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Vol. 8.

# MAN

A

POPULAR JOURNAL

OF

PUBLIC AND INDIVIDUAL

HEALTH

AND

MENTAL AND PHYSICAL

CULTURE.

EDITED BY EDWARD PLAYTER, M. D.,

ASSISTED BY AN ABLE STAFF OF CONTRIBUTORS.

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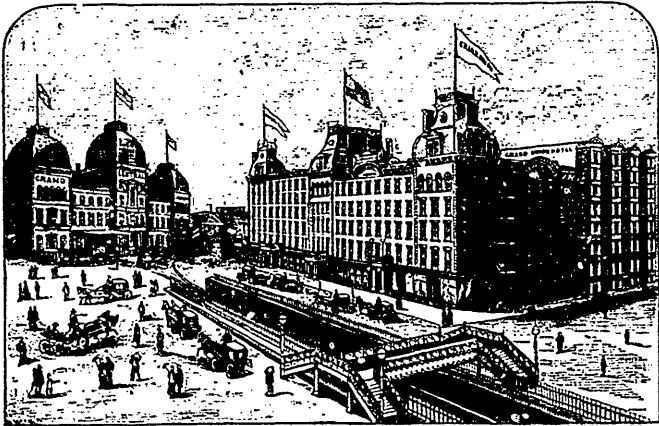
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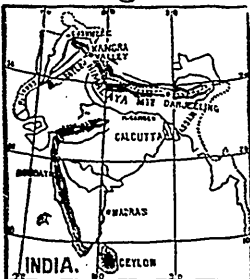
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# MAN,

## A PUBLIC HEALTH MAGAZINE.

Vol. I.

MAY, 1886.

No. 7

### EXPERIMENTS IN DISINFECTING SEWERS.

BY O. W. WRIGHT, A.M., M.D., MEDICAL HEALTH OFFICER OF DETROIT. READ BEFORE THE AMERICAN PUBLIC HEALTH ASSOCIATION, WASHINGTON, D.C.

WHEN the secretary of the American Public Health Association requested me, some weeks ago, to prepare a paper for this meeting, I responded that I would contribute an account of some experiments in disinfecting sewers.

Last year, it happened that rather strong reports in the newspapers of the rapid spread of cholera in Europe created public alarm, and the Common Council of the city of Detroit was suddenly aroused from its customary lethargy in regard to sanitary matters. The result was that a special appropriation of \$2500 was made from the contingent fund, to be spent by the Board of Public Works, under the direction of the health officer, to clean up the city. Considering the facts that no appropriation for years had been made to clean alleys; that no provision had ever been made for removal of garbage; that the sewer-system is among the worst, and that the area of the city was then over thirteen square miles—since increased to about twenty square miles—it is quite obvious that we experienced no difficulty in finding ways to spend the sum placed at our disposal. As the good citizens of Detroit, actuated by the common dread of pestilence, and always contriving to keep their city looking tidy, even under circumstances of negligence by the municipal legislature, set themselves to cleaning the alleys, each one the little section adjoining his own premises, and to removing all filth and garbage from their back yards; as the Health Department had been for some time busy making house-to-house visitations and ordering the removal of all accumulations in vaults and the drainage of lots and basements befouled with stagnant water; as the Board of Public Works vigorously bestirred itself in cleaning streets, our special work, in pursuance of the extraordinary appropria-

tion, seemed to be narrowed down to some care for the filthy and dangerous public sewers.

Detroit has no regular sewer system. The city is traversed by more than a score of great conduits, from four to eight feet in diameter, from two to seven miles in length. Most of them empty into the river submerged; consequently the dead water sets back in them from 1000 to 5000 feet. At their lower ends they are ordinarily choked with sediment, which is sometimes partly washed out in great storms. The submerged mouths are pretty effectually tapped, making these huge conduits receptacles for vast volumes of sewer gas. A rapid increase of water in the big sewer, during a summer shower, has sometimes caused such internal pressure of the confined air as to throw off covers from manholes in the streets. The effect on traps in the drains of houses can be easily imagined. The lateral sewers are constructed of common porous brick, thrown together by cheap workmen, and are all twenty inches in diameter, whether designed to drain five acres or fifty acres. Sewer empties into sewer, frequently at right angles, sometimes at the top, sometimes at the bottom. Now and then a large sewer is connected with a smaller one. Here and there depressions allow the sewage to become ponded and undergo putrefactive decomposition. In places the constructors have evidently expected water to run up-hill, in obedience to the wishes of a favored contractor. Recently more than twenty large saw-logs were extracted from a single sewer, fifty or sixty rods back from the river. More than 10,000 vaults are connected with the sewers, for the most part by means of eight-inch clay or cement pipe, laid without tight joints or traps. No wonder Detroit has annually more than 1000 cases of diph-

theria. Doctors there used to tell the people that they had the best sewer system in the world, and that their city was the healthiest in the United States.

Notwithstanding the fact that two medical men descended into one of the great sewers, remained there, to use their own language, "twenty-four consecutive minutes," and not only came out alive, but announced to an expectant public that the air therein was "chemically pure," I determined to disinfect the 200 miles of sewers, and see what would come of it. ....

The work of disinfection was begun with copperas. There are in the streets and alleys of the city of Detroit about 5000 receiving basins communicating with the sewers. Into each of these were thrown a dozen pounds of copperas. To each school-house, police station, fire-engine house, and to every other public building a barrel of copperas was sent, at the city's expense. We used 75,000 pounds of copperas, purchased by the carload, at \$13 a ton. At the same time, I made arrangements whereby citizens could purchase, of a wholesale dealer, copperas for one cent a pound. Proprietors of retail drug stores who had been in the habit of charging ten cents a pound for it, denounced me in bitter terms for interfering with their trade. I threatened to expose their 1200 per cent profit on one of the necessities of cleanly life, when they quietly subsided. As nearly as I could calculate, the citizens purchased and used about 200,000 pounds during the season. The direct and indirect effect on the sewers, from the use of nearly 140 tons of copperas, was to disinfect the sewage for several successive weeks. The citizens found so much comfort from the disinfection of their foul-smelling drains that, with many of them, the use of copperas has become habitual. Some families in Detroit consider a bag of copperas as much a household necessity as a bag of flour. It is very true that copperas, or any other disinfectant, is not a perfect substitute for good plumbing and proper drainage, but it does something toward remedying a prevalent unsanitary evil.

To destroy the poison in the confined foul air of sewers; also to kill the fungoid growths on their inner walls, a gaseous disinfectant is necessary. I therefore determined to fumigate the sewers with burning sulphur. Conservative citizens

were sure it could not be done. They said: "No practical man would think of trying it. How could a brimstone fire be kindled and kept going down a sewer fifteen or twenty feet under the ground? And what good would it do, any way, if you made a fire in such a place? The fire would be smothered for the want of air, and the damp would put it out....."

Nevertheless, as an orthodox sanitarian I determined to try the experiment and let the heathen rage. Three tons of roll brimstone were purchased, at a total expense of \$150. Fifty galvanized iron pails, called steamboat pails, were purchased, at 75 cents each. A sufficient quantity of light chain, and five dozens spikes with hooks in the place of heads, were also purchased. Holes three quarters of an inch in diameter were punched in the iron pails, about two-thirds of the way up from the bottom, two inches apart all the way around.

Procuring from the Board of Public Works the services of two men experienced as to the location and construction of the sewers, loading up a wagon with a barrel of sulphur, a nest of pails perforated as aforesaid, a quantity of chain, a pair of nippers, a hammer, pick, shovel, crowbar, shavings, bundles of short wood fagots, and a barrel of charcoal, I started out amid the jeers of a disbelieving crowd of city officials.

With shovel, pick, and crowbar the cover of a manhole was lifted, when we reached the place of our destination. A spike, with a hook on the end of it, was driven into the wall of the brick well, a foot or two below the top; the chain was fastened to the bail of an iron pail, and the same let down into the sewer, so as to swing just clear of the sewage running in the bottom. The chain was then hooked on the spike already driven. The nippers served to cut off the chain above the hook. The pail was then drawn up, leaving the adjusted chain attached to its fastenings. Into the pail were put, first, a handful of lighted shavings, then on the burning shavings some fagots of wood, and, lastly on the igniting wood a small scoopful of charcoal. Over the pail was placed a sheet-iron cover, in the centre of which was inserted a single length of conical stove pipe, eight inches in diameter at the bottom and four at the top. The air rushed through the holes punched in the

pail, with a good draught, hastening combustion, and thereby saving time. As soon as the charcoal was thoroughly aglow the cover was removed, a dozen pounds of brimstone were thrown on the hot fire, and the pail, by means of its already adjusted and fastened chain, was quickly lowered into the sewer. It only remained to replace the cover of the manhole. We drove on to the next manhole, 400 or 500 feet away. Removal of the cover revealed not only smoke, but also a strong odor of brimstone. Sulphuric acid gas travelled in the sewer as fast as we did on the road.

The work went steadily on, day after day, till a pail of burning brimstone had been suspended down each one of the 500 manholes in the city. The pails were taken up the next day following suspension, and, not unfrequently, remnants of sulphur were found burning after twenty-four hours. Not a single pail missed fire. If ordinary means of igniting the brimstone had been used, there would have been many failures and much loss of time.

The odor of burning brimstone demonstrated to many a citizen that his drains and waste-pipes were not securely trapped against sewer gas. There resulted some funny scenes, affording us not a little merriment. For example, one huge German woman ran out of her privy, near by, exclaiming, "Hell is loose; der Teufel is come!"

When the work was completed, the people were so convinced of its efficacy that the Board of Education resolved to have all the school buildings fumigated, in each of which, according to the size,

were burned from thirty to eighty pounds of brimstone.

There followed the copious use of copperas and sulphur a great abatement of diphtheria and an almost entire cessation of scarlet-fever. Of course, a single experiment does not warrant us in predicting a relation of cause and effect.

The whole expense for a single disinfection of the sewers with both copperas and burning brimstone was less than \$1300. With the money left out of the appropriation, we have this year repeated the experiment. Again we have treated the sewers of the city to 60,000 pounds of copperas and three tons of burning sulphur. The Board of Education has adopted the plan of fumigating the school buildings twice a year. The second experiment was followed, for a time, with an almost complete cessation of diphtheria.

Again, I say that disinfection, however thorough, is only a temporary relief from a dangerous evil, and cannot be relied upon as a substitute for an unsound sewer system and radically defective house drainage. The expense is not great, and it may be used as a more or less valuable instrumentality in a season of epidemic peril.

I should add, in justice to Detroit, that the Common Council this year appropriated \$13,000 to clean alleys, and \$6000 for a scow service to remove street sweepings and garbage to a safe place three miles down the river. The work of sanitation is advancing in the city, steadily and surely, although more slowly than an ardent health officer might desire.

## HOME MANAGEMENT FOR THE INSANE.

COMMON SENSE, as well as the unimpeachable testimony of the medical profession (especially those well versed in the nature and treatment of insanity), should convince us that the probability of recovery in any case of mental disease is in a direct ratio to the degree of promptness with which it is placed under proper care and medical treatment.

If, as Dr. Earle's statistics conclusively show, the percentage of cures of insanity is unfortunately small, the statistics of most of our best and oldest asylums also conclusively prove that this unfavorable

percentage is very largely due to the lack of early treatment.

Recall to your mind, if you will, the circumstances concerning the earlier stages of any case of insanity with which you may have been acquainted. Were they not somewhat like this? *First*, horror on the part of those related to, or in immediate connection with the patient—a reluctant dread of admitting even to themselves the fact that he might be insane—time lost here. *Second*, consultation with the family physician; attempts to ward off the impending evil by travel, change

of scene and association, etc.—time lost here. *Third*, an attempt at treatment at home, presided in until the aggravation of the case, the domestic complications arising from its presence in the house, the utter break-down of all available help, and the general unbearableness of the situation generally, has forced upon the patient's family the conclusion that he *must* go to an asylum—more precious time lost. All this unfortunate temporizing may be credited to the following causes, viz., (1) to the dictates of mistaken affection; to an ignorance of the nature and proper functions of insane asylums; (3) not infrequently to a miserable pride, which rejects asylum treatment as involving disgrace to the patient and his family; (4) frequently, to lack of knowledge on the part of the attending physician, or to the lack of firmness in pointing out to the relatives the dangers arising from delay in dealing decisively with the case.

But, whatever its causes, the delay costs the patient the inestimable advantages which might otherwise have accrued to him by the adoption of a prompt and radical course of treatment. In what other formidable disease would the physician be excusable in a temporizing policy; or the patient's friends and family be warranted in resisting, or delaying, the adoption of a well-approved and energetic system of treatment? For, in mental, as in other diseases, the period of inception is that which should meet with the promptest attention; its earlier stages are those which offer the greatest chance of successful treatment.

In almost every case, the first question which has to be decided by the family of the patient, and by the medical adviser, is, *whether the case can be treated at home, or not.*

The general answer to this question is, that a patient *may*, and should be treated at home, *if the facilities and surroundings are favorable.*

These facilities are: 1. A doctor who understands mental diseases: 2. A house, or apartments, sufficiently *ample* for the accommodation of the patient and attendant; sufficiently far *removed* from noises and other disturbing causes; sufficiently *isolated*, so that the patient may not disturb or alarm the neighborhood; properly *ventilated* and *safe*. 3. Entire freedom from any causes of excitement con-

nected with local or domestic associations: 4. Kindness, firmness, courage and good sense in the attendant, or in such members of the family as are obliged to come in contact with the patient. 5. Entire subordination, on the part of every member of the family, to the dictates of common sense, or the expressed wishes of the attending physician, in all matters relating to the patient and their intercourse with him.

Now, a brief glance at these *absolute pre-requisites* for successful home treatment will show you that there are but very few cases which can command all these advantages. By this test, all cases occurring in hotels, tenement-houses, apartment houses, etc., are at once eliminated from the possibility of proper home-treatment.

*How many families will you find prepared and equipped to treat a case of insanity in its midst?*

As it generally happens, the moment insanity is declared in any member of a household, from that moment—between the dictates of misplaced affection, and an unreasoning dread of the disease—the *patient has the whole household under his thumb.* Every rule and observance of orderly family life is upturned and diverted from its ordinary course; and the *patient knows it*; and presumes upon it, and harrows the soul of that family, by his exactions and pranks, until it is a veritable hell upon earth.

If this, then, is the case, as it generally is, in greater or less degree—if there be no one stout heart that can keep the family moving along in its ordinary course, and can yet look after and control the patient—why! there is but other thing to do, *i.e.*, to send the patient to the asylum. *There*, he finds—what? Not a terrified family, to whom his whims are law, and upon whose affections and weakness he can play at will; but, a large, orderly family, moving with all the regularity of clock-work. In place of confusion, he finds quiet; in place of anxiety, ill concealed alarm and sadness upon the face of his attendants, he finds naturalness and cheerfulness. The change itself is a momentary check to the wild current of his thoughts and delusions. If after awhile the novelty of the new surroundings having wore off, he undertakes to “boss” things as he has hitherto done at home, he gradually finds

that he is not the "king-pin," but a very ordinary pin in the economy of the great wheel which revolves so smoothly around him. If he still struggles to assert his supremacy, the logic of facts and the invisible pressure of his new surroundings soon reverse his preconceived notions. Instead of living, as at home, in an atmosphere of friction and excitement, of which he is the centre; he finds himself in the asylum, on the periphery, as it were, of an atmosphere which is quieting and cooling, and which he can in no wise disturb. And so he gradually comes to learn that it is easier for him to float *with* the current than against it. The next thing which he begins to take note of is that he is surrounded by others, like himself, under condition of rule and surveillance, who manifest ideas and beliefs which are as absurd and inexplicable to him as his own evidently seem to them and to his attendants. In other words, the conviction which gradually comes to him that his companions in duress are the subjects of delusions becomes to him an "entering wedge" of doubt whether his own ideas are not likewise delusions. With doubt, comes the exercises of comparison so far as his mental condition and the pre-occupation of his thoughts permit of it. When his distraught mental powers have quieted down so far as to enable him—even intermittently—to compare himself with the two classes around him, viz., his fellow inmates and the physicians, attendants, etc., the beginning of his cure has commenced.

Meanwhile, it must be remembered, sound common sense and medical cure have been exerting their beneficent influences upon him. A perfect degree of that greatest need of the insane—*physiological rest*—has been secured to him, even though, in some cases, by enforced means. Sleep again visits him with its balmy blessing. Food, physiologically adapted and prepared to his wants, and regularly administered at frequent intervals, together with needed stimuli, sets all the vital functions again into harmonious action and infuses new strength into the previously flagging and almost moribund energies. Fresh air—exercise, which from the very circumstances of the case he could not obtain at home, is here freely afforded with its invigorating effects. And, above all, the constant contact into which he is daily brought with the evidences of a wise, thoughtful and unceasing care for his safety, comfort and recreation, cannot fail to arrest his attention and ultimately to enlist his confidence. And so the case goes on from day to day, the mental *mirage* disappearing as the physical system improves in tone; the phantasmagoria of delusions, hallucinations and illusions gradually fading into thin air; the powers of observation and cognition insensibly formulating that comparison between his own case and the cases of those around him, which is itself the brightest harbinger of returning reason.—HENRY R. STILES, A.M., M.D., in *N.Y. Medical Times*.

## VEGETARIANISM.

M. ROUXEL terminates an interesting study upon *alimentary evolution* with the following conclusions: That of all seasoning the best, though the one most generally neglected, is corporeal labor, and that the simplest of all diets, the vegetarian, is the most rational and most healthful for both body and mind.

M. Dr. Deligny, replying to the above, concedes the point that *la regime vegetal* is one most nourishing and reconstructive. The Herbivores and the East Indians are cited: he notes the three orders of facts cited by the partisans of vegetarianism.

1. They bring up the fact that there exists entire people that are nourished exclusively on vegetable food.

2. That the herbivorous animals are stronger and can perform a greater amount of work than the carnivores.

3. Finally that vegetarians in both past and present time, have lived twenty, thirty years—their whole life, eating only grain, fruit, vegetables, etc., and have enjoyed perfect health.

"What is the value of these arguments?" asks Dr. Deligny, That entire people who are forced to live exclusively on rice and vegetables are in a most pitiful condition, and offer excellent opportunities for the observation of the baneful effects of this insufficient alimentation. On the other hand, the researches of M. M. Loiset and Bergasse, have shown that the greater the amount of meat consumed by



the individual, the higher is the physical prosperity of the nation. If M. Rouxel declares that the primitive men were frugivores it is conceded that neither did *l'homme primitif* have the railroad, nor electricity, nor steam navigation, perhaps we had better do away with these new inventions, considering the accidents and dangers and general strain upon the human system.

Three simple people, the Hindus, the Russian and Hungarian peasant, the fellah of Egypt, etc., obey the law of necessity. If the proposition was made to put a chicken into their pot of rice and potatoes, they would accept it with enthusiasm.

The argument derived from the comparison of the two classes of animals is without weight, because no account is taken of the expenditure of nervous as well as muscular force; the horse that draws the plough, the squirrel in perpetual motion, and whose weight multiplied by the distance run, will produce a highly creditable number of kilogrammeters, and that most agile frugivore, the monkey, who performs feats of gymnastics from morning till night, have in the expenditure of their force little in common with civilized man, whose expenditure is mainly intellectual. The latter works almost entirely with the brain, the former almost entirely with the muscle.

The cause of special longevity and con-

tinued good health under the vegetarian diet, may be regarded as exceptional cases or exceptional constitutions. In fact, the alimentary regime which is best suited to a case will vary according to various causes and circumstances, and the one of these which it is particularly important to take into account is the constitution.

If more vague analogies we turn to clinical observations, it will be found that when the physician is consulted as to the question of a proper diet, not only for the patient, but for one in health, he must take especial notice of the constitutional disposition of the subject. Is the subject chlorotic, anæmic, debilitated, he will counsel a regime tonic, fortifying, reconstituent; good steaks and roasts and tonic or nutritive wines or cordials. We could not feed such a patient on salads and *aqua fontana*, or toast and tea; given over to this kind of treatment, what would be the result?

There are constitutions, however, certain organic dispositions, which accept a diet which is not exclusively vegetable, yet in which this predominates, such, for instance, as the arthritic and gouty diathesis. In such cases vegetarianism would triumph, but if from exceptional cases, the vegetarians claim the excellence of their regime in all cases for all constitutions and all stomachs, it cannot be admitted.—*Journal D'Hygiene.*

## IMPORTANCE OF DIETETICS.

**D**R. W. ROBERTS, consulting physician to the Manchester Royal Infirmary, England, in a recent address published in the *British Medical Journal*, devotes the entire hour to the subject of feeding the sick. We publish a portion of the article:

Perhaps, of all the many duties which fall to the province of the medical practitioner, there is none so common as the duty of regulating the diet of his patients. Whatever the disease may be from which the patient is suffering, and whatever special means may be indicated, for his relief, the regulation of the diet is sure, sooner or later, to crop up as an integral part of the management of the case. Dietetics, therefore, cover more ground than any other branch of the healing art—they are also, perhaps, the most ancient ranch. Hippocrates traces back the

very origin of medicine to dietetic. "For," he says, "the art of medicine would not have been invented at first, nor would it have been made a subject of investigation, if, when men are indisposed, the same food and other articles of regimen which they eat and drink when in good health, were proper for them, and if no others were preferable to these." Notwithstanding this universal applicability, and this high antiquity, it must, I think, be allowed that dietetics, except in a few special cases, are somewhat neglected in these days. The often-contradictory advice which is tendered to invalids in regard to their diet by the several medical men whom they may consult, betrays the want of a guiding principle, and of a general consensus of opinion in the medical profession on the subject of feeding the sick. This is, perhaps, not to

be wondered at when it is considered how little systematic study is devoted to dietetics, and how fragmentary is the instruction on this subject which is given to the student of medicine. So far as I know, there is no systematic teaching of dietetics, even on the most limited scale, afforded to the student at any of our medical schools. He is left to pick up his knowledge on this subject as best he may, during the earlier years of his practice; and he often ends by taking his own digestive organs as his type, and prescribes for his patients according to the likings and dislikings of his own stomach. This is, I need hardly say, a very unsatisfactory proceeding; for there is perhaps no subject on which individual experience is so fallacious a guide as dietetics, and none in regard to which it is more important to draw our inductions from a wide basis of facts.

In the matter of especial diet for the sick, Dr. Roberts suggests what foods are the most important, and of these milk, meat preparations, raw eggs, and various gruels. Milk administered in the crude form is liable to coagulate in solid masses in the stomach. Eggs beaten up raw are not digestible as cooked, but pass on into the duodenum and are absorbed by the intestines.

Dr. Roberts concludes the address as follows:

Gentlemen, in bringing my remarks to a close, I should like again to press for a more systematic and a more comprehensive study of dietetics. The effects of diet are profound and far-reaching, and exceedingly subtle. Some inkling of this is got from the history of gout. You all know how slowly and how insidiously the gouty diathesis is developed under the influence of diet, and how it may affect the descendants unto the third and fourth generations. The immediate effects of diet are often not the most important. Behind these are remote sequences of vital concern to the family and the nation. And it is not solely in regard to feeding the sick that a scientific knowledge of dietetics is useful. There are public questions of great moment affecting the food-habits of the people, the consideration of which ought not to be dominated exclusively by popular opinion. In legislating on such questions, it is of the last importance to proceed on correct lines; for it is certain that any policy which ignores the instinct of mankind and the laws of nature is foredoomed to failure. I believe that a comprehensive study of these questions from the side of history, and of natural history, would throw unexpected light on the issues involved, and furnish data of great value for the guidance of the legislator and of the social reformer.—*Journal of Reconstructives.*

### THE MEDICAL PROFESSION.

The history of man shows that no system of religion, of philosophy or science is ushered into the world fully matured in all its parts, without the need of modification or change. The physical organization of man seems, in the light of recent research, instead of being a distinct creation, springing fully formed as a human being into this great world of life and action, to have been an evolution from the lower to the highest and most perfect form of animal life. Man has reached his high state of physical perfection only through long ages of development; and what is true of man is equally true in art, literature, religion, science, and in every department of human thought and human progress, all of which are but evolutions as man is himself an evolution, one thought and one discovery—a step to

a higher, ever progressing into higher planes of thought and more perfect and harmonious work.

All science and all human progress is a record of the "survival of the fittest," the chaff being blown away, the illogical and false crushed under foot, and all that is practical and true utilized in the endless development of the future. The elements of some great truths have been developed in every age of the world. These have been tried and proved, strengthening and forming a part of that endless chain of progression which unites us with the good and true in all ages, and which carries with it in eternal freshness and vigor the relics of its childhood's days.

The medical profession of to-day is shown to be an historic evolution, from the fact that we can trace its roots back

almost as far as we can trace the history of man, every century contributing some fact, some great thought which has helped to develop and strengthen the profession into its present vast and magnificent proportions.

When we consider that the corner-stone of our profession, the nucleus around which everything crystallizes, is the study of life, its development and growth and influence, we can see how it must be linked with every science and with every line of investigation in which life and the influence of life is felt. Man has reached the highest point of development yet obtained in the grand scheme of creation, which is every day unfolding more and more its immensity and grandeur, its wisdom and beauty and perfection. Standing upon the highest pinnacle of creative power, man is still an animal linked with animal life; that life which, in the far distant ages, had its organized beginning, so far as human research can trace, in the first protoplasmic cell, and which has developed through the course of time into higher and more complex forms, until it has reached the highest type and most perfect development in man—a development so perfect that a new and immortal life can flow into it, become a part of it, and in time eliminate from it the inherited traits of the brute creation. Man thus through his double life, the mortal and the immortal, the animal and the spiritual, the soul influencing and, if it may be, controlling the animal and directing all its energies into higher and purer channels, is the monarch of the world, the avenue through which God seeks to accomplish the highest work of creation, the point toward which all life tends, and the power and intelligence with which He seeks to utilize it in His great scheme of progress and endless development.

The study of life in all its forms, its influence for good or evil upon the human being, is the study and work of our profession.

That man poorly comprehends the capabilities and the possibilities of our profession who restricts his inquiries to a single channel, or is chained to the wheels of a single dogma. Wherever there is life, the study of its infinite diversity and its innumerable forms and changes, opens new fields of investigation and new lines

of thought through which many of the mysteries of health and disease are made plain and the roots of the great social evils which have penetrated deeply into natural and individual life fully exposed.

The study of germ life, both animal and vegetable, in its infinite varieties, has, within the past few years, opened a vast field of research which has yielded; and will continue to yield, the richest results, the fruits of which we are only commencing to gather. The secrets of atmospheric influences and electric forces are only just beginning to be disclosed, but they are opening with such startling richness and vastness as to almost stagger the intellect with the possibilities of the future. With the magnificent results of investigations which are every day disclosing new facts, unlocking old mysteries, adding immensely to the general sum of our knowledge and usefulness, is it wise, with the grand and almost illimitable field opening before us, to confine our researches to a single dogma, as though in this, and this alone, was to be found that elixir of life which would regenerate and heal the human race? There are so many facts in science which appeal to the intelligence of every reasoning man, so many avenues of thought open and constantly opening as the darkness which hid them from sight rolls away before the light of science, that there must be room for all to work without jealousy or discord, each bringing his quota of knowledge to be tried in the furnace of practical experience and each recognizing the other as a fellow worker in the ranks of a great profession. We cannot check the progress of truth or force its reception. The mind will some day, as light gradually dawns upon it, be wide open to receive it and incorporate it with its own life and work. Intolerance, exclusiveness, or angry discussion will neither help or retard. All that we can do is to live earnest, conscientious and honest lives, ever striving to do good and intelligent work in that great field of labor where there is room for all.—*N. Y. Med. Times.*

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The first physicians by debauch were made;  
Excess began, and sloth sustains the trade;  
Better to hunt in fields for health unbought,  
Than see the doctor for a nauseous draught.

DRYDEN.

## MIND AND BODY—MIND THE HEALING POWER.

Spencer says :

'For of the soul the body form doth take ;  
For soul is form, and doth the body make.'

Man was never governed by matter, though results upon body, habits of education, and theories of knowledge, would seem to deny this statement, and prove that material laws govern him and make him a slave to their whims and delusions; instead of understanding himself to be governed by the one law of love that reigns supreme, and is alone the power equal to destroying all errors of discord and all dreams of the senses. While man delves in matter to find the methods to rid himself of sickness or sin as realities he can never gain the light that will make him independent of physical law or unfold to him the truth of himself as a perfect being, nor the attainment of power whose concentrated action of thought within the precincts of mind, if directed to the sick and the suffering, would dissipate their errors and heal them. Not a hearer have I to-night but has a power in mind when understood, a thousand times more than that of electricity or steam; and whenever this truth shall come to the consciousness of man through the unfolding of experience, he shall recognize no other law but that of spirit in which he lives, by which he is expressed, out of which he cannot be lost, for spirit is life, the creator of all things: yea, even God.

As we grow out of the old formula of belief, that drugs have power to assist God's idea to be harmonious, or that pills or powders are potent to help or harm, we shall gain the higher altitude of spirit, and, looking into the infinite, find there the 'Peace be still' of life and love that, uttered to the wind and wave of sense material, shall silence them, and harmony, and health will reign triumphant.

If body is the expression of mind, and purity of mind will destroy errors or disease of body, then man obeying right and the demands of right, fulfilling the law of love by blessing those that curse, loving his neighbor as himself, judging not, and, in fact, sowing good to reap the same, has reached and holds that place in mind which of itself will keep

him from all harm, and with its power destroy all diseases of body or unhappiness of mind. Whenever man will rise above the limits that the senses make, and live in this purified atmosphere of truth and its consciousness divine, he will impart its power to others with such demonstration of its truth that it will heal them, and waken them to see that the spell that held them bound to suffering was nothing but delusion of the senses, a dream of matter, the myths of time that must fade out before this unfolding of the might of mind.

Never a pain of nerves, never an inaction of the body, never a picture of discord or disease that does not come from error thought, never a sin but was first entertained in sense, and never a conclusion material but what was first anticipated mentally. Nursing and fostering fear in expectation of disease and suffering relative to it makes man weak, and in his dream of weakness he sinks disabled, not knowing that he has power of good in mind to make him strong and overcome the evil; and, as the truth of mind unfolds, he will perceive that sin or sickness never came from understanding. If matter is without life and power, and mind is the intelligence that should govern, to understand this is the freedom from the limits of belief that would ever hold man at the mercy of matter, even sin and sickness; and, inasmuch as he becomes conscious of life and strength outside of body and independent of matter, he will attain the mastery of soul over sense even as scriptures declare, history repeats, and revelations fulfil. Does man not know that light and darkness are for ever apart and never fellowship more than ignorance and understanding? And, when he understands his body is governed by mind, then it cannot be governed by, nor express a statement of, material error; and, inasmuch as all mankind shall be lifted to a higher consciousness of his own true being, and find himself to be the reflection of his Maker, he shall come to that standpoint of truth which makes all error nothing, even as the greater overcomes the lesser.—Extract from a lecture by MRS. C. E. CHOATE, Boston.

OFFICIAL REPORT ON THE CHOLERA EPIDEMIC IN FRANCE-  
IN-1884.

**I**N the *Bulletin de l'Académie de Médecine* and the *Centrblatt für die Med.-Wiss.*, of February 13, 1886, is the report of Marey, based on the conclusion of the cholera commission, consisting of Pasteur and nine other prominent French physicians. The most vital conclusions arrived at are as follows:

1. In all those districts of France from which answers were obtained from resident physicians, the cholera appears to have been introduced into the single towns from previously infected places; for in three-fourths of all instances considered this mode of propagation was proven, while for the remaining one-fourth it was regarded as highly probable.

2. Considering only the observations as contained in the returned reports, the cholera is to be regarded as infecting more intensely the smaller towns than the more populous centres. It is consequently a serious mistake, during a threatening or actually existing epidemic, to flee from the larger towns to country places.

3. General uncleanness, and the abominable habit of certain classes of people to throw around the human dejections everywhere, is the chief agent of the dissemination of the disease, for during an epidemic the dejections of a person who shows no other morbid symptom than a slight diarrhoea, may contain the causes (*les principes*) of a most serious cholera.

4. The cholera is often propagated by means of water contaminated with the excrements of cholera patients.

5. Stormy and rainy weather is often observed to either precede an outbreak of cholera or intensify its severity. This refers to the contamination of the drinking-water, caused by the dirt being first

dissolved, and subsequently carried away into the various reservoirs of drinking-water.

6. And, as in the larger towns the drinking-water is better guarded and protected than in smaller places, the cholera finds a greater field of propagation in the latter. Some cities, however, which derive their water from brooks, lose the above advantage.

7. In every locality such quarters are most dangerous during an epidemic which lie on low grounds in the neighborhood of the water channels.

8. The disinfection of houses inhabited by infected persons, of excrement, of clothing, and of other suspected articles, is to be conducted strictly according to the instruction of the Comité Consultative d'Hygiène, and is as such an indispensable procedure. It appears as if by this measure the epidemic has been suppressed in its initiatory phase in several instances. But, in order to be thoroughly effective, this disinfection is to be executed with the greatest conscientiousness on the part of physicians, for the appearance of the first pronounced cases, even if belonging only to the light cholera-form affections, may propagate the disease by contamination of the water.

9. Old and weak people and small children are most predisposed to the cholera infection, though alcoholic indulgence, general and personal uncleanness, are likewise to be regarded as strongly predisposing agents.

10. One attack appears to confer no immunity upon a person, not even for a short time, as during an epidemic of a short duration several relapses were observed.

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WINTER-TIRE.

**I**T is a curious fact that the farther north we travel the hotter habitually are the interiors of the houses. At first thought it would seem natural that the temperature in which the person lives in the house should approach more closely that of the external air, but a little consideration shows the reasonableness of the habitual action of northern nations.

The man who is exposed all day to a low temperature must produce an enormous amount of caloric in order to meet the demand and keep his body warm. At eventide he naturally seeks rest, not only for wearied mind and muscle, but also for the heat-producing function. It is not always remembered that energy is expended in maintaining bodily temperature,

and that when an excessive amount of such energy is required, excessive exhaustion follows. The habitual excessive draught of the winter-time upon heat production is probably one of the reasons that in the early spring every one feels so relaxed and depressed. Of course, the general relaxation and lack of energy which has received the popular name of spring-fever, and which is supposed by many to be moral rather than physical, is due in part to the fact that the winter is, at least to many brain-workers and denizens of cities, the period of excessive toil. Nevertheless, it should be called winter-tire rather than spring-fever.

This relaxation of the system shows

itself not only by the production of laziness, but also in manifestations of distinct disease. A good deal has been written in the course of the last decade concerning the fact that in children chorea is so much more frequent in the spring than at other times, but our own experience is that in this respect chorea does not stand alone among nervous diseases. Neurasthenic conditions, hysteria, and all the minor or functional nervous ills which are connected with lowered nerve tone have come under our notice as a regular spring crop, and we think most neurologists will find that the months of April and May are those of greatest professional activity.—*Therapeutic Gazette.*

### EFFECTS OF TOO LITTLE AND IRREGULAR SLEEP.

THE habit of keeping irregular hours of sleep, and of taking too little sleep, leads to serious forms of disease, and, indeed, I know of no habit which helps more surely to shorten life than that of fighting against natural periods of rest. I have seen the effects of this habit in members of my own profession; in members of the dramatic profession, who too often set up a new world of their own when the rest of the world is in sleep; in politicians; in scholars, who habitually incline to work through the night; and in many more who are obliged by their occupation to watch while others sleep. In all these classes I have seen nothing but universal evil from the habit, imposed or self-imposed, of broken rest. In this observation I do not want rigidly to maintain that sleep must necessarily be taken at certain particular hours. I believe it to be best to take it at certain hours, including the first hours of the night, but I am now describing the effects following the habit of sleeplessness, in season and out of season, and the insomnia which is generated by such habit. In persons of vigorous constitution the habit of disregarding proper sleep, and the insomnia which springs from it may go on for several years without any apparent bad

effect. In time, however, it is certain to produce its natural consequences. The first indications of danger are irritability of mind and feverish excitement, followed by depression, pallor, and deficiency of appetite. These are succeeded by fits of unconsciousness, in which the affected person positively sleeps, and, it may be, sleeps soundly, without himself knowing the fact. In this way he gets rest, which for a little while may give a certain measure of relief; but soon the nervous failure increases, and one of two results succeeds. He either falls into a sleep which becomes a coma, and terminates in death, or he continues sleepless, unless artificially made to sleep by narcotics, and with progressing failing powers sinks into paralysis, to succumb from that affection. In exceptional cases the insomniac makes a fair recovery. Under regulated modes of life, and especially under the regulation which leads the sufferer to go to bed at unusually early hours, such as eight or nine o'clock, whether he can sleep or not at first, the insomnia, or sleeplessness, is often cured without any artificial aid. It is, however, apt to return after mental strain or worry, and indeed may return if the strain or worry be severe or prolonged.—DR. B. W. RICHARDSON in *Field of Disease.*

## THE DEVELOPMENT OF THE HUMAN BODY.

THE head of a large institution for the deaf and dumb in Copenhagen has instituted a comparison of the height and weight of the children under his care, numbering one hundred and thirty, extending through three years. The children were measured once a day, and weighed four times a day. The result brought out some interesting facts. In September and October the children grew only a fifth of what they did in June and July. During the autumn and beginning of winter, the children accumulated in bulk, but the height was stationary. In the early summer the bulk remained nearly unchanged, but the height was increased. It seemed when the body grew in height there was rest from bulk, and when it increased in bulk the height remained stationary. A marked increase in weight was noticed during the warm season, the child increasing in height but often diminishing in weight during the cold weather.

Dr. Miller, surgeon to the West Riding Convict Prison, made similar experiments to those of Mr. Hanson, upon four thousand persons, extending through fourteen years. The laws of growth in adults seem to differ from those found by Mr. Hanson in children. Dr. Miller found the maximum increase of weight in adults was from April to August, and the minimum from September to March, the body becoming heavier in summer and lighter in winter.

Some very interesting facts have recently been brought out by the careful studies of physiologists upon the inequalities of growth in the different parts of the body. It is found that instead of both sides of the body being alike, the contrary is the rule. Dr. Garson found from the measurement of seventy skeletons, the lower limbs were equal in length in only seven cases, or ten per cent., the left limb being

more frequently longer than the right. Dr. Dwight says the clavicles in twenty-two cases examined by him was only equal in six cases, the left clavicle usually being the longest. Artists have noticed the fact that the two sides of the face are seldom alike. An interesting diagnostic fact is mentioned by Sir James Paget which will often be of service in treating cases of slight spinal curvature. He says, "Many examples of suspected slight curvature of the spine are only examples of the adjustment due to the lower limbs, and in every case they should be measured and compared, for the remedy may be supplied by boot soles of different thickness better than by spinal instruments. If, viewed from behind, the hands of the patient resting on the upper border of the iliac crests are in an exactly horizontal plane, a well formed spine will stand at a right angle on that plane."

It has been noticed that persons travelling at night without some known object to guide them, or lost in a fog or on the plains, where nothing can be seen but the same monotonous expanse of sky and plain, wander in a circle, coming back in a few hours or days to the starting point: and the explanation has been found in the inequalities of the lower limbs, the longer limb taking a longer step than the corresponding one would, unless there was some visible object to serve as a guide, cause a person to travel in a circle.

As it regards the upper extremities, the same irregularities are noticed as in the lower limbs, the right being usually the longer, and stronger, and more expert and delicate in manipulation. This, however, is to a certain extent the result of education, and the best surgeons and obstetricians so discipline the hands that they can use both with equal facility.—*New York Medical Times.*

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IN some good articles in the *Fortnightly Review*, Dr. Roose develops the idea that the need of our age is not rest and stagnation, but healthful conditions for work, freedom from worry, suitable variety and a wise distribution of our time.

THE death rate among the rich in London is from  $12\frac{1}{2}$  to 25 per 1,000. Among the poor it is from 23 to  $35\frac{1}{2}$  per 1,000. The average duration of life of the well-to-do in England is 55 years; among the artisan class at Lambeth it was  $29\frac{1}{2}$  years.

## THE INFANTS' FOODS IN THE MARKET.

MOST OF THEM NOT SUITABLE, BUT INJURIOUS TO YOUNG INFANTS.

**I**N the last number of *MAN* was a brief notice of some analyses of infants' foods, with a promise to give this month something further in relation to them. Regarding many of these foods with suspicion, I, last December, urged upon the Department here the desirability of having a number of them examined and analysed by the public analysts. This was accordingly done, and, though I was prepared to find some of them unsuitable as food for the young, the result of the analyses has been somewhat surprising, on the whole. It is not that the foods are adulterated,—that is not shown, but the contrary, but that for the most part they are not at all proper food for infants. It is to be feared that they are regarded by the proprietor in a similar way to that which many regard "patent medicines"; as substances calculated, doubtless, not to do harm; thrown upon the market and freely advertised with the view of making money out of them,—depending for sales on puffing rather than on any virtues possessed by the foods. But, like patent medicines, they often do a vast amount of harm—of vital injury, at the most susceptible period of life, the infantile.

This question of infants' food is a very serious one. On the food depends largely the life of the child. The public should take warning and be on their guard.

As before stated, many of these foods, as reported by the public analysts, contain a large proportion of starch, in many cases "unbroken," which is stated by the best authorities to be absolutely indigestible in the infant stomach during the first few months of its life; and it is not only indigestible, but, therefore, innutritious and irritating, and gives rise to intestinal derangement.

Nestlé's Milk Food, for example: One analyst reports a sample of this examined by him, as containing only 2·8 per cent. of fat; not a sufficiently large proportion for an infant's food,—no greater proportion, even in this solid state, than poor milk. Microscopical examination showed a "well baked food with a small proportion of wheat starch, unbroken." Another analyst reported a sample as containing 3·5 per cent of fat (less than

good cow's milk), with 55 per cent of insoluble starchy matter." Microscopical examination revealed "wheat starch." A third analyst found a sample to contain 2·90 per cent. of fat and 48·5 per cent. of "cellulose, starch and insoluble albumenoids," with 32·42 per cent.—nearly one-third—of sugared matter. The cellulose would be much more irritating than the starch, and quite indigestible and innutritious in any human stomach, or about as much so as paper or cotton fibre. Infant poison. A fourth analyst found 4·5 per cent. of fat; 38 per cent. of dextrine and 32 per cent. of starch. These two latter ingredients might be regarded as 60 per cent. of starch with less than half of it (28 per cent. of the total) converted by heat into dextrine. There was in this sample 3·7 per cent. of milk sugar and 16·5 per cent. of common cane sugar. In a fifth sample, examined by another or fifth analyst, there was 69 per cent. of starch, with 7·5 per cent. of dextrine (formed from starch by long boiling with water). There was in this sample 3·7 per cent. of fat.

One might reasonably wonder why this is called "Milk" food. Milk contains no starch whatever, nor starchy matter of any kind. Is it to deceive the public? And at the cost of infantile life?

Let us see what is reported by the public analysts of another "popular" food for infants,—"*Ridge's*:" The first report I take up reads,—under microscopical examination,—"*Shows a large proportion of wheat flour partially cooked.*" This should be enough. The sample contained but a small proportion it would seem of converted or cooked sugar and starch, in the form of sucrose, lactose and dextrine. Another sample from another analyst contained 44·5 per cent. of insoluble starch. Microscopical examination showed "*mixed cereals.*" From a third analyst another sample gave over 80 per cent. of starch and cellulose, the latter, as I have stated, about as digestible and nutritious as paper or cotton rags. A small amount of starch had been converted into dextrine, making 3·5 per cent. of this substance, which is more digestible than starch. There was less than 5 per cent. of sugared matter and less than



one of fat. A fourth sample of this food, from a fourth analyst, did not vary much from the sample first referred to, and contained a little less than 75 per cent. of "starch, etc"; with maltose (sugar of malt) and, under the microscope, "granules of wheat starch." A sample from a fifth analyst gave nearly the same result. There was 6 per cent of dextrine, and 4 of sacro scor sugared matter with albumenoids.

In the next number of MAN I purpose giving the ingredients of other so called "Infants' Foods," common in the market, and employed more or less freely as food for the tender little stomachs of tender infantile life, stomachs which should only receive some thing as nearly like the mother's milk as possible, when such milk is not obtainable.

THE EDITOR.

## THE PUBLIC HEALTH—THE LIVING AND THE DEAD.

### DEATHS IN APRIL AND THEIR CAUSES.

PLAINLY, the interest in the mortality returns is becoming greater and greater. This interest has been very slow in developing, however, and it is slow in growth. It is not only curious and interesting to learn of the causes which destroy life, often prematurely, in our fellow-creatures, but it is also profitable, and tends to enable the living to avoid causes of death. To some it appears strang that so few take an interest in the causes of death which prevail around them, and even in distant places, and carry off, so frequently before what should be "their time,"—i.e., their time for dying—two or three out of every hundred persons every year. True, it is less than half a century since a regular official system for the registration of all deaths was first commenced in England, or in Europe—or any where else, so far as I know, and not many years since it was first commenced in this country. In England where the system has been longer in operation, much more general interest is taken in the returns. As it is very desirable on behalf of the public welfare that such returns be complete, it is necessary in order that they may be so that the public should become much more interested in them.

During the month of April there were in the twenty-two cities and towns which now make monthly returns of deaths to the Department of Agriculture at Ottawa, 1422 deaths recorded, as against 1351 in March; an increase of 71 deaths. Estimating the population of the 22 cities and towns at 630,000 (and it is not likely so large), this shows a mortality of over 27 per 1,000 of population, per annum; or 2.7 per 100. Last month I placed the population at 600,000. Possibly it may have been a little more than this. How-

ever this may be, the mortality was about 5 per cent. greater in April than in March, and greater by one per 1000 than the average of the last half of last year. I may venture to predict that the mortality in the cities during the first half of this year will not be much, if any, less than during the latter half of last year.

From small-pox there were in April 20 deaths, as against 30 in March and 22 in February. 17 of these 20 deaths were in Sorel and St. Hyacinthe,—9 in the former place and 8 in the latter; while 2 were in Montreal and 1 in Ottawa.

With proper vigilance and vigorous action on the part of the health authorities small-pox might be entirely stamped out in these places. In the large city of Montreal they have not done badly, after once getting fairly at work in the stamping out process; but in the smaller places of Sorel and St. Hyacinthe there must be a want of knowledge or of activity on the part of the health departments. It is high time too, that the disease were stamped out entirely here in the capital. Elsewhere we note how this process was carried out in Charlottetown, P.E.I., and a very severe and widespread epidemic entirely suppressed in a few weeks.

Measles caused, in the 22 places, 34 deaths in April, as against 25 in March and 24 in February, 16 of these 34 were in Toronto and 5 in Ottawa; 7 in St. John, N.B., 2 in Sherbrooke and one in St. Thomas.

This is a disease easily stamped out, with isolation and disinfection. It is too liable to be regarded with indifference and as a disease of a not very serious character; yet we find it causes many deaths. More attention should be given and care and vigor exercised by health

authorities in the suppression of measles.

From scarlet fever there were 8 deaths recorded in April, and 11 in March. Those in April were in Montreal, Toronto, Winnipeg, Ottawa and Kingston.

From diphtheria there was an increase in the number of deaths recorded, from 85 in March to 88 in April. Of these 88, 20 were in Montreal, 24 in Toronto, 15 in Quebec, 5 in Hamilton and 8 in St. John. Halifax, Winnipeg, Ottawa, Kingston, St. Thomas, Guelph, Three Rivers, Chatham, Fredericton and St. Hyacinthe helped to increase the number of deaths from this disease. This is a disease commonly regarded as being more directly associated in its origin with filth than most other epidemic diseases. As an epidemic it is perhaps less easily cut short by isolation than other epidemics.

Thorough cleanliness is the great prophylactic. The mortality from the disease in April was about the same as the average of the previous quarter.

From Typhoid and kindred fevers only 17 deaths were recorded, 6 of these occurred in Montreal and 5 in Toronto.

Only 32 deaths were recorded as from diarrhæal affections in April; a decrease from 48 in March. Nearly half of these, or 15, were in Ottawa.

Rheumatism caused 11 deaths in April, an increase of one over March.

During the four first months of the year, ending April 30, there were 5219 deaths recorded in the 22 cities; a mortality of about 25 per 1000 of population per annum.

THE EDITOR.

#### WHAT CONSTITUTES A NUISANCE.

THIS was well laid down by Hon. Leroy Parker, of the State Board of Health of Michigan, in the seventh annual Report of that Board, as follows :

An actionable nuisance is said to be anything wrongfully done or permitted which injures or annoys another in the enjoyment of his legal rights. Every person has the legal right to the fullest enjoyment of his life and health. Anything then, which injures or annoys the public in the enjoyment of life or health is a nuisance which it is the duty of Boards of Health as the guardians of the public health to abate. Any classification of nuisances will be necessarily imperfect, yet for the purposes of this subject it may be said that the public health nuisances are of two kinds :

1. Those which are such from their very nature, which cannot exist in the vicinity of habitation without causing offense to the senses and injury to the health; such, for instance, as exposed and decaying carcasses of dead animals, or accumulations of offal or fecal matter in exposed places.

2. Those which become nuisances by reason of misuse or negligent care exercised or an otherwise harmless and perfectly lawful object, business or occupation as, for example, slaughter houses, rendering establishments, mill ponds or burying grounds.

The methods of procedure to be adopted for the removal of any nuisance will vary according as the nuisance to be abated comes within one or the other of these classifications. If the danger to the public health is imminent, and safety requires the immediate suppression of the nuisance, the Board of Health, or any individual affected thereby, would be protected if they should proceed at once to suppress it, for the safety of the people is the highest law. If any unhealthy nuisance is found in a public place, it would be the duty of the Board to see to its immediate removal. On the other hand, a mill pond, a slaughter house or a burial ground are not necessarily offensive or unhealthy, and their use is perfectly legal. It is only their misuse that makes them a nuisance. A slaughter house may be conducted with such perfect cleanliness as to be no more offensive in a sanitary sense than a planing mill. Whether a business or a thing not in itself a nuisance is so managed or suffered to exist as to be a nuisance, is a fact which must be determined by the courts, upon evidence. A Board of Health cannot decide that to be a nuisance which is not so in itself. Only upon the judgment of a court of competent jurisdiction can a Board of Health legally ascertain whether a business is a nuisance, so as to authorize them to abate it. Of course any collection of offal or filth

about a slaughter house may be removed by a Board of Health under the authority conferred on it by the statutes, but the suppression of the business itself can only follow a judicial determination that it is so conducted as to be injurious to the public health.

It would be well for the members of every Board of Health to acquaint themselves as fully as possible with all the

facts relating to any existing nuisance or thing which may become a nuisance within their jurisdiction, and apply to these facts the existing law, and thus ascertain in what way they shall proceed to prevent or remove the same. Misdirected zeal is sometimes as harmful as lack of zeal. Therefore in cases involving doubt it is always advisable to take legal counsel before proceeding to extreme measures.

### THE HYGIENE OF THE NEWLY BORN.

THE following instructions to mothers and nurses, prepared by a commission composed of Moutard Martin, Bergeron, Parrot, Blanchez and Dujardin Beaumetz, have been issued by the head of the Department of Public Charities, Paris:—

1. Till the appearance of the first teeth, *i.e.*, between the sixth and seventh months, the only food of the infant should be milk, that of the mother preferably, if she be in good condition, otherwise that of a wet nurse. It is very dangerous to give an infant solid food of any kind during the first months of its life.

2. The child should be offered the breast about once in two hours, and less often in the night.

3. In the event of inability to provide woman's milk, the milk of the cow or goat may be substituted. This milk should be given warm, diluted with one-fourth part water, and slightly sweetened. At the beginning of the fifth month the milk may be taken pure. All other liquids employed to dilute the milk (thin gruel, bread-water, barleywater) are injurious.

4. In feeding the infant, glass nursing bottles should be employed. These, especially the tubing and the mouth piece, should be thoroughly cleansed every time they are used. Never allow the nurse to resort to those "sugar teats" with which some mothers seek to appease the cries of the infant, and which are sure to produce canker, and disorder the digestion.

5. It is not till the sixth or seventh month that one should begin to allow farinaceous substances with milk, such as bread, baked flower, rice, arrow-root, mealy potatoes; these supplementary foods should always form a considerable part of the infant's dietary towards the end of the first year, to accustom the child to weaning.

Weaning ought not to be thought of till the first twelve or sixteen teeth have pierced the gums, while the infant is in a good state of health, and the lull which follows an eruption of teeth.

6. Every morning the "toilet" of the little one should be made before suckling or feeding; this toilet consists (1) in washing the child's body and especially the genitals, which ought always to be kept clean; (2) in scrubbing the head, on which it will not do to let scruff or dandruff accumulate; (3) in changing (at least every second day) the child's underclothing; (4) giving a warm bath in which the infant should be held five or six minutes. The belly band ought to be kept on during the first month.

7. Swaddling clothes, which cause compression of the body, should be interdicted. The more freedom the young child has in its movements, the more robust it becomes, and the better its development. All swathing which encumbers the neck and head should also be discarded.

8. The infant should be protected against the injurious effects of excess of cold and heat, whether out doors or in the house; within doors, the air should be renewed several times a day.

9. It is not safe to carry the babe into the open air before the fifteenth day, unless the temperature is very mild.

10. The child ought not to be allowed to sleep in the same bed with its mother or nurse.

11. The bed of the infant should be composed of oaten straw, soft thatch, or husks; the cradle should have curtains during the first months of infancy, and especially during the cold season, to avoid currents of air, but these curtains should

never be completely closed. The babe ought not to be rocked.

12. There should not be undue haste in teaching the infant to walk; it should be allowed to creep on the floor and help itself up; walking carts and baskets should be discountenanced.

13. The least indisposition on the part of the infant (colic, diarrhea, vomiting,

cough) should be at once attended to.

14. As pregnancy has the effect to render the milk less nutritious, in case of pregnancy, every nursing woman should cease to suckle her infant.

15. It is a good plan to vaccinate infants during the first three months after birth, or during the first weeks, if an epidemic of small-pox is prevailing.

### MISCELLANEOUS ITEMS.

**WATER EXAMINATION.**—Perey F. Frankland has succeeded in applying Koch's method of cultivation on solid media to the detection and quantitative estimation of the micro-organisms in potable waters. He drops a measured volume of the water under examination upon a sterile gelatine film on a glass plate, protected from aerial contamination by a glass shade and a moat of solution of mercuric chloride. He finds that the risks of aerial contamination during the transfer of the water to the film are very small, at all events, in the devitalised air of a chemical laboratory. The natural process of filtration and subsidence having acknowledged efficiency in producing waters devoid of life. Dr. Frankland has investigated the action of certain artificial processes, namely: 1, filtration through various media; 2, agitation with solid particles, followed by subsidence, and 3, chemical precipitation. One of the most interesting facts, brought out by the experiments with filtering agents is that a substance may remove living organisms entirely from the water, without sensibly affecting the quantity of dissolved organic matter it contains. The removal of micro-organisms from water by filtration through such substances as spongy iron, animal and vegetable charcoal, and coke, can only be effected by very slow filtration. The removal of organisms from water by agitation with finely divided solids, followed by subsidence, though very often perfect, is only transient, and is most marked after the liquor has become clear. Clark's process (softening of water by lime) is known to be capable, when carefully applied, of removing 99 per cent. of micro-organisms from water. The want of a co-operation of biological and chemical science in the matter of water-examination has been long felt by chemists, and Dr. P. F.

Frankland's work is an advance in the right direction. The method employed seems to be trustworthy and practicable to all chemists, and we hope that its adoption will lead to additions to our knowledge of natural waters, and will prove of value to mankind.—*Brit. Med. Jour.*

**RESEARCHES ON THE MALARIAL INFECTION.**—1. In the blood of every person suffering from malarial fever we find enclosed in the red blood-corpuscles peculiar microbes, consisting of homogeneous protoplasmic particles, endowed with a very lively amoeboid movement. These microbes allow of a distinct coloration, and occur only in this affection; they were termed by the authors "plasmodies or hæmoplasmodies of malaria." 2. In the interior of these microbes we often find a red or black pigment (melanine), which, however, is no integral portion of theirs, but is obtained from transformation of hæmoglobin, which the parasites have abstracted from the red blood-corpuscles. 3. If this production of pigment has taken place, we have malaria with melanæmia, if not, malaria without melanæmia. This refers also to the grave cases of a pernicious or fatal nature. 4. The parasites propagate themselves by the process of fissure. 5. Intravenous injection of malarial blood produces malaria in a previously healthy person. 6. The plasmodies increase in number with the progress of the malarial infection, and decrease with the regression of the symptoms under cinchonization.—**PROF. MARCHIARA AND DR. CELLI,** in *Deut. Med. Zeit.*, Jan., 1886.

**TO DISINFECT INFECTED DWELLINGS.**  
—The following method of thoroughly

disinfecting a room in which an infectious disease has existed is reported in the *Centralb. f. Chirurgie*, No. 12, 1885, by Prof. König, who has successfully employed it for 20 years: The windows of the infected room having been closed tightly, 50 to 60 grammes (1½ to 2 oz.) corrosive sublimate are placed on a small shovel of burning coals; after that the person leaves the room immediately and closes the door. The sublimate evaporates rapidly and exposes the room to its vapors for three or four hours. Then the door is to be opened, and, covering the nose and mouth with a piece of cloth, the person re-enters, opens the windows and closes the door again. The room having been thus ventilated for several hours, the possibly remaining vapors are to be rendered harmless by the burning of sulphur in the closed room. After repeated ventilation the room may again be occupied.—*Therapeutic Gazette*.

QUACK remedies are gaining a terrible foothold in this country, and are doing a corresponding amount of harm to the people. It requires only slight endorsements to make them sell, and testimonials are not difficult to obtain. Most people are too ready to take medicines on such recommendations regardless of consequences, and even physicians are careless in their endorsement.—*N. Y. Medical Times*.

SPANIARDS are not generally credited with being in the van of hygienic science, but in one particular they would seem to be in advance of ourselves. A Royal decree has been promulgated ordering the corporations of all towns whose population exceeds 100,000 on the request of the local educational committee, to appoint a medical inspector of schools. The salary is to be fixed by the corporation.—*N. Y. Medical Times*.

GLANDERS AND FARCY.—The report by the Health Officer of Nashville in this issue of three cases of glanders and the prompt destruction of the animals, should be noted by all the local health authorities in the State. Glanders and farcy are two names, denoting really one disease, due to the same specific poison. It is called glanders when the air passages are affected, and farcy when the skin, areolar

tissue, lymphatics and glands are most prominently involved. Damp, ill-ventilated, narrow and ill built stables, insufficient or unwholesome food, and excessive fatigue are the principal predisposing causes to the development and propagation of the disease. It invariably terminates in death, whether it appears in the acute or chronic form. Its communicability from one horse to another, from the horse to man, and from man to man, is now no longer questioned, hence health officers should act with great promptness in every case, rigidly enforcing isolation in regard to all "suspects," and extermination of all animals known to be affected. The German law directs that any horse which has been *even* in contact with a glandered animal shall be *immediately* killed. This is wise. When the horse is killed it should at *once* be buried deeply in plenty of lime, and its former habitation thoroughly disinfected, first with sulphurous acid fumes, followed by prolonged free ventilation. All tainted food, bedding, etc., should be speedily burned.—*Tennessee Board of Health Bulletin*.

RAILWAY SANITATION IN RUSSIA.—At the St. Petersburg meeting of Russian medical men in December, 1885, Dr. Mendélëff (*Vratch*, No. 3, 1886, p. 63), read a memorandum on measures which he thought necessary for the organization of the sanitary state of the Russian railways. The author formulates his main desiderata as follows:—1. Each train should be accompanied by a train-*feldsher* (medical assistant). 2. Each train should be supplied with a stretcher and a chest containing first-help drugs and appliances (in charge of the train-*feldsher*.) 3. Each station should be supplied with a cupboard containing first-help drugs and appliances. 4. In such localities at which the railway medical men reside, the consulting-rooms of the latter should be located at the stations themselves. 5. Each railway medical man should be supplied with a complete chest of dressings and other surgical appliances, and should have at his disposal at least one railway carriage duly fitted for the transportation of wounded. 6. A railway medical man's district must not exceed 100 *versts* (about 67 miles).—*Sanitary Record*.

**RICHARDSON'S HYGIENIC RULES FOR THE TREATMENT OF PULMONARY CONSUMPTION.**—Dr. B. W. Richardson, in 1856, published the following rules for the hygienic treatment of consumption. They were looked upon with disfavor by the medical profession of that time. But under the new animalcular pathology they are largely approved. He publishes them in his *Aselepiad*. We give the rules, omitting the explanations of the same: 1. A supply of pure air for respiration is the first indication in the treatment of the consumptive patient. Especially should the consumptive be the sole occupant of his own bed and bedroom. 2. Active exercise is an essential element in the treatment of consumption. 3. A uniform climate is an essential element in the treatment of consumption. 4. The dress of the consumptive patient should be adapted to equalize the temperature of the body, and so loose that it interferes in no way with the animal functions. 5. The hours of rest of the consumptive patient should be regulated mainly by the absence of the sun. 6. The occupation of the consumptive patient should be suspended if it is indoor or sedentary; but a certain amount of out-door occupation may be advantageous. 7. Excessive mental exertion should be avoided by the consumptive. 8. Cleanliness of body is a special point in the treatment of consumption. 9. Abstinence from all habits of gross sexual indulgence is an essential part, both in the prevention and cure of consumption. 10. The diet of consumptive patients should be ample, and should contain a larger amount of the respiratory constituents of food than is required in good health. 11. A consumptive of either sex should never marry.—*American Lancet*.

**MERULIUS LACRIMANS—THE DRY ROT.**—A short time before his death, Prof. H. R. Goppert, of Breslau, in connection with the chemist Professor Poleck, made a study of the hausschwamm—a fungus commonly known with us as dry rot, which had caused great injury to buildings in northern Germany. The results of their combined studies now appear in a pamphlet by Professor Poleck (“*Der Hausschwamm*” Breslau, 1855.) The dry rot, *Merulius lacrimans*, seems to be unknown in a wild state in Germany, but is confined to woodwork of different

kinds, and attacks by preference coniferous timber. Strange to say, the fungus does not usually infest old structures, but generally makes its appearance in comparatively new buildings: and a startling series of figures shows the amount of damage done in the region of Breslau. Chemical analyses by Poleck show that the merulius is particularly rich in nitrogenous compounds and fat, which is rather remarkable, when one considers the chemical constituents of the timber on which it grows. Injury to health, or even death is said to result from exposure to air containing large quantities of the spores of the merulius; and several authenticated cases are reported. In a supplementary note, Poleck considers the relationship of merulius to actinomyces, a fungus which causes a characteristic disease in man and cattle; and he apparently comes to the conclusion that what is called actinomyces is probably only the merulius altered by the peculiar matrix on which it is growing. His statements on this point can hardly be called conclusive, or in fact, other than vague.—*Scientific American*.

**LANDLORD AND TENANT.**—In the Superior Court of Massachusetts, in an action for rent against the tenant of rooms in an apartment house, it appeared that the steam heat which the landlord agreed to supply was inadequate; that additional heat became essential to a proper enjoyment of the premises; that the flues and chimneys were defective, improperly constructed; that her apartments were often filled with dense smoke; and that the elevator service was inefficient. The court held that these grievances were an obstruction to the beneficial enjoyment of the premises, constituting a constructive eviction, and justified the tenants abandonment.—*Scientific American*.

**FOITZL, (*Deutsche Med. Wocheusche*),** reports a case in which he hypnotised a woman in confinement, by holding the bulb of a thermometer before her eyes. The contractions increased in force, the woman remaining insensible for an hour and a quarter, during which time the child was born and the placenta delivered. She was then aroused by violent shaking. She was very much astonished to find the labor completed, as she knew nothing of what had transpired during the period of hypnosis.

## EDITOR'S SPECIAL CORNER.

THAT many of the diseases to which the human family is subject, likewise affect various domestic animals, is becoming year by year more evident. How many of the infectious epidemic diseases which afflict humanity have their primary origin in animals no one yet knows. Hydrophobia, perhaps the most terrible of all diseases, has long been known to come from the dog. Glanders, little less terrible, seemingly peculiar to the horse, is not unfrequently communicated to man, and we find fatal cases of it in man reported from time to time. There have been cases in Canada of what in the horse is called the "epizootic," being communicated to man. Trichinosis, a more plainly parasitic disease, so far as known, has its origin in the pig. Anthrax and foot-and-mouth disease are communicated to man from the cow. Tubercular disease — consumption — is known to be common to both man and the domestic animals, especially the bovine species and fowls. The thought that one is liable at any time to contract an infectious disease from a fellow creature is very disagreeable, but to think that one may contract a loathsome malady from one of the inferior animals is exceedingly repulsive, and should induce every one to render aid in preventive measures.

At a recent meeting of the Epidemiological Society of London, Eng., Dr. Cameron read a paper on a certain malady among cows at a time when their milk disseminated scarlet fever. The disease had been the subject of investigation by Dr. Klein, Mr. W. H. Power and himself. The disease was not new, it had been known to farmers as a "catching malady" under the name of "sore teats." It was characterized by general constitutional disturbance; a short initiatory fever, a dry, hacking cough, sometimes quickened breathing; in severe cases, sore throat; discharges from the nostrils and eyes; an eruption of the skin round the eyes and on the hind quarter; with vesicles on the teats and udder, and disturbance of the internal organs. In the particular instances referred to by Dr. Cameron the disease was introduced into a herd by a newly-purchased cow. In about a fortnight the disease spread

until about a hundred cows were affected. Coincidentally with the spread of the disease among the cows, scarlet fever appeared and continued to prevail among the consumers of the milk from these cows. It was suggested by Mr. Power and Mr. Winter Blythe that the scarlatina occurring in the families supplied by the milk was the direct result of the ingestion of the milk of cows suffering from this disease, rather than that the milk was only the vehicle for conveying the contagion of human origin.

A WRITER in the *British Medical Journal*, (May 15, 1886) says, Suppose this were satisfactorily proved, the further question arises whether the disease was originally bovine or whether the first cow was affected with human scarlatina. He further writes, "It is much to be desired that medical men, trained to pathological and clinical observation, would turn their attention to the diseases of animals, especially those of the cow; for it is certain human beings must, in some way, be affected by the use of diseased milk; and the cordial appreciation of the services which might be rendered by medical men, expressed by the dairymen and farmers present as guests at recent meetings of the Epidemiological and Medical Officers of Health Societies, encourages the hope that the day is not far distant when much more light than we enjoy at present will be thrown on this most important but difficult subject, of the relation between bovine and human diseases."

MILK-cows require much greater care and vigilance than is commonly bestowed upon them. They supply a food universally consumed by the young of mankind, whose susceptible organisms are but just forming, and who need, more than older persons, wholesome, uncontaminated food. Reports have been published from time to time of dairies supplying milk from badly-housed, badly-fed, and diseased cows, which were shocking to think of. Cows are prone to disease as well as human beings, if not in so great a degree, and will anyone doubt that some of the cows in the large numbers kept in some of the dairies supplying the public with milk are often the subjects of disease, and of disease which may be readily con-

municated to children or grown-up person who may consume the milk. In every municipality there should be a system of dairy and milk inspection. Many deaths are doubtless caused through want of it which might with careful oversight be prevented. But until large numbers of human lives have been manifestly sacrificed there will hardly be any such preventive measures adopted.

MILK, too, is such a complex and nutritious fluid that after being drawn from the cow it is more liable, probably, than any other food to become changed and contaminated. It is singularly prone, as most people know, to absorb impurities such as odors, gases, etc. It is easy to understand that it possesses an attraction—that it constitutes an inviting medium or field—for many sorts of animal and vegetable microscopic organisms, which are with their germs or seeds everywhere present and waiting for a nidus or soil suitable for their development, growth and multiplication. When just from the cow and warm, as while the cow is being milked, it is especially liable to receive impurities. It is at this time, and particularly in close stables, that milk takes in odors, as from the breath of the cow or other excretions, which communicate to it that peculiar condition of

flavor or taste which some persons describe as "cowey." It is very singular that the old-fashioned way of drawing milk from the teats with the hands into open pails has not long ago been superseded by a more cleanly method.

It will be gratifying to many, or to all who have a desire for milk free from impurities of this kind, to learn that a system is fast coming into use, called the Barnhart system, by which the milk is drawn from the cow through a "protector" which prevents contamination after milking, and in which the milk is then bottled and hermetically closed until delivered to customers. The use of this system is optional with dairymen, but we think all who keep cows and supply the public with milk should be compelled to adopt some such plan for keeping the milk free from contamination. In this city we do not know of more than one, Mr. McTiernan, of the Nepean Dairy Farm, who has had sufficient enterprise to introduce the system here. We should think that all wanting a pure, clean milk would practically encourage it. In Toronto the bottling system has long been in general use.

## OBSERVATIONS AND ANNOTATIONS.

Proper disinfection is a very important branch of sanitary work, and this journal has ever given much attention to it. Considerable space has recently been given to the results of Dr. Parson's experiments in disinfecting by means of heat. Below is a brief recapitulation of his conclusions: All infected articles which can be treated by boiling water, so as to penetrate the substance efficiently by this means without injury to the articles themselves, can not be so well disinfected in any other way as by simply boiling for a few minutes; infected articles which from their nature do not lend themselves to such boiling had best be treated with high-pressure steam, with such arrangement as will ensure complete penetration of the steam at its high temperature and that such treatment may be relied on to destroy any infective quality in them with the thoroughness and rapidity desired; and in the comparatively few cases where the articles to be disinfected would be injured

by steam, a dry heat of 240° F. will, if sufficiently prolonged, bring about the desired destruction of infection, but that this can not, in the case of most articles, be had by means of dry heat without an inconvenient length of exposure.

RELATING to the cholera, a Rome correspondent, in the early part of this month, writes to the *British Medical Journal* as follows: In previous letters, allusion has been made to the strong under-current of uneasiness prevailing throughout Italy, at the startling suddenness with which, from time to time, the news of local outbreaks of cholera has sprung upon the country. It was just as persistently denied as it had been strenuously affirmed, that cases of cholera of the true Asiatic type had shown themselves, now and again, in Venice, during the winter; and the syndic of that city, not long ago, sent a circular to the various capitals of Europe, containing an explicit denial of all the statements made detrimental to the well-



being of his special charge. Equivocation certainly is not a failing entirely confined to Italians, but the syndic in question had probably studied Machiavelli to some purpose. There is no other feasible explanation in the fact that the municipality of Venice have finally made a virtue of necessity, and, in order to prevent exaggeration, have determined in future to publish a regular sanitary bulletin. The unexpected and alarming telegram, containing this notice, added that, up to the evening of May 5th, there had been ten cases, and three deaths (presumably within the preceding twenty-four hours), and, that a lazaretto had been opened on the Guidecca. Since that date, there have been twenty-nine fresh cases, and seventeen deaths, many of the latter evidently being those of persons attacked before the publication of the bulletin began. Coincidentally we hear of several cases, at Vincenzo and Treviso, so it is clear that the North-Eastern angle of the Kingdom is widely affected. In Apulia the disease still continues, though in no virulent manner. In Brindisi the number of cases seems rather to tend to diminish, but more are reported from Ostuni; and Baré, too, has become infected.

The benefits derived from drinking the waters of certain springs, we have often contended are due more to the "washing out" process—to a thorough internal bathing—than to any special virtues given to the waters by certain salts or gases held in them. The *British Medical Journal* (May 8-86) says on this point: "We possess, probably in copious water-drinking, especially if spread out so as to allow more perfect absorption, a means of subjecting the system to a powerful washing-out, and possibly a coincident and temporary increased excretion of certain products of tissue change. Indeed, a great number of water cures owe their efficacy, in disease, far more to the diuretic and washing-out effect of water drunk in increased quantity than to the salts and gases dissolved in it.

RELATING to the contagious nature of pneumonia, the *British Medical Journal* says: The evidence of it is still scanty. And that: It is beyond question that the sporadic disease is very rarely communicated, and, we believe, the vast majority of practitioners

enforce neither isolation nor disinfection; yet, occasionally a case of apparent infection comes under observation. Such isolated cases would probably attract little attention, were it not for the phenomena of epidemic pneumonia. It is unquestionable that such epidemics occur, and are often extremely destructive. Their occurrence is sometimes vaguely explained as due to a "phenomonic," influence in the air; but if this means anything it points to the existence of some specific contagion.

From the advance proof-sheets of the *Canadian Gazette*, Lond., Eng., we learn that the main feature of Canada's agricultural display is the commanding trophy occupying the middle of the eastern transept of the central gallery. That it is already one of the prominent features of the Exhibition must be realised by any visitor, for round its base will be found on all days and at almost all times a more or less numerous collection of interested sight-seers. The main body of the trophy is of square formation, each side measuring some twenty feet in length, giving a total circumference of about eighty feet. This main structure is raised to a height of about eight feet from the ground, supported at each corner by an arch. Round these arches, and displayed therefore on every side of the trophy, is the admirable collection of fruits from all parts of Canada, showing in their many tints, varieties, and shapes to great advantage as against the less brilliant exhibits above and beneath. Grouped below the fruits, near the ground, are open bags of wheat, oats, barley, rye, buckwheat, flax-seed, and other classes of grains, carefully labelled to indicate the grower and locality of growth. And here will be noticed, among Canadian North-Western cereals excellent barley entered as from "Three Bulls," of the Blackfoot Indian Reserve, Assiniboia. Further on is a good variety of wheat grown by a native gentleman of the Assiniboine Indian Reserve, glorying in the title of "The Man who took the Coat," though to whose coat reference is made, and, indeed, the whole history of the theft, is left unrecorded. Behind, and partly hidden by these grain samples, are framed photographs of Canadian North-Western scenery. Above the rows of fruits, varied grasses, and grains in the straw, are arranged in perpendicular

Sheaves, with bright-colored festoons of corn, and here and there the glistening steel of some agricultural implement. From each of the four corners of the main tower there rises a minor tower, composed of canned fruits and meats, faced with fine sheaves of wheat and prairie grass, and hung with festoons of oats in the straw, of cereals generally, and corn of large growth. Around the main body of the trophy, as it converges to the centre, is to be found every class of agricultural exhibits from all the Provinces. Tinnets of butter and lard, cans of condensed milk, of fruits, and of meats, kegs of Goderich salt, Canadian hams of many grades, casks of Canadian sugars, the far-famed cheeses of the Eastern Provinces, immense jars of apples. Among these are interspersed samples of pressed hay, bags of oatmeal and flour, and other minor products.

A young female physician in Paris has been appointed a medical inspector of girls in the Parisian schools. Her duties are to see that the girls are not overworked, and that they perform their tasks under the best sanitary conditions possible. It is a great pity that this is not a universal practice. It would be a wise economy.

THE Registrar-General for Ireland, Dr. Grimshaw, has just given the first of a series of lectures which are to be given under the auspices of the Dublin Sanitary Association. He chose, as his subject, that of "Healthy Homes." Having spoken of the house as a sanitary unit, and what constituted a proper home, he said that figures proved that the worst houses were the most unhealthy, and that those who resided in them died at the greatest rate. The population of Dublin might be said to be the worst housed, the most criminal, and the most unhealthy, compared with the population of any of the great towns in the country. Unhealthy homes promoted sickness and poverty, and poverty promoted crime and intemperance and other vices.

THE Superior Health Council of Madrid has voted that the Government should sanction Dr. Ferran's inoculations for cholera. During the winter Ferran has continued his researches. It would seem from this that charges of charlatanism against him have not been entirely correct.

FROM recent statistics it appears that the mortality in childbed-fever has been gradually decreasing of late years; and, as an exchange says, as there must be a substantial cause for this improvement it is fairly attributed to the gradually increased shedding of light upon the pathology of the puerperal state. From this it became evident that child-bed fever, in its fatal forms, was due to bacterial agency.

THE last and Fourteenth Annual Report of the Local Government Board of Great Britain shows that 22,951 samples of food and drugs were examined in that country in 1884. These analyses were nearly all of food, only a few hundred samples of drugs, and numbered 3,303 more than in the previous year. In the five preceding years the number rose on an average by less than 700 annually. The proportion of samples reported as adulterated during the last year was less than 1½ per cent. of those examined. This percentage was a little less than the previous year, when it was a fraction over 15 per cent. Of the samples examined in 1854-56, the 13th annual report states, more than one-half were reported against. In 1877, the first year in which the returns under the Act of 1875 were tabulated, the proportion was 19.2. It would seem, therefore, that some progress is being made, though not very quickly, in reducing the amount of adulteration; and there is no doubt that its character is much less injurious than formerly. At the time of Dr. Hassell's examinations (1854-56) the adulterants employed were in a large proportion of cases dangerous to the health; now if the public are cheated by the mixture of water with milk, or chicory with coffee they are not poisoned by copper in their pickles or sulphuric acid in their spirits.

IT will be a pleasure to many in the profession to learn, as we do from the *American Lancet*, that Dr. James A. Grant, of Ottawa, has been elected the honorary vice-president for Canada of the International Medical Congress, which will assemble at Philadelphia in September, 1887. This congress convenes only at considerable intervals of time, and in various parts of the world and its object is the discussion of scientific medical subjects. It is a high honor, and we are much pleased to congratulate Dr.

Grant upon the distinction thus conferred upon him.

MASSACHUSETTS again has a State Board of Health. Some years ago the State Health Board was joined to that of lunacy and charity, naturally the union was not a happy or profitable one. The bill separating the health service from lunacy and charity has become a law; and it is to be hoped that the divorce may be permanent.

A REPORT of the first authenticated cases of trichinosis which have occurred in residents of Tennessee, and that too from eating the flesh of a "home-raised hog" we find in the Bulletin of the Board of Health of that State. Meat affected by this parasite when taken into the human stomach there occurs a period of five or six days in which no symptoms appear, yet in that time the worms have multiplied prodigiously. They become free, leave their capsules and produce young which migrate through the intestines into the muscles. In size, these worms, when fully developed, reach a length of about  $\frac{1}{8}$  to  $\frac{1}{4}$  of an inch the female being the larger of the two. They are easily detected under a microscope of low power, 30 to 60 being sufficient. First macerate for a time a small portion of the suspected flesh in a liquid, composed of one part of liquor potassae to eight of water, and afterwards squeeze well between two glass slides. Safety from this terrible disease only lies in the thorough cooking of all pork which is to be used for food.

THE report was [from Dr. M. McCall, of Huntingdon. He had been called to attend the cases which were in the family of a Mr. Espy, seven in number—father, mother, two daughters and three sons, of ages ranging from eighteen to fifty-eight years—living three miles from Huntingdon, the disease was the result of eating insufficiently cooked sausage infested with *trichina spiralis*. "It was truly a strange spectacle," writes the doctor, "to enter a house and find every member of the family presenting the appearance of having been in deadly conflict with some species of the genus vespa." Two were taken with nausea and vomiting, accompanied with diarrhoea; three had uneasiness and uncomfortable sensations in the alimentary canal, unaccompanied with vomiting and diarrhoea; unpleasant sensations and

pain in the head, with vertigo, were common to all. The most prominent symptom present was the great œdema of the face and eyes, with apparent conjunctivitis, soreness of the flexor muscles, and œdema of the feet and legs coming on from the sixth to the tenth day from the commencement of the disease. The seventh and last one of the family, a daughter, was taken sick six or seven days after the first. For three weeks two of the young men were unable to dress or undress themselves, the muscular soreness was so intense, nor were they able to turn themselves in bed without help.

AFTER the first few days, the appetite of the patients was generally ravenous, occasionally alternated with nausea and vomiting, attributed to excess in eating and drinking. There was thirst from beginning to convalescence. From about the twelfth to the twenty-second day of the disease there was but little change in the condition of the more violent cases, except the œdema had measurably left the eyes and face, and had increased considerably in the feet and legs, and had extended to the hips. "On the twenty-fourth day" Dr. McCall writes, "I visited my patients again, found three of them on the bed, the other four sitting around the fire, presenting a pitiable appearance, indeed. Pulse varying from 90 to 136 per minute; temperature, 99° to 102½°. One had itching sensations in the skin, with a tendency to effloresce under pressure or friction. One complained of a sensation as though cold water was being sprinkled over the surface. The other five were exempt from skin trouble."

THE treatment was not founded upon any preconceived idea gleaned from the text books. It was founded upon a common-sense view that a disease resulting from a parasite must be treated, with a remedy that kills parasites—a parasiticide. Sulphur and its compound stand at the head of the list of zymotic medicines, and having unbounded confidence in the efficacy of these remedies in the treatment [of parasitic diseases, malaria, not excepted, determined to select one of these compounds, and give it a thorough trial. The patients were all put on five-grain doses of the sulphite of soda in solution, every four hours, with direction

not to disturb their rest during the night. This treatment, and this alone, was continued from three to five weeks, or until the commencement of convalescence, at which time it was gradually withdrawn. The improvement was slow, especially so in the more violent cases. Recovery was attributed to the application of the proper remedy to the special pathological condition of the cases; to the soluble sulphur contained in the compound, killing the young trichinæ not only in their embryotic or infantile stage by coming in actual contact with them while in the alimentary canal, but by meeting them in childhood in their transit to and after their arrival at their distant muscular home."

As investigation of the history of the hog from which the sausage was made developed the following facts: For the first

six or eight months she lived in the horse lot around the corn-crib and stables, afterward she ranged in a creek bottom mostly. She was kept for breeding purposes, and was four years old when killed. In January, 1885, she had pigs, and after a week or two they all died, dropping off one at a time. Shortly after this she became very poor, so much so that Mr. Espy thought she had cholera, but did not know as to that positively. After a time, she improved in flesh, and, in April, 1885, she was spayed, and was, to all appearances, as healthy as any one of the herd, and when put up to fatten, gained flesh as rapidly as any of the hogs with which she was penned. Mr. Espy slaughtered her the 15th of December, 1885, but observed nothing unusual in the meat. She was one-half Jersey Red, a very large bony breed of hogs; the other side was Berkshire and Poland-China.

## CURRENT LITERATURE

### MAGAZINES RECEIVED

*The Century* for May gives a portrait of Nathaniel I Hawthorne, and an interesting article "Hawthorne's Philosophy," by Julian Hawthorne; "American Country Dwellings," and the "Flour Mills of Minneapolis," both handsomely illustrated; a highly interesting short story, "Iduna," illustrated; "Perturbed Spirits;" Zweibak or Notes of a Professional Exile." "The Minister's Charge" is continued, and there are several papers relating to the war. In "Topics of the Times" is "James Russell Lowell's Bible Argument" in relation to International copyright; and in "Open Letters" is a description of the South Kensington School of Cookery. Besides all these there are many other things of much interest. There is a timely and very interesting article on "Evolution and the Faith," by T. T. Munger. We should like to see this published in pamphlet form, that it might reach as many readers as possible. We are tempted even in our limited space to give the following extracts from it: "Nor should it disturb us to find that our moral qualities have their first intimations in the brute world; that we find in the higher animals hints, forecastings, of moral faculty and actions; that as our bodies bear some organic relation to the brutes, so also may

our minds . . . . The fact that man may be organically related to the material and brute world does not in itself determine either his nature or his destiny; so long as he is what he is, it does not matter what his history has been, though it may be a matter of consequence how—by what agency—he differentiated from the brute. But the bare fact of his development from lower nature is not itself a fact that determines anything. It is a hasty and imperfect logic that conjures dark visions out of the relations and reasons that if man is developed from the brutes he will have their fate. Origin has nothing to do with our destiny; we can measure one as little as the other, and we know too little of either to use them as terms of close argument . . . . It is often said that theories of religion cannot stand up against ascertained knowledge. Doubtless, for nothing can stand up against the truth. But the real question is, what is ascertained knowledge? There is a solidity, a certainty in moral truth that cannot be claimed for the verdicts of physical science, because moral truth is the direct assertion of personal identity, which is the only thing we absolutely know; but matter—who can tell us what it is, or trace our relation to it beyond uniformity of impression? Morals are absolute; man knows them because he knows himself, and he can know nothing opposed to them; but physical science is the merest kaleidoscope—turn the tube and you see a new picture . . . . But if man is involved in the evolutionary process, where and when and how does the free will come in, with all

the facts and duties of religion? We may not be able to say when and where, but possibly we can tell how, viz., in the progressive working of God. To produce a will or a person seems to be the end in view of the whole process, and at last it is gained . . . When the result is reached, the conditions under which it was produced may be relaxed. And so we have man—a free will, himself a force acting in creative ways. If it be asked where he gets his free will, the answer is, from the same source from which matter gets its force—God. He may get it *through* nature; but he gets it *from* God working by nature. Hence, when we come, to discuss the problems of religion,—duty, conscience, faith, prayer, reverence, love, we are at full liberty if we see fit to turn our back upon that uniformity of nature which is called a law. Man stands before the Eternal One, and not before a method of nature. Nature is all about him, but his real relation is to God. His moral qualities may have been evolved through natural process, but they do not originate there . . .

In closing this essay, in which I have attempted merely to show that the Christian Faith is not endangered by evolution, and to separate it from a narrow school of thought with which it is usually associated, it may not be amiss to indicate in a categorical way the lines upon which further study should be pursued. First, the respects in which evolution as a necessary process in the natural and brute worlds does not wholly apply to man. 1. Instinct yields to conscious intelligence. Second, The struggle for existence yields to a moral law of preservation, and so is reversed. 3. Intelligence takes the place of natural selection. 4. The will comes into supremacy, and so there is a complete person; man, instead of being wholly under force, becomes himself a force. 5. Man attains full reflective consciousness. 6. Conscience takes the place of desire. 7. The rudimentary and instinctive virtues of the brutes become moral under will and conscience. 8. Man comes into a consciousness of God. 9. Man's history is in freedom. 10. Man recognizes and realizes the spirit. 2. Contrasting phenomena of evolution under necessity, and evolution under freedom: 1. Man changes and tends to create his environment; achieves it largely, and so may improve and prolong it. The brute adapted itself to environment, but had no power over it. 2. Man progresses under freedom. The brute progressed under laws and environment; man, under will and moral principles of action. 3. Man thinks reflectively, systematizes knowledge, and reasons upon it; the brute does not, except in a rudimentary and forecasting way. 4. Man has dominion; the brute is a subject. 5. Man worships, having become conscious of the Infinite One; the brute does not. 6. Man is the end of creation, and the final object of it; the brute is a step in the progress. *The end of a process cannot be identified with the process.*

ST. NICHOLAS for May contains among other good things the following: Frontispiece, "In the Spring-time—when Shakespeare was a boy;" "May Song," a poem; "The Girl's Tricycle Club;" "Morning Glories," verses; A continuation of "Little Lord Fauntleroy," and also of "George Washington;" "Spring Beauties," a poem; "How Conrad Lost his School Books;" "A search for the Lace-leaf;" "The Caricature Plant;" "Vegetable Clothing;" "St. Nicholas dog stories: A clever little yellow dog—a dog that could count—a clever sheep dog—A story of two buckets;" "The smallest circus in the world;" "Rock-a-bye," a poem; "Keeping the Cream of One's Reading;" "Wonders of the Alphabet;" "Bubble Blowing;" and, funniest of all, the quarterly instalment of "The Brownies," illustrated. This time these funny little chaps have a good time, with many tumbles; on roller skates. The number is an excellent one.

THE DECORATOR AND FURNISHER (Decorator and Furnisher Co., 30 and 32 East 14th st., New York city) is a most elegant artistic publication, and the publishers seem to spare no pains nor expense in efforts to make it superior to everything of the kind published, especially in the illustrations, which are very fine. In the May number we find "Some Philadelphia Studios," fourth paper, with a charming illustration; "Economical Furnishings;" "The Best Way to Move;" "Some Furnishing Suggestions;" "Work for Ladies;" "Metal work;" "A Philistine Artist;" "Hanging pictures;" "A Symphony in Gold and Ivory;" "Sanitary House Furnishing, part six; and a large number of interesting and instructive items very useful to those who desire to make home really beautiful and elegant, and with economy. It also contains a supplement, in which is much useful reading matter.

A serious outbreak of diphtheria recently occurred in the vicinity of Birmingham, arising from a foul and choked drain in a house at Balsall. A boy was first taken ill, and he continued to attend school long enough to communicate the infection to other children, necessitating the closing of the schools, and producing out of sixteen cases the large number of five deaths.