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CANADA
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A Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—
EDWARD PLAYTER, M.D.

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VOL. XIII.

JANUARY, 1891.

No. 1.

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CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XIII.

JANUARY, 1891.

No. 1

PREVENTION VERSUS CURE—GOOD LIVING VERSUS INOCULATION.

A DISSIPATED, broken down young man who once consulted a celebrated French physician from whom he received some good hygiene advice, said: "Any idiot would know he'd get well if he did that which you advise, but I don't want to do that; I want to do just as I have been doing and have some medicine to cure me." This is just the way with the general public. They want to live on in their unnatural, unhygienic ways—to live as they please—luxuriate, dissipate, as their disordered tastes dictate—eat bad food and breath worse air, and then to have something injected under their skin, no matter what, to cure or to kill them. The same public are now dancing with delight in the hope that they can live on in their evil ways and need not even try to avoid the "great white plague," consumption; that when they contract the disease they can get cured of it by a few drops of Koch's mysterious lymph.

Koch is a great man, a good man. We have the utmost respect for him. Jenner was a great man. It may be that vaccination has lessened the mortality from small-pox. But like many other sanitarians we firmly believe that could notification, isolation, and disinfection have been and had been practiced in Jenner's time as they can be and are now, amongst a more enlightened public, the mortality would since then have been still less, and the repulsive practice of inserting a disease direct from the cow into the human body need never have been adopted. As evidence of this, from among much other evidence, we may mention that we not long ago reported several outbreaks of small-pox, in one year, of imported cases,

in "one of the worst vaccinated towns in England," which were promptly suppressed by strict isolation, &c., and without spread in a single instance. And elsewhere in this number of the JOURNAL the reader may see what a correspondent of the British Medical Journal has to say, bearing upon this view, relative to small-pox in Prussia and Austria.

"Science" in its progress has made some great mistakes; especially has medical science. The "inventor" of phlebotomy, of opening a living vein—blood letting, was doubtless regarded in his time as a great man; but the practice has cost the world an incalculable number of valuable human lives.

Whatever the result, at the best, of Koch's reputed cure, it will not lessen the need of the vigilant practice of preventive measures which sanitarians have disclosed and recommended for the suppression of consumption. Koch himself bears witness to this. Koch's lymph cannot dispense with pure air, sunlight, wholesome food temperance in all things. Whatever the result, at best, of Koch's discovery, "the soul that sinneth it shall die."

THE MEDICAL RECORD, commenting upon the forty days fast of Signor Succi, says that the lesson to be learned from it is that people eat too much and drink too little; that wrong feeding is the basis of gout, rheumatism, diabetes and most stomach ills.

IPECACUANHA, Dr. Neal recommends in all cases of insect bites. Recently a patient traversed India, bidding defiance to mosquito bites with the following application: Powdered ipecac, $\frac{1}{4}$ a dram, with $\frac{1}{2}$ an ounce each of alcohol and sulphuric ether,—easily tried.

NEEDLESS NOISES—EFFECTS OF NOISES ON THE NERVOUS SYSTEM.

ETYMOLOGISTS have been puzzled to account for the origin of the word "noise." By some it is referred to *nausea*; by others to *noxia*. These are both Latin words signifying something either unpleasant or harmful. Noise has, therefore, rather a bad reputation.

Considering the high value, both as a preventive and curative, universally attributed to perfect quiet, sleep and rest for the nervous system, which in man is so highly developed, it is very singular that greater efforts are not put forth to suppress the many needless noises heard almost everywhere, not only in cities but in the smaller towns and villages.

Of "the new diseases that human life evolves in its progress," various forms of nervous irritability and weakness are distinctly traceable to noise. "The slow and almost insensible influence of noise on the nervous system tends to wear and break it down. Neuralgia, stimulant-craving, restlessness, and over-alertness of a purposeless character commonly known as 'fidgets,' are some of the evils directly caused by it." These evils are doubtless commonly intensified by inheritance in the next generation. While many on a sick bed have been deprived of sleep and rest and so hurried on to death by needless noises.

Any one who has once had the misfortune to be ill in bed near a railway will probably find that the shrieks of the diabolical whistles will haunt his memory to the end of his life. It is difficult to refrain from the belief that engine-drivers revel in the hideous sounds they produce, and wreak their vengeance upon a society which keeps them from their night's repose by determining that while they are at work nobody in all the country around shall sleep. But the railway is not always the worst source of noise. There are factories which employ a steam horn or "devil," which helps to make night, mid-day and early morning hideous. Then there is the incessant clatter of traffic on the stone paved streets. About the time this ceases and the street cars cease to run, places of amusement and

saloons pour forth their life, and youths and intoxicated revellers wend their homeward way with loud talking, songs and shouts. Dogs and cats often keep up the racket until soon the milkman and newsboy in the early morning connect the endless chain of noise again with the clatter of the street traffic. And so it goes on and life is not only rendered miserable from want of refreshing sleep, but is incalculably shortened.

These abominable worries might all be prevented by a little well directed effort. The night as well as the Sabbath should and could be made a period of rest, absolute, quiet rest. It is most singular that these nuisances are tolerated as they are, and so much of life made wretched. At the last meeting of the British Medical Association it was unanimously resolved to memorialise the leading railway companies drawing their attention to the injurious effects of their over-much whistling. Protests and pressure might soon reduce railway noises to a minimum. Municipal authorities could easily stop the factory "demon," perhaps the most useless, wanton noise of all. To lessen the noise of street traffic to be sure more costly pavements would be required; but in this we could spend money to better advantage than in procuring many of the more costly luxuries of life. The police could soon, if properly instructed and trained, stop most of the other needless noises of city and town. Strong protests against all these unnecessary, loud, discordant sounds, by the press, would help immeasurably to lessen and prevent them.

THE average age at death of the Jews is said to be forty-nine years while that of the Christian is but thirty-seven. Only two per cent. of that race follow agriculture; the great majority of them are town dwellers. But their sobriety, domestic and personal cleanliness, and the great care they bestow upon themselves and their families, act heavily in their favor.

ON THE DANGERS OF TOO MUCH PHYSICAL EXERCISE.

A GAIN, we feel constrained to sound a note of warning. There is real and great danger in the present athletic "craze,"—in the violent games and athletic feats of the present day. In the December issue of this JOURNAL we drew attention to the investigations of Dr. Morgan which showed some of the serious consequences of excessive rowing; to the report that, of thirty-two all round athletes in a New York club of five years ago, three are dead of consumption, five have to wear trusses, four or five are lop-shouldered, and three have catarrh and partial deafness; and to the writings of the eminent London physicians, Drs. Fothergill, Clifford Albut and Moxon, showing the intimate relation between mechanical strain and diseases of the arteries and of the valves of the heart. Dr. Patton, Chief Surg. U. S. National Soldiers' Home says that, of the 5,000 soldiers in the Home, fully eighty per cent. are suffering from heart disease in one form or another, due to the forced physical exertion of the campaigns. He makes the prediction that as large a percentage of the athletes of to-day will be found twenty-five years from now to be victims of heart disease, resulting from the muscular strain they force themselves to undergo.

Far be it from this JOURNAL to discourage physical exercise, in the open air especially, but in young still growing subjects, or even in the mature, there is certainly great danger in the extent to which it is now carried. As an exchange says: The misfortune of the modern athletic craze is that it stimulates to exercise for the sake of taking part in severe contests instead of encouraging that *moderate regular exercise* which might do every young man good, and no one any harm.

The men, young or old, who make use of a gymnasium for what can be rightly called hygienic exercise are comparatively but few.

Often it is not so much exercise that is demanded as it is outdoor pure air. Athletes usually die young, and much of the more vigorous exercises in the sports

of the present day shorten, rather than lengthen life. The Medical Record says, "the brain worker needs only a regular temperate life, with a walk, fresh air, and sound sleep and the body does not need Herculean muscles in order to be sound; and that athletic work is only safe for young men who have an extra supply of vitality and who can more safely work it off that way than in dissipation." Indeed, excessive development of the muscular system is incompatible with the best condition of general health. The muscles are great sponges that suck up and make use of large quantities of blood, and the other organs are liable to suffer for want of their share. Athletic sports in clubs tempt many to overdo. Those who are naturally endowed with good form and muscular figure can safely indulge, but when the young men of less physique attempt to develop themselves beyond what they were intended to be, and go in competition with the stronger ones, they are likely to seriously injure themselves. The weekly paper, "Life," recently took on a serious aspect long enough to compare the lives of Cardinal Newman and John Boyle O'Reilly. The former was a slight man of infirm constitution who lived to a very advanced age, a sedentary and secluded life; while the latter was a man of great physique, fond of physical exercise and athletic sports, but he died in his prime.

Again we give the advice of Dr. Tompkins, resident physician of the celebrated Hammond Sanatorium at Washington, given in a lecture delivered before the Y. M. C. Association there: Every one who wishes to indulge in athletics should be thoroughly examined by a physician and pronounced perfectly sound beforehand, and even then there should be a competent instructor who should tell him what to begin with, how long he should exercise, and not let him overtax his strength in any way.

THACKERAY tells us that if we "Sow an act we reap a habit; Sow a habit and we reap a character; Sow a character and we reap a destiny."

THE SITUATION IN TORONTO.

TORONTO is still without a regular medical officer. The acting officer, Dr. Pine, meantime is endeavoring to carry on the work of the Health Department and to create and stir up interest in public health proceedings to the highest possible degree, probably, in the circumstances. As no physician was recommended for the position by the special medical committee appointed by the Council, the authorities appear to be at a loss as to what action they should take. They will hardly repeat their previous error. The medical men who interested themselves in the cause had no intention at first, it appears, of examining applicants, until this was in a measure forced upon them by the action of the Council. But even after this action they might have declined to examine. The medical committee certainly made some good recommendations relative to the organization of the City Health Department, which the Council will do well to carry out, especially as to the formation of the board, with which we are in full accord. Judging from a published affidavit of the acting officer, which we have not seen contradicted, the examinations must have been a gigantic farce. But as no recommendation was made upon them, this was not of much consequence, except that it placed Dr. Pine at a disadvantage and in a very unpleasant and unfair position. It is to be hoped that the new Council will make a fresh start. Would it not be well

for them to appoint or name a committee to consist of a few of the best known physicians (those who would not be likely to favor any particular graduate or friend of any particular medical school) and the same number of good, well-known citizens, neither physicians, council men nor politicians, to consult with the Board of Health or a committee of the board and either decide upon a suitable physician, or upon two or three whose names might be submitted to the Council, and who would be likely to fill the very important position of Medical Officer with satisfaction? But it is a standing slur upon the medical profession, which all members of it should now stand out strongly and persistently against (although arising not probably from want of respect for and appreciation of the profession as a body of physicians, but from want of due appreciation of, indeed from ignorance of, the value of preventive measures), that the salary of the Medical Officer is not at least quite as large as that of the City Solicitor or Engineer. We sincerely hope no one will accept the position until this wrong is righted; and we appeal to the profession in Toronto to push this, not as from putting an unprofessional value upon money or remuneration for professional services, be it specially observed, but from the injustice and slur cast upon the profession by the half pay, as compared with the other salaries.

TORONTO'S SANITARY NEEDS.

THE people of Toronto would no doubt like to have for their city a special reputation for healthfulness. Before this reputation can be obtained they must spend a great deal of money for the purpose. They may as well face this squarely at once, or even worse epidemics than that of typhoid fever will most likely follow. A condition favorable to typhoid fever has been found favorable to cholera. Cholera is threatening this Continent, and is likely

to pay it a visit this coming summer. There is not a great deal of time to prepare for it. Toronto can well afford to set an example in complete sanitary work and preparation to meet fearlessly any epidemic.

A pure water supply is of the first importance. Measures should be at once taken to provide this; to make the pipe crossing the bay absolutely safe from possible leakage; not only that it shall not

present a crack or break, but that the pipe shall be kept so full from the force of pumping that should a break take place, the purer lake water would flow out of the pipe instead of the foul bay water flowing or leaking in. There will be no good health in Toronto until an intercepting trunk sewer has been built to convey the sewage past the bay, that this water front may be kept clean and pure. With the purest water that can be got from the lake (still tolerably pure there usually, it appears), all wells in the more thickly populated parts of the city should be closed. A thorough and complete system of scavenging should be carried out—every lane, yard, stable, out-house, cellar and corner being thoroughly cleaned, and where at all indicated, disinfectants freely used. Every privy pit should be thoroughly cleaned, freely disinfected with lime, and where water closets could not be at once put in, the constant daily use of dry earth or coal ashes insisted upon, under penalty. Every house drain, including all waste pipes, must be carefully inspected and attended to, and their ventilation and free flow secured, and all sewers and drains be repeatedly and thoroughly flushed. All vacant plots where there is, or is likely to be after rains, standing water or dampness on the ground, must be attended to, drained or filled in with clean earth, or both. Some manufacturing establishments may need special attention. There are "lodging houses" in Toronto which are a disgrace, and a cholera germ getting into one, would cause such an explosion as would shock more than the immediate neighborhood. The milk supply, including the cows and byres, the fruit, the meat and the bread even, require the most careful constant inspection, such inspection as probably has never yet been carried out on this continent.

To secure all this, and after all it is not so very much or so very difficult to secure, a properly qualified, ever active staff of inspectors will be indispensable, and under, now especially, a vigilant, energetic Medical Officer familiar with the full details of all the requirements of the circumstances.

The Medical Officer would have no time to test and examine water or even milk, biologically, any more than to inspect premises. Such should not be included in his duties. It is the legitimate work of a specialist only, requiring costly apparatus and the utmost nicety with constant practice. The Medical Officer will have abundant, more than abundant, work to do in the direction of the inspectors,—mapping out their work, instructing them and seeing that they do their work properly in every detail, and not as is too often the case, in a loose, perfunctory manner. A great deal of money may be spent on "inspecting" which had much better be thrown away, because it gives only false security, which is much worse than none at all. The inspectors should undergo a strict examination as to their knowledge of and qualification for their work, and they should have reason to feel that they were liable to be "dropped in upon" at any time during their work by the Medical Officer or a reliable chief-of-staff, to see that their work were always done as it should be. All householders should be encouraged to test their drains and pipes from time to time, as with the peppermint or smoke test. A cat, it is now said, will detect the faintest smell of peppermint escaping through any flaws in pipes or drains.

There surely must be intelligence enough in Toronto to sustain the authorities in carrying out such work as above indicated. If there be not, an active Medical Officer with due interest and pride in his work, might properly take some measures whereby the people would be educated up to this point. He might in this doubtless secure the aid of his professional brotherhood. As we have said on a former occasion, the Health Department, or board, might properly be regarded as, and fill the duties of an educational body, to a certain extent. When a vote is about to be taken for money for health purposes, for example, why should not numerous ward meetings be held by members or officers of the board for explaining the situation and requirements to the masses of the people?

It may be that the people of Toronto are

too much absorbed in money making and pleasure seeking to give due heed to their sanitary needs. Or are the air and water there producing a lethal or lethargic influence? They may require "stirring up", —to be aroused to a sense of their unenviable, dangerous condition. The leading

daily papers have sounded many notes of warning. Persistence in this effort will doubtless do much. In conclusion we would entreat the people there not to wait —not to rest in their lethargy until aroused, as was Montreal a few years ago, by a most destructive epidemic.

DIET AND INTELECT.

THAT clever London journalist, Mrs. Crawford, gives the following in an exchange. She probably practices what she preaches: The persons living to a green old age who have come within the range of my observation, were abstemious themselves, and had either sprung from poor families or come from the South, where heavy meat meals are not enjoyable. Guizot, who was not a vigorous trencherman, started in poverty, and was a Southern. Thiers started in the same condition, ate twice a day and very heartily, but was so heavy after eating as to be obliged to go to sleep. He died of apoplexy after eating. I attribute the extraordinary difference in quality in the early and late works of Victor Hugo to his having only scant meals when he wrote the former, and to his having plentiful and delicious ones, to which he did the fullest justice, when he turned out the latter. Victor Hugo was *spirituel* before lunch or dinner; he was inflated in speech, and bereft of all sense of the ridiculous, when digesting either repast. M. de Lesseps is almost oriental in his abstemiousness at table, he being of a Southern family, and having lived long in hot countries, which are as healthy as any to those who adapt themselves to the climate. I dare say he owes his longevity and high spirits to his sobriety in food as well as in drink.

Volumes have been written against drunkenness; but any doctor who understands well the human frame, will tell you (if he can cast aside humbug) that drink is not as bad in its effects as gormandizing. Nothing so hastens senility as the latter. I should like to know how Ninon l'Enclos ate and drank, but fancy she must have

been temperate to be so brightly intellectual, as well as good looking, into a great old age. Catherine de Medici made it a rule to rise from table with an appetite, and to prefer lentils and onions and chestnuts to meat, and was always rating her married daughters, when she corresponded with them, for eating so much and fatiguing themselves so little. M. Barthelémy Saint-Hilaire, though eighty-four, works as hard and with as little fatigue as ever he did in his life. Twenty years ago he said to me: "I am persuaded that the civilized man eats three times more than what he needs when he is not checked by poverty. For my part, I was too poor until I was elderly to be a gourmand, and when I now go to dine at a friend's house, I only play with my knife and fork. Dinner is a mistake".

The czar, his brothers, and his uncles are all gormandizers, and what a heavy, wearied lot they all look, unwieldily as megatheriums, and about as intelligent. I have never doubted, since I began to think upon the subject, that George III. ate himself into the mad-doctors' hands, and Louis XVI., into semi-imbecility. Who were the great victors of the eighteenth century?—Voltaire, who had too weak a stomach to bear much food; Washington, who was spare and abstemious; and at the Revolution, the people of Paris, who were starvelings. The Scotch were a proverbially hungry people when they turned India into a British dependency.

I know a literary woman who leads a singularly laborious life, and thrives in health and spirits on it. She says that she owes, in a great degree, her good spirits and capacity to get through any

amount of work, or worry, and of strain on the nervous system, by cutting dinner. What with serious occupations, running to exhibitions, theaters, balls, and what-not, she is hardly ever in bed before half-past two in the morning, and more often three; and yet she gets up at nine, and keeps fresh, lively, and active, though weighted with *embonpoint*. My friend tells me that she most enjoys living when slightly hungry; then her mental consciousness is most keen, and her wits are most wakeful. She walks three or four miles daily. It is torture to her to engage in intellectual work after a repast, when the stomach, if the brain has to work, gets in conflict with it.

I have been discussing the dinner question with a Jew, aged eighty, who is an enthusiastic Mosaist. The reason he gave why his brethren bear so well all climates, is that they spoil their meat when they prepare it according to the prescriptions of their religion. It is first bled, and then steeped in salt and water until no redness stains the water. This unfits it for the spit or the grill, and does not make it toothsome in a stew—the only way it can be done,

unless boiled. Meat thus prepared has no savor, and does not tempt the Jew to eat of it gluttonously.

I once knew an *impresario* who was also a Jew. He held carnivorous feeding in horror, and told me that he never lost his time seeking for fine voices in countries where a fish or a meat diet prevailed. The most fish-eating Italians, those of Naples and Genoa, have not often among them sweet singers, the most meat-eating part of Great Britain—England—is also a voiceless country. Though the singing is so fearful in the Scotch kirks, my friend found some divine songsters south of the Grampians, and a greater number in the Highlands. He often heard common Irish women “lilt” and sing like nightingales, but never in the towns. Sweden was a country of song, because a country of grain. Norway was not. Too much fish was eaten there. Vocal capacity disappeared in musical families who got rich. They ate too much meat. The vocal birds are eaters of grain, fruit, and vegetables. No carnivorous one could ever sing a song. It croaks, has a bad liver, and is generally melancholy.

POLLUTION OF STREAMS AND DISSEMINATION OF INFECTIONS.

EXTRACTS FROM A PAPER BY WILLIAM B. ATKINSON, A. M., M. D., PROF. OF SANITARY SCIENCE AND DISEASES OF CHILDREN, AND SECRETARY OF THE AMERICAN MEDICAL ASSOCIATION.

THE average man seems to think that the air and water are equally free for him to pollute at his own sweet will or as it may suit his convenience. Not content with forcing on his neighbors the filthy smell of his tobacco in every public place, when he calls at your residence, or office which is devoted to the reception of ladies and gentlemen, he must pollute the air of the entire premises by persistently puffing the vile odor during the entire business transaction, leaving behind him an unpleasant memory, which long remains to inform everyone that a selfish being has obtruded his presence, and left his mark to annoy all who may be compelled to visit that place. The tobacco evil has become such a constant

annoyance everywhere that we voluntarily feel like crying out against it on every occasion.

But while the odor of tobacco is filthy, annoying, sickening to many, and I am sure has often caused severe and apparently unaccountable illness to many young children, it does not at all equal, in far-reaching danger, the matter which we desire to bring to public notice. I allude to the pollution of water courses, running streams, creeks which water many a pasture field, and which wind through many a forest glade, until, miles away from the source of pollution, innocent families are broken up by the loss of parents, or one or more children are snatched away, while confidently using

the water which for years has been regarded as the purest that could be desired. Nor is this all. The cows are permitted to drink at the little stream which, running through their pasture, has never been the object of suspicion. Their milk is used by the family or sold to distant patrons, and the deadly typhoid is carried to the distant city, there to decimate the population or enfeeble those who survive. The time has come when ignorance cannot be used as an excuse. The strong arm of the law must be invoked, and the intentional or even careless pollution of the water must be heavily punished.

A few illustrations will show the frequency and terrible danger of this conduct. A builder erected six houses in a country place, and carefully inclosed a small spring with a sewer, into which all the sewage of these six houses was turned. Soon the people living below, whose houses were on the line of the little spring, were annoyed by a constant odor of fecal matter which they traced to the waterway, and an examination showed the presence of quantities of cesspool filth being carried along with the stream. The full importance of this matter was shown when a survey of the stream, as it meandered through the fields and woodlands, disclosed the fact that it emptied into a much larger stream, used by several dairy farms as the sole source of their water supply for man and beast. A double wrong was done in each case. The families of these farms were thus constantly in danger of disease, and were also innocently liable to send the same to every family to which they sold the milk. Upon investigating the houses, for which this sewer had been made, I found that a case of mild typhoid fever had just occurred in one of them.

Again, a farmer, or other person, living on a stream, loses a hog by cholera, a horse by glanders, a number of hens from any of the diseases which prevail among fowls, and the carcass is at once thrown into the convenient stream, with the expectation that it will soon be carried away. A second illustration will evince the result of this kind of pollution. A beautiful valley for several weeks was the

seat of an epidemic of diphtheria, and many children died of this loathsome disease. An examination proved that the disease had broken out soon after the body of a hog which had died of cholera had been thrown into the adjacent water, and, after being carried a short distance, was washed up on the banks in a putrid condition, where it laid for a time, until the family concluded that the terrible sore throat and sickness which afflicted them was the result of the foul air they were compelled to breathe. The putrid corpse was again sent on its way to afflict other homes. In this instance it would appear as though every means had been employed to insure a foul stream to give forth its death-dealing germs to the houses which lined its banks. The cesspools of houses and factories were so placed as to allow their contents to flow into the stream, thus providing the best form of culture beds for disease germs. I may mention here that the people of the village adjacent seemed, from some cause, to have innocently aided, in a variety of ways, in spreading the epidemic. A school in the neighborhood first attacked was closed, as a precaution against the carrying of the contagion, when immediately many of these children went to a school at a distance, and thus acted to do the very thing supposed to be provided against.

A party camp out, near a stream. When ready to break camp, in many instances all the refuse food, even the straw bedding, more or less foul, are dumped into the water as the easiest way of disposing of it. Or a dealer finds a lot of food on his hands, either perishable by reason of the hot weather, or because it is already partly decayed; he dumps it into a stream, where it is eaten by the fish, who speedily die from the effects, and thus the dead fish and the putrid food add to the pollution of the water. Every one should regard himself a sanitary officer so far as to prevent as much as he can the doing of anything inimical to health. Were the careless or the intentional evil-doer aware that he was under the observance of a body of people who were determined to prevent his injuring their health, whether through carelessness or wickedness, he

would at least be more circumspect in his actions. If each citizen made it a duty to see as he went along that the petty wrong-doings were at once frowned on, there would be vastly less of such things. How many of us care to interfere to stop a fight between boys on the street! Or to stop boys from killing birds by the use of the slingshots or catapults found in the hands of the boys and on sale in the stores.

In short, we go on, perhaps saying, "it is bad, but the police must see to it." Now, if these young rascals knew that every passerby was a policeman, ready to frown on their conduct, the evil doing would be greatly lessened. So in the country places. The people must aid the sanitary authorities, and while seeing that they do no wrong themselves, see also that the evil-doer is kept within bounds.

THE MOST RATIONAL CURE YET FOR CONSUMPTION—PERFUMING AND VIRTUALLY EMBALMING THE LIVING BODILY TISSUES.

WHILE Berlin has been discussing the hope that Dr. Koch's investigations may lead to the discovery of a remedy for tuberculosis, Paris has diverted its readers with descriptions of a process by which Dr. Roussel is said to have cured many cases of the disease, especially of pulmonary consumption, by virtually embalming the living body to preserve it, as that of a mummy, against the destructive microbes. This he does by the subcutaneous injection of antiseptic perfumes; which are soon perceptible in the breath.

Dr. Roussel's theory is that all the symptoms of phthisis are the efforts of nature to throw off the microbe which is destroying the system. The suppurations, expectorations, are nature's attempts to get rid of the invading bacilli. The high temperature burns the leucomaines, etc., that circulate in the blood; the abundant night-sweats, the diarrhoea, and surcharged urines are all so many modes of elimination. They are the arms which nature has given the human body to expel those animal particles which have been rendered injurious by the invading microbe. Therefore Dr. Roussel maintains that true science rests in the use of such therapeutics as will attack only the microbe, and that we ought not to try to diminish the power of those weapons which our organism employs in self-defence. Rather should we seek to increase the vitality of the subject who serves as a field of battle between human life and the life of the microbes. But remedies swallowed injure and disturb the

organs of digestion, and therefore weaken the patient, while they altogether fail to reach the lungs, where the microbes are located. General hygiene—constant ventilation, plenty of sunlight, plain nutritious food and suitable clothing are all strongly advocated by Dr. Roussel. When these alone are secured a general improvement in the condition of the patient is often noticed, and it is the good hygiene rather than the drugs given that secures such amelioration. To prove the efficacy of a drug, the improvement should take place when no alterations are made in the patient's surroundings and mode of life. Dr. Roussel professes to have greatly assisted in the cure by conveying through the medium of the blood, direct to the lungs, antiseptics fatal to the life of the bacillus tuberculosis. The Paris correspondent of the Therapeutic Gazette writes on the treatment as follows:

The method employed is simple, the practice easy, but the indications given must be rigorously observed, otherwise unpleasant accidents may result. Eucalyptol is Dr. Roussel's favorite antiseptic, which he uses in the proportion of twenty per cent. for his hypodermic injections. But if this or other medicaments are diluted in some substances very grave accidents may result. Dr. Roussel employs pure sterilized olive oil, as this is a substance not foreign to the usual nutrition of the human body. It is easily saponified and assimilated by the organism. This is effected as readily by the capillaries of the

skin as by the digestive tube. The volatile essence contained in the sterilized olive oil travels with the blood till it reaches the lungs, and there, being placed in contact with the air the patient breathes, becomes diluted in the lungs, evaporates, and escapes with the breath. Thus the patient's breath smells of eucalyptol very shortly after the injection, and subsequently both the sweat and the urine have the same odor. When thymol is used, the odor is very pleasant, and several patients have been surprised and pleased to find how sweetly they were perfumed by this medical treatment.

Naturally the injections have to be taken for several months, as the perfumed effluvia must be absorbed; must, in fact, enbalm the entire body, to preserve it, as that of a mummy. The friends or nurse of the patient can easily be taught how to perform the operation. This, done systematically and persistently, will, Dr. Roussel maintains, kill the bacillus especially if it be a case, not of inherited, but of contracted phthisis.

The first cases treated in this manner by Dr. Roussel date as far back as 1883-84, and some of these patients have enjoyed good health ever since. A female patient of the late Dr. Fauval, the eminent physician who presided at the International Congress of Hygiene of 1878, was sent to Dr. Roussel by Dr. Fauvel. Her right lung was affected, and numerous bacilli had been found in her sputa. The treatment commenced in January, 1883, and in January, 1884, the bacilli and all acute symptoms had disappeared; the patient gained weight, and has ever since been able to work, earning her living as a sempstress. The patient has been seen and examined by numerous physicians, and the case is interesting principally because it is one of the earliest on record. In the month of March, 1888, Dr. Roussel brought before the Society of Practical Medicine eighteen patients suffering from consumption. In the month of March, 1889, he brought the greater number of the same patients before the Society, so that they might be examined by the same medical

men who had seen them a year previously. Drs. Tisson, Guerder, Duchesne, Gaudin, Thermes, Boyer, Gronineau, and others examined, at the end of the year, fifteen of the eighteen patients. The patients were either to all appearances cured, or very greatly improved in health. Analysis of the sputa showed that the bacilli had altogether disappeared. Dr. Dujardin-Beaumez presided at this sitting. They all testified too that the place where the numerous hypodermic injections had been administered remained in a perfectly normal condition. There was no inflammation. Besides these particular cases brought before the Society, Dr. Roussel has some thirty double analyses of the sputa of his patients made either at hospitals or by eminent bacteriologists. The first of these two analyses for each patient shows that the bacilli of Koch abounded in the sputa. The second, made generally twelve months later, declares that the bacilli had disappeared.

In 1886, Dr. Benjamin Ball made experiments at the Laennec Hospital for Incurables, carrying out Dr. Roussel's system. Out of twenty-one patients, ten were able, after treatment, to leave the Hospital for Incurables and resume their work, five were still under treatment at the time these facts were reported by Dr. Ball to the French Academy of Medicine, six had died. Dr. Ball stated, in his report to the Academy of Medicine, that the hypodermic injections had a marked effect on the "septic" symptoms of phthisis,—namely, there was a cessation of night-sweats, of diarrhoea, a reduction of the expectoration and the fever, together with improved appetite.

The greatest care is required in the practice of the injections. The syringe generally used for the injection of morphine &c., is altogether unsuited. The metal is too readily oxidized, and the instrument cannot easily be kept clean. Nor are the needles long enough to traverse the dermis. Dr. Roussel employs a syringe made of celluloid,—a substance composed of camphor and cellulose treated by nitric acid. Hard, transparent, unbreakable, non-porous, it cannot be affected by

the metalloids and alkaloids used for hypodermic injections. The needles are of steel, covered with platinum, and four centimetres in length. They carry the liquid under the cutis as far as possible from the puncture on the skin.

By the nature of the instrument employed, by the antiseptic precautions taken, by the assimilation of the vehicle—sterilized olive oil—in which the medicament is diluted, all accidents that might otherwise result from the constant practice of hypodermic injections are avoided.

These latter practical considerations are,

he considers, of the *utmost importance*, for many failures have attended this mode of treatment, not because it was wrong in principle, but because it was clumsily applied.

Dr. Roussel has supplied Dr. Koch, in response to the inquiries made by the eminent German professor, with full details as to his mode of procedure. There is no secret in Dr. Roussel's system; the profession are welcome to make every inquiry, and he is ready to show everything, even his patients, to competent investigators.

FASTING AND THE THEORY OF NUTRITION, BY DR. LUIGI LUCIANI,
PROF. OF PHYSIOLOGY IN FLORENCE.

AT all times there were men who furnished proofs of their extraordinary attainment in eating; but it was only in our times that virtuosos of fasting have made their appearance. Among all the representatives of this strange art the Italian Succi has created the greatest sensation. He has repeatedly fasted for 30 days without his bodily and intellectual functions being impaired in a noticeable degree. With regard to the causes of his great power of resistance, opinions were widely divided. Succi himself tried to spread a belief that he was in possession of a marvellous liquor the use of which rendered it possible for him not to require any food. It seems that Succi propagated this notion for the purpose of procuring a steady income from the sale of this liquor. But this liquor was found to be a compound opiate, well-fit to appease the pangs of hunger, but without any nutritive value. The physicians who had observed him during exhibitions at Milan, were inclined to consider him insane. This opinion was freely expressed by Dr. Lava in Turin. How is it possible, he asked to look for a reason of his power of resistance? Is it a new thing to see insane persons support hunger without feeling any pain or complaint? Professor Lambroso declared he considered Succi an hysteric whose power of resistance was the result of autosuggestion. Dr. Battaglia

was of opinion that it was a case of an *æthesia* by which the central portion of the nervous system had been attacked. All these views were not without plausibility; for Succi had actually been twice under treatment for insanity. The above mentioned author, having subjected Succi to uninterrupted observation, either by himself or by an assistant, during thirty days of fasting in Florence (March 1 to March 31, 1888), and having instituted the most searching investigations on the subject declares that he considers him "rather eccentric and somewhat odd yet not insane," and he explains Succi's power of resistance by his bodily constitution and its physiological working. Before beginning his fasting performances, he used to prepare himself by copious eating. His digestive function being in an excellent condition the excess of nutritive material, which had been ingested, was accumulated in the shape of fat, glycogen and albumen; on this he lived at the time of his fasting. Besides this, it has to be considered that Succi was a full grown man, whose period of development was passed long ago; and, lastly, his process of assimilation was slow in consequence of an inherited disposition, as shown by the comparatively small secretion of urea and the slackness of the respiratory and combustion processes. As causatively connected with

this peculiarity, Luciani regards the fact that Succi's blood is unusually poor in red blood corpuscles which are known to perform the important task of fixing chemically the oxygen inspired and of conveying it to the tissues in need of it. During the 30 days of fasting Succi never complained of any suffering of any kind, was never in very much need of rest, nor was he subject to insomnia; his body was not considerably emaciated and, on the thirtieth day, very far from the extreme stage of starvation. Luciani thinks that Succi could have continued his fasting for 20 days longer, although perhaps not without some injurious effects, yet without danger to his life, and he supports his estimation by Chossat's researches according to which death by starvation results only after 40 per cent. of the original weight of the body has been spent, while Succi had not lost more than 19 per cent. at the end of his fasting period. During this time he indulged in much motion, walking every day 3000—4000 paces on an average. On the twelfth day he took a ride of an hour and a half's duration; on the 23rd day he took part in some popular games where he showed force and ability in a fencing performance. On one of those days he made, as noted by the pedometer, 19,900 paces, on another day he made 7,000. It is true that in consequence of inanition the muscular work had somewhat decreased, but not in a degree which would be regarded as morbid. Nor was to be observed a decrease in the working of the sensual organs, nor a fatigue in his mental power. In no respect, during the whole fasting period, was there any symptom of a neurotic condition or of some deviation in the principal functions of the nervous system... Ideal motives were unknown to him; he hoped to make a fortune out of his fastings and enjoy it in peace afterwards.

Succi's beverages were mineral waters from Riola and Vichy which are distinguished by their contents in alkaline carbonates and free carbonic acid. In this connection Luciani made the interesting observation that the use of these mineral

waters produced a lowering affect on the activity of the process of nutrition.

An important fact resulting from Luciani's observations is the apparent existence of some regulatory system which during the period of physiologic hungering subjects activity and consumption of the several tissues to a common control, to a kind of mutual solidarity and compensatory interchange. Luciani thinks that this regulating element is represented by the nervous system, which in a way compels the tissues to provide for its needs, in controlling the chemical process, and consequently the use of its products during the period of fasting. The nervous system preserving during all this time all its wonderful activity just as in normal condition, and spending its gifts as before, it is to be concluded, as Moleschott already has pointed out, that it acts in the fashion of the great and powerful, living out of the pockets of their subjects and, as it were, sucking their blood as long as they find any. As long as this highest regulator is in reception of sufficient material for his maintenance in normal condition, the process of involution through inanition is only physiologic; but as soon as the work furnished by the several tissues becomes insufficient for the maintenance of the regulator in his position, he has to decay, he ceases to regulate, and physiologic inanition is converted into morbid inanition, which soon leads to collapse of the whole fabric, i. e., death.

We see that the elements,—the cellulæ, tissues and nerves of the human organism have to fulfill very different duties while endowed at the same time with different rights and privileges. The nervous system stands at the head of the organism; it is the supreme regulator for receipts and expenses. For the purpose of enabling it to satisfy this task, it is relieved of all immediate care for its own existence; it relies for its maintenance on the tissues which in days of penury are drained by it to the verge of exhaustion. From this standpoint the nervous system plays the part of a parasite. Chossat has found that starvation makes the fatty tissue loes

93 per cent. of its original weight, the muscles 34—35 per cent and the nervous system 2 per cent only. It is obvious that there is nothing like absolute equality in the "cellular state." The principle of organic construction is differentiation or sundering, in fact, an aristocratic principle worked out in the economic coexistence of the

cellules in unequal functions and at the same time endowed with equal rights and privileges. As soon as this inequality ceases, the economic organism collapses and death is the result. This is the beginning of anarchy in the organic world, the rule of the elementary atoms withdrawn from their connection.

MISCELLANEOUS NOTES AND EXTRACTS.

A SPECIMEN OF "INSPECTION" PROBABLY NOT RARE.

The following was recently sent by a correspondent to The Globe, Toronto. It probably reported correctly what very often occurs. And what can we expect from such inspectors as are sometimes appointed? "The following says the correspondent, is a terrible reflection on our city 'sanitation':—One member of a family takes diphtheria and the physician called in notifies the Health Department. An inspector is sent, who calls at the house, hurriedly asks a few questions—the mother says he shook like a leaf—and hastens away. The doctor gives very full instructions as to the proper disinfection, but neither tenant nor landlord seem willing to assume the expense, and as the doctor has no authority to enforce the carrying out of his instructions they are ignored. Scarcely has the first patient recovered when another family rent a room or two in the same house and move in. In a week one of the new comers takes the disease in a virulent form, the health officer is again notified, another hasty call is made, but nothing is enforced. The patient dies. The doctor again gives full directions about disinfecting the house and clothing, but instead of being complied with he finds, to his astonishment, that a few minutes after the death of the child the female portion of the family, notwithstanding the fact that they had been living for days in the poisonous atmosphere of that room, hastily gathered together their clothing, and as far as can be learned, without the slightest effort to disinfect their persons or clothing, took a train for a neighboring town. The other tenants will doubtless move out, if they have not already done so, and the house will be re-let to some others to undergo the same terrible experience.

EXPERIMENTS ON THE PREVENTION AND CURE OF DIPHTHERIA AND TETANUS IN BERLIN.

The Berlin correspondent of the British Medical Journal reports on Dr. Fraenkel's experiments for the attainment of immunity from diphtheria. After unsuccessful experiments on guinea-pigs first with an attenuated virus, and then with pure toxalbumen, produced by the diphtheria bacillus, immunity in animals was attained by the injection of from 10 to 20 cubic centimetres of fluid from a three weeks old bouillon culture, and the diphtheria bacillus, heated for one hour at 65° C. to 70° C. At first the power of resistance to infection was diminished, but after a fortnight complete immunity was attained. Fraenkel assumes the presence of two different substances in the culture fluid, one toxic, which loses its activity at 66° C., the other conferring immunity, and able to resist a temperature of 66° C. The inoculations were of prophylactic and not of therapeutic value. Behring and Kitasato, both workers in Koch's laboratory, state that they succeeded in curing the disease in infected animals, and in rendering healthy animals immune for the future. They assert that the immunity of rabbits and guinea-pigs immune to tetanus depends on the power of the blood serum to render harmless the toxic substances produced by the tetanus bacilli. Their experiments prove, (1) that the blood of rabbits immune to tetanus possesses qualities destructive to the tetanus poison; (2) that these qualities can also be demonstrated in the extravascular blood and the serum obtained from it; (3) that these qualities are of so durable a nature that they remain effective in the organism of other animals, so important therapeutic effects can be attained by transfusion of blood and serum;

(4) that this property of destroying the tetanus poison is lacking in the blood of animals not immune to tetanus, and that if the tetanus poison be introduced into animals not immune to tetanus, its presence can be demonstrated even after the death of the animals in the blood and other liquids of the body.

THE BRITISH MEDICAL JOURNAL ON
TUBERCULOUS BEEF,

After referring to the stringent regulations relative to trichinous pork in France the British Medical Journal says : What holds good of trichinosis will apply equally well to tuberculosis. Now that we know that there is a danger to be apprehended from the use, as articles of diet, of the products of tuberculous animals, no measures that can be adopted can be too stringent to prevent any possible spread of the disease, but when once the method of infection is thoroughly understood and when adequate measures for the destruction or elimination of the active virus of the disease have been devised any restrictions that are found to be unnecessary may be freely removed. Until the disease is thoroughly understood, however, the first measures to be taken are compulsory inspection of all cattle and slaughtered animals, elimination from the food supply of all tuberculous material, and the granting of partial compensation to the owners of cattle for any loss they may suffer through what, though absolutely necessary for the present, may in the future prove to be too strict measure of protection. Without being panic stricken in the case of tuberculosis, steps should undoubtedly be taken at as early a date as possible, to allay the well-grounded feeling of uneasiness. Whatever stringent precautions the present Royal Commission on tuberculosis may recommend and whatever may be the finding they come to as a result of their investigations, public confidence is sure to be strengthened, especially if no half measures be taken—half measures that can only be adopted from the fear that the loss entailed on the public purse or on private pockets might be excessive. The immediate indirect gain would be enormous, but this we confidently anticipate would be far exceeded by the enormous increase of profit that would accrue to farmers and butchers from the breeding and slaughtering of healthier stock.

“ THE DEADLY CIGARETTE.”

Dr. R. Martin (Manchester) writes, in the British Medical Journal : The injurious effects of smoking may not, except under very careful testing, become apparent for years. In many cases it may be difficult to prove that certain diseased conditions are chiefly or wholly attributable to smoking. But where our knowledge of disease processes are very exact, and especially where we have undoubted methods of testing the symptoms presented, the proof of the adverse action of a particular agent may be placed beyond doubt. For years it was denied that smoking by itself caused amblyopia. But at length those who maintained the affirmative were able to prove that in many cases, tobacco was the sole exciting cause, and showed that in the majority, without any treatment whatever, vision was restored. That smoking by youths is mentally injurious was thoroughly demonstrated by a Commission appointed by the Emperor Napoleon. An investigation made in some of the chief schools in France showed that, as a rule, the boys who smoked were, in the majority of cases, far inferior in ability to the non-smokers. The result was that the Emperor issued an order that no boy under the age of 16 years should be allowed to smoke. A similar investigation was made in the naval and military academies in the United States; it was distinctly proved in each case that the students who smoked held an inferior position in the examinations to the non-smokers. The Commissioners in this instance also recommended the authorities to prohibit smoking amongst the students, and an order was issued accordingly. . . . Scarcely a case can be found where a boy who has inherited a sound gustatory apparatus, has acquired the habit of smoking, without having had to outrage his nature by breaking down the safeguard provided to secure him from harm in the choice of food.

THE VALUE OF VACCINATION AND RE-VACCINATION IN PRUSSIA QUESTIONED.

Dr. P. M. Davidson (Congleton) writes as follows to the British Medical Journal of Dec. 20th, last : Without entering into any discussion as to the advantages derived by Prussia or other places from vaccination and revaccination, I should like to say that it is extremely doubtful that

the vaccination cause is promoted by attempts to place to its credit every little incident connected with temporary diminution in small-pox mortality, when, on at least equally good grounds, such diminution can be shown to be due to causes wholly independent of it. Dr. Drysdale tells us that there was a great epidemic in Prussia in 1872-73, when the mortality was 243 and 262 per 100,000 of the population. Immediately after this when, presumably from the number of deaths that had already taken place, all the susceptible material had been used up, vaccination and revaccination were made compulsory, with the instant result of reducing the mortality to an average of 3.6 per 100,000. In the first year of the new law, before there had been time to set it in motion, the death-rate fell to 3.6; in the third year to 0.3; but in the sixth year, when the system might reasonably have been expected to be carried out very perfectly, the rate rose to 2.6, and in each of the subsequent years there was a strong rise. It seems to me that a rise in mortality, coincident with and in proportion to the perfection of any system adopted to lessen it, does not speak well for the system. Dr. Drysdale cannot be ignorant of the fact that after a great epidemic of small-pox the place where it takes place is almost free from the disease for many years. . . The coincidence of increasing mortality with increasing perfection of the "experiment" points as strongly to a gradual increase of susceptible material, and to the slow approach of another great epidemic, as to anything else. A comparison is made between the mortality in Prussia and in Austria in the years from 1875 to 1882, which appears to be very much to the disadvantage of the latter, but in making this comparison it ought to have been kept in view that, unlike Prussia, Austria had not had a great epidemic in the two previous years to protect her population. If we include the Prussian two epidemic years, and then sum up the deaths for each country, the mortality is found to be the same. Perhaps Germany had a little advantage in getting her deaths in a lump sum, instead of by equal annual instalments.

WYNTER BLYTHE ON IMMUNITY AND PROTECTION FROM INFECTIOUS DISEASES.

In his admirable book, "A Manual of Public Health," Mr. Wynter Blythe, M. R. C. S., L. S. A. &c., London, says: Modern

research has amply shown that the greatest proportion of the maladies which are more or less preventable, belong to the domain of parasitism—life preying upon life. The micro-tragedy which may be watched in highly magnified drop of pond-water, a voracious monad swallowing up a weaker, is repeated within the body of the mammal. It is scarcely necessary to call to mind that all the higher animal bodies are but communities of monads, or living points, some floating free others stationary, these last attached to their neighbours by protoplasmic bonds of great tenacity (just as adjoining households may have telephonic connection), but, with their individually and automatism unimpaired. A colony of inimical microbes obtaining access to this republic is similar to a hostile armed band entering a city—strife at once commences, the strangers attack and are attacked. If the invaders are all killed, no disturbance of health is produced; in any other event, the strangers increase and multiply at the expense of the normal inhabitants, the latter being rather destroyed by some special toxic substance created by the enemy than in any other way. The analogy of invasion and defence is rendered closer by a knowledge of the fact that the mammalian body has its fighting cells, a soldier-like community, one of whose special offices is to fight; these have been called *macrophages*. The metaphor is a sound one, says the Sanitary Record, but the fight is not as the combat between the armed forces of civilized nations, but rather as between the savage dwarfs of the Congo forests, who slay each with poisoned arrows. Speaking of acquired immunity, the author continues: The macrophages have a rapid cycle of existence, a few hours may represent several generations, so that acquired properties are regularly transmitted: those poisoned by the excretion of pathogenic microbes perish, those that more or less effectually resist, continue to live and to propagate, until, by a reception again and again of this process, the body may be full of resistant living particles, and the foreign tribe is annihilated or expelled. If now a second inimical colony of the same kind obtains access to the body it meets with the fighting descendants of the old heroes, and the attack is immediately repulsed, and this is the nature of the protection conferred by a recovery from a first attack.

EATING AIR.

Dr. E. Cutter, at the meeting of the American Medical Association (New York Med., Times) said that air is food; mineral food at that, as water is mineral food; his definition of food being any substance from without taken into the human body, which becomes a normal constituent part of that body. Then as the oxygen and nitrogen of the air become component parts of the body they are food. This idea was an old one. Once, in going from New York to Boston, he sat near a man in the cabin who had open on his knees a book in Hindostanee, and in his hands he had an open book in French. He was a missionary from India, and spoke twelve languages. On being asked if he thought that English would be the universal language, he said "No, it is not expressive enough." For example, we may say in English "A man walks out, and a dog walks out," but the Hindostanee language puts it. "The dog walks out and the man goes forth 'eating air.'" This expression is three thousand years old. Again the same idea is met with in Plutarch's lives. A late account of the gypsies states that they every morning go out early and inhale full breathe; hold them; pound their chests hard in expiration, and then inhale deeply again, and so on. This they call "eating air." He said further, that he never could believe that nitrogen was an inert substance in the air. Just as the false vocal cords were denounced as almost useless things and hence called "false," and as it had been found out that they were as active as the true vocal cords in the control of the expiration, so he thought that some time the active function of nitrogen in the air would be found out. The amount of nitrogen consumed by the human race daily was enormous and could not be overlooked.

DIETETIC PROGRESS.

Dr. Wallace Wood, in *Journal of Reconstructives*, says: Astronomy means the laws of the stars; gastronomy means the laws of the gullet. A grand dinner is a complicated affair, and has only been evolved by ages of civilization and culture. Primitive races eat whenever they can get it. Nomadic tribes with flocks and herds establish regular needs, and discover the oldest gastronomic combination, bread and meat. The peasantry of civilized nations combine dishes together to make the "square meal," say meat, potatoes, and a relish with bread and butter. Cultured

people gradually come to add two courses to this "square meal," one at the end called dessert, to help digestion; the other at the beginning, the preliminary course or *gusto*, to whet the appetite. In a state of still higher refinement each of these courses falls into two parts. The "after meal" comprises pastry and dessert; the "mid meal," meat and game; the "preliminary meal," soup and fish. But the high is reached in the grand symposium or banquet of nine courses: 1, *hors d'œuvre*; 2, *potage*; 3, *poisson*; 4, *relevé*; 5, *entrée*; 6, *rôti*; 7, *entremet*; 8, *sucrée*; 9, *dessert*. Nine courses, exclusive of punches and coffee; nine meals in one; *après nous le deluge*—indigestion, gout and billiousness; exit the cook, enter the doctor.

GENIUS AND INDIVIDUALISM.

Dr. Handfield Jones, in his eloquent address before the St. Mary's Hospital Medical School, London, says the New York Medical Times, defines genius as the highest product of individualism, and says that, while few human beings reach genius, no human unit is without his share of individualism, and it need only that he be true to himself to develop it. Every man, whatever his station in life, is endowed with a personal equation of thought. He can either simply store the raw material of facts and ideas as they are presented to him by others, or he can digest and reproduce them stamped with the seal of his own individuality. It rests with ourselves either to be mere echoes of knowledge or living voices, recording our own gleanings of truth for the help of coming generations. A man has made a tremendous stride when he has learned to have the courage of his own convictions, and although he may have all due respect and reverence for great names, still he has not reached the first stage of progress until he has subordinated that reverence to a profound respect for his own individual opinion. Think, weigh, analyze rather than repeat, parrot like, the unsupported assertions of others.

THAT life often hangs on a thread, we have often heard. It may hang on less, even a decimal point. It was a point so indistinct in a New York physician's prescription that the druggist put up 75 grammes of aconite, instead of 7.5 grammes as intended. The mother of a sick baby, for whom the medicine was given, tested it by tasting from the bottle, and was killed.

EDITORIAL NOTES.

THE PUBLIC ANALYSTS DEPARTMENT of the Dominion, in association with the Department of Inland Revenue, is doing the country excellent service. It is fairly filling the place of a hygienic laboratory. To fill this fully however it should be greatly extended, and if associated with a department of health it might be rendered still more efficient. In the last Bulletin (No. 19), on Mustard, it is said, the Adulteration Act practically admits the admixture with mustard of substances not injurious to the health, provided the mustard sold be labelled as a "compound." The Chief Analyst says, turmeric "is said to be harmless," to the health, "but the introduction of any dye-stuff into food should be discouraged." Certainly it should, and indeed, prohibited. The Chief Analyst has doubtless correct suspicions as to what is or *may be* injurious to the health.

HEREIN is the great trouble and danger. "It is said" so and so is not injurious. But *who* said so. The science of physiology has not yet, with all its progress, advanced so far as to be able to show that turmeric dye is not injurious to health when taken even in minute quantities into the delicate human organism. We have never learned of any special experiments being made in this behalf, and do not believe that any of special value ever have been made. Indeed it may be laid down as an indisputable fact, that, as every human act is either for good or for evil, so every particle of substance taken into the body, if not calculated to afford nutrition and be of use, is harmful and injurious to health. Turmeric, the root of the *curcuma longa*, is used as a dye, as a medicine and as a chemical test. It cannot be regarded as in any sense a food. Repeated quantities of it, however small, taken into the stomach we believe would not fail to have a certain injurious effect upon the delicate cell-life of the organism.

IT IS PROVIDED, it is true, that the Governor in Council may from time to time fix the limit of such mixture &c., but who is to guide the Governor in Council?—as to what is injurious to the health or otherwise. With a department of health such questions would receive careful consideration and judicious and safe settlement. But besides turmeric, clay, gypsum, ground husks, &c., are administered to us pretty extensively

in our mustard, as well as like substances in many other of our grocery products. These are little less than poisons. Is it not time there were greater activity in the suppression of this crime of adulteration of food stuffs? The Chief Analyst evidently desires that more stringent measure be adopted. There is a broad field even in this alone for the aid of a health department.

THE PUBLIC HEALTH in Canada appears to be in as satisfactory a state as usual. We do not know of any special or wide spread epidemics in the Dominion at the present time. Last year there were recorded in the twenty-nine principal cities and towns in Canada 19,338 deaths; or a mortality rate of about 21.5 per 1,000 of estimated population which in most cities, as has been found in some, is placed too high. This rate is about 20 per cent. higher than that to which the mortality in England has been reduced during the last few years. And as we have before now pointed out, this means, if the same rate prevails throughout the whole of Canada, and Medical men generally believe it does, that twenty thousand more human beings die in the Dominion every year than would die if the mortality in it were reduced, as by proper education of the people and Sanitary administrations, to the average mortality rate in England. Surely here is indication for Governmental action—for action on every hand. In 1889 the total mortality in the same cities was 18,234 in 1888 it was 17,160 and in 1887, 15,636, a much greater gradual increase than in proportion to the population.

IN TORONTO during last year, 117 deaths from typhoid fever were recorded. Typhoid picks its victims as it were for the most part from among the best lives; that is among those in the prime of life or who have grown up to adolency. An average of over 15 deaths a month in the last 3 months (with 15 in December) shows that the epidemic is not abating.

IN HALIFAX there have been over 200 deaths from diphtheria during the last 13 or 14 months, with but slight indications of abatement. This disease usually attacks children advanced in years, or in or towards youthful age.

THESE TWO cities should be ashamed to make such an exhibition of insalubrity and lack of good sanitary administration, and in this age.

DIPHTHERIA caused nearly 50 per cent. more deaths in the Dominion last year than in the previous year. Who will contend that we need not multiply means for educating the people, removing the causes and preventing the spread of disease?

ON KOCH'S TREATMENT the British Medical Journal supplement of the 3rd inst. reports thus: On December 21st, Prof. Cornil brought a series of lectures on Koch's treatment at the Hospital Laennec to a close. He summed up the results which he had so far obtained by the new method. . . . In tuberculosis of the larynx "beneficial results may perhaps be obtained," but extreme caution is required so that local swelling may not endanger the patient's life.

IN PULMONARY TUBERCULOSIS, we must now, in M. Cornil's opinion, "abandon the greater part of the hopes which were at first entertained." Here he thinks the indications for the treatment are extremely limited; "in the majority of cases it may be very dangerous." It is useless to think of employing it in acute, galloping phthisis. In advanced phthisis, where there are large cavities in the lungs, the injections, so far from being useful, are positively hurtful. Even in incipient phthisis M. Cornil is very doubtful as to their effect. . . . In some cases the injections caused attacks of hæmoptysis; in others abundant pleuritic effusion. In certain cases of chronic phthisis, in which the disease is quiescent, or nearly so, the treatment would, M. Cornil thinks, be not unlikely to kindle it into fresh activity.

PROF. SENATOR delivered a clinical lecture on Koch's treatment based on fifty-three cases under his own observation (*Berlin, klin. Woch.*, Dec. 10th). The cases represented a total number of 400 injections made over a period of three weeks. He thinks the treatment indicated in all cases in which it seems likely that the tissues killed by the injections will be eliminated easily;—lupus, and tuberculosis of the larynx, nose, mouth, and intestine. With regard to the lung, "good results can be expected only when the affection is recent in origin and slight in character."

PROF. VIRCHOW delivered a lecture before the Berlin Medical Society, giving the results of 21 post mortem examinations made on the bodies of patients who had died after having been treated with the Koch lymph. Prof. Virchow declared that the injection increases the bacilli in the body and causes them to migrate to portions of it previously unaffected, thus virtually generating a new infection.

AN "INSTRUCTIVE STORY" relating to an epidemic of diphtheria from the milk supply, at

Surbiton, Eng., is given in the British Medical Journal of the 3rd inst. There was a "notification" under the Act of the first few cases and the milk being suspected the vendor was notified and the supply stopped; still in all 22 houses were invaded, giving 27 cases and 3 deaths. All the houses were supplied with the same milk. Inquiries instituted at the source of supply, in the country, revealed that there had been a succession of cases for some weeks past, that the schools were closed for three weeks, and that three inmates of the farmer's house had been attacked with the disease. If prompt notification had not been given of the early cases many more cases would doubtless have occurred.

THE PROPOSALS which were made by Mr. Ernest Hart at the Liverpool meeting of the British Medical Association, for the education, examination, and registration of plumbers, has had a far-reaching and practical effect. There are now a number of centres of education and examination of plumbers throughout Great Britain, and at the quarterly meeting of the Court of the Company of Plumbers, on the last of December, Sir Philip Magnus brought forward a report showing that 1,550 apprentices and journeymen plumbers are now attending plumbing classes in London and the provinces, and that at seven examinations held in the last session, the average number of passes was 44 per cent. of the total number of candidates. It is thought Mr. Hart's scheme will soon be completed, by an Act of Parliament for the protection of the title of registered plumbers.

THE THIRD REPORT of the Royal Commission on Vaccination has just been issued and contains minutes of the evidence taken during the twenty-one sittings held between February 19th and August 7th last. Most of that evidence was given by opponents of vaccination, the most important contributions being from Mr. Wallace, Mr. Wheeler and Mr. Tebb. The British Medical Journal says: "We do not feel that the weighty arguments in favor of vaccination have been shaken by the evidence" contained in the report.

AT THE Royal Academy of Medicine in Ireland recently, Dr. MacWeeny read an exhaustive paper on the typhoid organisms and exhibited pure cultures on gelatine and agar-agar, from the spleen and enlarged mesenteric glands of a patient who had succumbed at an early stage of the fever in the Mater Misericordiæ Hospital, Dublin. As to the infectiousness of typhoid, there was no doubt that its organism was capable of living outside the human body, and that infection thence took place, and not from one

patient to another. Of all the organisms with which they were acquainted, it was the least exacting in its cultural requirements. A German investigator of the highest scientific reputation, who was sent to investigate an epidemic, and examined the wells of the locality, found it, not in the well water, but abundantly in the soil in the neighbourhood of the well.

APPLES are now recommended in dipsomania. Dr. Triplett (in *Med. Bull.*) calls the attention of the profession to the fact that he first noticed that those who were habitual drinkers of alcoholic liquors very seldom ate apples. He found that a diet composed largely of good, ripe apples, of the tartish variety, greatly diminished the desire for the accustomed stimulant. He insists when treating dipsomaniacs, that apples shall be taken with meals and between the meal hours, and finds that where it is kept up the desire for alcoholic stimulants soon becomes nil. He has used strychnine and other vaunted remedies, but has had more satisfaction, and much more brilliant results, from the apple diet than from any remedy in the materia medica.

THE examination of Vichy water in bottles, commenced in Germany by Reindl and in America by Ninges, has given alarming results, nearly all the bottled mineral waters having been found to be charged with germs (*Progress Med.*—*N. Y. Med. Times*). Temperature, pipes, pumps, &c., are elements of much influence on the number of germs in the bottled waters. It is recommended to modify the methods of bottling, to subject them to steaming, as well as the corks, just before the introduction of the water.

THE French medical journals report another instance in which diphtheria appears to have been transmitted from pigeons to man. One of these birds died and a veterinary surgeon found, *post-mortem*, that diphtheria had been the cause of death. From this bird, its owner, his daughter and a child were infected.

IN THE University of Coimbra, Portugal, (*N. Y. Med. Times*) fourteen years are now required to obtain the degree of M. D., six being spent in obtaining the ordinary education, three in a preliminary scientific course and five in purely medical studies. Now the students complain because the final examination is conducted in Greek.

NO KISSING ever occurs in Japan except in the marital embrace, not even between a mother and child, nor shaking of hands in salutation. If one were to offer a kiss to a Japanese maiden she would probably think she were going to be bitten!

NOTES ON NEW BOOKS AND CURRENT LITERATURE.

A NEW MEDICAL DICTIONARY, by George M. Gould, A. B., M. D., (Oph. Surg. Phila. Hospital, Clin. Chief Oph. Dept. German Hosp. &c.) recently issued by F. Blackiston, Son & Co., of Philadelphia, contains several thousands of new words, created during the past ten years—a period rich in such coinages, not found we believe in any similar work. It is intended to answer the needs of the busy practitioner and student, by its compactness, logical arrangement, conciseness, and illumination of obsolete and useless words, &c. It well fulfils its design, and is spoken highly of by our most noted physicians. It contains tables of abbreviations of the principal arteries and bacilli, of ganglia, leucomaines, micrococci, etc., the comparison of thermometers, the most used weights and measures of the world, the mineral springs of the United States, vital statistics of different countries, duration of life, effects of density of population, and a great deal of other very useful information.

FROM MANGER TO THRONE, or the "Life of Christ" and "Palestine and its People," by the Rev. T. DeWitt Talmage is a large handsome volume. Some idea of what it contains and how it was prepared may be obtained from the following extract from its preface: "In my American home, on the Atlantic, on Mediterranean, on camel's back, on mule's back, on horseback, under chandelier, by dim candle in tent, on Lake Galilee, in convent, at Bethel where Jacob's pillow was stuffed with dreams, and the angels of the ladder landed; at the brook Elah, from which little David picked up the ammunition of five smooth stones, four more than were needed for crushing like an egg-shell the skull of Goliath; in the valley of Ajalon, over which, at Joshua's command, Astronomy halted; on the plain of Esdraelon, the battlefield of ages, its long red flowers suggestive of the blood dashed to the bits of the horses' bridles; amid the shattered masonry of Jerico, in Jerusalem that overshadows all other cities in reminiscence; at Cana, where plain water became festal beverage; on Calvary, whose aslant and ruptured rocks still show the effects of the earthquake at the mounds that purchased the world's rescue; and with my hand mitted from the storm, wet from the Jordan, or bared to the sun, this book has been written." It is a life of Christ from an entirely new standpoint, and a very interesting history of a country and people who occupy a prominent place in the

thoughts of all Christians. A large number of excellent pictures of places and scenery give it a special interest and value. Through the aid of its pictures and Dr. Talmage's wonderful descriptions accompanying them, the book brings Palestine to our dwelling places. "From manger to throne" marks a new era in the literature of Bible Lands. It is sold on the exclusive territory basis, and persons desiring to secure it, or agencies, should address the Methodist Book Room, Toronto, Ont.

THE ILLUSTRATED NEWS OF THE WORLD (Am. edition Illustrated Lond. News) keeps up its high reputation admirably. Since the charming Christmas number it gives a great many sketches of scenes:—"At Baruc," "Valley of San Roque," "Mashonaland Expedition, South Africa," "On the Yanisei River," "Seal Hunting on Board the Biscaya" and from the Christmas plays at the theatre, very pretty; also numerous portraits of eminent men and handsome full page pictures—"Three Heads better than One," "Elena," "A Stolen Tryst," "A Proposal," "The Good Shepherd," etc. A New Story, by W. Clark Russell, "My Danish Sweetheart," illustrated, commences with the number for January 17.

THE CENTURY for January is a rather exceptionally attractive number. We find some fine scenes "Along the Lower James," and pictures by Kenyon Cox; "Among the Mongols of the Azure Lake," and "Pioneer Families in California," both profusely illustrated. There is a long thrilling illustrated article, "A Romance of Morgan's Rough Riders,—The Raid, the Capture and the Escape." The highly interesting "Memoirs of Talleyrand" are commenced in this number and will attract many readers. His strange childhood, how he went into society, his mission to England and visit to America, are touched upon.

THE GRAPHIC, Chicago, is sustaining its well earned reputation as a three-dollar illustrated weekly family paper of the highest order. The Christmas number was a specially artistic one. Since that issue we find a very pretty double page picture, "Friends or Foes,"—children meeting a herd of fawns; "Blossoms of New Years;" Sketches, proposed, of the World's Fair; "Old America Revived"; "Churches of Chicago"; and a "Birds eye view of the site of the World's Fair."

THE POPULAR SCIENCE MONTHLY for February will contain the conclusion of Dr. Andrew D. White's paper from Babel to Comparative Philology, also that of Prof. Huxley's discussion

of The Aryan Question and Prehistoric Man, with the usual amount of excellent reading matter of a highly scientific, entertaining and instructive character.

THE DOMINION ILLUSTRATED, in its enlarged and improved form, should be a weekly visitor in most Canadian homes. The enterprising publishers, who seek to greatly increase the circulation of this journal, and also to induce their subscribers to cultivate the habit of careful reading, have hit upon a scheme that will be of mutual benefit. They will, during the next six months, distribute over \$3,000 in prizes for answers to questions, the material for which will be found in current numbers of the journal itself. The first prize is \$750 in gold. There are 100 prizes in all. On receipt of 12 cents in stamps, the publishers (The Sabiston Litho. & Pub Co., Montreal) will send a sample copy and all particulars. The well established reputation of The Dominion Illustrated is an ample guarantee that faith will be kept with subscribers.

THE METHODIST MAGAZINE this January begins its 33rd volume. The number is a capita one. It is considerably enlarged, and is more copiously illustrated than ever. The romantic region of the Black Forest is fully described with pen and pencil in two articles. Lord Brassey gives an account of the return voyage of the Sunbeam after the lamented death of Lady Brassey. The Rev. Mr. Bond in his charming "Vagabond Vignettes" gives an account of the journey from Baalbec over the two Lebanons to Beyrout and Sidon. Rev. M. R. Knight begins what promises to be an important series on the Canadian poets, with a monograph. A new department of Popular Science is introduced with two papers—on "The Wonders of a Celestial Journey," and "The Former Level of the Upper Lakes," A thrilling Irish story of the Siege of Derry is given.

THE COSMOPOLITAN is really a most admirable publication at only \$2.40 a year. The Detroit Free Press says of it: "It would be almost a relief to the reviewer if it would give one an excuse to say an ill-natured thing about it now and then, but it does not. It is uniformly good. Its managers show the utmost enterprise, not only in the selection of contributions, but in the careful attention to detail in mechanical matters. There is not in all this country, distinguished as it is for the excellence of its work in this line, a magazine better printed, better illustrated or more thoroughly creditable than is the Cosmopolitan."