvantage

in this regard than any other city.

Small-pox still lingers in Sorel and St. Hyacinthe, in each of which towns there were four deaths from this disease in June.

THE MORTALITY IN JULY.

For this month we are confronted with a mortality which, in many of the cities, is really dreadful. Annexed is a table for the month, from which the reader can see for himself the mortality in the different cities and towns, and we need not extend our comments thereon to such length as we have done in relation to the mortality for June.

It is proposed to give a similar table for each month, regularly, in future numbers of the Journal.

A few points in relation to the returns for July demand notice. The most notable point perhaps is that, the mortality in the Capital of the Dominion during the month was at the rate of 55 per 1,000 of population per annum; much higher than in many other of the cities or towns making returns, and doubtless higher than any other place in Canada. The rate has been unusually high here for the last three or four months, although during the past year, as shown in the following table, it was not much above that of Toronto. During the last three months it has been about the same as that of Montreal. The mortality in Toronto too was unusually high during the month under notice, more than 25 per cent. above the average of the year. What but the effects of heat, with the advance of summer, on waste organic matters, could increase the mortality about 50 per cent. or more in a month? Then the mortality in July of this year was in Toronto about 30 per cent. higher than in the corresponding month of last year, and in Ottawa, over 70 per cent. higher. It is owing chiefly to the greater mortality in these two cities, that the total mortality in the twenty-two cities is greater in July of this year by one per 1,000 than it was in July of last year.

There were no deaths from small-pox in July of this year in any of the cities or towns under notice, the first month since the monthly statements were first issued, June 1885, in which no deaths from this disease were recorded. It is to

be presumed therefore that the Dominion is once more free from the disease.

From diphtheria there were 67 deaths during the month. In June, 14 places gave a record of one death or more each from the disease; in July only 12 gave such record.

The large number of deaths from diarrhoeal affections, over five per 1,000 of population, per annum, is strongly indicative of insanitary evils and sanitary wants, as well as of much existing ignorance in regard to the proper feeding and management of infants. In 27 chief English towns, comprising about five millions of people, the mortality from these affections for the same month was only 1.4; though in London it was 3.9.

From all zymotic diseases (including diarrhoea) the mortality was at the rate of 13 per 1,000, in the 23 Canadian cities. In the 28 English towns it was only 4 per 1,000; though in London it was over 5; on the whole about one-third that in Canada.

THE MORTALITY FOR THE YEAR.

In looking over the mortality in the 22 principal cities and towns of the Dominion for the year ending 30th June 1886, as reported in the mortality statements to the Department, many points of interest come up. We can not now however dwell on them and shall only touch upon one or two. The death-rate of 30 per 1,000 of estimated population would be reduced to not more than 25 per 1,000 if the deaths from the small-pox epidemic were eliminated. There is no reason however why these should be eliminated. But excepting the centre of this, the largest of 22 cities—Montreal, the mortality in the other 21 places was only about 25 per 1,000: while if we also except Quebec, Sorel and St. Hyacinthe, the mortality in the other cities and towns was less than 24 per 1,000. In the "Queen City," of the west, Toronto, the death rate was more than 20 per cent. greater than in the 28 large towns in England, and more than 25 per cent. greater than in London with its 4,140,000 people; while in the healthily situated Capital of the Dominion it was yet considerably higher than this.

In reference to the low rate of mortality for the year in Guelph (the lowest

MORTUARY STATISTICS.

RETURNS FOR JULY.—DEATHS IN THE 22 CITIES MAKING MONTHLY REPORTS TO THE DEPARTMENT OF AGRICULTURE.—CAUSES, RATE, &c.

	Total number of deaths.	Males.	Females.	Deaths from Smallpox.	Measles.	Scarlatina.	Diphtheria.	Parthral Dis.	Fever, Ent. (Typ.)	Fever, Remittant and Intermittent.	Rheumatism.	Total from all Zymotic Diseases.	Frm Constitutional Diseases.	Local Diseases.	Developmental Diseases.	Violent Deaths.	Estimated Pop'n sound numbers.	Dth rate per 1,000 of pop. per annum.	Rate, corresponding month last year.	Rate in previous month.	Rate in last three months.	Rate for yr. ending 30th June, '86.	
Montreal.....	634	319	315	1	1	211	204	7	7	5	2	232	89	38	149	16	160,000	47.5	50	40	40	50	
Toronto.....	268	139	127	1	1	113	67	1	1	1	2	53	33	87	42	11	163,000	31.5	24	21.5	26.5	25	
Quebec.....	239	141	118	1	1	4	88	1	1	1	1	98	15	82	59	5	64,000	44.5	47	34	37	34	
Hamilton.....	76	36	40	1	1	6	17	3	3	2	2	24	13	22	14	1	41,000	22	21	17.5	21	19	
Halifax.....	58	26	32	1	1	3	3	3	3	2	2	10	11	29	6	2	39,000	18	16	18.5	21	20	
Winnipeg.....	35	19	16	1	1	1	18	1	1	1	1	20	4	6	2	3	30,000	14	14	40	12	12	
Ottawa.....	144	74	70	4	4	5	73	1	1	1	1	83	7	30	23	1	31,000	55	34	34	40	26.5	
St. John, N. B.....	53	22	31	1	1	9	9	1	1	1	1	16	12	14	10	1	30,000	21.5	18.5	20	21.5	23	
London.....	39	18	21	1	1	1	3	1	1	1	1	6	7	17	8	1	22,000	21	19.5	19.5	20	20	
Kingston.....	19	10	9	1	1	1	1	1	1	1	1	1	1	8	7	1	15,000	15	24	16	16	23	
St. Thomas.....	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	12,000	4	18	16	9	14	
Charlottetown.....	14	5	9	1	1	1	1	1	1	1	1	2	2	7	4	1	12,000	14	19	10	12	18	
Quebec.....	15	11	4	1	1	1	1	1	1	1	1	3	2	5	3	2	12,000	15	12	9	11	11	
Belleville.....	16	10	6	1	1	1	1	1	1	1	1	3	2	7	3	2	11,000	17	16	12	16	16	
Three Rivers.....	37	20	17	1	1	4	8	1	1	1	1	11	5	7	6	3	10,000	42	33	33	33	17	
Chatham.....	11	5	6	1	1	2	11	1	1	1	1	5	2	6	11	1	9,000	15	8	16	17	17	
Sherbrooke.....	27	12	15	1	1	2	11	1	1	1	1	13	5	3	5	3	9,000	36	24	22	20.5	27	
Peterborough.....	12	8	4	1	1	2	3	1	1	1	1	5	1	5	5	1	8,000	18	20	24	27	20	
Sorel.....	25	10	15	1	1	2	9	1	1	1	1	9	3	10	3	1	6,000	50	75	44	44	44	
Fredricton.....	12	5	7	1	1	3	3	1	1	1	1	3	2	5	2	2	6,000	24	32	24	24	24	
St. Hyacinthe.....	18	6	12	1	1	1	1	1	1	1	1	1	3	5	9	1	6,000	36	34	36	46	50	
Galt.....	5	5	5	1	1	1	1	1	1	1	1	1	2	2	2	1	6,000	10	16	16	16	17	
Hull.....	68	33	35	1	1	11	7	1	1	1	1	18	2	12	36	1	10,000	42	33	33	33	33	
Grand Total.....	1,857	936	811	8	8	567	287	12	12	2	5	649	234	516	398	50	35	34	34	34	34	34	30
London, Eng.....																		21	15.5	17.2	19.7	19.7	19.7
28 English Towns, over 9,000,000 of p. p.....																		19.7	17.1	18.6	20.5	20.5	20.5

of the 22 cities), we would state that the medical Health Officer of that city, Dr. Keating, has written to the Editor relative to some remarks in the June number of this JOURNAL on the low mortality there as returned for May last. The doctor states that, after his report for the month was sent into the Department here, his attention was called to the low death rate and doubts expressed as to its correctness and that he at once made special enquiries of those having charge of the two cemeteries and books—careful and intelligent men, and, found the “returns absolutely correct.” He further states that he has made arrangement with the undertakers of the city, by which greater accuracy, if possible, is

secured in regard to the number of deaths. Dr. Keating concludes his communication, dated August 12th, in the following words: “We are remarkably free in this city both from epidemic and endemic disease, and if we compare rival other cities in death rates we have the satisfaction of having one of the most healthy cities in the Dominion.”

Excepting Winnipeg, from which, if we are correctly informed as to the population of the city, the returns can hardly be complete, St. Thomas comes next to Guelph, being the “second lowest” city in its mortality rate. Belleville, Galt, Chatham, Charlottetown and Hamilton are within what may be regarded as healthy limits.

MISCELLANEOUS SELECTIONS.

THE PREVENTION OF BALDNESS.—It has been estimated that one-half the adult men of American birth above the age of thirty living in our cities are bald-headed. The American nation is threatened with the catastrophe of a universal alopecia. It appears to be worth while, therefore, to consider the subject of prevention, since no means have yet been found for the cure. The sons of prematurely bald fathers (for baldness is extremely liable to be propagated in the male line,) should bear in mind that if they wish to save their hair it will only be through the industrious attention to their scalp. This much-neglected surface should be thoroughly cleansed at certain intervals. It should be carefully and regularly examined, and if it be unhealthy, dry, and scurfy, the proper applications should be made to it. The wearing of unventilated hats is one of the greatest sources of failure of nutrition of the hair, and these must be avoided. The beard never falls out, because it gets plenty of sunlight and air. These are what the hair of the scalp needs, also. Women are less bald than men, because, for one reason, their scalps are better ventilated. In fine, civilization has made the hair-producing organs of the scalp delicate and feeble. They have to be nursed and cared for, or they atrophy and disappear. Young men who do not wish to lose their hair before they are forty

must begin to look after their scalps before they are twenty.—*N. Y. Med. Rec.*

A TOBACCO SERMONETTE.—The Gallipolis, Ohio, Journal, has been gathering the opinions of its readers on the tobacco question, and the following is what an honest plowman has to say about it:—My hand fits the plow handle much better than a pen, and my intellect has been trained to raise fat pigs and big pumpkins; consequently my batch of literature has been sadly neglected, but I will try. I notice that your Board of Trade is to be solicited to issue a pamphlet on tobacco. Now I should like to make a few suggestions as to what it should contain. I should like for it to contain the name of the man who can stand up and truthfully say that the first tobacco that he placed between his molars tasted good. Also the mother that advises her sons to chew tobacco, and the father who is proud of his daughter because she can smoke a pipe and dip snuff. I want to hear of the physician in good standing that recommends his children to use tobacco. I should like it to contain, also, the name of the young man that would prefer a bride with a pipe in her mouth. Also, the name of the man that has good, sound sense, and has used tobacco ten years, that has not wished himself clear of the habit scores of times. Please have the name of the

man inserted whose breath is improved by the use of tobacco. I should like to have the name of the young man. Also have it contain (in larger type) the advantages the tobacco-consumer has over one who does not indulge. If tobacco is good to chew, why is it not good to swallow? Please publish the reason. It is my opinion, Mr. Editor, that tobacco is a curse to the American people, socially, physically, and financially; and that the raising, manufacturing, selling and consuming should be everlastingly sat down upon by all good citizens; and if your Board of Trade has nothing better to do than enhance the popularity of tobacco, they had better trade themselves off for a dog, and then get some friend to shoot the dog; for the man that raises one good potato does mankind more good than he who raises tons of tobacco.—“BUCK I” in *West'n Plowman*.

THINGS MOST PEOPLE SHOULD KNOW.—That salt should be eaten with nuts to aid digestion. That milk which stands too long makes bitter butter. That it rests you in sewing to change your position frequently. That a hot, strong lemonade taken at bed time will often break up a bad cold. That tough beef is made tender by lying a few minutes in vinegar water. That a little soda will often relieve sick headache caused by indigestion. That a cup of strong coffee will remove the odor of onions from the breath. That a cup of hot water drunk before meals will sometimes prevent nausea and dyspepsia. That well-ventilated bedrooms will prevent morning headaches and lassitude. That one in a faint should be laid on the flat of the back. That consumptive night sweats may be arrested by sponging the body nightly in salt water. That a fever patient can be made cool and comfortable by frequent sponging off with soda water. That to beat eggs quickly, add a pinch of salt. Salt cools, and cold eggs froth rapidly. That the hair may be kept from falling out after illness by a frequent application to the scalp of sage-tea.—*Sel.*

SOME FALLACIES IN REGARD TO DIET.

—1. That there is any nutriment in beef-tea made from extracts. There is none whatever. 2. That gelatine is nutritious. It will not keep a cat alive.

Beef-tea and gelatine, however possess a certain reparative power, we know not what. 3. That an egg is equal to a pound of meat, and that every sick person can eat them. Many, especially those of nervous or bilious temperament, cannot eat them; and to such, eggs are injurious. 4. That because milk is an important article of food, it must be forced upon a patient. Food that a person cannot endure will not cure. 5. That arrow-root is nutritious. It is simply starch and water, useful as a restorative, quickly prepared. 6. That cheese is injurious in all cases. It is, as a rule, contra indicated, being usually indigestible; but it is concentrated nutriment, and a waste-repairer, and often craved. 7. That the cravings of a patient are whims, and should be denied. The stomach often needs, craves for, and digests articles not laid down in any dietary. Such are, for example, fruit, pickles, jams, cake, ham, or bacon, with fat, cheese, butter, and milk. 8. That an inflexible diet may be marked out, which shall apply to every case. Choice of a given list of articles allowable in a given case must be decided by the opinion of the stomach. The stomach is right, and the theory wrong, and the judgment admits no appeal. A diet which would keep a healthy man healthy might kill a sick man; and a diet sufficient to sustain a sick man would not keep a well man alive. Increased quantity of food, especially of liquids, does not mean increased nutriment; rather decrease, since the digestion is overtaxed and weakened. Strive to give the food in as concentrated a form as possible. Consult the patient's stomach in preference to his cravings; and if the stomach rejects a certain article, do not force it.—*Technics*.

WISE SAYINGS BY A WISE WRITER.—

The carving-knife is mightier than the sword. Mustard improves a lobster, but ruins a chicken salad. A good digestion is more to be desired than great riches. It is brutal to drench an oyster with vinegar or pepper-sauce. He is a fool who indulges to excess either in eating or drinking. Peace at a dinner-table assists digestion, angry words stir up bile. The tinkle of the dinner-bell is

a pleasanter sound than the blare of the trumpet. Praise your housekeeper for her successful dishes, and regard leniently her failures. Never accept the invitation of a man to take "pot luck" with him. He degrades the name of dinner, and, also, insults you. Nature is a great physician. Don't be afraid to trust her; she looks carefully after the interest of her patients' stomachs. Let an invalid have whatever he calls for to eat; it is not he who craves it, but Nature, and she will not permit him to eat to excess. A few spoonfuls of soup, possessing body, taken on an empty stomach, gives it tone and prepares it to receive acceptably more substantial fare. In the progress of civilization the frying-pan disappeared with the advent of the grid iron; which in turn has been superseded by the wire broiler. A drop or two of lemon-juice and a dash of cayenne on an oyster may be tolerated, but it is best eaten directly from the shell flavored with its own juice. A dyspeptic has no right to dine among civilized beings. He should take a sea voyage or go into the wilderness and live for a while, like John the Baptist, on locusts and wild honey. The Arab in the desert dividing his last handful of dried dates and his few remaining drops of water with a wandering brother represents the highest type of hospitality.—*Barry Grey, in the Caterer.*

PRESERVATION OF RAW MEAT.—M. le Comte d'Adhémar submitted to the Académie des Sciences a method which he has discovered of preserving raw meat when exposed to the air. The process consists of destroying, by means of a certain gas, all germs of putrefaction which are met with in the deeper parts of the tissues. The meat retains all its nutritious qualities, and its taste and colour unchanged. By this method meat can be preserved, and remains good one or two months; if it become slightly dry that is merely due to the evaporation of the moisture.—*San. Rec.*

At a recent meeting of the Paris Biological Society, M. Neumann stated that the favus of fowls is identical with the favus of human beings. He inoculated a young dog with fowl favus and another with the favus of the human sub-

ject; the affections of the two animals presented the same clinical features. Both were quickly cured without treatment as generally happens in this affection with animals. The same experiment was repeated on two rabbits with the same results.

HYGIENE IN HUNGARIAN SCHOOLS.—At the educational conference recently held in Buda Pesth, under the presidency of M. Trefort, the Minister of Public Education, the following regulations were established. Every middle class school is to have a medical officer, who will receive an annual salary 200 florins in schools where a complete course of instruction is given, and 100 florins in other schools. He must examine every pupil at the commencement of each scholastic year, and keep a constant watch over their health, and must give special attention to the prevention or eradication of infectious diseases. He will also give advice during gymnastic exercises. He will also keep a watch over the instruction in general; and if he observe any deleterious influence, with regard either to the whole school or to individual pupils, he will bring the same under the notice of the director of the school. In the complete schools he will give instruction in hygiene for two hours each week to those pupils who may desire to receive it, the subject being treated in a simple and popular manner.

THE *Stadthalerei* of Austria has issued a decree calling upon the heads of families to inform the police authorities of any case of contagious illness occurring in their house-holds. These illnesses include cholera, typhus, typhoid fever, small-pox, scarlet fever, diphtheria, dysentery, measles, whooping cough, chicken-pox, erysipelas, and puerperal fever. The following incident will show how strictly the above regulation is enforced. A man whose two children had been attacked with small-pox, and who omitted to notify their illness to the police authorities, was condemned to ten days imprisonment, during one of which he was deprived of food and another was passed in a dark cell. A medical man who had seen the children before the eruption appeared, was accused of negli-

gence, but the charge was dismissed on the grounds that his duties ended when he had received his fee.—*Sanitary Rec.*

THE DANGERS OF DUST.—Darkness, damp, and dust are potent agencies of disease. Everybody recognizes this; but how many fail to adopt its precepts! If there be sermons in stones, surely the summer dust and its dangers would prove a fitful subject for medical discourse. There is as great a distance between London and country dust as there is between the corresponding muds. Pulverized matter would be harmless enough if it were deprived of its physical property of ready diffusion. The atmosphere is laden and swarms with particulate matter of highly complex nature. Its chief peril to living beings resides in the organic constituents; largely this organic material consists of minute forms of life in a state of latency, only waiting for a spell of heat and moisture and a favorable amount of light, or it may be darkness, to awaken it into activity. The habits of individuals in every class of society, including the "masses," are not calculated to diminish, but rather to augment, the amount of organic matter in our atmosphere. Mucus, saliva, and humor, popularly known as "matter," must be discharged from the mouth and nostrils to the extent of many gallons daily, and not a little of this comes from infective sources; while we venture to think that the bulk of it mingles with the dust of our streets and courts. If, as seems not unlikely, consumption is largely caused by "germs," then a very ready theory may be advocated concerning the mode in which contagium is caught. Who can estimate the amount of mischief that the shaking of mats may have caused. How many young girls early in the morning on their way to business have, so to speak, received their death blow while inspiring, all unconscious of harm, some of the clouds of dust that always greet them? Who can tell? The abatement of this danger and nuisance is a difficulty that almost seems insurmountable. Much may be done by personal habits of prevention. [For example, "Shut your mouth,"—keep your lips closed.—Ed. H. J.]—*Lancet.*

A HIDDEN DANGER.—The risk of conveying parasitic disease by means of the brushes and combs used in hair-dressing is not an imaginary one. Is is no doubt much reduced in the better-class establishments by careful attention to cleanliness of the implements used, but even in them accidents are liable to occur at times from forgetfulness or neglect. A Liverpool operator supplies each customer with a separate and personal brush, which is, in ordinary phrase, "given in" with the haircutting. The plan appears to pay, and we may readily believe the assurance of its originator, that by its employment the fear of parasitic troubles is reduced to a minimum. A comb is not mentioned as being along with the brush; but this, again, can be much more easily and rapidly disinfected as required, and practically, we suppose, may be left out of account. Certainly the novel arrangement with regard to brushing is a gain on the side of healthy practice.—*Lancet.*

THE state of Kentucky appropriates only \$2,500 per annum to the State Board of Health to protect the health and prevent disease among the people of the State, while \$6,000 was voted from her treasury to stamp out a single disease in a single locality and among a single herd of cattle. It appears that in Kentucky live stock is at a far higher premium than human stock. A pure-bred bull will frequently command \$20,000 in Kentucky, whilst the average citizen is scarcely rated higher than a charge of powder. Things need reforming in the Grand Old State.—*Maryland Med. Jour.*

THE deepest artesian well in the world is that now being bored at Pesh for the purpose of supplying the public baths and other establishments with hot water. A depth of 951 metres [3,120 feet] has already been reached, and it furnishes 800 cubic metres (176,000 gallons) daily, at a temperature of 70 ° Centigrade (158 ° Fabr.) The municipality have recently voted a large subvention in order that the boring may be continued to a greater depth, not only to obtain a larger volume of water, but at a temperature of 80 Centigrade.

EDITOR'S SPECIAL CORNER.

OUR READERS will have observed another change in the JOURNAL, with which we have been over twelve years connected. With this number it comes entirely under our own control again, editorially and otherwise, which it had not been for a long time; and with it we go back in name to our "early love"—the CANADA HEALTH JOURNAL. We are disposed to adopt the smaller page again, with more of them, after the expiration of the present year. We trust the JOURNAL will in future appear more regularly than it has done during this year; and shall be pleased and obliged to receive the amount of subscription from each of the large number who have not yet paid for this year. Will each kindly attend to this?

FIRST of all it shall be our aim to make the JOURNAL useful to the public; and with this aim we shall endeavor to make it instructive and useful to those most interested in health work, such as health officers, members of health boards, and sanitarians generally, and to these we appeal for that fraternal assistance without which no cause can make good progress. We should like to be in communication with all health officers and all others who take an interest in the subjects upon which the JOURNAL treats.

MUCH space is given this month to the admirable address of the President of the British Medical Association, at its meeting last month, on the higher education of women. This is a subject which involves the interests of the race and Dr. Moore has treated it in a popular rather than a professional manner. It should be read and considered by all who feel an interest in the future of mankind. When the author states, with Spencer, that the first requisite for success in life is to be a good animal, he probably does not mean more than that a good physical organization is indispensable to the highest mental ability. His accusation that the "higher education" unfit for maternity is a serious one, but quite comprehensible to the medical mind; while it is a point upon which everyone would naturally desire to know all that the medical profession could teach.

To the question of food adulteration, too, a good deal of space is given, and we purpose to continue to expose the villainous practice of adulteration. Many of our readers could render much assistance to the Department in the efforts to suppress this evil.

THE meeting of the Canada Medical Association in Quebec last month afforded much information for popular reading, and our lay readers will find elsewhere in this number some useful information on quarantines, crime and insanity, vital statistics and the hygiene

of suppers, which was brought out at the meeting.

HYDROPHOBIA has, to say the least, considering the infrequency of cases of it as compared with a number of other fatal diseases, received its full share of attention during the past year. Many persons have not had from the first much confidence in Pasteur's preventive inoculations, and doubting ones are becoming more and more numerous. He shows good result chiefly because a large number of patients have rushed to him, not a few of whom had been bitten only by non-rabid dogs; while he has treated some who had only been licked by dogs. It is conceded that he has had better success than any other hydrophobia-curer, and that is about all that can be said. The safest, indeed only sure, prophylactic is to prevent the disease in the dog; and the only sure, and the best, way to prevent it in dogs is to kill dogs before they grow big enough to bite. Using moderate language, there are at least ten dogs, if not twenty or even a hundred, where one would be all sufficient, and all that do anything whatever but act constantly and incessantly as intolerable living nuisances, aside from the risk to which any one is exposed, at almost any time on the street, of a fatal bite.

A DOG occasionally proves a valuable animal, and this sort of animal has no better friend than the writer. But there is a place for everything, and about the last place for a dog is on the street. We have the greatest respect and admiration for a good dog, but only when he is at home in his master's yard, or, if his master prefer it, in his master's drawing room—when we are not present. The amount of sleep lost, and hence valuable time, by the howling and barking of the worthless brutes is monstrous, to say nothing of the serious consequences to many sick persons whose life may depend upon their getting a little sleep, which they cannot get because of some barking cur; or perhaps just after falling asleep they are awaked by the same cause. Accidents from dogs rushing at horses attached to vehicles are of frequent occurrence, and a correspondent of a leading Toronto daily paper has just given quite a list of these. Finally, as this Toronto daily gives it, dogs are successful disseminators of vermin and cutaneous diseases, and are the occasion of the most intense anxiety to those who, or whose children, have had the misfortune to be bitten by them. The time will come, though it may be long hence when men will have in them too much of manhood to associate so much and so intimately with brutes, however much these may be esteemed and kindly regarded when in their proper places. We cheerfully support a crusade against dogs,—let them be destroyed, taxed highly and comfortably muzzled on every hand.

THE American Public Health Association will hold its fourteenth annual meeting in Toronto, next month, from the 5th to the 8th. The Association includes among its members a large number of the leading physicians of the United States. We cordially welcome them to this country, and trust there will be a large gathering of them; while we have no doubt that the meeting will be highly promotive of the public health interests of the Dominion. A large number of applications for membership have already been made by Canadians; and it is to be hoped the committee in Toronto will not fail to make every necessary preparation for properly receiving and entertaining the members. All interested in the health of the people are invited to attend the meeting and listen to the valuable papers which will be read and discussed.

THE Toronto trunk sewer scheme is maturing very slowly. With a mortality in July at the rate of over 31 per 1,000 of population per annum, as shown in the table on another page, three or more of the city aldermen—who ought to know better and care more for the reputation of the city and the health and life of those whom they are supposed to make an effort to protect, actually, as recently as the 31st day of August, so displayed their dense indifference to the commonest essentials, not only of public health, but of public decency, as to oppose the scheme because it was not required. One argued that as yet there had been no expert evidence to show that a trunk sewer system was really needed. Another had lived many years in the vicinity of the water front and had not found disease any more prevalent there than in any other part of the city, and a third would carry out the stupid scheme of the late mayor and extend the present sewers out into the bay, where they might belch forth their foulness, with the "full seven and twenty stenches, all well defined, and several stinks," a little nearer to the water supply.

Two mills on the dollar, two dollars on a thousand, these men think to be too large a sum to pay annually for ten years for having the filth of the city carried out of sight and smell. It might be easily demonstrated that, in accordance with the good results of less essential sewerage works in England, the saving to the city of Toronto through a decrease in the sickness rate alone, by the construction of the trunk sewers, to say nothing of the value of life saved, would far exceed yearly the paltry sum opposed by this trio, who seem to have little regard for the health and life of either their constituents or their families, and who may be regarded as working rather in the interests of typhoid fever, diphtheria and cholera. It is to be hoped that wiser counsels will prevail.

MONTREAL has had a wholesome lesson, by which Toronto should profit and not horde her

stenches and thus provide food for an epidemic of another kind; as there are others as bad as, and even worse than, small pox, and which are prone to associate with filth. Montreal, though, we fear, is not profiting by the lesson as it should do. Money-want is the great obstacle to sanitary progress. Most people now know the value of preventive measures—in the case of *others*. When it comes home to themselves, however, they think *they* may escape without the outlay. A mill or two "on the dollar," or two or three dollars "on the thousand"—of their many thousands, terrifies them; and usually the more thousands they possess the more they are terrified by the tax—tax, to prevent disease and death? They will risk it for a time and put off the sanitary improvement. But disease and death when at the door will not wait for the house to be put in order. Doubtless these people love health and life, but they love their gold more.

IN Ottawa the authorities are no less dormant, and callous to the requirements of public health interests. Nature in the beginning did "every thing" for the city, but unnatural proceedings are undoing or counter-acting kind nature's provision. Much is being done to improve the streets, but lanes, back yards and vacant lots, are in many cases coated with filth, and are sadly in want of the scavenger's cart. There are those on the health board who would act fairly in the health interests of the city, but others, who from their position ought to take more interest, appear to think they do enough by simply accepting a position on the board without doing more. There are too many such in other cities.

SIR CHARLES TUPPER, who has always manifested much and deep interest in the health proceedings of the Dominion, we are pleased to find is once more visiting Canada; in the interest it appears of the exhibition in London; which, by the way, has given this country such a prominence among the nations as she never had nearly reached in any other period before. We are indebted to Sir Charles for a number of health reports of the Local Government Board, of England, and hope it may be in his power to assist the committee appointed at Quebec in formulating a plan for a health bureau for the Dominion.

DR. KEATING, health officer of Guelph, rather complains that we "singled out" St. Thomas and Guelph to complain of on account of the small number of deaths returned from these places for some of the months. It is only these two cities which return such a low mortality, and we have on more than one occasion stated that sometimes, among a few thousands of people for a short period, or even for several months, the mortality will be very low, though on an average, of years, it may equal that of other communities.

MR. MATHISON, the superintendent of the institution for the deaf and dumb at Be'leville, desires it to be generally known that the institution is open to the deaf mute of the Province, and every deaf mute child in Ontario, whether the parents are poor or rich, may share in the many advantages the In-

stitution affords, such as tuition, board, care etc. Over 700 mute children have been entered upon the books there and a large majority of these are spread all over the Province, bearing testimony to the great benefit they have received.

OBSERVATIONS AND ANNOTATIONS.

THE cholera, from late reports, Sept. 15, appeared to be abating in Italy, but increasing in Austria. The entire mortality in Europe for about four months has been about 3,000. The geographical area affected has exhibited the usual capricious behavior of the disease, and in spreading, overleaps as it were large extents of country, being most severe in low lying malarious districts. The chances of it reaching this continent this year are now getting very few. Truly it is giving America abundance of time for preparation.

IN England last month the Local Government Board issued a circular, dated August 7th, urging upon the local health authorities the importance of continuing, without intermission, all precautions within their power against the infection. With the circular was issued the pamphlet of instructions on prophylactics which had been issued on a former occasion.

THE outbreak of small-pox at Donald and the summit of the Selkirks, N. W. T., in the early part of the season, has been entirely stamped out by the prompt and vigorous action—complete isolation and vaccination, taken under the directions of the Minister of Agriculture, at Ottawa, in connection with the quarantine branch of his department; and probably a ravaging epidemic among the Half-breeds and Indians has been thereby prevented.

THE "Hygeia," in connection with the St. Lawrence quarantine, referred to in our last issue, is a thoroughly sea worthy little craft, able to meet vessels in the offing in almost any weather. She is as the Quebec *Chronicle* says, fitted with the appliances for what the most recent and searching experiments prove to be the most reliable methods of disinfection known for maritime or other sanitation, viz., the drenching with solution of corrosive sublimate, moist heat by superheated steam, and fumigation by sulphurous acid gas. There is also on the steamer a room in which the sick can be landed from incoming vessels that it may not be necessary to detain in quarantine. The only other vessel of the kind on this continent we believe is at New Orleans.

THE evils resulting from tea drinking are chiefly from the use of inferior, cheap teas and from excesses. We would strongly advise any of our readers who have not tried Keers Himalayan tea to send for a pound sample to 58 Church St. Toronto and try it; make it ac-

ording to directions, in a hot vessel with boiling water (not water that simply has boiled) and we predict they will not thereafter use any other tea when they can get Keers.

THE total number of deaths known to have resulted from small pox in the Province of Quebec during the late epidemic is stated to be 5,739. Of the three thousand who died up to December 31st in Montreal, 2,857 were French Canadians, 181 other Catholics, and only 96 English-speaking Protestants.

THE Council of the Society for the Study and Cure of Inebriety have arranged for a Colonial and International Congress on Inebriety in London. The Congress will meet while Parliament sits. The President is Dr. Norman Kerr, and among the Vice-Presidents are the Archbishops of Canterbury and Armagh, Cardinal Manning, the Duke of Westminster, Sir Charles Lupper, Sir Arthur Blyth, Sir Saul Samuel, and other Colonial representatives, Sir Douglas MacLagan, Sir George Burrows, Sir Spencer Wells, Sir G. H. Porter, Sir William Miller and Mr. Ernest Hart.

ABOUT the "wheel," it may be well to note that horsemen after the age of forty, according to the *California Practitioner*, exhibit evidences of disease of the prostrate gland: this being true says the *American Lancet*, it is evident that the rider of the bicycle is much more likely to acquire such disease.

A JUDGE as wise as Solomon, the one referred to below must have been. A man who had sore eyes went to a horse doctor for relief. The doctor applied to his eyes an ointment he was accustomed to use on horses. The man became blind, and sued the doctor, but the judge acquitted the horse doctor, on the ground that if the man had not been an ass, he would never have applied for relief from a horse doctor.

THE *British Medical Journal* says that both experience and excise statistics prove that there has been during the past twenty years a great increase in the temperance of the middle and lower classes. That there is still room for improvement it admits, but thinks there needs to be started a crusade against eating too much.

A CHEAP form of artificial leg is now manufactured in England which will prove a boon to workmen of small means. It is simple, light, and varies in price from about \$15 to \$18.

It is said that internal revenue receipts on alcoholic liquors last year in the United States were nine million dollars less than the previous year; indicating a decrease in the consumption thereof.

On the sanitary value of trees in the city Dr. Stephen Smith recently read a paper before the New York Academy of Sciences. It is well known that during the intense heat of summer there is more suffering and death from sunstroke and high temperature in the Northern cities than in the Southern, a result which may fairly be attributed to the absence of suitable protection. From three to five thousand people die every summer in New York from the effects of heat.

Small lungs, proportionately, are more liable to become diseased. Time and again we have urged the practice of free, full inspirations for gradually and appreciably increasing the size of these organs. A process, termed pneumatic differentiation, has been introduced as a panacea for all lung affections, and a number of articles have appeared in commendation of it in various medical journals. A company has now been formed to manufacture pneumatic cabinets, which will be rented to reputable physicians. The cabinet is simply an air-tight box, in which the patient sits while a slightly greater quantity of air is thus forced into his lungs than he usually inspires. Dr. Shee-mar, a physician of repute in Philadelphia, in an address before the Medical Society of Pennsylvania, says, greater benefit can be obtained by simply directing the patient to habitually breathe fully, slowly, and deeply while pursuing his ordinary avocation. We think so too.

LONDON medical and sanitary journals complain that Lord Salisbury has not followed Mr. Gladstone's custom, and admitted the president of the local government board (which controls health proceedings there) into the charmed circle of the cabinet. Mr. Chaplin, who was first offered the presidency, declined it because he felt that he could not do justice to the work likely to come up unless he had a share in the cabinet proceedings in relation to it.

IN Michigan the public health appears to be steadily improving. Almost monthly, for a year or more past, we have read a report about as follows:—"Compared with the average for the month of June in the eight years—1879-86, remittent fever, measles, intermittent fever, pneumonia, bronchitis and diphtheria were less prevalent in June, 1886." They have a "live" board of health in Michigan, and the public have been largely awakened to the value of public health measures by frequent health conventions which have been held in different parts of the state.

It is said that the cholera has been recently introduced into Australia, for the first time, it having been hitherto unknown there.

IN Illinois there had been a number of local outbreaks of smallpox in the spring, but the disease, according to latest accounts from the State Board of Health, is now exterminated.

OHIO is troubled to find a suitable secretary for the new State Board of Health. The salary is not sufficiently large to induce a suitably experienced physician to abandon his practice and reside in Columbus.

THE Pennsylvania Board has adopted as its official organ the *Annals of Hygiene*, which first appeared as a publication of sixteen pages about two years ago, followed by five additional numbers, when it was discontinued until July last.

MILK adulteration, especially by means of water is of such common occurrence that all consumers would be on the safer side in buying it only in bottles. However good the milk may be when it leaves the dairy, it may be, and often is, adulterated by the retailer, or by the deliverer, in the wagon. Our exchanges contain frequent references to disease being caused by contaminated milk. Bottled milk is much the safer kind.

LIFE Insurance in the stock companies is so costly that many widows and orphans are left penniless, without provision or provider. And it ought not to be so. The profits of these stock companies are monstrous. Think of the "Confederation Life," perhaps, under its able manager, the most desirable company in Canada paying \$83,000 in death claims, and with a premium income of \$380,000. The *Week* says this speaks "most eloquently" for the judgment shown in the "selection of risks." Why should these "risks" pay such a sum? And the "Canada Life" is a colossal speculation far surpassing any in dry goods or groceries. There is a field for mutual insurance and we understand the "Mutual Reserve Fund" Association, of New York, of which Mr. J. D. Wells, of Toronto, is agent, is doing a large business in Canada. No wonder.

EVERYBODY who goes to New York city by rail, and who wants the best and most handy hotel to stop at, should try the Grand Union, on Park Avenue, just opposite the Grand Central Depot. There one will find the very best of beds, the cleanest of linen, the most courteous attention, and as good a table as can be found at any hotel, with prices a third lower. Baggage is taken from and returned to the station free of charge, and special attention is given to ladies. Horse cars pass the door. We give this commendation of the Grand Union on the strength of the personal experience of a Lowell party of seven who recently tested it, and who, having tried some of the best hotels, agreed that this was superior to any of them. So says the *Lowell Daily Courier*.