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A Semi-Monthly Review and Record of
SANITARY PROGRESS

—EDITED BY—

EDWARD PLAYTER, M.D.

For Contents see next page.

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NOVEMBER, 1891.

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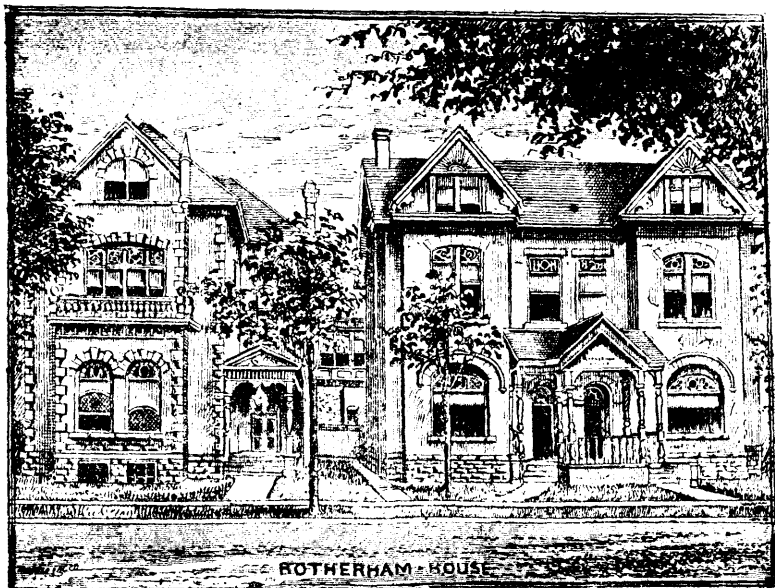
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CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XIII.

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No. 11

CANADA'S GREATEST NEED just now is population. A "Vigorous Immigration Policy" is advised and urged upon the Government. A desirable policy to practice, doubtless, providing discretion and vigilance be exercised, with the vigor, in the selection of the immigrants. It is not simply men and women that are needed, but a good class of men and women. Not of those (of which there are already too many, even here in the capital, who leave other countries for their neighbors' good, but those who will help to improve, and not be a detriment to, the country—at least healthy, vigorous men and women, and free from marked family or hereditary taint, mental physical or moral.

BUT FIRST OF ALL, would it not be well to make special efforts to save or prolong the life of the population now in the country? Thirty thousand human beings, at the lowest calculation, have died in Canada every year during the last ten years, or three hundred thousand in the decade (nearly as large a number as the increase of population in that period in both Ontario and Quebec), who would not have died had there been a reasonable compliance on the part of the masses of the people with the rules of health. There were not less probably than 100,000 deaths every year on an average in Canada during the decade, or a rate of twenty per thousand of population, and the most eminent practical sanitarians estimate that at least one-third of the present average mortality could be prevented by the practical application of sanitary or preventive measures in accordance with our present knowledge of sanitary science. The vast saving of life in England during the last decade or two is well known. Surely to prevent this enormous sacrifice of human life in Canada—sacrificed mainly from want of knowledge of the simplest rules of health—is a more worthy object at this time than any other which can engage the attention of Ministers of State.

MINISTERS OF STATE cannot escape the responsibility of the loss of thirty thousand (or even five thousand) human lives in Canada every year from preventable diseases, and without making any special effort to prevent the loss, by placing all the responsibility upon the provinces, or continuing to leave it upon the provinces after it had been cast there. If half as much effort had been made and half as much money spent on behalf of the public health that has been devoted to immigration, it is probable that more lives would have been saved amongst our own Canadian people than have been added to it by immigration. It is true "A Vigorous Immigration Policy" is being pushed by the press of the country, before the eyes of the Government, while but little is said about a "Life-Saving Policy." But, notwithstanding this, ministers are capable of judging as to what is wisest to be done for the good of the Canadian people—as to where their first duty lies. Will they continue to let this sacrifice of life go on without more special effort to prevent it? Or will they get the credit of making the first special Government effort for the promotion of the public health in Canada,—amongst human beings, as well as amongst cattle and hogs which are even now looked after in this respect?

THE FIRST ESSENTIAL for saving the lives of the thirty thousand Canadian people who die prematurely every year and so keep down by that number the population of the Dominion, is to know where,—in what special localities, the causes of premature or preventable deaths are most prevalent. Wherever epidemic or preventable diseases most prevail, there surely will be found most prevalent the causes of the excess of mortality. In order to learn of these localities, where these causes are most common and fruitful, provision must be made for a system of disease statistics or statements—of regular reports, monthly or oftener, from all parts of the Dominion. It will not do to wait for the deaths. The causes of them must be first and early reported. Such a system could be practiced with but comparatively little expense. The information so obtained should be scattered, in bulletins or reports, freely, all over the Dominion; while at the same time efforts should be made to investigate and remove the causes of the diseases reported. This wide spread information would create, in the various localities or municipalities, a spirit of emulation, with a desire to avoid epidemic or infectious diseases and show a clean bill of health. The Ontario Medical Council and the Ontario Medical Association passed resolutions years ago in favor of a system of this kind.

THE MOST DESTRUCTIVE diseases are the most preventable. Consumption, the most devastating of all, which destroys probably not less than ten or twelve thousand lives every year in Canada, could be stamped out in a few generations by a moderate degree of isolation, careful inspection of meats and dairies, destruction of all sputa from the lungs, disinfection, and full breathing of abundance of pure outdoor air. Other lung diseases, from which the mortality is high in Canada, would soon become rare if all dwellings and other tight-wall enclosures were constantly and thoroughly ventilated and not kept too warm, or if the people would live mostly in the open air :—with free enough ventilation one may live practically in the open air when indoors. With the proper disposal of all excremental and other waste matters—with absolute cleanliness of premises and person—good scavenging and public baths, typhoid fever, diphtheria and diarrhœas, which destroy so many lives, would soon be unknown, while almost all other diseases,—of the kidneys, heart, liver from this very cleanliness, would gradually become less common. There is no doubt whatever about all this. The truth of it has been scientifically and clearly demonstrated in special instances over and over again. To carry out these indications is entirely practical; and the most that is required is an organized system and body of men working persistently in their behalf, chiefly in an educational way, by which much more can be done than by attempts at coercion.

AS BEARING ON THIS subject we may quote the American Lancet, of November, '91 :—“ By well-known agencies, the deaths in Michigan from small-pox, diphtheria and scarlet fever have been reduced by more than eleven hundred per year. But facts show that there still remain seven thousand deaths in the state yearly that could be prevented. Lives lost because no one puts into operation the means that could and would save them. One by one they fall into the deep cold river and sink out of sight because those standing upon the banks are so completely engrossed in their business or pleasures that they do not throw out the life-preservers that are at hand. As it is in Michigan, so it is in greater or less degree in each of the States. Hence the question is pertinent everywhere : What can be done to stop this waste of human lives ?

AT THE LAST ANNUAL MEETING of the British Medical Association Dr. Thomas More Madden said : “ During a long experience as physician to the first hospital for diseases of children established in Ireland, with which I have been connected since its foundation, in 1872, the increasing prevalence of the strumous and tubercular

diseases of childhood has been constantly brought under my clinical observation. The increase is largely ascribable to the faulty dietetic and hygienic management of early childhood, and to the general substitution of artificial, and in many instances very unsuitable, prepared or tinned preparations, for that natural or fresh milk which, in my opinion, is essential for the healthy nutrition of children." In Paris, on the registration of every birth of a child, the parents are presented with a leaflet of instructions as to how best to manage the child with a view to preserving its health. Such a practice in Canada would save many lives.

WHAT HAS BEEN DONE in Canada for the prevention of disease? Comparatively very little, and that little by the two principal provinces;—almost forced into it by the persistent efforts of this JOURNAL and the personal efforts of its editor. The work has gone on chiefly in a routine, perfunctory way, with little practical good. Quebec (where, to be sure, it is most needed) has more recently stuck out and is leading in the work, especially in respect to the education of the people of the province by statistical reports and other means. Local sanitation at best is but very imperfect, partial sanitation; and we cannot judge in any degree of hygienic progress by counting the number of organized local boards of health, much the larger proportion of which are quite inactive. As Dr. Sanborn, an eminent continental sanitarian, says (*Lancet*, Lond., Eng.): "It is not enough to improve the sanitary conditions of a town; the principles of hygiene should be impressed on the minds and consciences of people. In all cases, whatever may be done, one thing is absolutely necessary, and that is that all states shall agree on the same points, and that all shall understand equally the high importance of the old aphorism, *Salus populi suprema lex.*" Much more necessary it is that all provinces shall "agree."

PURE WATER SUPPLIES, next in importance to pure air, are, we are glad to see, attracting considerable attention in some localities in Canada; owing largely, we have no doubt, to the many articles on this subject in this JOURNAL during recent years. Some towns are experimenting in respect to Artesian well supplies. If properly protected, Artesian wells afford the safest possible supply as relates to contamination by the germs of disease, but sometimes the water is not good chemically. It must ever be borne in mind that public supplies demand the most careful protection and supervision with constant vigilance. If a well becomes contaminated only a family or two probably suffer from it; but if a town's supply be poisoned in any way it may seriously effect almost the entire population of the town. With the present vile and disgusting methods of disposal of sewage and other refuse it is almost impossible to obtain pure water without filtration, while no filtration now known can be relied upon. The Hyatt system is perhaps the best, but there is room and need for great improvement.

MOST SINGULAR it is that people will continue to depend on chemical analysis as a guide to the safe condition of the water supply. The chief engineer of London, Eng. (*Brit. Med. Jr.*, Oct. 31 last, on the London water supply), says: "Analysis without the previous history of the water is taken into account cannot be accepted as a guarantee of purity;" while a writer in the *British Medical Journal* of Nov. 7 says: "The person who was bold enough to assert the safety of a water upon negative bacteriological results would be an enthusiast of the most dangerous character." Last month we gave the words of the president of the Massachusetts State Board of Health, Prof. Walcott, of Cambridge University,—that board having made most extensive and costly experiments and investigations during the last few years in relation to water supply. Dr. Walcott said (at the annual meeting in October of the Association of American Physicians): "Chemical analysis has failed to distinctly indicate the waters which may produce disease; for of two waters, one

capable of producing serious disease and the other not, the first may be found to contain less of suspicious substances than the second." We then too pointed out the clearest evidence of the above contention in the case of the towns of Lowell and Lawrence on the Merrimac river. Frankland, at the Congress of Hygiene in London, asserted that chemical evidence of the purification of water is insufficient, that there must be a bacteriological examination as well. The *history* of the water, too, MUST be taken into consideration in estimating the safety of the water. If it is possible for a trace of sewage with disease germs to reach the supply, it is not safe : as in the case of Toronto, for example.

TORONTO'S WATER SUPPLY, as we have long contended, can never be good if taken from the lake while the city sewage is emptied into the same body of water, virtually, and so near the supply intake. We do not believe a supply from lake Simcoe would be satisfactory. The danger of contamination of it would be great, greater than the danger to the present supply if the city sewage were kept out of the lake or even carried far away to the east of the Don. It appears that Toronto might obtain a safe and good water supply by a complete change in the manner of sewage disposal and by building a tunnel, not simply a pipe in the water, out under the lake a mile or more say from the present intake. It would be necessary to build up there a structure by means of which the water could be taken from not far below the surface of the lake, many feet from the bottom of it. There might require to be provision too there for straining, rather than filtering, the water from certain unpleasant, though not dangerous substances. This plan might be very costly but may be worthy of consideration.

THE TRUNK SEWER for intercepting and carrying away the sewage of Toronto, turning it from the once beautiful bay, is one of the greatest needs, hardly second to that of the removal and suppression of the privy nuisance. The Empire (Nov. 20) says : " The trunk sewer problem is being pushed by the Provincial Board of Health, which body reports that ' a scheme will soon be laid before the City Council.' Both the schemes. We have schemes enough now to build twenty sewers. The best engineers in the country have gone over the ground and reported on it. The plans are all ready in the engineer's office. What is wanted is the money and a start. Will the ratepayers vote a money by-law for the work ? " We believe they would if those disposed to support the scheme would institute a sort of election campaign ; hold a series of public meetings, addressed by competent men interested only in the general welfare of the people ; and so arouse and instruct the whole population, somewhat as they do when they bring out and wish to make known and popular a man whom they desire to elect to parliament. In this way a money vote might oftener be obtained in municipalities for sanitary purposes. The people do not vote the money, or they vote against it, because they do not thoroughly understand the whole question.

PROMPT DISINFECTION.—The Paris (France) Municipality has provided three disinfecting ovens where the public can have bed-clothes, wearing apparel, etc., disinfected free of charge on applying at any *matric*, cemetery, or municipal ambulance station. Medical practitioners are supplied with packets of postcards, the despatch of one of which will cause steps to be at once taken for carrying out any required disinfection. A special conveyance hermetically closed and under the care of attendants in distinctive uniform is sent to the house indicated. After disinfection the things are brought back in a different vehicle.

A NEW FEATURE IN MILK SUPPLY.—The N. Y. Medical Times says that Dr. Brush, of New Jersey, who has for many years paid much attention to cattle breeding and has written a good deal on bovine tuberculosis, has added to his *kumys* trade a distinct department for providing milk for infant feeding, from spayed cows, stall fed and guarded in every way from improper food or contaminated water. The milk of spayed cows is of course not affected by the cow coming into "heat."

THE TYPHOID BACILLUS—THE AUTUMNAL INCREASE IN THE FEVER.

EBERTH was the first—in 1880—to place the theory of a special typhoid bacillus on a sound basis, and his researches have been confirmed in every particular and extended by Koch, Meyer, Gaffky, and others. The bacillus is a short rod-shaped organism, which is found in the diseased organs arranged in radiating or net-like groups. It will grow on nutrient gelatine at ordinary temperatures, forming in twenty-four hours a delicate whitish cloud, which under a low power of the microscope is seen to be made up of a number of minute round colonies. Under a power sufficiently high to show the contour of the individual bacilli it can be seen that they are endowed with spontaneous movement, which enables them to travel across the field of the microscope. These artificial cultivations reach their maximum development in about four days, but continue to live for at least, three or four weeks more. The bacilli also grow very luxuriantly on a cut surface of potato and in many vegetable infusions, as carrots, etc.

An important point in the life-history of the typhoid bacillus is that when grown on potato in a warm, moist atmosphere, it readily forms spores on the third or fourth day. At 86° F. the formation of spores is rapid, at 68° F. slow. A warm week in a wet summer would provide, therefore, the very conditions which the bacillus requires for the formation of spores in large numbers outside the human body. Judging by analogy, these spores once formed would be able to resist conditions of cold and drought which would be fatal to the bacilli which gave them origin, and would remain ready to give rise to the disease when introduced into the human body with water or food. Gaffky, who has made a special study of these bacilli for the German Board of Health, believes that the spores may remain quiescent for long periods, and "may sprout and form bacilli in favourable circumstances, even outside the animal economy, increase enormously in numbers, and in the warmer part of the year form spores afresh." Mr. W. H. Power, in the course of investigations for the English Local Government Board, has brought out the fact that in certain epidemics traced to the milk supply, persons who drank milk which had been kept overnight suffered earlier, and in larger numbers than those who drank fresh milk—an observation which probably finds its explanation in the fact that the spores had time to germinate and reproduce the bacilli in large numbers before the milk was drunk.

The British Medical Journal (of Nov. 21, 91), in an editorial on "Autumnal typhoid," says: We know that the insanitary conditions which favour the spread of the infection of the fever are always present—in March and April as in October and November, yet the number of cases in the former months is scanty, in the latter large. "Clearly we have not touched the cause of this seasonal prevalence. . . . In what direction are we to seek our clue?" The journal reminds us that the period between infection and the development of the first symptoms cannot be set down at less than a fortnight on an average, and that the onset of the disease is so insidious that the sufferer seldom seeks advice until the disease has been on him for several days, perhaps a week, and about three weeks after the entrance of the infective principle into the system. We are therefore safe in concluding that the majority of patients are infected in September, and generally in the last weeks of it. After damp warm weather which provides the conditions required by the bacillus for the formation of its spores outside the human body.

It is well known, the Journal continues, that there are three stages in typhoid fever—the stage of ascent of the temperature, the period of stationary temperature, and the period of decline. The first period, which lasts four or five days, presents the most characteristic type of temperature, the evening rise to 2° F., and the morning descent of 1° F. It is interesting to know

that it is during this period that the bacilli are present in the largest number in the tissues. During the stationary period, which varies greatly in duration, according to the severity of the case—the period of high temperature with only slight morning remissions—we have probably to do with a double infection—the true typhoid infection and septic infection of the intestinal ulcers. The proverbial uncertainty of typhoid fever, the liability at any time during the stationary period, even in relatively mild cases, to the appearance, almost without warning, of most serious symptoms is probably to be traced to this secondary infection, which may lead to rapid extension of ulceration with all its attendant dangers. The importance of taking the disease in time is universally recognized; the worst cases are seen in persons who have tried to resist the *malaise* of the initial stage, and have continued about their work or made fatiguing journeys. The exhaustion thus produced increases not only the severity of the true primary infection, but also that of the secondary ulcerative affection.

FATIGUE AND DISEASE.

THE part played by fatigue in the production of disease has received a good deal of attention of late years. The earlier studies of Carrieu, Peter, Fournol, Revilliod, and Rendon, have been continued by other observers, notably by Marfan, who has contributed an exhaustive paper upon the morbid effects of overwork to the *Gazette des hôpitaux*.

The amount of work or its kind has intrinsically but little to do with overwork, and some races, as the negroes in the cotton-fields and the Chinese, though they toil more steadily and terribly than any other people, seem to possess a special power of resistance to fatigue. Age, race, cosmic conditions, absence of proper training and force of habit, non-congenial pursuits, sudden change of vocation, and want of sleep and recreation are all factors in overwork. All work and no play does more than produce pure simple dullness, says the *New York Medical Journal*; it starts morbid processes induced by poisons generated within the organism itself. The deviations from health caused in this way are usually expressed by heart disturbances and typhoid conditions. Sporadic fevers, known as abortive typhoid, ephemeral, gastro-intestinal, billious or malarial, and so-called subacute rheumatism, are often of this nature. And various cardiac abnormalities, such as heart strain and forced or irritable heart, are often, especially among athletes, due to fatigue or strain.

The fevers of overwork are of three kinds or degrees, the *Journal* continues: "The first is simply a typhoid state, without rise of temperature, purely dynamic, and soon relieved by rest. The second has for its cause more prolonged fatigue without regular periods of repose. This is the acute form, a true fever, with rise of temperature and alteration of the liquids of the body. The third is a typical typhoidal condition, with transient or permanent lesions. It is the result of arduous effort, such as forced marching, night watching followed by daily toil, the cramming process in superficial schools, or a sudden direction of energy into unaccustomed channels. There are changes in the solid as well as the fluid portions of the economy. The heart and blood-vessels, the kidneys (as in infectious disease), and the spinal cord are the organs most likely to be affected. According to Rendon, this is the grave form of fever due to fatigue, the term subacute being reserved for cases where death from exhaustion takes place too soon for the development of the foregoing phenomena," as in the case of the soldier who fell dead after announcing the victory of Marathon to the Athenians.

In Algeria, for example, too, Bertherand noted two deaths occurring in native

runners the instant they reached the goal. Poisoning was suspected, but the autopsy revealed nothing beyond foetid matters in the stomach and intestine, very dark blood in all the vessels, extreme softening and a dark tint of many muscles that had become infected, and extravasations of blood into the mucous membranes and the skin. Cadaveric rigidity and putrefaction set in rapidly.

This sudden death from over-exertion is really self-intoxication by carbon dioxide, which is formed more rapidly than the lungs can inhale it. Exposure to the sun and "cold strokes" are also examples of subacute disease from overwork. In other words, intense heat and severe cold are agents that quickly transform otherwise normal efforts into sources of disaster.

As work produces waste, an explanation of the morbid effects of fatigue is not far to seek. Within the organism the results of muscular activity, as Peter has pointed out in this connection, are creatine, creatinine, lactic acid, and certain nitrogenized uncrystallizable extractives; while brain at work produces leucine, cholesterolin, etc. Retained products of life and action, of brain or muscle, prejudicial to function and to life, clog the system when the excretory organs are oppressed or fatigued. The entire nutrition suffers, owing to the insufficiency of oxygen due to this accumulation of waste. Blood thus charged injected into animals has caused all the symptoms of overexertion and even death. The flesh of animals hunted or driven to death is often poisonous to those who consume it, from a like cause.

Overwork, then, alters normal physiological and chemical processes. It paves the way for the germs of infectious disease. It prepares the soil necessary to the formation of noxious organic compounds and innocuous microbes may develop organic disease conditions.

THE MEDICAL HEALTH OFFICER, HIS POSITION, &c.

OFTEN the words—"The Medical Health Officer," are used when the three words, "the Medical Officer" would be enough. In connection with municipal or other health function, the term "Medical Officer" is sufficiently clear, less labored and not superfluous; the word "Medical" being now well understood as being directly associated with health.

In a municipality the Medical Officer is, as Dr. Seaton, (F.R.C.P. &c., and lecturer on Public Health, St. Thomas Hospital,) at the last annual meeting of the British Medical Association, said, the "Keystone of the administrative arch." And in order to attract competent men the position of Medical Officer should be one of independence and dignity, and should be sufficiently remunerated.

If the suffering public could only clearly comprehend how much they would gain by giving more power to the Medical Officers in reference to sanitary questions they would soon become more liberal in this respect, and also in their remuneration for the medical services.

In the Sanitary Record (Nov. '91.) for example, Surg. Major Evatt, M.D., &c., draws attention to the fact that in India the governorship of the gaols and the medical officership are combined in the one person of medical officer with great advantage and economy to the state. "When one thinks of the mass of persons in high official appointments who are controlling, governing or directing human affairs, and yet that not one of them may know anything whatever of human life and its mechanism, one is not surprised at the want of sympathy with suffering humanity too often found amongst them." "And in all the opposition met with by medical men in urging sanitary reforms on the world, or in improvements in life's conditions,

mere ignorance is by far a more dangerous enemy than any other." And again, "I have seen wretched friction in a workhouse between the physician, with all the feelings and ideas of a gentleman, and the underbred master placed in authority in the institution."

As Dr. Mackenzie, in an excellent paper in the *Sanitary Journal*, Glasgow, (Sept. '91) on "Public Health Propaganda," puts it: "Forms of government are not an end in themselves; they exist to teach men how to pass beyond them; and society only begins to work, though it begins well, when it passes good laws. These, to have good social effects, need the motive, the direction, the informing spirit of the individual executive. Now the aim of a practical philosophy is the rational direction of life in society, and such, I take it, is the aim of health legislation. But Public Health Acts are still much in advance of the common feelings; which, therefore, far from welcoming the trouble essential to good health, often take the enforcement of even major matters as an intrusion and an interference. And not unnaturally; for an Act of Parliament does not generate the character to realize it; that depends on other forces, which indeed would ultimately make the Act itself superfluous.

The lesson of legal enforcement in certain matters is a good beginning; it wakens the average mind to a certain interest in health. But the bare legal enforcement is not the limit of a medical officer's activities. There is a larger work before him; he must do what he can, consistently with his public duties, to displace ignorance everywhere by knowledge, to stimulate the individual will and encourage the individual effort, so transforming the average apathy into an operative alarm for the common well being. He must grow, so to speak, a "hygienic conscience." This ideal is the necessary guide of the medical officer, who, as an official, daily finds so much that, as a teacher, he might have been able to forestall.

The material to work upon—what and where is it? The whole range of rural life, in farm, in village, in town and city.

It is the work of the medical officer to disturb the public apathy in health matters: to place the "ideal" higher, to generate a social sensitiveness that shall regard filth as an indecency, defective ventilation as a breach of fashion, and more sleeping space as, at least, a legitimate ambition. The defects of living he may bring to a "clear consciousness;" he may initiate a "fashion of healthiness," and thus he may as it were, "sensitize the major decencies." His matter is abundant; his occasions are innumerable; his aims should be definite and realizable. What the Public Health Acts give him power to enforce he can justify and forestall by his teaching, and he has light, air, water, food, drainage, and the endless branchings of personal hygiene to choose from.

In education rather than in coercion, we must rely for progress in preventive medicine. On another occasion we propose to endeavor to point out some ways in which the medical officer can best educate his clientele.

DR. T. CLIFFORD ALLBUTT, M.A., LL.D., F.R.S., &c., ON PREVENTIVE
v. CURATIVE MEDICINE: THE MEDICINE OF THE "NOT VERY
FAR" OFF FUTURE: A MOST ADMIRABLE ADDRESS.

ONE of the most enlightened, advanced and suggestive addresses in medicine which we have ever heard or read was given last month by Dr. Clifford Allbutt before the Nottingham Medico-Chirurgical Society (*Lancet*, Nov. 14). Sixteen years ago (Oct. 12, 1875), the editor of this *JOURNAL*, in an address before the York Medical Society, advanced views of a like character (*Health Jr.*, Vol. 1, p. 425).

The steady but irresistible advance of Preventive Medicine to the crowding back into the rear of the old time curative process with its numberless failures is slow yet sure. "All wholesome change is gradual; creeping from point to point; yet he knows best and does best who best foresees," says Dr. Allbutt. The following are some extracts from his admirable address: If our quinine should, figuratively speaking, be poured out upon our marshes rather than upon such marsh poison as may have entered a human body; if our therapeutic proteids are to be elaborated as defensive vaccines rather than as cures for disease, or if in any case they combat not the disease but the injurious agent, whether within or without the body; . . . if some renal and some hepatic diseases are due to external causes; if cancer turn out to be a parasite or in any case to be inexpugnable, and so forth,—then where is curative medicine to be found?

Even in the treatment of diseases still regarded as autogenetic, is there not a division into means of prevention and means of cure? Consider that if in gout we have a human body so constructed as to be an acid-making machine of a particular kind . . . and that we admit the great virtues of curative treatment in such a body—the virtues, say, of blue pill or colchicum, do we not admit, valuable as are these curative agents, that yet they hold a subordinate place to regular exercise and air, diet, place of residence, the use of mineral waters, and so forth, which come under the head of preventive medicine? . . . In so far as it be true that the disease of which granular kidney is a main feature owes its origin in many cases to this gouty habit, we shall grant that the only direction in which we can look with much hope for an escape is in the direction of preventive medicine. Curative medicine may triumph in an attack; but prevention will be our plan of campaign, and will lead to far wider and more permanent results.

We have a long and direful list of nervous diseases from the highest centres to the lowest, from cell to fibre, from patch to patch, for which we have neither means of prevention nor means of cure, and for these, as a matter of habit, we exhibit certain fashionable formulæ of belladonna, silver, phosphorus, zinc, strychnia, &c., on the principle of exhibiting rosemary to the devil; we administer the actual drugs hour by hour, but it would be simpler and safer to sew up the prescription in a bag and let the sufferer hang it about his neck. Yet knowing as I do the eminent importance of stimulating the hopes and animal spirits of the patient, I shrink from dissuading you from the use of these useful "survivals" until we have some better means to offer, or until the scepticism of the public grows too strong for us.

Turn to pulmonary disease. Without forgetting the occasional aid of emetics, and even bloodletting, at critical moments in acute general bronchitis, which are no novelty; when, on the other hand, we regard the row of dusty bottles and boxes containing endless balsams, expectorants, emollients, and other trash now half forgotten or handed over to herbalists; when we remember how exclusively our attention is given to minute regulation of the patient's atmosphere, clothing, and other external conditions, with due recognition of the necessary course of the three stages of the malady, we shall realise how far preventive medicine has here penetrated. A person subject to recurrent bronchitis must be treated almost wholly on preventive methods, and drugs almost as wholly excluded. Of the drugs I have seen administered in acute pneumonia, I can recall many most injurious, many which retarded crisis and convalescence, none which were of use. In all these cases, of course, I speak of medicines directed against the disease itself, not of those properly and effectively used against some inconvenient or dangerous incident, such as hyperpyrexia or delirious insomnia, which depends upon an idiosyncrasy or special circumstance of the case. Where, again, are the hundred-and-one boasted remedies

for phthisis? What cool observer really relies nowadays even upon the well-puffed hypophosphites, or looks upon cod-liver oil in any other light than as an excellent alternative to suet pudding or rum-and milk? We know that the treatment of phthisis is now wholly based on principles of prevention, whether these be applied to the suppression of the cause or to the arrest of the mischief which may follow.

I must refer to the prevention of renal and vesical calculus, of cystitis by antiseptic precautions, of glandular disease by purification of the associated mucous tracts, of spinal curvature by a special gymnastic, of a group of cerebral and other diseases by reduction of alcohol, of another group by dealing with the propagation of syphilis or the neutralisation of its poison, of certain phases of insanity by social reforms, of others by the reform of individual habits, of uterine disease by reforming the customs of women. How thankful should be the apoplectic patient to be saved the aggressively curative attacks of our fathers in their time; how thankful the sufferer from pulmonary hæmorrhage to be more skilfully nursed and less vigorously medicated. How bright, again, is the success of preventive medicine in the nursery, whence it has banished calomel, brimstone, and the powders of Gregory and James. But what need of further evidence to prove that while the advance of curative medicine is readily summed up in a few brilliant episodes, the advance of preventive medicine is along the whole line with a steady and uniform tide that knows no ebb.

Let us now see what is to come of this advance of preventive medicine and of this comparative retreat of curative medicine.

I will not fix my eyes on too remote a prospect, I will not contemplate a knowledge so perfect and an art so final as to ensure that every individual shall come into the world flawless and with a full store of implicit energy, when all accident shall be averted, and when every man shall live out his calculated days; but I will more soberly anticipate the time—not, perhaps, very far before us—when it shall be a rare and unreasonable thing for a man of average constitutional value to drift into granular kidney disease, into cardio-arterial degeneration, into insanity, into chronic gout or gravel, into diabetes, into phthisis, or any other twisted and defective state of function, without the means of having his diathesis, his morbid tendencies, and his menacing circumstances measured and explained in their initial stages and, as far as possible counteracted. This is the future of medicine, and this is preventive medicine. We shall probably give more extracts from this excellent address.

MOST RECENT STATEMENTS ON TUBERCULOSIS—CONSUMPTION.

AT the late International Congress of Hygiene in London a great deal of time was devoted to the discussion on tuberculosis, and by the most eminent members of the Congress. Prof. Arlong said, the danger to children of drinking milk from tuberculous cows was great, and he thought could scarcely be exaggerated. Moreover, he held very strongly that except under certain special circumstances, the total condemnation of tuberculous meat was necessary. In a paper by Prof. McFadyean and Dr. Woodhead we read:—“From all that could be learnt—and reference could be made to a large number of sets of statistics, practically proving the point—it was evident that intestinal and mesenteric tubercle was most frequently met with in children during the period after they were weaned, at which time cow's milk had been substituted for mother's milk. The point of entrance appeared in these cases to be by the intestine. They had come to the conclusion that in some cases at least the tubercle bacilli had passed from the intestine into the mesenteric glands without leaving any trace of lesion to indicate their point of entrance. Prof.

J. Burdon Sanderson, M. D., F. R. S. &c., of Oxford University, in a lengthy paper said :—" We have seen it to be exceedingly probable that about 40 per cent. of the children that die in hospital die tuberculous. I have already expressed my belief that in some of these cases the disease is congenital—dependent on causes which have operated before birth. Some infants are probably infected by inhalation of the tubercle bacillus, notwithstanding that pathology affords little evidence of it; but for the rest, I cannot resist the conviction that the consumption of unboiled milk during the years which follow weaning must have its share in bringing about this fatal prevalence of the disease. The character of soil with which phthisis seems most commonly associated is according to Prof. Finkelnburg, of Bonn (who showed on a map the distribution of the disease in Germany), a moory soil with stagnating and high-standing water; thus agreeing with the conclusions of Bowditch and Buchanan regarding the influence of soil-humidity on the death-rate of phthisis.

As to infectiousness, Dr. Joseph Coats, pathologist Glasgow Infirmary, in an exhaustive paper (Brit. Med. Jr., Oct. 31), says :—I have assumed the standpoint of tuberculosis as an infectious disease. This is now the unalterable position of all pathologists. I must say that I see little trace as yet of this attitude on the part of the practitioner and the general public.

Arthaud gave some noteworthy statistics and personal observations on this subject at the recent Congress on Tuberculosis in Paris. Of thirty-five workmen forming the major part of the personnel of the municipal electric works, he found thirty-two the subjects of tuberculosis. Four of these are known to have been tubercular previously to their admission to the works, but twenty-three have contracted the disease since being so employed. The period of incubation would appear to be about two months. M. Arthaud directs attention to the extreme importance of this question of tubercular contamination in workshops and dwellings.

At the late Annual Meeting of the American Climatological Association in Washington, D. C., Dr. E. P. Hurd said :—Tuberculosis is the least contagious of all the microbe diseases. The question of soil is primordial and fundamental; it occupies the first place in prophylaxis and treatment. And no therapist can do good work in combating phthisis who does not start from this datum. It is needless to say that there is no medicament yet known which, introduced by the mouth or subcutaneously, can by any direct bactericide power arrest the development of either experimental or spontaneous tuberculosis. . . . Knowing that tuberculosis is simply a blight which smites imperfectly-nourished tissues, I would urge that the efforts of the therapist be directed to the element of cellular weakness rather than of chasing the will-o'-the-wisp of a bacillus. Evict one hungry brood, and another more voracious and more malignant will take its place.

Relative to Prevention, Dr. Arthur Ransome, F.R.S. said :—That the disease was curable was proved by the facts that (1) the post-mortem examinations of persons dying from other diseases afforded unmistakable evidence in from 25 to 50 per cent. of spontaneous cure of tuberculous disease; (2) by the testimony of many physicians, among whom the speaker was one, he had satisfied himself that in the large majority of cases a fatal issue was brought about not by one or two, but by repeated invasions of the bacillus from an unhealthy environment. . . . Since phthisis was curable, and since it was known that many persons did recover from it, the number of susceptible persons must be very large, and the necessity for preventive measures the greater. Tuberculosis was communicated occasionally by direct personal intercourse, more frequently by the milk or flesh of tuberculous cattle, by the inhalation of tuberculous dust, and by residence in an infected house or urban area. As preventive measures he advocated (1) notification of cases; (2) disinfection of fomites, spittoons, and houses; (3) provision for ample hospital

accommodation for patients too ill to work ; (4) general sanitary measures, including ventilation, drainage and reconstruction of unhealthy areas.

As regards the duty of the State Dr. Burdon Sanderson said :—What is immediately required is, first, that tuberculosis should be added to the list of diseases regarded by the law as contagious ; and secondly, that an efficient system of skilled inspection should be created I hold that in asking for the 'interference of the State, we must not base our demand on the ground that the community *actually suffers from the consumption of tuberculous meat*, but, I maintain that *the consumption of tuberculous meat is attended with danger* and that on that ground its consumption ought to be watched over by the State and avoided by the individual.

MISCELLANEOUS NOTES AND EXTRACTS.

THE DOCTOR IN MODERN SOCIETY.—This is the heading of an editorial in the New York Medical Record : The physician of to-day exercises more or less influence upon all the affairs of life. In a sense he is the supreme educator : for juries refuse to convict ; philosophers pause before considering abnormities of will, memory, or personality ; the historian waits in his description of prophet and sibyl until the medical man has spoken. It is impossible to build a house properly, bring up children aright, discipline an army, and live with structure healthily developed and function of every kind unimpeded—which is the nearest approach to happiness for anyone—without first consulting the hygienist. The doctor is everywhere—in society, in politics, the fine arts, religion and philosophy. In a recent paper Maurice de Fleury thinks the medical man has just cause to be proud of his present position. Alphonse Daudet calls him the last priest and supreme belief. Painters and sculptors owe much to medical science The debt of novelists is even greater. . . . The representatives of literature owe as much to Claude Bernard as to Balzac. This century is one of science, and among *savants* medicine occupies the first rank, because it is of wider scope and more human than any other branch Be the realization as it may, it is a significant fact that the practical needs of humanity are best known to the physician, who, in spite of himself, thus becomes a functionary of high order, invested in great degree with the welfare and happiness of the human race.

ARSENIC POISONING AND WALL PAPERS : THE "OTHER SIDE" OF THE QUESTION, FROM THE N. Y. MEDICAL RECORD. —In his anniversary discourse before the New York Academy of Medicine, Prof. Chandler performed a decided service by presenting the subject of arsenical poisoning from the sceptic's standpoint. There is no doubt that the majority of medical men, even outside of Boston, believe that chronic arsenical poisoning occurs from wall-papers, clothes, furniture and various articles in the domestic environment. The dangers from these sources are generally admitted and described in systematic works, sanitary authorities have waxed eloquent over them, and legal restrictions have been established to prevent or lessen the possible harm. Prof. Chandler thoroughly disbelieves in the reality of these dangers. True, his line of argument is rather negative than positive. Chemical and physical facts make it *a priori* improbable that wall-paper or fabrics can be a source of poisoning. For arsenic is not volatile, and when fixed in paper or cloth can only be given off as a fine dust Supposing that wall paper or clothes gives off such dust, the amount is infinitesimal, and there is no clinical evidence to show that infinitesimal

amounts of arsenic taken for a long time can poison a person. In factories where arsenical compounds are made, and in those where wall-papers are manufactured, arsenious poisoning is practically unknown. The conditions which would demonstrate to a certainty that a person is poisoned with, we will say, arsenical wall-paper, have not yet been absolutely secured.

A GOOD POINT FOR VEGETARIANS.—The editor of *Good Health*, a member of the Michigan State Board of Health, draws attention to the following point: It being contended that, as the digestive canal (or intestines) is of enormous extent in most herbivorous animals, being in the sheep about twenty-eight times the length of the body, while in the purely carnivora it is comparatively short,—being in the lion only about three times the length of the body, and in man it is about six times the length of the body, it would, therefore, appear that the digestive organs of civilized man are suited to a mixed diet, of flesh and vegetable food. The above writer urges that, in measuring the length of the lion, the ape, and the sheep, we measure from the end of the nose to the end of the backbone; in measuring man, we take his total height, which includes the length of his legs. In order to put the figures on the same basis for man as for the lion and the sheep, we must put man on “all fours” to measure him, or at any rate, we must exclude the length of his legs. To include the legs in the case of man would be just as sensible as to add the length of the hind legs to the length of the trunk in the measurement of the sheep or the lion. The legs, as is well known, being on the average, exactly one half the length of the body, we must multiply our result by two. In other words, we find the proportion of the length of the body to the length of the alimentary canal to be twice six, or twelve; exactly that which we find in the anthropoid ape. Besides man is certainly not herbivorous, like the sheep, living on bulky grass.

NEW FACTS ON STERILIZED MILK.—Dr. Kellogg, superintendent of the Battle Creek (Mich.) Sanitarium, for some months has conducted experiments in sterilizing milk. He found boiling milk in well-stopped bottles, placed in a saturated solution of salt, will raise the temperature of the milk to about 230° F., a temperature sufficient to destroy all germs, as proved by the fact that milk thus sterilized will keep for any length of time without spoiling. The scum which rises to the surface of boiled milk is formed of coagulated albumen or lacto albumen, which is indigestible, and tends to produce inactivity of the bowels. When milk is boiled thus under pressure no surface scum is formed, and it is almost entirely free from the ordinary flavor of scalded milk, having the sweet and palatable taste of fresh milk. The bottles may be boiled in an ordinary kettle without breaking, by wrapping them with a cloth so as to prevent the glass from coming in direct contact with the bottom of the kettle. The bottles should be left in this salt solution until cooled.

ON QUARANTINES.—Quarantines were first instituted by the old Republic of Venice. As to the usefulness of quarantines and sanitary cordons, Dr. Sambon, a Continental Sanitarian of high repute, in the *Lancet*, London, says: Modern investigations shew them to be useless, and a long experience has utterly condemned them. England has been accused of being commercially and politically interested in the abolition of quarantine; but no nation can boast of having held public health so high above commercial interest, and it must be remembered that the English at one time were most sanguine supporters of quarantine. “The most important and perhaps the only satisfactory measure against infectious diseases,” he says, “is the sanitation of towns and hygiene,” that is, personal hygiene. There are of course exceptional cases wherein a quarantine is useful, as our own Canadian; but even it is of but secondary importance.

FORCED RESPIRATION.—Dr. G. E. Fell, at the late Annual Meeting of the New York State Medical Society (N. Y. Med. Jr.), presented further observations on his method of forced respiration. In 1888 he had reported the saving of five lives by himself and one by a foreign physician according to this method. Since then he had saved three more patients, and a number of other physicians had met with like success. While chiefly used in cases of opium poisoning, the method would probably prove equally useful in cases of drowning and of traumatic shock. He exhibited the apparatus employed. Forced respiration had been used for many hours at a time without damage to the lungs, and on various occasions when Sylvester's method of artificial respiration had proved utterly futile, this had brought prompt relief and in many instances a cure.

**SPECIAL ANNOUNCEMENT TO ALL FRIENDS OF HYGIENIC AND TRUE
TEMPERANCE PROGRESS.**

THIS JOURNAL has now been published, and by the same publisher and under the same editorship, seventeen and a half years, continuously, with the exception of two brief suspensions in its early struggles with sanitary indifference, first as a bi-monthly (for a few years) and later as a monthly.

It has become as a "household word" in Canada, having been quoted by many other papers, including the medical press, not only in Canada but all over this Continent.

WE now purpose issuing it SEMI-MONTHLY, on the 1st and 15th of each month, and trust the semi-monthly visit will be so appreciated by the Canadian people as that we shall be enabled in the not very far off future to enlarge it or publish it weekly, at 2 cents a-copy and \$1 a year, which has long been our aim.

MORE than double the amount of reading matter will be given each month, and the price will be increased, next year, to \$1.50 a year again, as formerly.

PHYSICIANS, we trust, will continue to encourage local Boards of Health to subscribe for copies, sent at reduced club rates, viz : **3** copies 1 year \$4 ; **6** copies, \$7.50 ; **10** copies, \$16.

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WILL our medical friends, especially Medical Officers, kindly aid us, as heretofore, in this behalf ?

A LITTLE knowledge is "dangerous" only to the imprudent, who unwisely presume too much upon it.

THE more the people are educated in health matters the more they will appreciate the true physician and abhor quacks and quacking.

THE more medical knowledge, of the true preventive sort, everybody possesses the better for EVERYBODY, including the profession.

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NOTES ON MEDICAL PROGRESS : OF INTEREST TO ALL READERS.

A MOST remarkable, indeed marvelous, operation was recently performed in the Toronto General Hospital. A man had suffered from occlusion of the intestinal passage near the stomach, and for a year or more nothing had passed through the bowels, all undigested parts of the food consumed having been ejected by way of the mouth. He became greatly emaciated, and something had to be done in order to save his life. An incision was made into the abdominal cavity, and the intestine below the obstruction drawn up and attached to the stomach by sutures, an opening being made between these two attached parts. The editor of this JOURNAL saw the case a few weeks after the operation, through the courtesy of Dr. O'Rielly, the Medical Superintendent of the hospital. No bad symptoms had followed the operation, the case appeared to be progressing most favorably, and the prospects were that the man would regain the action of the bowels.

THE "Laws of Partnership in Disease" was the subject of a paper at the meeting last month of the Hunterian Society of London, Eng., by the president, Pr. Johnathan Hutchinson. He spoke of the cramping effect upon knowledge of the application of single names, arbitrarily defined, to affections not dependent on single causes. Diseases could not be classified like members of our fauna and flora. Disease should be looked on not as distinct species, but as the outcomes of a varying intermixture of causal influences. Few diseases were true "hybrids;" "mongrels," or crosses between varieties of the same species were commoner.

LOCOMOTOR ATAXY, Dr. Hutchison said, commonly associated with past syphilis, was the result of sexual excesses acting upon a spinal cord damaged by a syphilitic fever. Bacilli found in any disease, were often wrongly thought to be its sole cause.

AS TO tuberculosis, all the diseases known as scrofula must be regarded, as our forefathers regarded them, as the result of a complicated partnership. The bacillus was one of the partners; it stamped the disease with peculiarity, and originated its infectiveness. But bacillary tuberculosis was only an epiphenomenon of scrofulosis. Inheritance, diet, and a variety of influences brought about the defective vigour of scrofulous tissues, and their proneness under slight provocation to take on chronic inflammation. "Bad flesh to heal" was the old definition of the scrofulous state, and remained true still, which offered the soil in which the bacillus flourished.

LUPUS, Dr. Hutchinson regarded as a form of chronic inflammation generally allied to scrofula, and only exceptionally becoming the nidus for bacilli. All forms of lupus were partnerships.

MONOCHLOROPHENOL, recently prepared by Sig. Tacchini, of Pavia, is a very volatile, powerful antiseptic, free from disagreeable odor and caustic action, giving off vapours much heavier than air, which are, it is supposed, able by their weight to penetrate into the most remote recesses of the pulmonary air cells. It is said to be well borne (Brit. Med. Jr., Nov. 7.), to relieve the worst symptoms of pulmonary phthisis, and five cures of this disease are reported, after two months treatment, the cases showing no return of symptoms after five months.

NITRO-GLYCERINE seems to hold its reputation in angina pectoris. In the British Medical Journal (Oct. 31) is a copy of a letter from a clergyman who had found great benefit from it; in doses of "one-hundredth of a grain in alcoholic solution." He says, it is as effectual now as at first; three or four doses may be taken in the day. "My heart beats more quietly than it has done for years. The irritability is immensely lessened, and intermittence practically ceased.

URIC ACID as a Cause of High Arterial-Tension was the subject of a paper by Dr. A. Haig, at the Meeting of the Royal Medical and Surgical Society, Oct. 27. He said that, other things being equal, arterial tension varied directly with the amount of uric acid in the blood; and that opium, mercury, and other drugs probably affected arterial tension by their action on uric acid.

DR. A. BOWIE (London Lancet) reports two cases of cardiac failure in which death seemed imminent, that were speedily relieved by small doses of the tincture of nux vomica every half-hour for four doses, then every hour. He considers it the most valuable remedy that we have.

DR. THOMPSON, in the course of his last series of lectures at Gresham College, drew special attention to the contrast as to nervous sequelæ between influenza and diphtheria. In diphtheria paralysis was motor; in influenza it was essentially sensory.

WEISS, of Vienna, says that an early symptom of locomotor ataxia is an inability of the patient to walk backward, while in other ways he may walk with rapidity and certainty.

DR. CALLUM (in *Jor. of Am. Med. Assoc.*) says:—From an extended experience, with hundreds of cases, I am forced to regard eye strain as the cause in over seventy-five per cent. of all the causes of functional headache and migraine.

THE specific infectious agent in yellow fever has not been demonstrated, Lt.-Col. Dr. Geo. M. Sternberg says, in a report just issued by the U. S. Marine Hospital.

EXPERIMENTS by Prof. Rosenthal confirm Thraube's view that the heat in fever is due to the retention of heat—that is, to a diminished discharge of heat, by the body, and not to increased oxidation in the fluids or tissues.

BUCHNER having succeeded in isolating a substance (alkali-albumin), now known as "Buchner's protein," by injecting this into the circulation Roemer has produced well-marked leucocytosis. The experiments were made on rabbits, and the protein was injected into the veins, with the result that the number of white blood-cells were increased threefold:—a threefold army could then surely more effectually resist bacillary invasions.

IN THE hyper pyrexia of rheumatism (which caused the death of Parnell) Dr. Mall, in *The Practitioner*, reports most gratifying results from the cold bath and coldpack. Eighty-three cases were noted, in 55 of which the temperature exceeded 106° , running as high as 110.4° , F. Of those having the more moderate pyrexia, 106° —and 107° , eight out of eleven recovered under the cold-bathing treatment; all of those that were not bathed died. The patient may seemingly be dying from excessive heat-production one hour, and in the next hour may be in comparative comfort, with prospects of a speedy recovery. One bathing has frequently seemed to turn the scale.

OXYGEN as a remedy in chloroform poisoning, asphyxia, &c., is urged by the *New York Medical Journal*. It is "a great burden lifter from the heart in most cases of dyspnoea." A soldier was apparently lifeless and pulseless from having been exposed to coal gas from a burst balloon. An officer thought of a bottle of compressed oxygen, a tube was attached to the bottle, and its mouth piece put in the man's mouth. The oxygen was liberated, appeared to force its way into the lungs, and in from ten to fifteen seconds from its first outrush the man,

who had just presented the aspects of a livid corpse, agitated with paroxysms, half-hour later was calmly walking back to the barracks, all danger being at an end.

PEROXIDE of Hydrogen has given excellent results with Dr. F. H. Wiggin, of New York, in typhoid fever. Marchands peroxide is regarded as the best and most reliable

IN A recent paper Dr. Warner, of New York, said that the weight of authority was with those who believed that very young infants afflicted with tuberculosis had acquired it by the ingestion of milk or of some other substance infected with the bacilli, and what was inherited was a suitable soil for it.

DR. SAVAGE, at a recent meeting of the London, Eng., Medical Society, said he had seen in all 54 cases of neuroses following influenza—33 in men, 21 women. In 4, general paralysis of the insane resulted; in 20, melancholia; in 13, ordinary acute mania; in 6, delirious insanity; in 5, delirious mania; and in 6, mental weakness of some sort. Three-fourths of the patients recovered, only three died.

ACTINOMYCOSIS was the subject of discussion at the last meeting of the Royal Medico-Chirurgical Society, London, (Nov. 10, '91). A case was reported in which the patient had eaten fresh ears of barley and wheat.

DR. CROOKSHANK said, actinomycosis was extremely common in England, and was known to veterinary surgeons as osteo-sarcoma or osteofibroma; in the United States and Australia as lumpy jaw. He stated that if some of the pus was allowed to trickle down the side of a test tube held up to the light, if it contained any of the fungus masses they could easily be recognized as small black specks.

THE chief lessons derived from these records of actinomycosis are. The *Lancet* says, first the readiness with which the fungus may be detected in the discharges; next, the tendency of the growth to be localized and not disseminated; and, thirdly, the suggestion (in Dr. Ransom's case almost to certainty) of the etiology of the affection in cereals.

TO AVOID the danger of communicating diseases by vaccination, a French army surgeon recommends steel pens, unfinished, before the slit has been cut in, sharpened on one side on a stone. These may be purchased for about 7 cents per 100; one being used for each operation.

DR. JOHN SHRADY, an eminent physician of New York, in a recent paper, was not willing to admit the truth of the microbic theory of rheumatism, and thought the drift of modern opinion concerning the aetiology of the disease was in the direction of an irritant seeking the most convenient way of escape.

DIPHTHERIA (N. Y. Med. Rec.) is, perhaps, the disease which we most dread, and the therapeutics of which still flounder about in a sea of uncertainty. We have as yet no specific for it. We shall ward off its ravages by prevention rather than by cure.

THE doctors of Berlin have their coachmen wear white hats, so that a doctor's carriage is always readily distinguishable, and the public are enabled to give precedence as well as summon medical aid in urgent cases. A corporation ordinance gives them right of way.

BOVININE is being highly recommended by medical practitioners. Dr. G. H. Price, in the New England Medical Monthly, says of it: — "There are certain cases where this blood renewer (for such it is, pure and simple), can have its place taken by nothing else. It is not a medicine *per se*; it is a food, even more, it is, as Prof. Waugh, of Philadelphia, asserts, "one step beyond a food; it has received the finishing touches and has become the *vital fluid itself*."

DYERS Improve 1 food for Infants is being highly recommended by the profession. It is prepared according to recommendations from leading physicians of Montreal, and the manufacturers, Messrs. Dyer & Co., are a firm of high standing, and the public may rely upon the accurate preparation of the food. The cereal used in its preparation is the best of pearl barley flour, with milk. Dr. Blackader, professor of diseases of children, Medical department McGill University, says: "Barley is the blandest and most nutritious of the cereals, contains the largest amount of the phosphates, and has neither a constipating nor relaxing action on the intestinal canal."

NOTES ON CURRENT LITERATURE.

THE ILLUSTRATED NEWS OF THE WORLD (Am. reprint of *Illustrated London News*—World Building, New York, only \$4 a year) has recently given an unusual variety of illustration and reading matter. A notable double page, well executed picture is, "Canadian N. W. Farming: Reaping the Harvest of Manitoba," a highly interesting pastoral scene. We find many illustrations of Japanese and Russian scenes, and a very large number of portraits of men of

note, including a full page one of John Ruskin. Among the more attractive full page pictures are: "The Children's Breakfast"; "In Friendship Knit"; "Gone Away"; "Wa'll I have Ears"; and "Expectations." The number for Dec. 5, just received, before date, is a charming one with tinted illustrations and two adorable full page pictures—"Three Good Friends" and "A Woman of Nazareth."

FOR a Christmas greeting or Souvenir to send to friends abroad Canadians could make no more fitting choice than the Christmas Number of THE DOMINION ILLUSTRATED, which promises to be out in ample time and the most beautiful and interesting purely Canadian publication ever issued. The supplements, illustrations, stories, poems and sketches are to be all Canadian, and will cheer the heart of many a one who cannot come to Canada for Christmas, but who will gladly welcome such a Christmas greeting.

THE king of the U. S. Weeklies, "The Graphic," Chicago, keeps up its high and rapidly earned reputation. The New York Tribune says: "The first issue of the Exposition Graphic, a quarterly edition of the Graphic, Chicago, is a magnificently illustrated Worlds Fair Number. No publication that we know of has given such an idea of what the World's Fair will be like. Besides the pictures, . . . remarkably good, and sketch of the fair, there is a history of foreign expositions."

IN THE Christmas Century, a most admirable number of the magazine, Prof. Du Bois, of Yale, in an article on "Science and Immortality" says: "Mastery of self can be attained only in a world where temptation and sin are possible, where voluntary disobedience is the outcome of ignorant transgression. These are necessary to the end; not merely allowed, but designed. The purpose of such a world is plain to read. It is not the production of automatons who may pass a few years of blissful irresponsible ease and then cease to be. Such an end is worse than futile. But the development of a conscious, indefeasible personality, . . . of a spiritual energy in accord with eternal purpose, capable of co-operation and fit tool for higher things—this is an end which alone satisfies reason, science, revelation, faith and hope. This alone is commensurate with the whole mighty process."

THE PRINCIPLES involved in the training of dogs is given by Dr. Wesley Mills, of McGill, Montreal, in the December Popular Science Monthly. The article contains pictures of a number of champion hunting-dogs.

AN INVENTION that bids fair to work a revolution in printing, namely, type-casting machines, are described also in the December Monthly, by P. D. Ross, of the Ottawa Evening Journal.

WE HAVE received from the Rev. Dr. Withrow, Toronto, a copy of the Illustrated Programme of his Excursion to Egypt and Palestine. We understand that it will be sent free to any address on request.

GENERAL NOTES.

FOR QUACKS AND QUACK SUPPORTERS:—At the Westminster, Eng., County Court, Miss Livers sued three persons, including a "Dr." Carter Moffatt, trading as the Magneto-electric Battery Company, to recover £10 as damages for fraudulent representation. She succeeded and obtained "High Court" costs.

ANOTHER:—At an inquest on a man at St. Giles, the post-mortem examination showed that deceased had suffered from fatty degeneration of the heart, but death was attributed to the cumulative effect of strychnine, which he had long been in the habit of taking in the form of "Easton's Syrup."

DR. HENRY C. VAN ZANT, at the New York State Medical Association Meeting last month, deprecated the traditional reluctance of physicians to educate the masses on medical subjects, thus actually favoring the development of quackery.

MANCHESTER, Eng., has found a new water supply a hundred miles off, and purchased an area of 11,000 acres in extent, drained by Thirlmere and its tributaries, so that it may be able to prevent any building and contamination arising therefrom.

AT THE Paris Congress on tuberculosis last month, M. Moreau, V.S., stated that fat oxen are more liable than others to contract tuberculosis, and that the apparent good food quality of the meat is not proof that the bacilli are absent.

IN PHILADELPHIA a movement, which has the support of many wealthy and philanthropic persons, is on foot for the erection and endowment of a hospital for consumptives. The average annual mortality from phthisis there is not less than 3,000, and the number of cases of the disease at present known to exist in the city is about 10,000.

THE English Consul at Canton says that eighty thousand pounds of human hair have been exported from that city during the past year, and that it comes mainly from those who have died of contagious diseases, meningitids and criminals.

DAINGEROUS PETS.—A French scientist declares that the domestic pets of the world carry at least thirty per cent. of the common contagious diseases from house to house.

IN FRANCE the returns for 1890 show an excess of deaths over births;—namely, 876,000 against 838,000. This also occurred in 1854-55, and was due to the epidemic of cholera and the Crimean war; and in 1870-71, during the war with Germany.

AT A recent Meeting of the London, Eng., Medical Society, Dr. Savage, an eminent and experienced physician said:—It is rare for a neurosis (nervous affection) to present itself as the sequel of influenza in a perfectly healthy individual. Moral:—keep up a healthy vigorous tone of body.

A TRAVELER in Japan writes to an exchange that the Japanese pay more attention to personal cleanliness than any other people in the world. High and low bathe all over at least once a day and sometimes oftener.

SHAKESPEARE, it is now said, died of pneumonia (inflammation of the lungs). A writer in the New York Medical Record has worked out an ingenious theory to establish this. The age of poet at death (52); the season of the year (April); previous exposure "in the companionship of convivial friends;" "the characteristic pneumonic expression of countenance" shown by his "death mask,"—as one toiling under a burden, breathlessly and without rest—utter weariness, etc. The London Lancet is "much inclined to agree" with this theory.

THE NEXT NUMBER of this JOURNAL will contain, among many other articles, "Latest notes on the Etiology of Diphtheria," on "The Influenza," the admirable regulations of the Copenhagen Milk Supply, and Heredity, Crime and Insanity.

POLITICAL trichinae, is the heading of an item in the British Medical Journal, which reads:— "It is announced that trichinae have been found in American pork at Solingen—which may probably shake the newly restored confidence of Germany in American pork. But perhaps it is only a political trichina, and related to the McKinley tariff.

A NEW TERROR of Courtship has been developed in the case of an Indiana brunette. She suffered from a supposed attack of pleurisy, but when the Dr. was called in he found one of her ribs fractured. After much questioning the girl blushing admitted that her best beau had inflicted the injury while giving her his usual tender embrace before parting on his last visit.