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—THE—
HEALTH JOURNAL,

A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—

EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

Nos. 5 and 6.

MAY AND JUNE, 1889.

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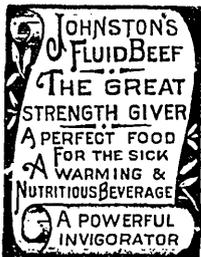
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THE HEALTH JOURNAL.

A Record of sanitary Progress.

VOL. XI.

MAY AND JUNE, 1889.

Nos. 5 and 6

THE PRESENT CONDITION OF SANITARY SCIENCE—AN ALMIRABLE ADDRESS BY SIR EDWIN CHADWICK, K. C. B., &c., ON ATTAINING HIS NINETIETH YEAR

THE sixth annual dinner of the Association of Public Sanitary Inspectors of Great Britain was celebrated at the First Avenue Hotel, Holborn, on March 2d, 1889. The event was further intended to mark the attainment of his ninetieth year by their President, Sir Edwin Chadwick, K. C. B., and, by a happy coincidence, on the previous day Her Majesty was graciously pleased to gazette the President, hitherto C.B., to the higher honor. There was not room for all those who had expressed a desire to be present on the occasion. Dr. B. W. Richardson, F. R. S., presided, and among the company present were the Earl of Aberdeen, Earl Fortescue, the Hon. D. F. Fortescue, Sir Lyon Playfair, M.P., Sir Richard Owen, Sir Robert Rawlinson, Sir Spencer Wells, Sir Douglas Galton, Dr. Cameron M.P., Dr. Farquharson, M.P., the Mayor of Hastings the Mayor of Chelmsford, Dr. Alfred Carpenter, Professor Corfield, Dr. Buchanan (Chief of the Medical Department of the Local Government Board), etc, etc.

An address, signed by a large number of noblemen and gentlemen, to the number of over ninety, was presented to Sir Edwin. The following is a complete copy of his reply. A few extracts were given in our April issue but they will bear to be repeated here in the whole address :

MY DEAR CHAIRMAN, MY LORDS AND MEMBERS OF THE ASSOCIATION OF SANITARY INSPECTORS OF GREAT BRITAIN: I presume that I may accept the great kindness bestowed on me on the present occasion, partly as having regard to the unusually advanced age of the body, and partly as to the extent of the occupation

of the mind, for the promotion of our science during that unusually long period. On the bodily account, it is due to those here, who are practically engaged in sanitary work to state that it will be found on examination that the risks of death and wounds, especially in withstanding epidemics, are fully as great as those sustained by officers of the naval and in the military service. I have myself participated in those common risks, and although I probably owe the duration of such working ability as may yet remain to me, to exceptional hereditariness—for my father died at the age of eighty-four, my grandfather at ninety-five, and my two great-great-grandfathers as centenarians—these facts do not interfere with the point I have named, that men who have to fight for sanitation have sometimes to fight for life also.

PRACTICAL RESULTS OF SANITATION

Turning from this topic, let me now briefly state the chief present conditions to which we have advanced in the practical applications of our science, which are as yet very imperfectly known. I beg to premise that I state nothing upon hypothesis—nothing but well examined experiences.

It has been objected that if it were possible to amend communities by Utopias, Utopias would long since have been introduced. Our proceedings—assumed to be Utopian—which I have to recite, are not, however based upon Utopian ideals, but on 'experiences' carefully and separately examined—as to their assumed and strict application to common conditions. It is no Utopia that death-rates in towns under the sepa-

rate system of drainage have been reduced by one half through the work of the sanitary engineer alone. It is no Utopia that the death-rate at Rugby, for example, which was one of the towns first treated by our first General Board of Health, was then 24 in a 1000, and is now only 12. It is no Utopia that at Salisbury the old death-rate, which at the beginning of the century was as high as 40 in a 1000, is now about 16; or that at Croydon and a number of other places, death-rates of 24 in a 1000 now average 15. These reductions have been affected by the system of 'circulation *versus* stagnation,' which is yet to be made generally understood, to be by constant and direct supplies of water, by the removal of the fouled water through self-cleansing house-drains and self-cleansing sewers, and by the removal of the refuse—fresh and undecomposed, and unwasted—on to the land.

On the examination of incipient experiences, and on long and careful examination, the application of this system was proposed for the metropolis, but it was opposed by what is called 'Vestralization,' and by strong interests in expensive works in the House of Commons, by which the Government, at a morning sitting, were put in a minority. An opposite system was adopted, which has since been examined and condemned by Lord Bramwell's Commission as a disgrace to the metropolis and to civilization.' Our measure was carefully examined by German sanitary engineers, who proposed it for application to Berlin. It has been applied there, though not yet so completely as I consider it might be, and it has recently been re-examined by a deputation from the French Government and it is now adopted on that examination for the relief of the sanitary condition of Paris. I greatly lament the loss, by death, of M. Durand Claye the *ingénieur-en-chef* of Paris, a firm sanitary disciple of mine, but I hope that loss may not imperil economical execution of the work.

CONTRACTORS FOR PROLONGING LIFE

Various experiences in this country, by these factors alone have established with

such certainty that a contractor may contract with safety for the attainment of sanitary results, and by them the general death-rate may yet be reduced by 10 in a 1000. Beyond the reduction of the annual death-rate from the work of the sanitary engineer, nothing is yet commonly expected or sought for. I had, however, early anticipated that the reduction of the annual death-rate would be accompanied by an advance of the life-rate, and I have recently obtained from the Registrar-General examples of what that advance may be.

I find that at Rugby the life-rate has been extended to all living there, of every class, by eight years, or from thirty-three to forty-one years. At Hastings the duration of life has been advanced for males an average of five years and five months, but for females of eight years and one month; at Leek it has been extended by ten years; at Croydon and Salisbury, and other places, the extension has been from six to seven years, females, as a rule, obtaining, by our science, the greatest share—that is to say, some eight years more of life-rate, more of painless life, more of health, and strength and beauty. These extensions of the life-rates, as yet little known and regarded belong, however, to all classes, both to the well-to-do and to the lowest.

LENGTHENED LIFE IN THE WAGE-CLASSES

Of the wage classes, whose life-rate is largely the lowest, the extension will be found to be the greatest. To them the greatest gain developed is by the house alone, the 'model dwelling,' the work of the sanitary architect, giving ten years more of life and working ability, a result cheap to pay for by extra rents and which would be still further improvable by the removal of surrounding deteriorating conditions, especially bad schools and ill-conditioned places of work.

As against extant evils, there is yet to be provided the due exercise of the functions of medical officers of health and the aid of the sanitary inspectors in the inspection of work-shops and schools, and chiefly the half-time schools. As Commissioners of inquiry into the labor of young persons

in factories in 1844, it was the recommendation of myself and my colleagues that the factory inspector should be essentially a sanitary inspector. Under our first General Board of Health we made an effort to extend these functions in our regulation of the duties of the local officer of health to a weekly inspection conducted at the place of work. On the detection of the premonitory symptoms of disease—chiefly the eruptive diseases—the health officer would, to prevent them spreading, intrust the removal of the patient to the sanitary inspector, who would be ordered to see to the fitness of the habitation for recovery or else to provide a proper place. It is a mark of our progress that such official sanitary qualifications as now abound which qualifications it is economical to pay for, did not then exist, or were to be obtained in a few instances only, such as that of Dr. Neil Arnott, at such salaries as we could induce a Chancellor of the Exchequer to pay for them.

CHILDRENS DISEASES, AND INSANITY.

The greatest and the grandest advance in the power of sanitation made in my time is, it appears to me, that for the extinction of the chief children's diseases, measles, scarlatina, typhus and diphtheria—an advance carefully and efficiently tested and ascertained in the chief district half-time schools, where the death-rate, among the children who came into those institutions with no developed disease upon them, is reduced to less than 3 in a 1000, or less than one third of the death prevalent among the general population. Such reduction is coincident with the reduction of the death-rates in the prisons, the former seats of epidemics, where among the persons who enter without developed disease upon them, the epidemics are entirely expelled, and the death-rates reduced below 3 in a 1000, or to less than a third of the death-rates prevalent among the unprotected population outside.

Physicians are beginning to declare that a large amount of the crime for which punishment is inflicted is due to insanity, and that insanity is due to low physical condition, which sanitation by early phy-

sical training would remove. There are experiences to show that this is the fact. Dr. Ashe and others conversant with the lunatic asylum declare that, as a class, lunatics are of low physical condition, and that that low condition is reducible by sanitation and early physical training; an important matter, for eighty thousand lunatics are now burdening the rates. Of thirty thousand blind persons, the late Dr. Rolph declared that two thirds might have been saved by early sanitation. There are experiences, too long to particularize on this occasion, which sustain these several conclusions.

WONDERFUL LIFE SAVING IN THE ARMY.

These experiences are also of vital importance in their application to prison life. But there is another part of our national life and strength which yields the same results. I refer to the latest manifestation of the power of our science for the maintenance of the force of our army. At the Congress of Social Science, held at Liverpool in October, 1858 I proposed that the science which had saved the second army of the Crimea should be applied to the protection of our excessively death-rated army in India, and after persistent labor of representation, a Commission of Army Sanitary Inquiry was appointed at the instance of Lord Stanley, now the Earl of Derby, in May, 1859, and the change which has since taken place is surprising, even to stolid minds. The old death-rate in the Indian army was 67 in a 1000. In the last decade it has been reduced to 20 in a 1000. The saving of life in India in that decade was in men, 28,130; in sickness, 25,000. This was affirmed, on examination, by Sir Louis Mallet, on a claim for due recognitions, when he was secretary to the India Board. The services of the Army Sanitary Commission which comprised those of Dr. John Sutherland, and of Sir Robert Rawlinson—the remaining officers of the Crimean Sanitary Commission—were extended over the whole army, and the aggregate saving of life, as returned by the late lamented Professor de Chaumont, of the Army Statistical Department of Netley, has been 4058

men per annum, and for the decade, 40,500 men; or in money, £100 per man, £10,053; and in sickness, £41,680, an equivalent sum of £100 per man. The saving in life by sanitation is immensely greater than the losses of life by war.

At this time a further reduction has been made from the 26 per 1000 of the last decade to about 14 per 1000, and further advances may yet be made in the sanitation of the Indian army. A strong party has been formed in India to obtain the application of the experiences of the successful sanitation in the army to the relief of the civil population of India, and, moreover, to apply those experiences to large tracts of unoccupied but fertile land, capable of permanent military settlement, or of the civil settlements of a population much greater than the present population of all India. My aid by exposition of sanitary administrative principle has been besought for this movement.

So much for our own empire; but a still greater advance in army sanitation has been made in the German army, where the death-rate has been reduced to 6 and even to 5, in a 1000, with an increased value of 30 per cent for civil work after three years of military service. We have not yet attained to that increased value of labor although I have been informed of the value of the labor of the volunteers being increased by five shillings a week by the aptitude imparted by the drill. The foremost sanitation of the German army is largely advanced by a factor which is new to us but which is extensively available for civil as well as the military population.

WASHING 200 SOLDIERS FOR 9 PENCE AND
TEN SCHOOL CHILDREN FOR A PENNY.

Mr. David Grove, the eminent sanitary engineer of Berlin, applied a means of washing constantly half a million of soldiers, with tepid water, at the cost of a shilling for every two hundred men. But I find that we now improve upon that sanitation, and can effect it better for ninepence per two hundred men. Now, also in our schools and district institutions about ten children can be washed with tepid water for about a penny,

soap and towel included, at a rate of time of three minutes per head—much more cheaply and effectually than they can be washed at home. Trained nurses devoted to the care of patients with the most infectious diseases, have long protected themselves by a double washing, head to foot, daily, with tepid water and a change of clothes, and experienced sanitary officers use the same precautions on the occurrence of extraordinary visitations of epidemics. Populations may now be trained to do the same.

TO BRING DOWN THE PURE AIR FROM ABOVE.

Let me state one large gain in sanitation which I now believe to be attainable for the satisfactory ventilation of public buildings, and of large schools and workshops.

I have for a long time collected observations of the height of attacks of epidemics on the population of tall buildings, and have found the attacks to be generally confined to the cellar dwellings or the lower floors, while the occupants of the upper floors have been distinctly exempted from them, that is to say, the occupants of dwellings above the range of the visible fogs, made up of the heavier, low-lying, and visible fogs. Mr. Glaisher, the experienced aeronaut, gives me his testimony that the visible fogs are low and close lying to the land. From the height at Highgate or Hampstead, fogs are seen covering London like a heavy white blanket, out of which the upper and bright portion of the dome of St Paul's Cathedral is seen bright and clear above it. By tubular arrangements (largely economical in result) intakes may now be opened into the purest superior strata of air, and it may now be pumped down and delivered, at a rate required, into public edifices, into the larger schools and workshops, warmed in cold weather, and cooled in hot weather. Had this new means of sanitation been understood at the time of the erection of the new public offices, two sets of officers might have been enabled to work well, where one now works ill, and not with comfort, above half a day, in the large, ill-ventilated rooms, which are reservoirs of impurity, from which Ministers of State have declar-

ed that they have been driven to work at home. From India I have collected experiences where the fog just covered the infantry, but where the cavalry were seated above it; and another experience also where a foot messenger could not pass, but where a messenger on an elephant might. In such places by shorter tubular arrangements, the fresher air may be reached at an expense less than that of the punkha, and healthy rest obtained free from the torment of mosquitoes.

Experiments may be required to determine the height for a tubular intake (which may be of copper sheathing) to be raised above the clock tower, to avoid the discharges of the high chimneys of bone boilers and others (which themselves require correction), and to insure for the Houses of Parliament and the new public offices air of complete purity for their ventilation.

THE HALF-TIME SCHOOL SYSTEM.

Let me do justice to the intellectual by referring to some of the experiences of the working of the half-time school principle. At the half-time District School of Anerley, and of others of them, excluding absolute idiots, full 90 per cent are got to the good—that is to say, to wages when they leave of 8s., 10s., 12s., per week, or nearly the former wages of adults. When I last visited the half-time school of Manchester, at Swinton, the head-mistress there asked what need they had of emigration when they had three applications for every girl as soon as she was fitted for a place. When the Dowager Empress of Germany visited the half-time school of Norwood, the head-mistress declared that she had the greatest difficulty in meeting the pressing applications for girls for good places. And there can be no doubt that many will be carried from them who would have been left with the helpless insane. The late distinguished inspector of schools in Ireland, Sir John Lentaigne, declared that the system, if duly applied, would beneficially change the character of a nation. Lord Shaftesbury has put it on record that the mothers of the factory children in Lancashire had declared to him that the half-time system of school and

work had made their children as of another race to them. And this, too, is practicable at a reduced charge from often using the same school buildings for double sets the same day to accommodate industry, as they are finding out they may do in the colonies. And this may be done for £1 10s. per head, with a superior physical training, as against £2 5s. per head, the charge of the long time board schooling. School teachers have declared that if they were left to their own devices as to classification, they would save three years of school life to every child, and that with a superior physical training which can be got at no time afterward. This will effect the abolition of the 'snail's pace,' and will make the school the happy assemblage of the millions of children during the first days of their life.

What may be further attained by a combination of more effective work of the sanitary architect, with better sanitary inspection of schools and places of work, by the local health officer, with the aid of the sanitary inspector, it would, appears to me, be ascertained by what I have called a close clinical examination, carried out by a competent specialist, as was done with great advantage for Brighton.

The selection of emigrants is now a subject of much consideration, but it may be submitted that one great object would be to ascertain the sanitary fitness of the locality to which it is proposed to send the emigrant, as for example, that it is not one where the chances of death from phthisis are doubled, or one where, of the children born, more than half will be in their graves before their fifth year—common conditions in some places to which emigrants and their families are now sent.

The orphan children in the district half-time schools are, in a large proportion, the children of hereditary vagrants, medics and delinquents. Our experiences now display a considerable reduction from them of juvenile delinquency, and enable us to declare that if children of these classes were given to us from very infancy they need be vagrants and delinquents no longer but honest and productive citizens.

SANITARY LEGISLATION TESTED BY THE
NOSE.

To those who are unacquainted with the subject in detail in principle—the popular test of central legislation and of local administration, of either political party, may be deemed extravagant; yet on due examination it will be found that the wastefulness of ignorance, of bad central legislation, and of bad local administration, causing sickness and premature morality, may actually be tested by the nose—now by the odors of stagnation and of putrefaction in rooms, defective supplies of water, by stagnant cisternage which absorbs foul gases, by the odors of putrefaction from sewers of deposit, by the odors of putrefaction from ill-formed and ill-cleaned streets, and by the eye indeed, as well as the nose, in unwashed children and unwashed work-people in the byways and the highways.

In a sentence, low sanitary conditions of population are everywhere the sources of irritations, of despair, of disorder; while high sanitary conditions, are the sources

of satisfaction, of political security, prosperity, order, and peace.

Mr. Chairman, lords and gentlemen, I thank you sincerely for the consolation and happy assurance of the great future which your testimonial conveys to me. Looking further back than perhaps any one here present can look, I do see, I confess, in the progress of the past, an augury for the future which fills me with all the delight that can fill with the brightness of hope a human heart that has beat so long as mine. I see in the happier, because healthier children that are being nurtured, what may fitly be called the new birth of health that is in promise for the world. My satisfaction may not be equal to my thankfulness but it is sufficient in this respect, that it is a richer satisfaction than has fallen to the lot of most men who have devoted all their energies to the work of national reform, in matters that lie nearest to the most vital of all that is national, the vitality of the nation and its power for strength and endurance in the career of nations.

PHYSIOLOGY OF MANUAL TRAINING.

MUCH has recently been said about manual training and the advantages of Sloyd work as a training for the eye and the hand, while the brain is supposed to be the organ affected by literary and purely mental occupation, and not to be employed to any extent in play, games, or manual work. It is very advisable that the public should have more definite knowledge as to the physiology of manual training. Large sums of money are being spent, and the Government is under pledge to back some form of technical education; yet there is no common agreement as to what is meant by the process termed “manual training,” as it is proposed to employ it in schools.

We quote from the *Educational Times* a transatlantic definition, which at least explains the notions of many leaders in education on the subject: “Manual training is training in thought-expression by other means than gesture and verbal

language, in such a carefully graded course of study as shall also provide adequate training for the judgment and the executive faculty.” Some criticisms on this definition may serve to explain certain points in the physiology of the methods proposed.

The phrase “training in thought-expression” implies the physical methods used to stimulate or set going the molecular changes in the brain which correspond to “thought” and the expression thereof, which is effected by the action of those nerve-cells upon the muscles which move the limbs, the hand, the eyes, the face, etc., and produce gestures and other means of expressing thought. The sight of an art model may produce the necessary brain impressions; the modelling of the lump of clay by the student is one mode of partially expressing his thoughts. Some may better express the mental impression produced upon the brain by the use of words, others by the pencil or by working

on the lump of clay. In any case, to produce the mental impression is one effect of the methods employed; to get an expression of such impression must come later, and is more difficult of attainment.

Similar principles are involved in literary teaching; the thought or mental impression may be produced without the capacity for its expression. A very intelligent master of large experience has assured us that, when giving an explanation to his class of a geometrical problem and asking questions thereon, he is often content if he sees a facial expression of intelligence without capacity in the pupil to express a verbal answer, trusting that the capacity for expression will come later. A boy may work out a problem by a diagram, but fail to give a verbal demonstration—that is, he gives a manual demonstration only.

“The judgment” and the “executive faculty” involve very different kinds of action in the brain. To form a judgement is a mental process occurring among the brain-cells. The capacity for such action results from former impressions received or inherited; it depends probably upon molecular brain changes, and these must take place before the expression of the judgement, whether that be by words or by manual act. These two factors in training—that of producing mental impressions, and secondly, getting from the child an expression of mental action in words or in things done—are very different matters. To get expression of thoughts and mental states is of course very desirable, even in the earliest stages of childhood, but at first we must be content to control spontaneous thought and the tendency to spontaneous action, as in organized play, or by listening to and correcting the almost senseless and unintelligible prattle of the young child. Later we may try to produce mental faculty by making impressions, being satisfied with a gleam of intelligent expression, while in the more developed brain we may look for and cultivate the correct expression of thought by words and action in harmony with the surroundings.

Manual training appears of special value for two classes of pupils—those who have but little capacity for mental work on the

lines of literary culture, and the very nervous but bright children who have much spontaneous thought, are soon exhausted by ordinary lesson work. In the case of nervous, irritable children, quick in mental action, spontaneous activity of brain-centres is shown by the large amount of spontaneous movement which they exhibit; and on the intellectual side we see activity displayed, often up to the point of producing exhaustion; in this amount of talk, in questions asked, or worse still, in habits of introspection or vague, undefined “talking and thinking to himself,” and excessive imagining. Such children no doubt are best cultured by such methods as manual training, and need cultivation of the faculty of impression without the raising of mere thoughts; then spontaneous action needs to be controlled to co-ordinate action, not stimulated to further activity.

THE TRAINED AND UNTRAINED.—As the division of labour in civilised life becomes greater, there is an ever-increasing pressure upon individual men and women, and a growing necessity that everyone should be trained for the special duties and responsibilities that he will have to undertake in the business of life. The objects of training are not only to prepare the man to do his work well, and with profit to himself, but also to prepare his body and brain for the strains that will be made upon it by the pressure of active life, rendering it apt for the work, full of power and resource, strong, and not easily broken down by temporary trials, adverse circumstances, or over-pressure. These remarks apply equally to students in our own profession, to teachers, and to men of business; the man fitted for his work, and well trained to perform it, does not commonly become so easily exhausted by fatigue in his particular line of employment as another who has not been trained. The difference between the trained and the untrained is not or should not be a mere difference in technical learning, but a real difference in the man, producing a physiological change in him, strengthening the faculties he will be called upon to exercise hereafter. Such training is not always given by education, it is not always aimed at; but the principle we put forward has been tried by experi-

ence in the practical affairs of life, and it would be well if it were clearly understood by those who as guardians and teachers have to prepare the young for a career. We recently had our attention called to the case of a female teacher in a Board school whose health had broken down at her work, so that she was admitted to the hospital in a semicataleptic condition, from which she recovered completely after a few weeks' rest. There were no signs of disease, but the girl had undertaken duties in school for which she had neither natural aptness nor special training. The same thing is often seen with the young man in business; he leaves school where he has worked indifferently at his lessons, and on entering the office he is obliged to work hard at duties that are strange to him, so that in a few weeks he becomes fatigued and then exhausted by an amount of work which those accustomed to the office

routine are trained to bear without difficulty. For such reasons it is a true line of policy to train, during their educational career, those who are delicate in structure or balance of brain, or suffer from neuroses, in order that in after life their strength may be adequate to bear the labours and the strains which would break down the system of an untrained man. It is a great aid to a training for special work when the man is able to acquire a command of some source of recreation such as music, some branch of literature, carpentry, or athletics, something that will give the brain a different set of impressions from those received in the routine life. Training properly conducted so as to develop all the faculties, and specially those that will be most called upon in the business of life, is the best means of guarding against failure of mental and physical power.—
British Medical Journal.

VEGETARIANISM.

IT seems clear that our best Medical authorities are becoming more and more favorable to the use of less animal food in the dietary and a larger proportion of vegetable food. A German paper through "Good Health," gives the following articles on vegetarianism: It is a fact perhaps not generally understood, that the mode of life known as vegetarianism is steadily gaining ground, year by year attracting fresh adherents, forming new societies, issuing new periodicals, and in short, employing well-organized means of every kind to promulgate by example and exhortation its peculiar principles. Through its zealous and enthusiastic votaries it is therefore becoming familiar to the world as a distinctive system recognized by principles that certainly appeal most plausibly to what appear to be the plain indications of nature regarding man's physical life.

It is especially among the happy children reared under this system,—children whose stomachs are never made the sepulchers of animal matter,—that its advantages are most apparent. Rosy, intelligent, and light-hearted, enjoying full immunity from scrofula and "nerves," these children invariably present a very marked superiority over those raised on different principles.

In fact, Prof. Niemeyer, M. D., though no vegetarian himself, goes so far as to assert that "none but vegetarian mothers can produce really sound and healthy children."

Furthermore, it may be safely claimed that a man who from infancy has followed this mode of life, may count with certainty upon old age and a painless death. "Euthanasia" is the name applied to this natural and gradual falling asleep which sometimes accompanies, and was doubtless intended to crown, old age; and, in truth, all things teach us that gentle nature would have man drop from the great life-tree as peacefully and painlessly as the mature and beautiful leaf flutters from its stem on the late autumnal day.

"The being who lives unnaturally must meet early destruction," says Goethe; and in his work on longevity, the French philosopher, Flourens, declares that "in the luxurious and perverted mode of life common to this present age, man does not die, but kills himself." Alas! it must be admitted with Schopenhauer, "Man no longer comprehends the language of nature; it has become too simple for him."

And last, but not least, should vegetarianism strongly commend itself to the race of to-day, in consideration of the claim

openly put forth, especially by its votaries in England and America, that it alone offers a key to the problem known as the great social question, and exerts an influence such as no other system can hope to do on social reform.

It is possible that many may ask, Why, then if really possessed of such palpable advantages, are not these principles of life more generally and promptly adopted by thoughtful, intelligent minds? The answer has been given by two of our deepest thinkers. Mankind is too weak, too little master of itself, to reject indulgences estimated as pleasures, and is unwilling to abstain from the so-called enjoyment and stimulation of animal food and strong drinks. Logical arguments are sought for assailing the principle which denounces this weakness, and, none being found jests and ridicule are blindly hurled against the supporters of this new life.

No longer is vegetarianism regarded as the whimsical hobby of the modern would-be world reformers; for it can be readily proven the primitive rule of life in all ages and among all people. It is only through the sweeping changes wrought by time and events, the pernicious influence of false ideas of culture, and the fictitious wants growing out of a misdirected civilization, that the voice of nature has slowly been drowned and well-nigh forgotten.

The wisest among the wise of the ancient law-givers, creed-founders, and philosophers, not only accepted this as the true system for man, but regarded it as essential to the highest physical, mental, and moral perfection of individuals and nations. From Plutarch to Cuvier, all philosophers have taught that man's physical construction plainly indicates fruits and plants as his proper food; and on the first page of the Bible (Genesis 1 : 29) stands written the command that the fruits of the earth "shall be to him for meat." Gladly would the wise Lu' h urrased Moses have led his people from their pervert'd ways again to this food of paradise, but they sighed and murmured for the flesh-pots of Egypt; and that whole corrupt generation, after clamoring for meat granted them, met death in the wilderness and were denied an entrance into the land of promise, flowing with "milk and honey," not flesh and blood.

There are many who accept vegetarianism for different reasons, while attaining the same result. They may be classified as follows: 1. Vegetarians from religious convictions; 2. Vegetarians on scientific principles; 3. Vegetarians on sanitary grounds; 4. Vegetarians from esthetic and humane principles; 5. Vegetarians from economy; 6. Vegetarians necessarily such from their physical condition. It will require but few words to characterize distinctly each of these classes.

Vegetarians from religious convictions have written many volumes proving their principles from their Bible; and in England this class separates itself from other vegetarians, and its members are called "Danielites," from Daniel 1 : 8; and they also call themselves "Brothers," and give aid to each other under all necessities, yielding ready assistance whenever called on, thus at once realizing and solving the "social idea and problem." They carry their convictions and practices beyond all other vegetarians, even clothing themselves on vegetarian principles, using neither silk, wool, nor leather in their apparel, their shoes being made of "vegetable leather."

In her compulsory and frequent fasts, the Catholic Church has at least partially preserved to mankind the blessings of this food of paradise, and unconsciously rears a memorial to its claims as the true and divinely appointed diet for man. The members of her most rigid orders, the Carthusians, Trappists, and Camaldolites, all abstain habitually from flesh; and it is remarkable that these monks have ever been noted for health, strength, and vigorous old age, and never has a contagious disease been known in their cloisters.

Vegetarians on scientific principles base their convictions on the writings both of antiquity and later ages, and the knowledge of the human body. The salivary glands, the teeth, the articulation of the bone of the lower jaw, the zygomatic arch, the masticatory muscles, and in fact man's entire internal construction testifies, in their judgement, that it was created as a consumer of fruits, not flesh. Admitting this, then, as the original designs of his existence, the vegetarian logically concludes that man can find his truest welfare only by obedience to this law of his formation. These deductions are fully sustained by

vegetarians on sanitary grounds, not only by personal demonstration of their value, but also by the testimony and example of the most noted men of ancient and modern times. Asclepiades, the great physician, whose fame still echoes through the ages, invariably cured his patients by prescribing for them herb and vegetable diet, and he himself wagered never to be sick so long as he abstained from flesh.

In his work on the "Art of Prolonging Human Life," Hufeland says: "The men attaining the greatest age on record have not been flesh-eaters, but, on the contrary, strict vegetarians. Even Liebig asserts that grains, particularly wheat, contain quite as many, perhaps more, nourishing qualities than meat; and of the so-called flesh-diet, he says: "To the really weak, meat broth imparts no vigor."

Perhaps it is not generally known that the trained athlete of old was compelled to abstain from flesh to acquire greater strength; and the porters, or carriers, of Constantinople and Rio Janeiro, who carry on their shoulders for a long distance, weights often reaching five or six hundred pounds, the sturdy Scots, Swiss, and Tyrolese, and the indefatigable field laborers of Italy, all live on fruits, oatmeal, maize, and *polenta*. . . . The gatherers of rubber-gum in South America, travel all day among the mountains, penetrating dense forests, climbing among the most precipitous peaks, carrying all the time upon their shoulders, a load increasing in weight until it reaches one hundred and fifty to two hundred pounds; yet they subsist upon a purely vegetable dietary, the chief articles of food being plantains and bananas. The Roman soldiers, who built such wonderful roads and carried a weight of armour and luggage that would crush the average farm-hand, lived on coarse brown bread. They were temperate in diet, and regular and constant in exercise. The Spanish peasant works every day and dances half the night, yet eats only his black bread, onions, and water-melon. The Smyrna porter eats only a little fruit, such as olives, yet he walks off with a load of a hundred pounds. The coolie, fed on rice, is more active and can endure more than the negro, fed on fat meat. The heavy work of the world is not done by men who eat the greatest quantity. Moderation in diet seems to be the prerequisite of endurance.

In fact, it may be said if a vegetarian has committed no early dietetic sins for

which he must atone, or has inherited no physical infirmities from diseased parents, then it is simply a shame for him ever to plead sickness, he will be a living exemplar to himself and others of the truth of the old proverb: "*Modicus cibi, medicus sibi*"—"He who eats temperately and naturally may be his own physician."

It is also generally known that the word "vegetarian" is not derived from "vegetable," but from the Latin, *homo vegetus*, meaning, among the Romans, a strong robust, thoroughly healthy man.

It is further held by the vegetarians that the great misery, the innumerable evils arising from the curse of drunkenness, can only be effectually checked by a universal return to this mild, healthful diet of fruit and vegetables, firmly believing that it is the rich, highly flavoured, and unnatural food that creates the craving for stimulating and unnatural drink; and by each in turn aggravating and exciting the demand for the other, the evil is strengthened hopelessly.

The vegetarians on humane and esthetic principles have compiled many books from various authors and poets, all protesting against the cruelty and barbarity of animal slaughter, and man's unwarrantable abuse of power in thus subjecting helpless creatures to his own selfish appetite. From Pythagoras, the great promoter of vegetarian views, from Plato, Virgil, Ovid, down to Goethe, Schiller, Jean Paul, and Schopenhauer are these earnest appeals and sentiments gathered; and it is believed that the most thoughtless epicure would become a convert to their convictions if more familiar with the piteous details inevitable to this wholesale destruction of animal life. A notable thing in connection with this subject is the fact that in England butchers cannot serve as sworn functionaries in cases relating to murder. It may be justly claimed that vegetarians are the only genuine friends and protectors of animals.

On the score of relative cost of living the subject is a very interesting one. A book entitled, "How One may live on Sixpence a Day," written by an English vegetarian, has passed through several languages. It may surprise many to learn that there are millionaires among this class of people who never spend more. A wealthy and fortunate vegetarian, firmly impressed with the wisdom and value of this course, freely declares it is his conviction that through a universal adoption of vegetarian princi-

ples, nine-tenths of the crime and pauperism of the world would be abolished, and that the public debt of England, if desired, could be liquidated in thirty years.

A word now in regard to the sixth-class vegetarians, who may be called such from necessity, or the requirements of a diseased system,—and it must be admitted that of these there is little either of interest or value to say. As a rule, they are men who, having already weakened and ruined the constitution by excessive indulgence contrary to nature, adopt vegetarian principles as a last resort, in the hope of regaining bodily and mental health

These miserable specimens of humanity are often found in vegetarian hospitals, and, as walking shadows and death-marked victims, are pointed out by the opponents of vegetarianism, as warning examples of a fallacious system. But the "full-blooded vegetarians" offer a very different aspect; they are erect pictures of perfect health, and have long cheerfully and serenely accepted the epithets of "grass-eaters" and "starvelings," bestowed upon them in ridicule by the dyspeptic, diseased carnivorants, comforting themselves with the full conviction that "he laughs best who laughs last."

THE MANAGEMENT OF INFECTIOUS DISEASES—IMPORTANT TO PARENTS.

DR. E. R. Squibb (Gaillard's Med. Jour. and American Lancet) in a paper makes the following practical points:

1. Susceptibility to disease must precede diseased action: and the cause of disease, whether communicable or not, must be evolved from this susceptibility.

2. This susceptibility is acquired upon a normal basis of health, which basis has a normal tendency to persist or to resist, and therefore the susceptibility is preventable.

3. This susceptibility varies in degree from insusceptibility up to the highest rate; and the degree of virulence of contagious virus must coincide with the degree of susceptibility in the production of disease, either factor being impotent without the other.

4. In controlling susceptibility, the virus of contagion and other causes of disease are necessarily controlled.

5. Susceptibility is acquired gradually and imperceptibly through a process of evolution, and its control or management must be through a similar process.

The practical deductions to be drawn from these conclusions constitute the object of this note.

Without any relaxation of the effort for the treatment of communicable disease as it occurs, for the destruction of the virus of contagion, and for the protection of susceptible individuals; persistent effort should be made in another direction not commonly considered; namely, to lower the rate of susceptibility. In every community physicians see examples of successive generations of well-ordered lives in the rearing of offspring in a rational, nearly normal way, and see that in a broad average such always show themselves fittest to survive. All such examples, and all that approach them, should be encouraged, supported and multiplied.

One of the increasing defects of late generations seems to be want of proper parental discipline and training of the young. Education without power behind it to enforce its teaching, is not sufficient to restrain from injurious inclinations and appetites.

Children are perhaps very generally taught that self-denial, and not self-indulgence, must be the order of well-lived healthy lives. Yet upon this teaching the cultivation of perverted appetites and the indulgence of them, is the common practice: and as candies and cakes take the place of more wholesome natural food, artificial digestives are required, and conditions are gradually established upon which disease is more frequently and more easily acquired, and upon which disease itself is gradually developed and intensified into a more frequent and more easy communicability.

The doctrine that disease is penal, and that as a penalty it is always earned and always sure, is not only true upon the grand scale of the past ages, but is a good working hypothesis for the present time. The practical utility of the doctrine is however much weakened by the circumstance that the offences of one generation are entirely or mainly punished in succeeding generations. In this remoteness of causes from their consequences, their connection fails to be realized at its actual value, yet all vital processes are based on absolute justice and truth, and, as is well said by Emerson, the universal law of transgression is retribution.

Hence it would appear that the control of disease must be by a process of evolution incited and fostered mainly in the management of the young, that is, of the commencing generations, where control is at once easiest and most effective.

THE NOTIFICATION OF INFECTIOUS DISEASES.

NO one questions the importance of isolation in the management of infectious diseases and the prevention of their spread. How to have isolation universally and systematically carried out is another question, and one on which the opinions of authorities differ. A good deal of discussion has been going on in the English Medical and Sanitary Journals in relation to "Notification of Infectious Disease," more especially of *compulsory* "dual" notification. Some authorities there believe that, the compulsory notification to the health authorities by the physician, prevents many parents and others employing a physician in cases of infectious diseases of children, from fear that the sick children will then be removed to a hospital, and that hence worse consequences follow than from imperfect isolation. There is doubtless a good deal of truth in this. The Medical Press and circular, under the heading, "Is Compulsory Notification of Infective Disease a Failure?" gives the following: It is usual for the advocates of the compulsory notification system, when confronted with the argument that it is unconstitutional in principle and oppressive in practice, to reply that, whether it is or not, it is expedient and useful, and that the "end justifies the means."

"We might contest this argument and urge that the justice and freedom of the subject should not be violated by any law unless for some manifest and coercive reason, and to effect some great and indisputable good, and that no such cause has been shown for introducing into legislation the new principle that an innocent person should be held responsible for the fault of a guilty. We, however, pass by all these considerations for the present, and put the simple question, does the end justify the means? In other words, we challenge proof of the statement that compulsory notification does produce any beneficial effects whatever upon the public health, and we raise the question whether, all things considered, it seems likely to do so, while at the same time we assert, for the sake of argument, that the system is absolutely hurtful, and is calculated to produce

an increase of the disease, and a loss of life thereby.

"It will be admitted that those who ask the legislature to step outside recognized principles are bound to show cause, and if they fail to do so the recognized principles must stand. But we say that the notificationists, having been afforded all possible opportunity of proving their case, have failed to do so, and they have shown, no doubt, that compulsory notification has produced a crop of reports of infectious disease which does not surprise us, seeing that such reports are liberally paid for, whether the cases reported are infective or not. But have the compulsory notificationists shown, or can they show, that in any one town in which compulsion is the rule, or in all the towns put together, the mortality is even a decimal lower than in other towns similarly situated and of equal population in which no compulsion exists? We think not; and we appeal to the figures given by Dr. Biddle, the statistician of the General Medical Council, in a recent issue of this journal, to prove that the exact reverse is the case.

Dr. Biddle certainly makes out a strong case, in his figures comparing the mortality in notification and non-notification towns. In a late number of the British Medical Journal he writes as follows: "I have already shown how peculiarly unfavorable 1887 was to the dual system of notification, and this when the zymotic death-rate was (for these days), high throughout the country. As to 1888, I have the four quarterly returns of the Registrar-General, having been unable to obtain the annual summary, which was only in proof when I inquired for it; and I find, as I expected, that the zymotic death-rate was unusually low, namely, for the eleven non-notification towns, 2.435; for the three single-notification towns, 1.880; and for the fourteen dual-notification towns, 2.429. The general death-rates of the three groups were respectively 18.685, 17.649, 21.072. I have no reason to suppose that a further investigation would show any superiority on the part of the dual system, nor have I yet

attempted the laborious task of subdividing the death-rates for that year. I regard the dual system, if fairly considered on its merits (or demerits), as unequivocally doomed."

On the other hand, at a late meeting of the Yorkshire Association of Sanitary Inspectors, Dr. Goldie, (Med. Of. Leeds,) in a paper on this subject, said: What are we asking for? The answer was simple and brief—the compulsory notification of the existence of infectious diseases, such notification to be made to sanitary officers throughout the kingdom. In this matter he was not an advocate of local measures, although there were now more than forty large towns in possession of local Acts, and he was willing to admit of their limited usefulness. It would at once be conceded that the seven principal zymotic diseases were dangerously infectious. and who, he asked, was there either in the profession or out of it, who would object to the best practicable means being employed to arrest the spread of those infections? Yet he asserted as a fact that the great majority of houses were absolutely inadequate for the purposes of isolation. He considered it could not be regarded as less dangerous to allow deadly infection the chance of spreading than it would be to allow an express train to start with its human freight without notice or without proper danger signals. The present rapid means of transit from town to town and from one country to another were rendered simple and safe, because due notice was given of the start and of the coming. The result of these precautions was that the danger of travelling had been reduced to an almost infinitesimal fraction. The great railway and marine authorities had responded to the demands made upon them for public security by notifying at every stage of their journeys that danger was on the wing, and must be met with the safest and most speedy means of isolating it. If infectious diseases broke out on board any ship, it had to be notified and stringent means carried into force before the vessel could come into port. The same form of notification applied to the canal boat traffic. Another proof of the necessity for the

step was found in the orders relating to the Contagious Diseases (Animals) Act, 1878. Having acted as inspector for Leeds since 1878, he could testify not only to the wisdom of these Acts, but to the ready manner in which owners complied with the requirements. Speedy isolation was the first aim and object in these cases, as it was with compulsory notification of the infectious diseases in human beings. Dr. Goldie here proceeded to narrate instances showing the necessity for notification, and the serious consequences arising from the want of it. His experiences led him to look upon the objections to compulsory notification as more of a sentimental character than anything else. To compel anyone to notify that a member or members of their family were infected with certain diseases was alleged to be a direct interference with the liberty of the subject. But when people were married, when people died, and when children were born, the fact had to be registered, and the same sort of thing applied to the vaccination of infants. To some persons these demands might be irksome and inconvenient, but no one, he hoped, would assert the law was a bad one. . . . Then people objected in this way—"If I had let you know they had begun with the disease you would have sent them to the hospital." This objection was easily answered. Compulsory notice of the first case did not in any way alter the provisions of the Public Health Act. It must be proved that the person suffering was without proper lodging or accommodation, or was lodging in a room occupied by more than one family. . . . Another objection was that raised by medical practitioners, but in his opinion compulsory notification would not lessen a medical man's practice by adding to the coffers of quacks.

The President said it was perfectly clear that sooner or later the nation must come to compulsory notification. It was, he considered, the natural outcome of sanitary work. And why, he asked, should not the nature of the disease, which had to come out at death, come out at the beginning? Many people were impatient to get compulsory notification, but they must remember it was coming about gradually.

He had been surprised to hear there were forty towns in which it had already taken effect. [As a matter of fact, there are fifty-six.] This was an indication that it must come eventually to the whole country. It was well the process was a gradual one, and that the matter should be done tentatively, first in one town and then in another, for it was then done with the greatest amount of consideration, to avoid friction either with the medical men or with the public, and experience was gained which would very much facilitate its general adoption, and not produce discomfort or antagonistic feeling. When any more legislation took place on sanitary matters this question must be considered, and when this was so he did not think there would be the opposition to it by medical men that there might have been some years ago.—Sanitary Rec., London, Eng., April, 89.

The lesson to be drawn from the foregoing is, not that notification (even compulsory notification), is not necessary, but that the practice of it requires much thoughtful care on the part of health authorities, in order not to make the practice unpopular and evaded.

In this city there has been, not long ago, some trouble and concealment; although on the whole notification and isolation are practiced satisfactorily. Dr. Canniff, of Toronto, in a paper last year said: The law requires that the physician shall report cases within twenty-four hours after recognizing the character of the disease, and it is most necessary that this should be done to enable the Medical Health Officer to protect the public. The law directs that a placard shall be affixed to the house in which the disease exists; this, however, has not been done in Toronto, except in cases of smallpox, although I recommended it. The Local Board of Health strongly objected to this procedure, & the citizens generally were opposed to having their houses placarded. I was requested to endeavor by other means to accomplish the object aimed at by placarding. The course which I have pursued is as follows: When a notice of a case of in-

fectious disease is received, an inspector at once visits the place. If the notice has come from some other source than a physician, the report is verified. The inspector then notifies the immediate neighbors of the existence of the disease, and warns them of danger. He also informs the nearest corner grocer or butcher, with the request that he will tell his customers. By this means the neighborhood is soon made acquainted with the matter, and the infected house is in a great measure quarantined. The inspector reports to the Medical Health Officer the facts relating to the attack of the disease; how long it has existed; the position and size of the room occupied by the patient; the degree of isolation; and if a protective sheet, kept wet with a disinfectant, is placed over the doorway. In all this there is no interference with the physician attending, except urging the necessity of isolation, and disinfection may be considered to be such. The inspector keeps a watch of the case to the extent of seeing if the patient dies, and if so, to secure a private funeral. After the patient's death, or after recovery, he is to see that the room is properly disinfected; but the kind of disinfectant is selected by the attending physician. In case the family are unable to pay for the disinfection, it is done by the Inspector at once after his first visit, having learned what school is attended by children from the infected house, he gives notice to the school, and they are not allowed to attend until a certificate from the physician says it may be done without danger to the school. The inspector, moreover, ascertains if there is in the house any book from the public library, and if so, it is carried to the Medical Health Officer to be destroyed, and the Public Library Board is notified. This is done in accordance with a resolution of the Public Library Board. I have thus minutely described the course pursued by the Medical Health Department in Toronto in cases of contagious and infectious diseases, to show that there is a good reason why physicians should report such cases, and to do it promptly.

SOME LATE NOTES ON TUBERCULOSIS.

EFFECTS OF TUBERCULOUS MILK.—The British Medical Journal gives the following, in an Editorial Note: Although in the light of recent researches into the bacillary nature and communicability of tubercle by direct experiment, the consumption of milk from tuberculous cows cannot but be looked on as fraught with danger, instances in which such a mode of communication can be absolutely demonstrated are, from the circumstances of the case, not frequently met with. The fact that, even in advanced stages of the disease, the bacilli are often not to be detected in the milk, the generally long incubation period, and the probability that the milk supply has been changed or the animals slaughtered before palpable mischief has been done, as well as the frequency of tuberculosis in man arising from other causes, surround with almost insuperable difficulties all observation on the human subject. But an instance has lately come under our notice which admits of no doubt, and consequently deserves record. The owner of valuable herd of cows, finding that a large proportion of them were tuberculous, so large a proportion indeed as strongly to suggest infection by association in the sheds, withdrew his milk from the market, and used it, unfortunately without boiling, for fattening his pigs, of which he has a large number, and on which he prides himself not less than on his cows. The result has been that the pigs have, almost without exception, been affected with the disease to an extent that has necessitated the slaughter of the whole stock. Another point of practical interest is that he has not been able to discover nodules or other indication of localised tubercle in the cows' udders, a condition still held by some to be necessary to render the milk capable of transmitting the disease. It is much to be regretted, too, that the legal definition of disease in the cow, as laid down in the Dairy and Cowshed Orders, does not include tuberculosis.

THE DISEASE IN NEW HAMPSHIRE.—In the official organ of the Board of Health of this State, the Sanitary Volunteer, we

find the following: Among the general sources of infection there is one, at least, that should be removed, or, if not wholly removed, greatly lessened by legal action, and that is the sale of tuberculous food products. Such foods, chiefly in the form of tuberculous meat and milk particularly the latter, are undoubtedly extensively sold to unsuspecting consumers, and that the results are not infrequently lamentable, no sanitarian doubts. Pulmonary consumption is a very prevalent disease among the cattle of this country; and since the general government has taken no measures to restrict the malady, it becomes the duty of the individual states to inaugurate some course that will reduce the damage to the public therefrom. To illustrate, we will give one instance in this state very recently investigated by the board of the cattle commissioners; complaint was made to the board that some existed in a herd of thirty cows, in a certain town of the state; and under the assumption that the disease might be pleuropneumonia, the government, upon notification, sent a competent veterinary surgeon to inspect the herd. The inspector immediately diagnosed tuberculosis, had an infected cow killed, and the *post-mortem* examination revealed tubercles in nearly every organ of the body, including the udder. The inspector reported that about seventy-five per cent. of the herd was already infected. All, or nearly all, the cows were being milked, and the product being sold daily to a milk dealer for distribution among his customers. The dairyman, ignorant of the character of the disease, was bringing up a baby upon the milk of a single cow in which the disease had advanced nearly to its fatal termination.

This is only one case, but there are many others; and when, as a result, consumption appears in the human subject, the unfortunate victim and the friends accept the edict as wholly unavoidable and perhaps inexplicable. It is time that this great danger be taken in hand by every state, as it can be, with every probability

of lessening in a marked degree the annual death-rate of this terribly insidious and fatal disease.

Under our present law, neither the board of cattle commissioners nor the state board of health has any authority to deal with tuberculosis in cattle in a way necessary to restrict its spread among other herds, or prevent the appalling danger to which it subjects the human family.

TUBERCULOUS MEAT AND CONSUMPTION.— Dr. C. R. Drysdale, an eminent London physician, writes in the *British Medical Journal* of April 16th and May 4th: "I see by No. 645 of the *Journal d'Hygiène* of this year that in 1888 there were in Paris 9,808 deaths from phthisis pulmonalis, and 1,784 deaths from tuberculosis of other organs; in all, 11,502 deaths from this fatal bacillus-caused disease, out of a total of 50,825 deaths. This shows that nearly one-fourth of all deaths in Paris at present are by tuberculosis, whilst there appear to be districts in Switzerland, as I heard in the neighbourhood of Davos, where no deaths ever occur from that disease. I see that in Melbourne, Australia, one of the Presidents of the Medical Congress held there at present thinks that much of the phthisis found in Melbourne is due to the occurrence of tuberculosis among the cattle which supply that city with food. [Noted in the April No. of the *HEALTH JOURNAL*, page 85]. In Glasgow, last summer, a good deal was said about the large proportion of cows and cattle in Scotland which are found to be tuberculous when slaughtered, and the same holds good, I believe, for London and Paris. My own experience of the Jews in the East End of London is that they very rarely indeed die of phthisis, and they are, as all know, very particular about the kind of meat supplied to them for food. It seems to me that it is time that this question of the spread of tuberculosis in our large cities were thoroughly investigated, for it is deplorable to think that one disease should commit such terrible devastation on our race without using every means to prevent it.

Again, he writes: A short note of mine on the above-mentioned question, and which you were good enough to insert in the *JOURNAL* of April 6th, has brought me a pamphlet written by Dr. Henry Behrend, and first contained in the pages of the *Jewish Chronicle*, 1880, which confirms what has been my own experience at the Metropolitan Free Hospital, namely, that it is very rare indeed, even in the poor Jewish quarter of Houndsditch, to meet with Jews affected with phthisis, a disease which is so prevalent among the ordinary population of that district. Dr. Behrend, in page 5 of his pamphlet, says that this terrible malady can be produced by feeding animals with the flesh or milk of diseased cattle. He adds, what we all know, that thousands of tubercular animals are slaughtered and exposed for food in our markets; and strongly recommends the plan brought forward by Mr. Fleming, of having all carcasses of cattle offered as food inspected in public abattoirs, which should alone be allowed to be used as slaughter-houses.

Dr. Behrend adds that it is highly probable that much of the infantile scrofula and tubercle so prevalent among all classes, and especially the poor, is attributable to the consumption of the flesh and milk of tuberculous cattle. Of late, the prevalence of tuberculosis in the cattle which supply food to Paris, London, and Glasgow, has been adverted to by numerous and accurate observers. Dr. Behrend adds that he is of opinion that the care taken by the Jewish community in the examination of meat is an important factor in causing the comparative immunity of Jews from scrofula and tubercle.

"This subject is in my opinion, of the very highest importance, since tuberculosis, including phthisis, is the cause of considerably more than one-fifth of all deaths in Paris at present, and of about one-sixth of all the deaths in London. Surely this is a subject a thousand times more worthy the attention of a Royal Commission than the vaccination question.

In the City of Glasgow the Sanitary Department (*Brit. Med. Jor.*, May, 18th, inst.) has taken steps to test in the law-

courts the question of its right to order the destruction of all carcasses of animals found to be affected by pulmonary tuberculosis, whether other organs are affected or not. The sanitary inspector, Mr. Fyfe, has seized a couple of carcasses, and has applied for warrants, under the Public Health Act, to destroy them. The most eminent scientific evidence is to be called in favour of the action of the department, so that the whole question, in its bearings on public health, may be brought before the court. In our next issue we hope to be able to give the result of this test case.

DR. KLEIN has addressed a long letter to the Editor of the Glasgow Herald (Brit. Med. Jour. June 1st '89), which appeared in that journal on May 27th, in answer to a request for his opinion on the questions raised by the recent articles published by the Herald on tubercular disease and unsound meat. Dr. Klein states his opinions with great force and clearness. He points out that tuberculosis in cattle and in man is the same disease, in spite of slight differences in minor details, and that it is a disease communicable by inoculation and ingestion. He refers to the demonstrations of Professor McFadyean and others, that the tubercle bacillus is voided in the milk of cows with tubercular deposits in the mammary glands, and believes the dangers of infection of children in this way must be very great. This offers an explanation of the numerous cases of acute miliary tuberculosis in children, not derived from tubercular parents, and not possessed of any hereditary taint. Referring to the distribution of the tubercle in the body, in many cases, to so many distant organs, he points out that the only possible conclusion is that the agent of distribution is the circulating blood, and that, therefore, no part of an animal in which even a single organ is visibly affected with tubercle can be held free of the tubercular virus, and that there is danger to the consumer of any part of the flesh of the animal.

TUBERCULOSIS IN FOWL.—Sir Charles Cameron, at the meeting in April last, of the Royal Academy of Medicine of Ireland, said he had, from time to time, received dead fowls for the purpose of analysis.

They were individuals from large numbers that had died very rapidly, and, as was believed, from poisoning, malicious or accidental. No poison was found, but death was due to tuberculosis. The lungs, liver, and spleen were enlarged and much affected. In one case, where about fifty hens had died within three or four months, the deaths commenced to take place some weeks after the arrival of a consumptive patient in the house near which the hens were kept. There was little doubt that the sputa of patients affected with phthisis were devoured by fowl, and no doubt, too, the inspissated sputum, in the form of dust, found its way into their lungs. Evidence was adduced to show that fowls affected with tubercle sometimes—when consumed as food—induced the disease in man.

THE SPREAD OF TUBERCULAR DISEASE BY CONTAGION.—Dr. MacDowel Cosgrave read a paper in which he said it was probable there was no true heredity in tuberculosis. Apart from intra-uterine infection, the children of consumptives were in danger, because (a) they had deficient resisting powers, (b) because they were liable to contagion from their parents. Contagion might be caused by (1) auto-infection; this explained how unlimited fresh air sometimes cured. Dr. Weigert's treatment by inhalation of air, heated from 150° C. to 180° C., for three hours a day, was a discontinuous sterilising process. (2) From animals. The meat and milk of cows suffering from tuberculosis should not be used for food; the 400 dairy yards in Dublin should be removed outside the city. Dairy cows and meat should be regularly inspected. (3) From person to person, either directly or through families. The Registrar-General for Ireland had shown an apparent spreading of phthisis from towns to the surrounding rural districts.

DR. BIDWELL, of Levenworth, Kansas, reports a healthy boy baby, the mother of which was only fourteen years of age, the grandmother twenty-eight, the great-grandmother being forty-nine. The family is good for a couple more generations.

SANITARY "CRANKS"—WORKING AND WAITING.

THE "Sanitary Cranks" must wait yet a little while longer before the full merit and importance of their work will be recognized. But, we are good waiters: "we will patiently bide our own time, knowing that as surely as the sun rises and sets, as surely as the pendulum swings, as surely as motion is derived from steam, as surely as gaslight is now a recognized reality, and as surely as legislators do but surely reflect the sentiments of their constituents, just so surely will hygiene soon be looked upon as an essential and most important adjunct to political economy.

The pioneers of steam, of gas-lighting, of the telegraph, indeed of all the truly great and epoch-marking discoveries or departures of the world's history have been regarded as "cranks;" indeed, as a friend recently remarked it is the "cranks" that make the world move. He who follows the beaten track of those who have gone before, in an orderly quiet way, is an ordinary citizen; he who follows this track in such a way as to make himself conspicuous, is a distinguished citizen; but, he who deviates from the ancestral route, no matter how far humanity may ultimately benefit by this deviation, is a "crank."

For centuries piled upon centuries, man has been wont to maintain that disease was a "visitation of Divine Providence," subject to no law save that of the "Divine Will," and that this will was exercised arbitrarily, so to speak, causing disease to afflict mankind, because, according to religious teaching, mankind was a sinner. This view has been blindly accepted, in a mysterious, and but half-comprehended manner by those who think, while the great remainder of mankind have never even mentally asked the question as to the wherefore of disease.

But now come forward some men who tell us that we have been wrong in our understanding of disease. They tell us it is true that disease is a "visitation of Divine Providence" and that it really is meant as a punishment for sin; but they go further and tell us that "Divine Providence" has

formulated a code of natural laws, just as our legislators have set up a code of human laws, and that when we break these laws of nature, we are sinning against nature, and that the punishment for our sins is that disease shall be visited upon us. They tell us that disease processes are subject to law, and they also tell us that they already are familiar with many of these laws, and are daily gaining new knowledge in this direction.

They tell us that by a knowledge of and obedience to the laws of nature, disease can be avoided; they tell us that sickness is not the natural heritage of man, but an artificial condition brought out by disobedience to natural laws; they tell us that we have it in our power to avoid disease by proper sanitary police, just as we have the ability to preserve the peace of a community by a proper municipal police.

And after telling us all this, they, in turn, are told, by the majority that their talk is all "moonshine," that it is the vaporing of theorists and they are classified as "cranks."

So rebuffed, they do just what all other "cranks" have done before them. They work and wait; they work that the masses may be educated up to the practical value of what have been called their theories, and they wait for the inevitable result of this education. They wait, because they know that in the history of the world all cranks have been obliged to wait; they wait patiently because like all their ancestral cranks they know the truth of what they say and they know that, in the end, truth must prevail.

We have not fallen behind, and, in this fact, there is ground for much congratulation and the confraternity of "Sanitary Cranks" can felicitate themselves that their brethren of the Keystone State have had their annual appropriation of \$5,000 increased to \$6,000; the increase is not so great as to be likely to tempt us into very great extravagance; we will hardly be likely to institute investigations that will result in telling us what is the cause of Diphtheria; but, we accept this increase

as an evidence of good-will in so much as since we were not cut down, we must perforce believe that we were not regarded as an utterly and absolutely useless branch of the State Government. We would, however, ask the people of this big State not to expect too much from a Board that has so little of the "necessary" with which to work. Until our appropriation becomes adequate, we must, of necessity, act principally as "consulting cranks," and in this capacity our advice and assistance is always cheerfully at the service of the people; when we receive sufficient money and power we will become "revolving cranks," and then the disease germs will have a

hard time of it. When a Sanitary Crank "commences to really revolve it does so with a fatal and crushing precision that is very disastrous to the germs of disease. We therefore thank the legislature for what it has given us, we thank the Governor for his words of commendation in his message to the legislature and we will work and wait, trusting to hear (two years hence), from the next legislature these comforting words: "Well done, ye good and faithful "cranks," because ye have been faithful with but little encouragement. we will give ye plenty; enter into the joy of an adequate appropriation."—Annals of Hygiene.

MISCELLANEOUS NOTES AND EXTRACTS.

LEAD POISONING.—The British Medical Journal draws attention to the danger from "tin" foil. Chocolates, confectionery, fruits and many food products are wrapped in what appears to be tinfoil but it is really an alloy, containing a good deal of lead. This dangerous practice is now prohibited in France, and the tin foil destined for wrapping food stuffs and confectionery must be composed of "fine tin," that is, an alloy containing at least 90 per cent. of tin. Some Medical Journals state that lead poisoning is more common than is generally supposed.

ATHLETICS AND SCHOLARSHIP.—Professor Richards, of Yale College, says the Annals of Hygiene, has made a study of the records of 2,425 students, in order to determine, if possible, the relations of athletics in Yale to scholarship. The general result is that the athletes fall slightly behind the non-athletes in scholarship, but not so much as to demand a suppression of such exercises. In some branches of athletic exercises the students who engage in the sports are above the average of the non-athletes in scholarship.

DIPHTHERIA VS. YELLOW FEVER.—During 1888, about one-third of the cases of diphtheria which were reported in the city of Boston died. The number of deaths was 470. In last year's yellow fever epidemic in Florida only 250 deaths occurred in about 4,000 cases. With diphtheria always with us, (Sanit. Inspect) is it not about time to wake up to an appreciation of the fact that our northern scourge is worse than the southern one?

EFFECTS OF REGULAR PRISON LIFE ON J. D. FISH.—The benefit of a regular life, (meals at the same hour, "early to bed and early to rise," plain, substantial diet, regular work and all that goes to make up a life of regularity), says an exchange, has seldom received a more striking and convincing proof than in the case of James D. Fish, the ex-bank president of Grant & Ward fame. At 67 years of age he entered the New York State Penitentiary at Auburn, with his health, as he himself described it, only fair; now at over 70 years of age, he comes out with his physical condition excellent; this improvement unquestionably due to the regular life that he was forced to lead.

UNHEEDED WARNINGS.—THE JOHNSTOWN CALAMITY.—The following from the Sanitary Era, well expresses the sentiments of Sanitarians generally: The ten thousand or more victims of Conemaugh lake had been warned of their impending fate, again and again, for years. But the wise and brave citizens who stand up for the business interests of the community, who make light of uncertain calamity, and hoot at sanitary alarmists, had their own way as usual. They laughed and shamed the prudent and reasonable part of the population out of all precautions so successfully, that the flight from the flats to high ground which had taken place on former threatening occasions was completely cowed at the moment when the tremendous flood was at last actually gathering its strength over the doomed valley for the fatal spring. Few or none,

it is reported, had at this time the *courage* again to seek safety from an uncertain danger. But the uncertain danger for once became certain ! It had done so before, in a number of similarly threatened valleys, and it will do so again and again in the future, sweeping families and fortunes like driftwood to destruction— because, forsooth, out of many dams but few have been known to give way, and what is the use, men say, of troubling ourselves about extraordinary contingencies that may never happen. Hundreds of valleys lie in the same false security, satisfied with a hundred chances of safety to one of destruction ; as if the one chance of destruction were not as good as a hundred, when it comes. Hundreds of thousands of families live in like secure negligence of dangers about and within them that sweep away more lives every year than the aggregate destroyed by all the floods on record since this country was settled. Their “dam” has never burst, though sanitary alarmists have warned them so long ; and they too laugh at the calamity that has struck only elsewhere as yet. Elsewhere ! how many homes can you and I remember, reader, from which every darling has been torn in quick succession by some well or drain or cesspool or cellar that had been the subject of as many slighted warnings as the Connaught dam ! If men must be reckless of danger, let them be reckless for themselves. Let them not drag to destruction women and children whom they have made to trust themselves to their wisdom and strength for safety. Bitterer than a thousand deaths must be the reflections of survivors who now see that their foolhardiness delivered their own dearest ones to the awful doom of the Connaught valley. Reader ! are you or I such heady or needless fools as those ? Let us examine ourselves. Let us see whether or no we are possibly harboring some slighted danger that may bring calamity on homes, present or future, which will be just as terrible as the floods and flames of Johnstown were to any one of the families there destroyed. Let us also do our part to warn our neighbors in time, to frown down the sneers of the foolhardy-frivolous, and to spur on the guardians of public health to strengthen the feeble dam that checks the sweep of pestilence.

BOYISH APPETITE. — The relations between appetite and digestion is in general a fairly definite one, (Lond. Lancet). At the same time it must be allowed that this rule is largely modified by exceptions. Many persons are subject to morbid cravings to eat, which food cannot satisfy ;

and most of us know something of the appetite of idleness, of habit, or of nervous disturbance—the latter bearing a suggestive likeness to the desire for stimulants or the flagrant weed, taken to relieve mental depression. Apart from such considerations, however, there are obvious variations in the degree of normal appetite in different individuals and at different periods of life. The man of sedentary habits cannot expect to compete with one who spends a life of movement out of doors. The man and the woman differ, so do the younger and the elder, and in a notable degree, the boy and the man. The vigorous appetite of boyhood is virtually a synonym of health. A rate of daily consumption which would in most men be gluttony is in young growing lads almost too common to attract notice. The explanation is not difficult when we take into account two chief conditions of existence at this age—the growth going on in every organ and tissue, and a very liberal allowance of active bodily exertion. Under the circumstances a sparing rule of diet would be unnatural and injurious. There is, of course, a limit even in childhood which it is trite to say is often wrongly exceeded. There is no age, however, at which this form of excess is so pardonable. Whatever the surplus of food taken, most of the self-indulgent youngsters have been provided by nature with a power of disposal which may largely be relied upon to correct its consequences. Measures of restriction are most wise when they are used to regulate rather the wholesomeness of food and the times of eating than the absolute quantity consumed, It is at a later stage that we may require to apply strictly the familiar rule that one should eat to live and not live to eat. A degree of apparent Philistinism in the matter of wholesome food and drink is in the youth both usual and judicious.

LIFE TESTS IN APPARENT DEATH.—Dr. Wm. B. Clarke, of Indianapolis, has sent to the New York Medical Times the following abstract of the various tests for life as they appear in our literature : 1. Put a tight band around a wrist or just above the elbow and watch for turgescence of veins at back of hand or long the forearm, as first recommended by Magnus. (It may be enough to tie a string or rubber band around one finger.) If the wrist is used the front arteries should be protected from too much pressure by a cardboard placed under the band. 2. Open a vein at the bend of the elbow and seek for stringy coagula. If found and rigor mortis is present, this is usually considered an abso-

lute sign of death. 3. Apply the electric test for muscular contraction, as first proposed by Rosenthal, remembering that the electrical contraction may continue two or even three hours after real death, rigor mortis not having set in. Rosenthal once demonstrated contractility thirty hours after supposed death, and consciousness returned forty-eight hours afterwards. 4. Make a hypodermic injection of ammonia. If it makes a red blotch life is present. 5. Stick a pin through the skin quickly and withdraw it. If the hole closes there is life, otherwise the hole remains open. 6. Place the fingers between you and an artificial light, and close to it, and if any rosy tint can be observed there is life. 7. Do not fail to look for circulatory stains at the dependent points of a body that has lain a long time. If found, it is quite a reliable proof of death. 8. Very fine feathers may be used at the nose and mouth to detect the slightest air current from respiration, or a cool mirror for moisture, and the surface of a tumbler full of water on the chest (everything being firm and quiet), will record any chest movement. But these little procedures are useless in some cases, as there is no detectable respiration or circulation, though there is life. 9. Dr. Bowen, of Ft. Wayne, says that no one ever dies with tears in their eyes. If tears are found, as in cataleptic patients, there is life. 10. If doubt remains, let the body be kept in a damp room at 85° temperature, and this will most expeditiously bring signs of decomposition or restoration. [This last would be objectionable, inasmuch as such an atmosphere would tend to destroy any spark of life that might be still remaining.—EDITOR H. J.]

YOUR DUTY TO YOUR NEIGHBOR—The case of Horne *versus* Jessop (Montreal Medical Journal) recently tried before Mr. Justice Denman in England is interesting from a medio-legal point of view. Mrs. Horne, a laundress at Huddersfield, sent her little boy to collect an account from her customer, Mr. Jessop, having no reason to know that Mr. Jessop's daughter then in the house, had been stricken down with scarlet fever. That was on the 8th of June and on the 11th little Horne was found to be sickening. On the 11th his little sister was, under like circumstances, sent to Mr. Jessop's abode to fetch a bundle of linen for the wash, and two days after this child showed the initial symptoms of the same disease. Altogether four children were affected. The medical evidence went

to show that from the fourth to the seventh day is the common period of infection, though it was admitted that it could take place within two days, and it was urged by the defence that scarlet fever was in the neighborhood, and that infection may have arisen from other sources. Further it was contended that the linen carried by the children had not been exposed to the infection of the disease. The suit ended in a verdict, by consent, for the defendant, who was understood to have made a satisfactory arrangement with the Horne family. As Mr. Justice Denman hinted, there was much doubt and uncertainty in the case, but the lesson to be learnt is plain enough, viz., that when infectious disease occurs soiled linen must be washed at home.

CURIOUS EPIDEMIC OF "MILK TYPHOID"
—**FEBRILE DISORDER AMONG COWS:**—A very interesting account is given in Mr William Brown's annual report of an outbreak of typhoid fever connected with milk-supply (Brit. Med. Jour). Happily as regards its extent and fatality, it was comparatively insignificant; but the circumstances under which the disease originated are peculiar, and important enough to justify the publicity given to them. There was no history of imported infection, and no antecedent case of typhoid in the immediate neighborhood could be traced. The typhoid prevalence in the locality involved had for many years been relatively small, in comparison with other districts which had been held in higher repute for their salubrity. The water in use at the dairy was analysed and reported to be good, though the amount of organic matter was considered rather large for an "excellent" water. It was, however, ascertained that a febrile disorder, having a very striking resemblance in its symptoms to human typhoid, had existed among the cows at the infected dairy on several occasions previous to the outbreak among the human inmates, and the last case of febrile disorder among the cows was present about the beginning of March, just when the first death was reported as having occurred. Twenty-three cases came under notice, all of which had been supplied with milk from the infected dairy. Mr. Brown does not express a decided opinion that the milk was infected before leaving the cow. He points out that the typhoid poison may have been conveyed to the milk either from the hands or clothes of the milkers (who performed the double duty of nursing the patients and milking) or from infected house dust, etc.

IT IS SAID that ten out of twenty candidates for cadetship at West Point were recently rejected on account of tobacco heart brought on by cigarette smoking.

JEAN PAUL RICHTER says on the day of judgment God will perhaps pardon you for starving your children when bread was dear; but if he should charge you with stinting them in his free air, what answer shall you make?

ON MEDICAL EDUCATION OF THE LAITY, the New York Medical Journal says: The *vis medicatrix natura* is an absurdity to the laity; they expect the doctor to triumph over nature, or at least to pretend to do so. The same is true with regard to medication. "In the popular mind," says an eminent writer, "the practice of medicine is too closely connected with the use of drugs. . . . It is desirable for the public to understand that the proper office of the physician is to observe cases of disease, and to either prescribe or withhold remedies according to the indications. "The medical education of the laity will be complete when the truth has once been grasped. It will cause an entire change in the present attitude of the physician toward his patient. The former, instead of assuming a knowledge which he does not possess, will venture to express his honest doubt occasionally, and, while he promises less will feel that he still retains the confidence of his patient, who will understand that greater learning leads to greater humility. The conscientious beginner may then feel that success in medicine is to be attained by a frank and open expression of opinion with regard to his patient's case, instead of by adopting the method of promising everything and performing little. Let the word "cure" be less frequently on the lips of the educated physician, and it will be less often demanded by the public as the sole testimony of professional success. We shall succeed in educating our patients to take a common-sense view of medicine only when we are ourselves honest and free from pedantry. We do not try to impose superficial knowledge upon our *confrères*—why do we endeavor to deceive the laity?

DUTY OF THE MEDICAL PROFESSION UNDER THE ONTARIO PUBLIC HEALTH ACT.—In order that a Medical Health Officer may effectually do the work pertaining to his office in connection with contagious and infectious diseases,

it is most necessary that he shall have the co-operation of his confreres in general practice. There should be no conflict between the two. I am one of those, and it is not the first time I have publicly said so, who believe that a medical attendant should be engaged by the year to look after the health of individuals and families, and thereby to a great extent prevent sickness, and often preserve the life of the breadwinner. It is somewhat on the principle: in time of peace prepare for war; with the result that war does not come. In order to have this principle carried into effective practice it is necessary to have the co-operation of the public. But the public does not see the necessity of such a step, and I must say where the physician is called in only when life is supposed to be in danger, he can hardly be blamed for not voluntarily giving advice for which he may not even be thanked. If, however, he be consulted, he should make the same charge that he would if consulted for the ailments of the family. The fact is, however, that most physicians, with the philanthropy of the profession, do give advice, do often prevent a contagious disease from spreading, without receiving any return, even in thanks. The public require to be educated on this point. If public sentiment would sustain the view that the physician should be remunerated for any advice he may give, apart from the patient under his care, physicians could be required without any excuse to co-operate with the Medical Health Officer. The question as to how the public is to be educated up to the requisite point is an important one. While each physician should at all times try to inculcate the advantage of preventing over curing disease, I must say that I think those engaged, especially in sanitary work, should feel it their duty to make every effort to educate the public; and boards of health, especially the Provincial Board, should circulate such literature as will tend to that end. So far my remarks are applicable to all parts of this Dominion.—W. Canniff M. D. Medical Officer of Toronto; in a paper prepared for the last meeting of the Canada Medical Association.

ART IN SICK ROOMS. — Says Dr. B. W. Richardson, of London, in the *Æsclepiad*: In these modern days we do not confine to their rooms people who are sick for long periods common to an age of medicine which has now nearly passed away. But even at the present time we require to practice more artistic care. A sick-room should always be as agreeable to the eye

of the patient as it can be made, and every effort should be carried out to prevent monotony. The furniture should be light, easily movable, and of a cheerful color; all dark hangings and sombre coverings, when there, should be replaced by white, or light blue, or gray-colored fabrics, and the walls should be of gray or light green color. Papers of flaring colors, and papers which have for a pattern a number of rings and circles of flowers of one design, are extremely bad. I remember an instance in which the paper of a wall had for its pattern a series of circles like so many sunflowers; that paper produced in a nervous patient a sense of giddiness which led to nausea, and had a very bad effect indeed. I thought at first that the complaint made against this paper by the patient was rather absurd, but when I tried for myself the experiment of looking for a few minutes at the rings of the pattern, I actually became, against my will, subject to giddiness also, and to a sense of nausea which was most unpleasant. The fact led me at once to tear up a prescription I had written as a sedative for stomachic disturbance, and to order instead a screen which should shut off the sight of the objectionable wall, and which proved, in fact, an effective remedy. I remember another instance in which the walls of the room were covered with a pattern of a "fleur-de-lis," the shading of which, by some curious twistings, caused each flower to resemble a death's head. The patient in the night detected this singular extravagance of art, half asleep and half awake, fancied himself in a sort of crypt of skulls, which caused him a sleeplessness that lasted until the morning, and led to a bad day. The walls of a sick-room should be quite plain, and of gray or light green color, but there is no objection to cheerful pictures if they are now and then changed in position, and are pleasant to the mind of the invalid without becoming wearisome. Flowers in the sick-room are always good so long as they are bright and fresh, but they should be frequently changed, and it is sound practice to remove them during the night. Flowers which have a sickly odor, lilies, for example, should be excluded, however charming they may be to the eye. As a rule, living flowers are better than dead. Dried leaves, like pot-pourri, are bad for the sick room; they gather dust and the stale odor they emit impairs the purity of the air.

BOOK INFECTION.—In many of the European cities, an exchange says, extensive investigations are being made to prove or disprove the infectiousness of books handled by the sick, such as must of necessity fre-

quently occur in large circulating libraries. The editor of the *Christiania* (Norway) *Sanitary Journal*, in commenting on the subject, remarks that it is the universal pastime of invalids and convalescents to read or look over books, which, if not procurable at home, are brought from some library. Even children are fond of looking at picture books, and the editor relates the following personal experience: "In 1846 an eight-year old brother of my wife was taken down with scarlet fever and died. During his illness he frequently amused himself by looking over a large picture book. This, together with several other of his useful playthings, was packed away in a trunk after his death. Twenty-six years afterward, in 1872, a sister-in-law of mine journeyed across the channel to England, where I was then residing, and with her came the chest and picture book. On the second day the chest was opened, and the book presented to my two-year old son. Within the next two weeks the little fellow was taken down with scarlet fever. The doctors who were called in consultation wondered how the disease was contracted, as there had been no scarlet fever in the town for years. The circumstances of the book were called to mind, and the indications were clearly that the twenty-six year old book had retained the poison and communicated it to the child." The process of disinfection now in use in Denmark and Norway, in many of the circulating libraries and book stores, is a good one, and it is claimed to disinfect the books without damaging them in the least. It consists in placing the books fully opened out in a suitable compartment, and subjecting them to dry hot steam at a temperature of over 100 deg. C. for several hours.

FOUR UNBROKEN GENERATIONS.—From the *Lewiston Journal* we learn that James Scribner, of Waterboro', Me., is now in his ninetieth year, and his wife is nearly of the same age. The couple have been married sixty-five years, and have three children living, the oldest of whom is upward of sixty years of age. These children have children and grandchildren, and the remarkable fact is that no death has ever yet occurred in the line of the descendants from Mr. and Mrs. Scribner to their great-grandchildren.

THE CIGARETTE CURSE.—During the discussion of the bill mentioned by us (Am. Analyst), last week as having been passed by the Michigan Legislature prohibiting the sale of cigarettes to minors, the Superintendent of Schools in Lansing, in co-operation with the Woman's Club of that city, sent out circular letters to all the prominent educators of the State—persons whose daily contact with the young would enable them to observe the extent and effects of the tobacco habit. Between two and three hundred replies were received, and two-thirds of them—notably those from the cities and larger towns—reported a startling increase in the use of cigarettes by youths. In answer to the question, “Can you cite instances of serious disease or failure in school work caused by the use of cigarettes?” nearly all replies noted serious failure in the work, and many gave answers similar to the following: “One young man seriously dwarfed physically.” “One boy in this school only eleven years old is almost an idiot from the use of tobacco and beer.” “One boy recently lost two weeks’ work from throat trouble caused by the use of tobacco.” Another reports two very serious cases where the whole nervous system was seriously deranged. The expressions “Lost his mind from the use of tobacco,” “A total wreck,” occur frequently in the testimony of the teachers. One prominent superintendent wrote: “The death of two boys formerly in my school is to be attributed to this villainous habit, and at least half a dozen others have impaired their physical and mental growth fully one-half.” In answer to a question relative to the evil effects of the habit noted upon health, progress in study, and morals, the general drift of the replies states that it intensifies nervous diseases, causes diseases of the throat, brain, heart, ears and eyes, epilepsy and fits and muscular debility, stunts the growth of body and mind, and leads to failure of memory. As to its effect on progress in study, all are agreed in having noted incapacity, lack of animation, and inability to do successful work, and that it is directly antagonistic to morality. It is gratifying to call attention to the fact that the States of Massachusetts, Illinois, Maryland, Nebraska, New Jersey, and New Hampshire have all enacted laws similar to the Michigan bill.

CARRY YOUR OWN SOAP.—“Among travelling men,” said a physician recently, “at least one in fifty has a skin disease of a more or less serious nature, and its cause

may often be traced to hotel soap. Every person who has had occasion to be a hotel guest, no matter where, is familiar with the much-worn cake of soap that lies in wait for him on the washstand, sometimes in a not over-clean soap dish, and frequently glued to the cover of the stand, according to the whim of the chambermaid. You haven't the slightest idea in the world who used the soap last, and very few persons ever gave the matter a thought. It would be an easy-going individual and one singularly indifferent to considerations of cleanliness, who would for a moment think of using a towel that might have been used by the previous occupant of a room at a hotel, but the instances are rare where the same guest will hesitate to use the soap he finds in the room. [When you forget to take it with you, as we have forgotten sometimes, wash and rinse well the piece in the hotel before using it.—Editor: H. J.]

REMARKABLE RESULTS OF SANITATION.—Von Pettenkofer recently drew attention to the remarkable diminution of typhoid fever mortality which at once ensued in Munich upon the completion of the drainage of that city. His statistics and conclusions awakened such general attention, that Professor von Ziemssen has been induced to supplement them by an examination of the typhoid morbidity of Munich from 1866 to 1887, in order to compare it with the typhoid mortality. The former is thus approximately estimated. The records of the Munich hospitals as regards the typhoid mortality, if the expression may be allowed, go back to the year 1866, and, as with all infectious diseases, there is a fairly constant ratio between the morbidity and mortality, the latter being about a third of the former, as shown by the hospital records. Hence the number of deaths from typhoid in the whole city has only to be multiplied by three to give the number of cases. This has been shown to be true in some cities—for example, Dresden. But the compulsory notification of infectious diseases first took place in Munich only last year, when the number of typhoid cases was 202; and the experience of one year being insufficient, the above mode of estimation is better. Now the hospital morbidity from typhoid in Munich from the year 1866 onwards to 1880 is as follows:

1866.....	816	1874.....	656
1867.....	207	1875.....	537
1868.....	323	1876.....	338
1869.....	636	1877.....	723
1870.....	754	1878.....	493
1871.....	396	1879.....	853
1872.....	1,097	1880.....	492
1873.....	610		

In the year 1880 the city drainage was completed, and the typhoid morbidity in hospital from thence onward runs thus :

1881.....	99	1885.....	137
1882.....	81	1886.....	96
1883.....	127	1887.....	114
1884.....	91	1888.....	94

In the very next year, therefore, after that completion, only 99 cases of typhoid were admitted into hospital, while for the year before the number was 492. This sudden diminution must strike the most superficial observer. The yearly average before 1881 was 594, after then it was only 104, in other words, nearly a sixth. Moreover, the great increase of population in Munich must be borne in mind, showing a rise

from 152,000 in the year 1866 to 278,000 in the middle of last year. Reckoning the hospital cases per thousand of population, the yearly average before 1880 was 3.32 ; after that year it was only 0.42. Now as regards the typhoid mortality of the whole city. From 1866 to 1880 this amounted in all to 3,118, with a yearly average of 208 ; but from 1881 to 1888 there were only 324 deaths from typhoid, showing a yearly average of only 40 ! The mortality per 1,000 of population for the former period was 1.15, for the latter 0.16. In 1887 the deaths were only 28, while in 1888 there were 37 deaths, in a city of 278,000 inhabitants. This mortality is exceeded in many cities of only one-sixth this population.

THE TRUE TEMPERANCE.

AN OPEN LETTER FOR "PROHIBITIONISTS."—BY THE EDITOR.

Now that Scott Act prohibition has been so generally condemned in Canada by popular vote, it appears to be an opportune time to again endeavor to turn the attention of the many who have labored so arduously in favor of prohibition in regard to alcoholic beverages, as a remedy for intemperance with its attendant evils, from their narrow view of intemperance and its causes, toward the deeper rooted causes of the too common desire in mankind for stimulents and intoxicants and the two common want of a self control in regard to the use of these substances, so dangerous to those lacking in mental and physical stamina. When one looks deeply down into the prime sources of this inordinate and universal desire, and want of self control when opportunity offers means for gratifying the desire, and thinks of the ease and frequency with which nature forms alcohol, ready for imbibing, from nearly all the fruits of the earth, and at the same time glances over the long list of intoxicating stimulants now obtainable in civilized countries, one could weep to think over the vast aggregate of time and energy and money which have been spent in vainly endeavoring to suppress this *one* universal, biblical product—alcohol—the abuse of which has unquestionably been a most terrible evil ; weep, because that, had this same amount of time, energy and money been devoted to the eradication of the much deeper rooted causes,—causes born with man or developed by the ever recurring mistakes of civilization. yet, causes practically eradicable with properly

directed effort, already might have been accomplished results glorious to contemplate.

While temperance has doubtless been greatly promoted by the temperance people in their efforts limited toward "moral suasion," and even the efforts toward prohibition have not been altogether fruitless of indirect good amid the direct evil, the latter—the attempts to force temperance by legal enactments, have plainly resulted in comparative utter barrenness ; as many liberal minds taking a comprehensive view of the great question—of the total of man's tremendous inherent force when exercised toward gratifying desire, whether for good or for evil, have ever predicted. I will not now discuss any possibilities of prohibition, nor the good and evil which might result from a general prohibitory law as relating to alcoholic beverages, but clearly, were the manufacture of all alcoholic spirits successfully abolished, the deep rooted causes of intemperance would still remain. Nor will I enter in detail, nor at length, into these causes, but only name the chief of them. They are primarily, for the most part, improper food, foul air and want of personal cleanliness. These in past times too have at once begotten a hereditary desire for stimulants and also a want of self control in their use ; and together with much want of parental check and restraint they have left thousands of the human family the victims of a morbid desire too strong to be combated by their weakened moral efforts. It is not the alcohol. If alcoholic

spirits were not, these desires would be more or less gratified with some other of the many sorts of exhilarating intoxicants, all of which are more dangerous and terrible than the one sought to be suppressed.

Who are they who become intemperate? Not the well constituted, healthy and vigorous, nor those who have constant access to alcoholic beverages. But on the other hand, they are those who labor under acquired or inherited physiological defects. Whence these defects? Whence but from unhygienic conditions, in a past or the present generation? Pure air, good wholesome food and personal cleanliness are the great essentials of health and life, and want of these is I am convinced the deep rooted cause of much the greater proportion of "dram drinking," from causing a want of true physical vitality with a desire for stimulants. I must not omit to mention another cause—a cause of lack of stamina and a desire for stimulation, and that is, the depressing life destroying effects of that poisonous tobacco.

What are the remedies? They are obvious. Healthful vigor in the very cell elements of the organism, the loss and want of which gives rise to the irrepressible desire for stimulants and exhilarants, must be promoted and restored, and along with this, at the same time, must be developed, a moral self control, weakened—lost, by this very want of physical life.

Most marked effects in increased health, vigor and happiness of the pupils have resulted from the introduction of the bath into the public schools in England and Germany. In prisons, equally marked improvement has followed the bath, massage, exercise and a special diet for the worst criminals. In a few months, the stooping, shuffling gait of the prisoners has given place to an appearance of alertness and vigor, and the faces have developed into brightness and intelligence, while the average marking for school-work, shop-work and conduct nearly doubled—under the hygienic regimen. This has been clearly demonstrated in the New York State Reformatory at Elmira (Report of B'd of Manag., 1887), and referred to by Dr. Emily White, in an article on "Muscle and Mind," in the last Popular Science Monthly.

The advantages of hygienic physical culture and training in developing mental stamina and capacity are not confined to the less intelligent and criminal classes. Inquiries extending over a period of forty years, by Dr. Maclaren, Direc-

tor of the Oxford University Gymnasium, in relation to about three hundred members of the Cambridge and Oxford Crews, show, mainly from cultivation of muscle, an increase among the members of not only energy and executive power, but of fortitude in enduring disappointments, privations and trials. And the want of fortitude, it is well known, drives thousands to the intemperate use of stimulants.

Correspondingly good results, would soon follow the introduction of pure air and appropriate, wholesome, well cooked food, along with the bath, into many a dingy poor man's cottage home or tenement. From such home the working man, and often his wife and grown up children, go out to the "dram shop" for temporary relief from the vital depression caused by bad air and food, a dirt obstructed skin and tobacco. It is not the "dram shop" that has begotten the desire for stimulation, but the want of stimulation has begotten the "dram shop." The saloon is the haven evolved by the mistakes of fallible man in his civilization, and by the division of labor, for providing a too common want. It is not alone in the crowded cities of Europe that the bath, pure air and suitable food are wanted. On this continent, in Canada, one has but to go into a public school and exercise his sense of smell in order to be convinced of the necessity for the more frequent washing of the skin and clothing of the pupils; to go into the tenement or cottage of the laborer to be impressed with the need of fresh air and sun light; or into the kitchen to see the great necessity of properly prepared food. Thousands upon thousands suffer in their homes from want of these absolute essentials of life, without which man cannot be man nor woman, woman.

Let me suggest that every "temperance" society and organization be transformed into a health association for providing the essentials of good health to the thousands in want of them. Pure air and water and food being abundant everywhere, their right application is chiefly all that is needed. The promotion of temperance—the stamping out of intemperance, is mainly an educational process. It is a process that must be applied to the growing generation. Instead of erroneously called "temperance" school books in the schools, provide health primers. And while baths and fresh air in dwellings in cold weather cost something, enough to procure them might be saved by the more economical cooking and preparation of foods. EDWARD PLAYFAIR.

EDITOR'S SPECIAL DEPARTMENT.

THE question of the inter-communicability of tuberculosis and other specific diseases between mankind and the domestic animals is attracting more attention at the present time in the sanitary world than probably any other subject; while no other subject is perhaps of greater importance. Elsewhere we give notes on recent facts, etc., relating to tuberculosis. We have just received, in the *New York Medical Journal* of 8th June, a valuable report by the pathologists to the New York City Board of Health, containing the sum of the scientific discoveries and recommendations relating to tuberculosis and its prevention, that have been made during the past year. The same journal, of June 15, gives a lengthy paper recently read before the New York Academy of Medicine, by Dr. F. F. Brush, on the "Relationship between human and bovine tuberculosis." From both of these we propose to give copious extracts in our next issue. Dr. Brush contends that the prevalence of consumption is regulated in a country or locality by the rate of the bovine to the human population and that the disease like small-pox is primarily of bovine origin.

THAT DIPHTHERIA may be conveyed to the human organism from animals there appears to be now no doubt. Dr. Robinson, in a report to the sanitary authorities of the East Kent Joint Committee, writing on the communicability of diphtheria, says: At one isolated farmhouse the disease was concurrent with disease amongst the farm stock, with this further coincidence that, on the occasion of a prior outbreak of the disease at the same house, the cattle were also concurrently affected. The first case in another out-of-the-way hamlet was that of a boy who had been feeding dogs with the carcase of a diseased cow. In one outbreak there was a sudden explosion of the disease confined almost, if not entirely, to the consumers of milk from a particular dairy; and, on inquiry at this dairy, it was found that three cows had been ill, two of which had been disposed of by slaughter. At another locality where the outbreak was limited to two children in the same family, the father of the children had previously had care of a horse suffering from ulceration of the nostrils. Experiment has demonstrated that diphtheria can be communicated to the lower animals, and, if conveyance from the lower

animal to man occasionally takes place, some of the isolated outbreaks, hitherto unaccounted for, many have risen in this way.

IT IS WRITTEN in an old hymn that there are, "Dangers and disease through all the ground," etc., and truly, so common are the causes of accidents and disease that eternal vigilance is the price we must pay for safety. But such vigilance as thus implied, would save many, many valuable lives and would "pay." The Jews made no mistake in that "except they washed they ate not." It was a sanitary ordinance with these ancient people. In handling money, especially of paper, door knobs, banisters, car straps, and a hundred things that everyone must frequently touch, there are chances innumerable of picking up germs of typhoid, scarlatina, diphtheria, smallpox, etc.; and these germs may in many ways be conveyed into the mouth or the blood. In this way too we may account for outbreaks of infectious disease the origin of which is inexplicable in any other way.

THAT LOATHSOME DISEASE syphilis may be communicated through the medium of a spoon, a pencil, a cane, a cigar, a kiss, the dentists' instruments, etc. Nine cases of syphilis of the finger, says Dr. Otis, in the *Ohio State Journal*, I published several years since as occurring under my own observation, and I have seen others since that time. Besides this, I have seen at least double that number of cases of syphilis where no possible trace of the source of contagion could be ascertained. A tumbler, or any article in common use, defiled with the secretions of a mouth, harboring a mucous patch, coming in contact with a crack or abrasion of the lips of a healthy person, may communicate syphilis through a resulting lesion which may pass away unnoticed. Any similar contact with the blood of a person in the active stage of syphilis will communicate it. Even at the communion table one may receive the infection from the wine goblet.

POISONING from lead and arsenic is probably much more common than is generally supposed. The *British Medical Journal* says: Dr. Brown, med. officer, Bacup, in his report to the Health Committee, stated that cases of lead poisoning had been very common during the past twelve months, and had been associated with both

public and private water supplies. Lead service pipes were now being replaced by iron, and in future the connections would be of galvanised iron with short lengths of tinned lead pipes. The contamination of the water with lead was entirely avoided by the use of wrought iron glass-lined pipes, the cost of which was reasonable, being only expence per foot for half-inch diameter. This he recommended when the water was very soft and pure. Much of the lake and river water in Canada is of a soft character, and no doubt often acts upon and dissolves more or less lead from service pipes.

DR PUTNAM recently reported to the Boston Society for Medical Improvement, the notes of twenty-five cases of chronic arsenic poisoning ; one of which was observed by the author himself is fully recorded. The series is a valuable addition to the present knowledge of the symptomatology of a condition which is often very difficult to diagnose. Dr. Putnam specially directed attention to the comparatively frequent occurrence of albuminuria, and asked whether arsenic might not occasionally set up a chronic nephritis. Professor Wood mentioned a case of temporary albuminuria, occurring in a lad about 15 years old; so that arsenic it would seem, may be one of the often overlooked causes of the albuminuria of adolescents. Another set of symptoms, the significance of which as evidence of arsenic poisoning, is often overlooked or ignored—numbness, formication, muscular weakness, and altered electrical reactions. In Dr. Putnam's case the loss of muscular power, as measured by the dynamometer, was very marked. In several of the cases insomnia was a troublesome symptom ; in others, neuralgia ; and in others, again, great irritability of temper. Sore throat was often observed, inflamed eyes less often. Derangement of digestion was not always present ; the most characteristic conditions seems to have been colic, followed by diarrhoea.

DR. HILLS, Assistant-Professor of Chemistry at Harvard, states that the number of wallpapers imported into the United States which contained a dangerous amount of arsenic was rapidly increasing ; the smallest amount he had known to produce symptoms was one-third of a grain, estimated as white arsenic, to the square yard of paper. Not long ago we observed it reported that fewer arsenical colorers are now used, however since so much attention has been given to this sort of poisoning, than were formerly used.

A CASE of infection of an infant through the milk of a tubercular nurse is reported by Dr. Steigenberger, of Buda-Pesth (in *Pesth. med. chir. Presse*). An infant, aged five months, of healthy parentage, developed cascating cervical, glandular abscesses, of a distinctly tubercular kind. Microscopical examination verified the macroscopical diagnosis. Inquiry elicited the fact that the infant had been nursed, for a period of four weeks, by a woman who had to be discharged on account of phthisis, with abundant expectoration. The etiological relationship was thus clearly established.

IN REFERRING to this case the Medical Record says : The infection of human beings through the milk of tuberculous animals has been repeatedly shown . . . but, so far as we are aware, this case is the first instance in which this method of transmission has been actually observed to occur. However probable it is that the milk was the source of the infection, it is possible the child may have been infected through the lungs from inhaling the infection in the expired air of the nurse.

A CASE in point was reported in this JOURNAL five or six years ago which may be repeated in brief in this connection with profit. It was first reported by Dr. W. J. Wilson, of Richmond Hill, Ont., to the Canadian Practitioner, Aug. 1883. B. W. aged four months ; family history good, and no trace of phthisis or syphilis discoverable in either family. Had had no previous illness, was plump, fat, and well nourished. The mother was forced to wean the child when about a month old, and it was fed on cow's milk from a bottle, and thrived well for a time, having no digestive troubles. It was attended by a nurse, who was well advanced in consumption, and had free expectoration. The child slept with the nurse, and consequently was much exposed to her breath. Nothing unusual was noticed in the child's condition for the first three or four weeks after the nurse's arrival, when it began to lose flesh and cough slightly. This cough and wasting gradually increased, and finally Dr. Wilson was called in. On examination he found well marked and far advanced phthisis, with frequent cough and great emaciation. The child died in its eighth month, three months after the first symptoms were noticed. The same nurse, who later on died of consumption, attended five other children, and four out of the five died of some wasting disease, but as Dr. Wilson did not see any of them he was unable to state its nature.

WHAT is to be done? What is every body's business is, it is said, nobody's business. While every body must be in a measure on guard in order to avoid causes of disease as far as possible, there must be abundance of vigilant health or medical officers their sole duty being to look after the public health interests. Nearly every civilized country has provision of this kind—except Canada, in which only a few of the provinces have endeavored to meet the want. The British Medical Journal (of April 6-89) refers in terms of praise to the recent public health Legislation in Italy. The Italian Public Health Act, that journal says, though it will doubtless be amended, or amended from time to time, is no tentative or patchwork legislation, and in several of its main features might well serve as a model for English statesmen. The most important of these is the association with the administration of the public health of a number of cognate and collateral subjects which in this country are distributed among several independent departments; such as medical relief, the contagious diseases of animals, the practice of pharmacy, and adulteration of food.

IN Italy boards of health, composed exclusively of experts are to be appointed by the crown, in each of the sixty-nine provinces, the prefects presiding. Attached to the ministry of the interior will be a larger central or general board, similarly constituted, with which will be associated the heads of the medical departments of the army, navy, and mercantile marine, and the agricultural, statistical, and other offices. The provincial boards, nominated by the crown for three years, comprise three physicians, an engineer, a veterinary surgeon, an analytical and a pharmaceutical chemist, a lawyer, and a member selected for his administrative experience. Attached to each board, as its advertiser, will be the provincial medical officer appointed directly by the crown for life, and debarred from private practice; in every commune the provincial board will select one of the resident practitioners as local medical officers of health. The appointment will be for triennial periods, but the constitution of the boards affords a sufficient guarantee that the power of removal will not be abused as it is in England. The duties of the provincial medical officer will be administrative rather than executive. This scheme is diametrically opposed to the English notion that in any department, legal matters always excepted,

impartiality, efficiency, and economy, are best ensured by committing the control and administration to men who know absolutely nothing of it, and placing such executive officers as do, wholly in their power.

OBSERVATIONS AND ANNOTATIONS.

IN Montreal it costs, according to an exchange, \$43,000 to destroy by fire a year's miscellaneous refuse, by cremation and \$8,000 additional for the burning of its night-soil. The destruction of the latter costs 75 cents per ton.

IN Minneapolis it is estimated that 15 to 20 cents per ton of refuse pays for the labor employed and the fuel used.

IN Milwaukee, Wis., the cremation of garbage was to be stopped on May 1. A company has been formed, it is said, who will, by a new process, transform the refuse into marketable articles. The garbage is placed in mechanical dryers, where, in the course of about ten hours, it is reduced to a brown powder. The oil contained is then drawn off, while the powdered garbage will be used as a fertilizer.

A NEW WAY to put the "Penny Wise and Pound Foolish" saying is given in the Sanitary Era: Rather penny foolish and pound foolish both—people who stagger at two or three dollars per million gallons to purify a bad water supply for which they already pay fifty or a hundred dollars per million without thinking of it! It is said that the Croton water with all its regular impurities and worse occasional possibilities, costs the city of New York about \$98.50 per million gallons, while for the round hundred it could be delivered in a state of practically absolute purity. Boston pays \$60 for bad water, but would not pay \$63 for a perfect article. Hoboken pays \$75, and East Newark and Bayonne \$100, according to the same authority. But it seems to make no difference how much or how little a water supply costs: the smallest addition for the purpose of making it healthful arouses always the same niggardly resistance in influential quarters.

THE ANTI-VACCINATIONISTS have at length succeeded in obtaining a Royal Commission to investigate the whole question, pro and con, of vaccination. The following are the names of the Commission given by Mr. Ritchie in the House of Commons on Monday, May 27:—Lord Herschell, Chairman; Sir J. Paget; Sir C.

Dalrymple, M.P.; Sir W. G. Hunter, M.P.; Sir E. Galsworthy, Chairman of the Metropolitan Asylums Board; Mr. Savory, President of the Royal College of Surgeons; Mr. Bradlaugh, M.P.; Dr. Bristowe; Dr. Collins; Mr. Dugdale, M.P.; Professor Michael Foster, Secretary of the Royal Society; Mr. Jonathan Hutchinson, Mr. Pictou, M.P.; Mr. Whitbred, M.P.; and Mr. Meadows White, Q.C. The constitution of the committee evidently aims, and with success we think, the British Medical Journal says, at the representation of conflicting opinions on the scientific questions involved, and the principles of administration to be discussed.

GREAT results from a pinch of reform. In 1862 the population of the city of Edinburgh was 170,000, the deaths 4,661. In 1886 the population was 217,400, but the deaths were only 4,149—a fall of death-rate from 26.65 to 19.62 per 1,000; and the change took place mainly in the diseases most influenced by sanitary precautions—the zymotic class.

A NEW WAY for preserving human bodies by compression is mentioned in the N. Y. Medical Times. A Pittsburg physician has applied for a patent on the process. By curious combination of steel presses and hot rollers, he excludes all the moisture and reduces a full-grown body to a very small size, twelve by fifteen inches, rendering it as hard and imperishable as marble. It is thought that the process will supersede cremation, as bodies thus preserved are not only inoffensive, but can be made to assume various ornamental shapes and be kept in the parlor or elsewhere as constant reminders of the departed. The doctor has on his centre-table the remains of a child pressed into the form of a cross. It resembles the purest marble, is highly ornamental and is perfectly odorless.

WHEREVER the eucalyptus tree has been planted and grown in large quantities, it is said that entire exemption from mosquitoes has been secured, although within a mile or two of the trees these insects were swarming in clouds, and almost devouring unprotected victims.

SIR WILLIAM GULL says that when fagged out by professional work he recruits his strength by eating raisins, and not by drinking wine or brandy. To the *rest*, while eating the raisins, should be given a large share of credit of the recruiting. A small glass of wine would be much more acceptable to many stomachs than

even a few raisins, although they are wholesome food for vigorous stomachs.

SOMETHING FOR EVERYONE.—In the days of persistent office seeking when Abraham Lincoln was President, he was taken ill, and the physician told him he had varioloid. "Good enough," said Lincoln; "I've something now I can give to everybody."

AFTER one is rescued alive from complete immersion in water, it is always desirable to give close attention for a time that death shall not follow from exhaustion, shock, etc. The death of the valet of Prince Jerome Bonaparte, after he was rescued alive from the waves during the loss of the *Comtesse de Flandres*, is a case in point and will serve to remind the public of this fact, sometimes overlooked. Castel was elderly, and simple exhaustion probably proved fatal. Ziegler pointed out some time ago that a deep-red coloration of the skin, when it occurs in an exhausted bather, is a sure foreteller of coming syncope. This condition should put friends and assistants in such cases as indicated, on their guard.

EXTENSIVE OBSERVATIONS have been made by Dr. Lucy M. Hall, who recently delivered a lecture before the Academy of Anthropology in New York on "Sanitation in the Country." She has examined over one hundred and fifty country houses in the East and in the West, and gives it as her opinion that the country house is not the healthful place it is usually supposed to be. She has robbed country life of much of the charm with which people in crowded cities have robbed it. A vacation in the country, according to her opinion, is not assured of the promises of health with which many bent on a summer outing regard it. She has found disease and death lurking in the vine-clad cottage and in the cool retreats of the shaded dwelling. This state of affairs is produced by the ignorance of hygienic laws and their violation. Among the evils found to exist are improper drainage, uncemented cellars, failure to ventilate sleeping apartments, exclusion of light, too much shade about the house, and the improper disposal of kitchen refuse.

STRICT POLICE MEASURES against consumption have been instituted in Germany. The studies which Dr. George Cornet has made, under Dr. Koch's guidance, on the propagation of tubercle bacilli, has proved, as we have al-

readily noted, that the spread of consumption is largely due to the circumstances that the sputum of consumptive patients, which always contains tubercle bacilli, floats about in the air after being dried and pulverized, and is inhaled by healthy people. The president of police has therefore ordered that all consumptive patients in hospitals and elsewhere shall be kept isolated and forbidden to expectorate on the floor or into their handkerchiefs, but only into vessels partly filled with water; that the sputa shall be removed in a wet condition; and that their clothes and linen shall be thoroughly boiled and disinfected.

IN CHINA, ADELE M. FIELDE states, in the *Popular Science Monthly* for July, food averages little more than a dollar a month for each member of a farmer's family. One who buys, cooks, and eats his meals alone, spends from one and a half to two dollars a month upon the raw material and fuel. Two pounds of rice, costing three and a half cents, with relishes of salt fish, pickled cabbage, cheap vegetables and fruits, costing a cent and a half, is the ordinary allowance to each laborer for each day. Abernethy's advice to a luxurious patient, "Live on sixpence a day and earn it," is followed by nearly every Chinaman. One or two dependent relatives frequently share the sixpence.

DR. FORDYCE BARKER, of New York, asserts, as the result of constant research on the subject, that cancer is not a hereditary disease.

CITIZEN (to physician)—I say, doctor, do you know anything about Brown's financial standing in the community. Is he prompt? Physician—Well, all I know is that I have been his family physician for seven years, and he's always paid me; and a man who will pay his doctor's bill will pay anything.

NOTES ON CURRENT LITERATURE.

THE ILLUSTRATED LONDON NEWS, (American edition, Potter Building, N.Y.) taking it altogether the best weekly in the world, has given illustrations during the last few weeks, among others are the following subjects, with descriptive text: "My Old Regiment," full page; "A Game at Chess," also full page, capital; numerous "Sketches from The Art Exhibition"; and of the "Looshai Expedition," very interesting; "Bird's-eye View of the Paris Exhibition Buildings and Grounds," double page; "The Hurricane at Samoa on the morning of March 16th," double page; and "Sketches

in the Samoa Islands"; "Queen's Drawing-room Day, Yeoman of the Guard in the Mall going to Buckingham Palace," full page; "A Spring Cleaning," somewhat startling; "A Princess of Cyprus," very fine, double page; "Converting a Radical," very suggestive, full page; and "Life on Board a Man-of-war, Sunday morning service," double page.

FOLLOWING upon the July chapters of "The Life of Lincoln" there will probably be only six more installments of this remarkable history in the Century series. It is said that these concluding chapters deal with the most important and absorbing personal and political topics, to which Messrs. Nicolay and Hay bring a vast fund of special information. Lincoln's sagacity in dealing with men and measures (and occasionally his humour) come out in strong relief.

THE PUBLISHERS ANNOUNCE that the back numbers of *The Century* from November, 1886, containing the installments of the *Lincoln History* are now all in print and can be supplied to those who wish to complete their sets. Of several of these numbers two hundred and fifty thousand copies have been printed.

MR. W. J. STILLMAN, the art critic, writes to the *New York Evening Post* that M. Hébert, Director of the *Académie Française* at Rome, "one of the most thoughtful of modern French painters, and perhaps the best representative still living of the great poetic French school of art," says of Mr. Cole's engravings now appearing in the *Century Magazine*, that "he had never seen such work on wood, and did not suppose wood-engraving to be capable of it."

IN THE *POPULAR SCIENCE MONTHLY* for July, thoughtful essays and interesting descriptive articles are happily mingled. Prof. W. G. Sumner, of Yale, opens the number with a discussion of the question, "What is Civil Liberty?" in which he reviews the earlier ideas of civil liberty, and points out the dangers which now threaten it. In "Muscle and Mind," Frances Emily White, M. D., points out the connection between physical and mental activity, giving accounts of the use of physical training in improving the mental condition of an idiot boy, and of criminals, with portraits of the boy at different stages of his treatment.

"CHRISTIANITY AND AGNOSTICISM" is the title of a further reply to Prof. Huxley, by Rev. Dr. WACE, in *The Popular Monthly* for

July. In this paper Dr. Wace undertakes to show that his opponent's latest arguments are evasive and involve numerous fallacies; he also courteously criticises Mrs. Humphrey Ward, whom Prof. Huxley had cited with approval. What man has done and may do to lessen or increase the abundance of those food-fishes that have the wide ocean for their home, is told in an article on "THE ARTIFICIAL PROPAGATION OF SEA-FISHES," which Prof. W. K. BROOKS contributes to the July number.

GOOD HEALTH for June is a good number. The second installment of Dr. Oswald's "International Health Studies" is an illustrated paper on France. Kate Lindsay, M. D., has a good paper on "Dress in Relation to the Muscular Development of Women." The transatlantic article, also by the Editor-in-Chief, "Health-Observations in England," is profitable reading. The paper on "Vegetable Soups," by Mrs. E. E. Kellogg, A. M., will do much toward correcting false ideas concerning vegetarian diet,

and the soup itself, carefully prepared according to her directions, will do still more. \$1.25 a year; single copies, fifteen cents. Good Health Publishing Co., Battle Creek, Mich.

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