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# CANADA HEALTH JOURNAL

A Monthly Review and Record of  
SANITARY PROGRESS

— EDITED BY —

EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

For Contents see next page.

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VOL. XIII.

OCTOBER, 1891.

No. 10.

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## THE KITCHEN.

**A**LTHOUGH, as Franklin said, "A fat kitchen makes a lean will." very much more attention should be given by a large proportion of people to this important apartment of the dwelling house; attention relating to both its general convenience and comfort, ventilation light, &c., and to its facilities for the preparation of suitable food. Mrs. Kellogg, of the Battle Creek, Mich., Sanitarium which is the largest institution of the kind it is said in the world, and who is we believe a graduated physician has been endeavoring to awaken a more general interest in this important apartment amongst her sex domestic.

It is a mistake to suppose that any room, however small and unpleasantly situated, is "good enough" for a kitchen. This is the room where the housekeepers pass a great portion of their time, and it should be one of the brightest and most convenient rooms in the house; for upon the results of no other apartment of woman's domain depend so greatly the health and comfort of the family as upon those involved in this "household workshop." The character of a person's work is more or less dependent upon his or her surroundings; hence it is to be greatly wondered at that a woman immured in a small, close, dimly-lighted room, whose only outlook may be the back alley yard or woodshed, supplies her household with products far below the standard of health and housewifely skill?

Undoubtedly much of the distaste for, and neglect of, "house work," so often deplored in these days, as Mrs. Kellogg says, arises from unpleasant surroundings.

If the kitchen be light, airy, and tidy, and the utensils bright and clean, the work of compounding those articles of food which grace the table and satisfy the appetite, will be a pleasing task, and one entirely worthy of the most intelligent and cultivated women.

Elements of beauty should not be lacking in the kitchen. Pictures and fancy articles are perhaps not appropriate; but a few pots of easily-cultivated flowers on the window ledge or arranged upon brackets about the window in winter, and a window box arranged as a  *jardiniere* , with vines and blooming plants in summer, will greatly brighten the task of those especially whose daily labor confines them to the precincts of the kitchen.

Cleanliness, abundance of room and sunlight, are the first essentials. The furniture and walls should be as far as possible of a non-absorbing character, and hence coatings of varnish are useful. Small tables of suitable height on easy-rolling casters, and with zinc tops, are most convenient and easily kept clean. To lessen the discomforts from heat, a ventilator may be placed above the range, that shall carry out of the room all superfluous heat, and aid in removing the steam and odors from cooking food. The simplest form of such a ventilator is an inverted hopper of sheet iron fitted above the range, the upper and smaller end opening into a large flue adjacent to the smoke flue for the range. Care must be taken, however, to provide an ample ventilating shaft for this purpose, since a strong draft is required to secure the desired results.

THE THEORIES OF IMMUNITY—FROM THE THERAPEUTIC GAZETTE.

AT the recent meeting of the International Congress of Hygiene and Demography, Dr. Metchnikoff, of the Pasteur Institute, re-stated and re-affirmed his views as to the bactericidal power of his phagocytes,—*i. e.*, the leucocytes of the blood (certain white blood corpuscles or cells.) Since the phagocyte theory has been propounded, it has given rise to numerous objections, based on theoretical considerations, as well as on research and experiment; but the more we go into the question, the more it becomes evident that the army of the phagocyte cells is in reality a salutary power which is formed in the struggle of the animal organism for existence. At one time the phagocytes act alone, at another they combine with other factors which facilitate their efficiency. But in all these cases we see these cells combating the parasites. When the phagocytes are inactive, this is a sign either of the harmlessness of the microbe, or, on the contrary, of its extraordinary virulence. Dr. Metchnikoff instanced the case of remittent fever, in which it is known that the spirilla are destroyed by the phagocytes during the crisis and the period of apyrexia. In monkeys, where the spirilla are destroyed by the cells, the illness terminates with the first attack; but in man, where the phagocytes have generally not been able completely to destroy the spirilla, a second attack is produced, in spite of the formation of antitoxine. This is the same in intermittent fever. It is evident that it is only when the microbe is entirely destroyed that the organism can be considered free from it. Therefore, in this act of destruction of the microbes, it is the phagocytes which perform the most important *role*, as has been proved in the case of anthrax and in numerous other diseases, and in the case of the vibrio of septicæmia in guinea-pigs.

The question as to the bactericidal power of blood-serum was regarded as complicated and as needing fuller inquiry.

Behring, the founder of the blood-toxic theory, has himself acknowledged that this theory cannot be easily applied, except in diseases like tetanus and diphtheria, which are distinguished by their exceptionally toxic characters and by the absence of diffusion of microbes. As was

proved by Vaillart and Vincent in regard to tetanus, the animals which are subject to malady are naturally refractory to the microbe, and in this immunity from the microbe, it is the phagocytes which play the principal part.

Dr. Adami said that the bacteriological world was at the present moment divided into two bitterly-opposed camps,—those who held that microbes within the system were destroyed by the agency of the living cells, and those who held that the function of microbic destruction was performed by the blood-serum and body fluid in general. He wished to especially emphasize the fact that we had ample evidence to show that controversy upon the subject turns after all upon phenomena which differ not so much in kind as in degree. The controversy tended rather to be words than actualities, and if we directed our observations aright, it would be impossible not to be struck by the prevalence of phagocytosis. He was of opinion that those who were not in the thick of the fray must continually accept both views, and would point out that this position was far from being untenable. He said that he need hardly mention that it was especially around the phenomena observed in the rat that this controversy had raged, that in the rat phagocytosis could be with difficulty observed, and the rat's blood-serum possessed bacteria-killing properties to a high degree.

In the opening paper, read before the Bacteriological Section on the 12th ult., Dr. Roux, of the Pasteur Institute, said that the theory of immunity proposed by Metchnikoff does not deny that there may be other means of protecting the organism, but it affirms that the phagocytic action is of all these means the most efficacious and extensive. It seems to account for all the facts and to be eminently suggestive; it is thus that the knowledge of microbic poisons and chemical inoculation has thrown light on what would otherwise have been obscure. Far from being shaken by the theories that were opposed to it, this theory of Metchnikoff had gained by the opposition which it had met, and that was a guarantee of its genuineness.

CREMATION:—IN ENGLAND AND JAPAN.

A T a lengthy discussion on the disposal of the dead, in the section in Public Medicine at the Annual Meeting of the British Medical Association, in July last (reported in Brit. Med. Jour. Sept. 19th), Sir Spencer Wells, F. R. C. S., opened the discussion in an exhaustive paper. He said: It is eleven years since I brought the subject of the disposal of the dead before the members of the British Medical Association by a paper on Cremation or Burial? at the meeting at Cambridge in 1880. Six years before that Sir Henry Thompson's articles in the Contemporary Review (in 1874) had exposed the increasing evils of our prevailing mode of burial in the earth, and had drawn attention to the advantages of cremation. One of the first effects of these articles was the formation of the Cremation Society of England. Mr. Ernest Hart was one of the original members of this society. So was another member of our association, who was cremated at Woking only a fortnight ago. He, Mr. Ernest Hart, Sir H. Thompson, and I were the medical members of the council of the society, and we three have remained on it until now. In 1880, although we had bought land and erected a crematorium at Woking, we had been compelled, in order to avoid a prohibitory Act of Parliament, to promise that we would not burn a human body until the legality of cremation had been established in Parliament or judicially. As soon as it was established—by Mr. Justice Stephen's charge at Cardiff in 1884—the council made known their intention to devote their crematorium to the use of the public, provided certain regulations or safeguards against the possible destruction of a body which may have contained traces of poison or afforded evidence of injury were observed. But it was not until March, 1885—only six years ago—that the first human body was burned at Woking. Two others in the same year, 10 in 1886, 13 in 1887, 28 in 1888, 46 in 1889, and 54 in 1890, give some idea of the progress of

the practice. This year, up to the end of June—seven months—there have been 60 cremations, bringing up the total to 214. Some have thought this progress slow; but to my mind it is faster than any of us hoped ten years ago. The practice was opposed by the Government. Many thought it was illegal. It was opposed by medico-legal objections which deserved the careful answers they received. It was met by religious scruples, which were also answered; by the difficulty of establishing a new—or, rather, of reviving an old—custom; and by widespread and powerful sentiment. With all these obstacles to overcome, I can not think our progress has been slow. . . . Some of the dangers of church-yards and cemeteries are known, but perhaps not acknowledged sufficiently. I do not allude further to them now; I prefer to direct your attention to the proposition that the efforts to abolish zymotic diseases are frustrated by the burial in the earth of the bodies of those who have been killed by the specific microbes of scarlatina, diphtheria, and other infective diseases. In 1880, I gave some account of Pasteur's researches on the part earth-worms play in bringing up to the surface of the soil the specific microbes from the bodies of animals buried several feet deep.

In Darwin's paper, read at the Geological Society of London, in 1837, he proved that in old pasture land every particle of the superficial layer of earth overlying different kinds of subsoil has passed through the intestines of earth-worms. The worms swallow earthy matter, and after separating the digestible or serviceable portion, they eject the remainder in little coils or heaps at the mouth of their burrows. In dry weather the worm descends to a considerable depth, and brings up to the surface the particles which it ejects. This agency of earth-worms is not so trivial as it might appear. By observation in different fields, Mr. Darwin proved in one case that a depth of more than three inches of this worm mold had been accumulated in fifteen years,

and in another that the earth-worms had covered a bed of marl with their mold in eighty years to an average depth of thirteen inches.

Pasteur's recent researches on the ætiology of "charbon" show that this earth mold positively contains the specific germs which propagate the disease, and that the same specific germs are found within the intestines of the worms. The parasitic organism, or bacteridium, which, inoculated from a diseased to a healthy animal, propagates the specific disease, may be destroyed by putrefaction after burial. But before this process has been completed germs or spores may have been formed which will resist the putrefactive process for many years, and lie in a condition of latent life, like a grain of corn, or any flower seed, ready to germinate and communicate the specific disease. In a field in the Jura, where a diseased cow had been buried two years before, at a depth of nearly seven feet, the surface earth not having been disturbed in the interval, Pasteur found that the mold contained germs which, introduced by inoculation into a guinea-pig, produced charbon and death. And further, if a worm be taken from an infected spot, the earth in the alimentary canal of the worm contains these spores or germs of charbon, which, inoculated, propagate the disease. And the mold deposited on the surface by the worms, when dried into dust, is blown over the grass and plants on which the cattle feed, and may thus spread the disease. . . I have more than once cited a very remarkable case, on the authority of Mr. Wheelhouse, of Leeds, where the seeds of scarlatina germinated after having been buried for thirty years. In a Yorkshire village part of a closed graveyard was taken into the adjoining rectory garden. The earth was dug up and scarlatina soon broke out in the rectory nursery, and from thence spread over the village. It proved to be of the same virulent character as the scarlatina which thirty years before had destroyed the villagers who were buried in the precise part of the church-yard which has been taken into

the garden and dug up. And what is true of plague and of charbon and of scarlet fever seems to be true of yellow fever.

After concluding his lengthy address, for more of which we have not space, Sir Spencer Wells was followed, in discussion, by many other well known physicians, the most notable and interesting part of the discussion being the remarks of Mr. Ernest Hart, editor of the *British Medical Journal*. After referring to the history and progress of cremation, Mr. Hart said: There was one peculiar fact which he had mentioned before, but which he should like to mention again, and that was the number of examples which medical men and officers of health might still collect of the quite unsuspected manner in which cemeteries and burial grounds in populous cities might be and were the cause of evils very little suspected. The story that he had to remind them of was the story of the Aldgate pump. The Aldgate pump happened to be in the parish of Whitechapel, and was the most celebrated pump in the city. It was always supposed to give the most delicious water, and to it people sent for drinking water from far and wide. There was a pensioned officer of the corporation who made a handsome living—it was a sort of post in the gift of the corporation—by pumping this water and receiving gratuities from the people who sent for it. Some of the water from that pump was taken and analyzed, and it was found that that delicious water was intensely contaminated with organic matter, which in fact, gave it rather a pleasant odor. Close by was a cemetery which had been long out of use, and which might have been supposed to be innocuous, but from percolation through the soil there was a decoction of putrefied bodies, and when it got into the water it gave it a very delightful flavor. They had the greatest difficulty in getting it abolished—it was a municipal corporation they had to deal with—but when it was abolished it was said that the people must not be told that the water had been changed, that the gentleman must still be allowed his perquisites, so that he still

retained his salary and the pump was still used, but he pumped only the ordinary company's water, which was laid on by a pipe. He thought that very often such a state of things as that might exist quite unsuspected in a great many parts of England. He did not intend to go into any details on this matter, but he desired to say that he had just visited a country where cremation was practically the rule, where considerably more than half of those that died were cremated. When he was in Tokio in Japan one of the things he went to see was the crematoria, where they disposed of an enormous number of bodies, and it was satisfactory to see how easily and how cheaply it could be done, and without the slightest outrage to any sentimental feelings. There was an average of thirty bodies cremated there every evening separately. There was a row of thirty small furnaces placed side by side, connected with horizontal flues, each one having a vertical flue at the base. By these means they secured a considerable draught and rapid cremation without any offensive exhalations. The funerals were carried out with great ceremony. The body was taken in procession to the temple, where the service was read. The processions were carried out with great pomp and a profusion of flowers. After the prayers had been said at the temple and the service performed, the body was brought to the crematorium in a very simple and respectful way by bearers, accompanied by one friend or one representative of the family of the dead person, who after the body was deposited, generally went away. The cremation was then performed, and the friend returned the next morning and received the ashes, generally in a very charming pottery jar. Some slight portion of the remains might be taken, and then the rest were taken back to the temple, where they were interred by the priest. It was very satisfactory to see in Japan, public favor so entirely on the side of cremation. He might

mention a very peculiar thing that had happened in Japan in regard to cremation. When the Japanese first came into complete touch with European natives, about twenty years ago, they acquired the idea that Europeans knew how to do things a great deal better than they did themselves. Their representatives in Europe reported that cremation did not exist in Europe, that it was frowned upon as an uncivilized practice and desiring not to be uncivilized, as the result of our bad method of interment, they returned to Japan, where the people were highly scientific and educated, and raised an opposition to cremation as an uncivilized practice. Whereupon the Government issued an order prohibiting cremation, on the basis of the superiority of European knowledge. For some years that prohibition continued, and they were beginning to poison their wells, thinking that they were following our superior wisdom. After a few years they began to think a little more for themselves, and they said: "This is a European prejudice rather than a European principle, and we had better follow the lead with the knowledge now acquired and restore cremation and permit it." It was now only five years ago, after a period of ten or twelve years during which cremation was prohibited as a practice discountenanced by Europeans, that it was restored in Japan as a permissible practice. There were now a large number of cremations performed there in the decent manner he had mentioned. It was a private company there which carried out the cremations, and the price varied from seven to five shillings, but he did not think that any system of burial could be more decent or respectful, neither did he think that if cremation came to be more general or universal in the country there would be any difficulty in providing separate crematoria, and so preventing the ashes from being mixed one with the other, and in meeting any reasonable or well intended desire on the part of the friends.



WATER SUPPLY FACTS APPLICABLE TO MANY PLACES IN CANADA,  
ESPECIALLY TO TORONTO, OTTAWA, WINDSOR, &c.

AT the annual conference in Washington last month of the Association of American Physicians, Dr. H. P. Walcott, a Professor in Cambridge University, late president of the American Public Health Association, Prest. of the Massachusetts State Board of Health and who has been the chief force in the extensive investigations which that State has made during the last few years relative to public water supplies, in an address said: "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. Chemical examinations made when epidemics prevailed revealed undoubted pollutions; but so far as chemistry was relied upon as a proof, the pollutions were often no greater during an epidemic of infectious diseases than they had been before it and no less than they would be when the epidemic was past. Improvements in the methods of determining both the kinds and the number of the minutest forms of organic life, and the proved connection of some of these forms with infectious diseases, have given to us more satisfactory means for the proof of the harmfulness of certain waters than chemical analysis has hitherto afforded. . . . As the senses of sight, smell, and taste offer us no protection against the waters that contain any of the now-known disease-producing bacteria, we must seek for safety the waters which are known to be unpolluted by sewage, or, if this be impracticable, waters which, though sometimes polluted have been rendered harmless. Methods for the biological examination of waters have not yet been devised that are practically available for the purpose." Notwithstanding that this fact has been published again and again by this JOURNAL, the authorities in many of the cities go on with the farce (largely though not wholly farcical) of periodically publishing the chemical

analyses of their water supplies as if it were the embodiment of positive proof that the water could not be the source or vehicle of infectious or specific disease.

As an example, one instance, which goes to show the connection of infectious disease with the domestic use of river-water, the experience of Lowell and Lawrence, Mass., with typhoid fever was cited by Dr. Walcott. Lawrence and Lowell are both situated upon, and derive their water-supply from the Merrimac River. The in-take of the Lawrence water-works is nine miles below Lowell. The Merrimac has always been regarded as a marked instance of the capacity of a large body of water moving rapidly to purify itself. There is nothing in the appearance and taste of the water to deter a community for its use, *nor does the chemical analysis indicate a water too polluted for drinking.* The average death-rate from typhoid fever of all the cities of Massachusetts, for twelve years, from 1878-89, was 4.62 per 10,000; for the same period in Lowell, the rate was 7.63, and in Lawrence 8.33 per 10,000. The death-rates of Lowell and Lawrence from typhoid do not vary essentially from those of the State, as a whole, *up to the month of September.* From this month on a condition of things exists in the two cities distinct from what was observed elsewhere in the State; that is to say, the deaths from typhoid fever continue to increase in number in Lowell until December, and in Lawrence till a still later date, whereas in the rest of the State the disease begins to decline in November. We find such a condition of things to exist as we should expect to find if a disease capable of being transmitted by the infected excreta of those sick with it had prevailed during the late summer and early autumn, at some point on the river above Lowell. The infected discharges of the sick in Lowell would, with the sewage of the city, enter the river lower down, and would be taken into the water-supply of

Lawrence ; causing there a later outbreak of the same disease that had prevailed in Lowell.

It is suggestive that the city of Haverhill, situated on the Merrimac nine miles below Lawrence, but not deriving its water-supply from this river, had a typhoid fever death-rate, in 1889 of only 3.33 per 10,000.

In the past year Lowell and Lawrence experienced an epidemic of typhoid fever of great severity. An apparently successful attempt was made to prove the existence of cases of typhoid fever at points on the river above Lowell, and to show that the discharges from the bowels of the sick had found immediate entrance to the river. In the months of August and September, several well-defined cases of the disease had occurred in people living along the course of stony Brook, an affluent of the Merrimac, entering the river at a

point about two and half miles above the in-take of the Lowell water-works. Some of the sick, in the early stages of the disease, had made use of the privies which overhang the brook.

The temporal connection of these cases was such that, with the allowance of two weeks for the time occupied by the incubation and early stages of the disease up to the time of taking to bed, we find an apparently direct relation to the serious increase of the disease in Lowell in October, 1890. The amount of infective matter did not at this time appear to be sufficient to pollute the river, to the same serious extent, at the in-take of the Lawrence water-works nine miles below Lowell. With the increase of the disease in Lowell however, there came the growing specific pollution of the river, and the people of Lawrence began, in turn, to suffer, throughout November.

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#### THE WONDERFUL WORK OF THE LEUCOCYTES IN ANIMAL BODIES.

IN "Evolution and Disease," Dr. J. Bland Sutton reviews the principal facts known in connection with the evolution of morbid processes, called disease. The blood of the higher animals contains, besides the "red blood-corpuscles," familiar by name at least to most people, large numbers of "white" or "colorless corpuscles," which fulfil some very extraordinary functions. These have been named leucocytes, and consist of little masses of protoplasm more or less rounded, without a surrounding membrane or wall, and *capable of motion*. They exist, too, in the lymph and other fluids of the body.

When a portion of an animal dies the leucocytes attack it; and if it be small, will cluster round and, by a process of intra-cellular digestion, devour it; if large, they effect a separation between the dead part and the living body. Not only are dead or damaged portions of tissue thus disposed of, but useless parts—such as the tails and gills of tadpoles, the milk or first teeth, &c.—are slowly re-

moved by the same process. Animal tissues appear to be incapable of resisting an attack of leucocytes.

Small pieces of clean sponge introduced into animal tissues disappear in a few days; while indigestible objects—glass, or a fragment of metal—are surrounded by a large number of leucocytes that are soon transformed into neutral tissue which isolates the intruders from neighboring parts. Should the intruded body contain particles of dirt offensive to the leucocytes, their action is intensified to a degree highly disastrous, for they die in the conflict, and in a few hours the foreign substance is surrounded by a fluid—pus—containing the dead cells. When this fluid escapes, as when a small abscess "breaks" or is lanced, the cause of the disturbance often escapes with it.

Leucocytes, in their behavior to foreign bodies, may be compared to bees. When the offender is small it is quickly stung to death and cast out. When large, it is deprived of life and rendered innocuous by a covering of wax.

Pathogenic or disease bacteria when they have gained entrance into the body are attacked by the leucocytes, which make great effort to destroy the invaders. This warfare may be described from attacks actually witnessed by Metschnikoff in the water-flea, *Daphnia* (a small fresh water crustacean animal). Spores gained an entrance into the body of the crustacean, germinated, and were dispersed by the blood over the body and deposited where the blood moved slowest. In those places heaps of conidia, the developed fungoid cells or microbes, collect. The leucocytes are not idle. They attack and devour the intruders, take them into their interior, and digest them. If a conidium is too much for one cell, others join it, form a giant cell, and thus struggle with the invader. Should the leucocytes overcome the spores, the *daphnia* lives. If not, the conidia overrun the crustacean and death is the result.

Similar processes in animals more highly organized take place, the defending power of leucocytes being well illustrated in avian tuberculosis. In birds this disease is more common than in human beings. The liver and intestines of birds that have died from it present numerous pale-yellow,

rounded masses, the centres of the larger ones containing pus. The smaller ones are homogeneous, containing in the centre small circular cells with larger, giant-cells lodged among them; outside these a layer of smaller cells; and lastly, a layer of fibrous tissue. The microscope reveals minute tubercle bacilli clustered in the centre of the mass, and even occupying the interior of the giant-cells.

The bacilli may be too numerous for the leucocytes, and the point where they gain entrance into the tissues be transformed into a most interesting battle-field. Large numbers of other leucocytes quickly reinforce their comrades. Many of these die, others fuse and form giant-cells. The dead leucocytes form pus, or "matter." The bacilli are conveyed by blood-vessels, or are even carried away by the leucocytes—a giant cell sometimes containing fifty bacilli—and initiate new struggles in distant parts. When the bodily conditions are favorable to them, bacilli multiply very rapidly and overrun the whole system, little masses of tubercular products arising in the liver, lungs, brain and skin; function is soon interfered with and death results.

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#### MISCELLANEOUS NOTES AND EXTRACTS.

##### INTERESTING HISTORY OF THE INFLUENZA EPIDEMIC.

At the recent annual meeting of the British Medical Association, Dr. Franklin Parsons read a paper on "The Influenza Epidemics of 1889-90-91 and their distribution in England and Wales." He showed that in 1889, when the epidemic broke out, the majority of medical men were unacquainted personally with epidemic influenza, and many were not prepared to recognize as such a disease in which catarrh was often absent. The name influenza, he thought, should be retained for the epidemic disease and not applied to severe cases of ordinary catarrh. He showed that it was more than a year between the time that it appeared in Russia and reached some remote parts of the

world. Its general course in the northern hemisphere was from east to west; in the southern hemisphere from south to north. Influenza was present in London in December, 1889, and became epidemic about January 1, and it did not reach some outlying places in hilly districts in the west and north until March. Market towns were attacked before villages, and neighbouring villages were not necessarily attacked at the same date. In suburban places, city-going men were usually the first to suffer, and among railway servants, clerks suffered in higher proportion than engine drivers, though the latter are more exposed to the air. Deep-sea fishermen and lightship keepers at sea almost entirely escaped. Medical men and nurses suffered in large proportion, but the disease showed little tendency to spread among patients in hospitals. The epidemic of 1891 began in March at Hull, and then spread thence to other towns,

reaching London about six weeks later. It was more protracted and more fatal in London than that of the previous year, but was less rapid in its development. This was attributed to the extra Christmas intercourse which was going on at the time when the previous epidemic began. The experience of the two epidemics showed that one attack of influenza was not a complete protection against another; whether it was in any degree protective was doubtful. The author considered that there was no ground for connecting the influenza epidemic with any kind of weather conditions, that there was no proof that it travelled faster than human beings, or began with a large number of simultaneous attacks, or that it attacked persons isolated from their fellows. He regarded human intercourse as the essential factor in the spread of the disease. The rapid development of an epidemic he explained by the shortness of the incubation period of influenza and the widespread susceptibility of it. In the discussion which followed, Dr. Drysdale thought no medical man now believed that the disease was merely wafted by the winds from another country, and the great point for them to fix attention upon was to find out whether the disease was contagious.

PERSONAL DISINFECTION, BY CONWAY SCOTT, C. E., IN THE SANITARY RECORD.

There is no greater fallacy than that an epidemic can only be spread by persons who have the disease. Common experience shows that epidemic diseases are only too often spread by persons who have not the disease, but who are carrying the disease organisms about with them in their clothing. All such persons are, in the old Hebrew expression, "unclean," and should not mix in society until they have been purified or disinfected. Some years ago a lady took small-pox; she had been confined to her room for some months previously through an accident; none of her friends or visitors had the disease, and there was no case of small-pox anywhere in her vicinity. How she took the disease was a perfect mystery, until it was found that one of her friends was in the habit of visiting at a house where there was small-pox. A lady lately died in child-birth from scarlatina; every precaution had been taken to prevent such a danger. A most searching investigation was made, and it

was found that a new chambermaid, a stout, healthy girl, had come direct from a house in which several cases of scarlatina had occurred. All such dangers might be easily averted by unclean persons having themselves and clothing disinfected by carbolic vapour, and by so doing a large amount of sickness might be prevented. A lady lately engaged a servant; the girl honestly told her she had been living in a scarlatina house; before going to her new place the girl and all her clothing were disinfected. No disease occurred in this house. Surely such a simple precaution is better than having a family down in scarlatina. Personal disinfection must also be considered as a preventative against taking an epidemic disease, for when any person has inhaled the vapour and has his clothing and person saturated with it, the disease organisms will be killed before they can take root in his system. A friend once came to me, saying that his son, who was an architect's pupil, had been ordered to measure up the wards of the fever hospital for some alterations, and he feared the boy would either take fever or bring it home. A small room was filled with strong carbolic vapour, and the boy went in and was well saturated both inside and outside. He did his tedious and dangerous duty and neither took fever nor brought it home with him; the only unpleasantness was a strong carbolic smell about him for the next week or so. Not long after, a clergyman attending to his sacred duties at this very same hospital took typhus fever and had a very bad time of it. Some years ago a doctor coming out of a fever house said to an inspector who was with him, "I'm in for it, I feel the disease upon me." Within a fortnight the doctor died in the delirium of typhus fever; the inspector did not take it; he was protected by disinfection. I look upon personal disinfection after contact with any epidemic disease as one of the most important of sanitary requirements; and as it simply consists in taking a carbolic vapour bath, there is no practical reason why it should not be universally used. The only objection is the smell, and the fear that inhaling carbolic vapour might be injurious to health. The smell must be put up with, but, after many years practical experience, I can safely say that it is not injurious, but in my opinion beneficial to general health.

#### RECENT CONCLUSIONS ON TUBERCULOSIS.

Relative to the Paris Congress on tuberculosis last month the British Medical Journal says: Now that the Congress is over and the farewell banquet eaten, the question that naturally arises is, what is the result? A negative result, is evident. At present no cure for tuberculosis has been discovered. Important details which prior to the Congress were open questions, are now definitively settled. Bird tuberculosis is distinct from human tuberculosis [still, it appears, intercommunicable]. Transmission of tuberculosis *in utero* is very rare, but after birth it is very common from parents to children. M. Landouzy insisted on the necessity of forbidding tuberculous mothers to suckle their children. The infants brought up in his *crèche* are fed with boiled milk. Many questions concerning the therapeutics of tuberculosis were discussed without arriving at any decidedly favourable issue. Injections of serum of dog's and goat's blood, hypodermic injections of guaiacol and iodoform, doses of salts of lead, particularly acetate of lead, aqueous solution of chloroform, one or two grammes, in tuberculous laryngitis, all met the verdict M. Vidal passed in his own paper on injections of dog's blood: "They require to be baptised by time." The truth of this happy epigram is proved by the applause which followed Signor Semmiola's recommendation of treating pulmonary tuberculosis with iodoform, because in many instances it is of great service and never kills. M. Moreau, veterinary surgeon, stated that fat oxen are more liable to contract tuberculosis than others, that the quality of meat is not a proof that bacilli are absent. The Congress before breaking up proposed that meat should be inspected throughout France by a sanitary inspector; that in all towns numbering more than 5,000 inhabitants private slaughter-houses should be replaced by a general one open to all, in order to facilitate thorough sanitary inspection; that tuberculous meat should be rendered innocuous and the owner indemnified for the loss; that all cows' stables be supervised by a sanitary inspector; that every house in which a tuberculous patient dies should be disinfected.

#### REMARKABLE VITALITY OF DISEASE GERMS.

A correspondent sends to the British Medical Journal the following extract from the "London Magazine or Gentleman's Monthly Intelligencer" for September, 1752: "The grave digger at Chelwood in Somersetshire lately opened a grave wherein a man, who died of the small-pox, had been interred about thirty years ago. By the deceased's desire, he was buried in an oak coffin, which was now so firm that it might have been taken out whole; but the gravedigger, not chusing that, forced his spade thro' the lid, when there came forth such a stench that he never smelt the like before. It being a person of credit that was to be buried in the grave, the whole village attended the funeral, as well as many people from the neighbouring villages; and a few days after fourteen persons were seized in one day with the usual symptoms of the small-pox, and in three days more every soul but two in the whole village, who had not had it, were seized in the like manner. Their disorder proved to be that disease, and was so favourable that no more than two persons died of the whole number, which was about thirty, and one of them was a woman that came down stairs when the pox was at the height and died the same night. The same disorder was carried all round the villages by the country people who attended the funeral, and proved very favourable everywhere."

#### A GOOD WOMAN'S WORK IN VEGETARIANISM.

Mrs. Le Favre, an exchange reports, who was cured of her lifelong maladies by discarding the use of flesh, fish and fowl as food was so grateful that she organized Vegetarian Societies in Chicago and New York, being President of the latter. She had just organized a Society in Boston and finds more Vegetarians in that than any other city in America. She had the good fortune to secure as president a man who has been a Vegetarian for forty years. One of the lady vice-presidents has been a vegetarian thirty years. Several members have been Vegetarians thirty, forty and even fifty years. Margaret Fuller's neice is corresponding secretary and intends to make some important experiments. Mrs. Le Favre also made agreements for the establishment of

two Vegetarian restaurants in that city. She also started a library and arranged leaflets for distribution. She has given Vegetarianism an impetus and popularity among refined and fashionable people that it has never before had on this continent. She had receptions given her and delivered several lectures; before the Institute of Heredity and another before the American Health Society. Mrs. Le Favre illustrated a lecture given at the Educational Union, by showing the superior brain development of the Vegetarian animals over that of the carnivora.

#### THE CHOLERA IN TURKEY.

This the Sanitary Era reports is how they do in Turkey: The United States Commissioner at Constantinople writes to the department of State: Cholera is spreading and the measures taken against it are quarantines. It is astonishing indeed to see that these quarantines have never checked the spread of epidemic disease, but they persist in ordering them over and over again in spite of the evidence. I have made necessary observations; I have said at the sitting of the International Sanitary Commission that these cordons do but encourage the corruption of the officials, who, by their extortions, oblige the travelers to pass through by paying *bacshishes* and by other ways and so render the cordon perfectly useless. But all that I said had no effect. Orders have been sent for hygienic improvements but these in order to be effectual require money which is used for quarantine cordons. The general sanitary administration sent, a long time ago, a circular to the provincial authorities, ordering preservative measures and generally all that they ought to do, in order to improve the sanitary condition of the cities and villages which cholera had visited that year. Nothing has been done. They begin again with quarantine cordons, the effect of which is already known.

#### MORAL INSANITY.

The following is an extract of paper read before New York Medico-Legal Society, by W. P. Spartling, M. D.: As to the existence of moral insanity, we freely believe that it does exist. Ample evidence comes from convincing sources can be produced to justify such a belief. . . .

In the study of moral insanity we must respect the vast diversity of opinions that

have come from men distinguished in the world of science.

Likewise we must respect the opinions of the jurist, whose jurisdiction transcends that of the psychologist when it comes to come to the final disposition of one who has fractured statutory law, and is on trial for the same.

But how are you going to distinguish between moral insanity and the normal condition, motive, and the desires of a person who is naturally wicked, socially perverse and criminal? The answer is simple, and comes not from theoretical fancies, but from what are now held to be facts. In moral insanity it is just as essential that organic disease, deficiency or some abnormal condition of the mind-making parts be present, as it is to have some one of these factors in other insanities. This disease of deficiency in the elementary phisic forces of an individual may be either congenital or acquired. The congenital form appears to be more complete in its character. In this form no element or sub-division of the moral constitution seems to escape the taint imposed by hereditary moral defects; while in the acquired form the base of moral obliquity is not so great. In view of this statement, the question: How do we not know but that all persons guilty of vice or crime may be organically lacking in such elements, that, did the elements exist moral defects would not be seen? The ancestral history of every case is an important consideration in studying the question of differentiation. There is nothing more positive in man's organic nature than the bequests of heridity; and it matters not what his education or the tutelage of his environments may secure for him, any defects he may possess must at times lie exposed on the surface of his action and life. There is one broad distinction between moral imbeciles, or the subjects of moral insanity, and the lower strata of mankind, who willingly and with deliberate purpose do misdeeds; and that difference lies in the comparative intellect of the two. In cases of moral insanity, the intellect is nearly always found to be good, oftentimes brilliant. They may be wonderfully clever in the arts, sciences, and bear the polish of good society, yet

the measure of their moral power is so low as to rob them of every charm. Such cases recognize their infirmity, and shield it with shrewd and plausible ways and explanations. They distinctly see and understand the difference between right and wrong, but *that* in their nature, which should be present to enable them to resist the commitment of evil deeds, and inhibit the utterance of speeches they know to be false, *has ever existed, or has been destroyed*. The order of intellect to be found among ordinary criminals and law-breakers, as a rule, is far inferior to the intellect of those morally insane. The two move in a different sphere in life. The latter is totally indifferent as to what his sociological surroundings are. His moral obtuseness prevents him from ever properly defining his position. This is not so with the former. They studiously avoid the lights of the world, so to speak, and they jealously seek to blind the eyes of the law in the commission of overt acts.

Intellectual power and the study of self-restraint comprise two of the most important factors for study in the consideration of this question. Intelligence with the morally insane, when exercised along the line of action he intends pursuing, or involuntary pursues, does *not* teach him that what he would do, or is doing is *wrong*. His moral powers are dead. Intuitive moral feelings do not exist in his nature; and for that reason he should *not* be held responsible for what is beyond his every effort to prevent. Then again in other cases, the man who is morally insane may *fully understand* that what he would do, or is doing, is wrong, and in violation of law and society; but he could not resist the impulse to do evil, because he undoubtedly is suffering from a *paralysis, or deficiency of the psychological inhibitory forces*, and absolutely without the slightest feeling of self-restraint, which he may honestly desire to exercise, he takes a false step. This man likewise should not be harshly adjudged, for *not* as a free agent has he been guilty of crime, but as a victim of an ignorant motive, engrafted upon evil powers that are instilled with no response.

With the ordinary criminal it is totally different. His intellect does not play him false. It permits him to always, under normal conditions, regulate his actions in a manner that he reasons best for his purpose. His powers of self-restraint are not diseased. He can easily leave undone what he has planned should new development teach him that it is unwise. Shrewd precautions for personal safety are taken by him at every step. He recognizes when he has been guilty of crime; he under-

stands its consequences, and studiously seeks to avoid detection.

These points of differentiation, as far as we are able to give them at present, seem to designate the chief distinction between moral insanity and the purely criminal and wicked. Of course, no hard-and-fast rule can be laid down to guide us in the solution of this important problem. Every case, as it stands before science, or before the bar of legal justice, must abide by the decision that is made after consideration of its individual merits. We would be gratified to have moral insanity understood, because its recognition would at some time temper the sentence that would otherwise be imposed in all its severity upon some irresponsible law-breaker.

We would like to see it recognized, for the reason that science might rejoice over an additional benefit bestowed upon mankind. "To err is human." To find the true cause of human error, and to render judgment accordingly, is not far from divine.

#### GOOD SUGGESTIONS IN SCHOOL HYGIENE

Dr. G. F. Witter, of Grand Rapids, Wis., in an excellent report on the sanitary conditions of the leading schools of this State, concludes with the following recommendations, among others: clean and perfect all sources of water supply, and where schools have no water supply of their own, to furnish such. In the absence of a better system, to prepare the windows and transoms so that ventilation can be had without causing drafts, and that all schools introduce improved ventilating systems as soon as possible. Place buildings in good repair, &c. See that the grounds do not permit standing water, and prepare gravel or board walks to keep the children's feet out of the mud. Suitable water-closets for each of the sexes should be provided. The rooms should be so warmed as to maintain an even temperature, and all be kept comfortable; stoves and furnaces should be safe and in good order. Not less than fifteen square feet of floor space and 215 cubic feet of air space should be allowed to each pupil. Blackboards should not be placed between windows; the surface should be dead black, not glossy. The light should, if possible, be admitted from the rear, or rear and left of the pupil—never from the front. Desks and seats of different heights should be furnished to suit the size and age of pupils.

## EDITORIAL NOTES.

"GIVE US AIR" was the subject and title of a paper by Miss Muloch published in a monthly magazine nearly thirty years ago in which she made a passionate appeal on behalf of fresh air and set forth in sombre lines the evil effects of breathing foul air. Thirty years is a long time in which to learn a lesson, yet we find most people every where still prone as the cold weather comes on to shut themselves in air tight rooms with no means whatever for changing the breathed air within for the fresh air without. Now is the season in which every crack and crevice in walls, about doors and windows, are with list and rubber, hermetically closed and barred against the first essential of life. Is it any wonder that in four or five months from now, after nearly every body has half lived through the winter almost without fresh air, comes stalking in the season of penal retribution, running up the death-rate in March and April, as shown every year by statistics, to the highest point in the year? No, it is no wonder, but a wonder, a providential mercy, that more do not die.

NIGHT AIR, too, which has never been yet specially defined, we believe, strikes great terror into some people. Many persons—even, we are afraid, some members of the medical profession—The Sanitary Record says, have a strongly marked antipathy to "night air," as they call it, as if it were of an entirely different chemical composition from "day air." They will not believe that the pure cold air of the darkness outside is better to breathe than the de-oxygenized air of a stuffy bed-room, air which has been breathed over and over again by perhaps several pairs of lungs. We once heard a lady announce with proud temerity that she always slept with a "crack" of her window open! It was a bold thing to do, doubtless, but then it showed that she was advanced. So far as we know no human being ever suffered from sleeping even all night out in the open air with no other roof than the "canopy of heaven," even when lying upon only grass or boughs on the ground, where the air during the night probably does become less salubrious, but still vastly more wholesome for breathing than that already over-breathed, and often over and over again over-breathed, in the average bed-room.

THE MILK SUPPLY, bad enough as a rule in

summer, will now soon be drawn (that part of it which is not water, probably foul water) from cows shut up in unventilated stables where with but a limited supply of oxygen they vegetate through the winter as little more than machines for "turning out" a fluid resembling milk. Having been for generations forceably developed and bred for milk supply only, regardless of those more vital functions which give to the animals pure blood and health and vigor, they have in them little or no protective force against the inroads of disease germs. And as the germs or microbes of tubercle and diphtheria and scarlet fever,—all of which, as well as the vaccine virus, it now appears clear, may come to us humans through the cow—are to be found almost everywhere, into the unresisting soil of the bovines they enter and find there a suitable nidus for rapid and abundant development, growth and multiplication, and are hence not infrequently disseminated amongst the people by the milk vendor. Blessed are they, children or adults, who have healthy vigorous organizations which can resist and repel or digest the germs imbibed with the milk.

AS DR. ÖSTERTAG (Berlin) at the late International Hygienic Congress in London said, up to the present time most countries have paid but slight attention to the sanitary question of the milk supply, and have contented themselves with forbidding the sale of adulterated milk or of milk from diseased animals, without taking proper steps to ensure obedience to their orders. "A praiseworthy exception to this was to be found in the Italian law passed in 1890. It was the undeniable duty of the State to see that only pure milk entered the market. The consumer was not in a position to guard himself against the manifold dangers which attended the consumption of milk. Milk might contain the most harmful ingredients in spite of a white colour and sweet taste. Such milk could only be banished from the market if the milk supply was controlled by the Government officials. Only milk obtained with the greatest cleanliness from healthy animals, and possessing normal physical qualities and a certain degree of strength—ought to be allowed to be sold.

AT THE seventeenth Annual Congress of the Sanitary Association of Scotland held last month



Prof. McFadyean said : (Lancet, Oct. 10). At the present time 20 per cent. of the dairy cows in Edinburgh were affected with tuberculosis in a more or less degree, and this was probably the proportion of tuberculosis in dairy cows throughout Scotland. They might safely assert that tubercle bacilli were sold daily in every city in the country at the market price of wholesome milk. He insisted on the necessity of thoroughly efficient veterinary inspection at short intervals of dairies and of dairy cattle. A number of members took part in the discussion, and they all in the main agreed with the principal contentions of Dr. McFadyean. Principal Waley referred to a herd of eleven milch cows whose slaughter he had to order, and although he thought he had never seen healthier animals, yet when they were slaughtered it was found that out of the eleven cows seven had tuberculosis.

THE PEOPLES HEALTH is the subject of discussion by President C. W. Eliot in the Forum of the current month. The writer says. "One would imagine, *a priori*, that "government by the people, for the people," would always have been careful of the people's health ; but here we come upon one of the most conspicuous failures of free institutions in urban populations. Democratic government is at present at a serious disadvantage, in comparison with monarchical governments, as regards the care of the public health." . . . "In its respect for personal liberty and the right of the individual, democracy lets ignorance and selfishness poison water supplies with fecal matter, distribute milk infected with diphtheria, scarlet fever or tuberculosis, and spread contagious disease by omitting the precautions of isolation and disinfection. Clearly, this feebleness of democracy is largely due to ignorance. How about our own Canada in this respect ?

ARSENICAL POISONING cases from dyes have been reported of late more frequently than usual. The British Medical Journal says : It is asserted in the *British Bee Journal* that a beekeeper of Warburton, Sussex, died recently from the effects of arsenical poisoning due to the use of a bright crimson drugget containing arsenic which had been put down in his house some two years ago. Nothing could be said against the sanitary condition of the premises,

and after the drugget had been for some time in the house, illness occurred among the inmates, who, however, recovered when absent from home. It seems that the poisonous effects were due to the presence of an aniline dye containing the small proportion of arsenic which may have been left as an impurity after the production of the dye. It is not generally known that cases of arsenical poisoning due to the use of materials dyed with aniline dyes are not so much caused by the fact that arsenic had been used in producing the dye, as by the fact that arsenical compounds are largely used as mordants to fix the dye upon the material.

A CASE IN POINT has been recently described by a London public analyst. A lady had purchased from a well-known West-end establishment several yards of a light, flimsy printed material of the kind now so much employed for curtains and other household decoration. While working at this material, both the lady and her maid began to suffer from symptoms of arsenical poisoning. The substance was found by the analysts to contain very large quantities of arsenic, a compound of which had obviously been used for the purpose of fixing the colored printed pattern.

A STILL MORE SERIOUS state of matters in this relation has just been brought out by Dr. Putnam, in a paper read before the Massachusetts Medical Society. His first point was that the actual absorption of arsenic in consequence of the exposures of daily life is extremely common. He caused the urine of a number of his hospital out-patients to be examined, and of more than 150 such cases, arsenic was found in the urine in about 30 per cent. "This would indicate a very widespread exposure on the part of the community at large, as of many of those patients it could be positively stated that they had taken no arsenic as medicine. . . . Arsenic accumulates in the tissues, so that the elimination of a certain quantity implies the presence of a far larger quantity in the body. The daily elimination represents only a small fraction of that present in the body, and arsenic has been discovered in the bones and liver six months after the cessation of medicinal treatment."

ON THE STRAIN of parliamentary life, the Lancet (Oct. 17) says : The remarkable and

regretted deaths of two leaders of parties in one week should open the eyes of the public to the fact that only a few men are capable of bearing the strain of Parliament under the acute conditions of party strife which now obtain. It is impossible to doubt that under different conditions the lives of both Mr. Smith and Mr. Parnell would in all probability have been prolonged. Different hours, a different tone of public discussion, a different bearing of public men towards each other, more like that which obtains among men in common society, less heat and impulse in leaders, would alter for the better the whole character of our legislation, and would sensibly extend the lives of our best men and enable others of the sort to devote themselves to the public service.

THE CASE of Mr. Gladstone, says the Lancet, is exceptional and misleading. His physique is no rule for common men. He can sleep well and eat well. With all his keenness as a partisan he can withdraw himself at very short notice into another world—of philosophy, or theology, or mythology. Even for him the present strain of party life is a danger more than his friends like to think of, and from which all who admire genius and revere age would like to see him extricated.

THE Iowa State Board of Health has included membranous croup with the infectious diseases, and requires it to be quarantined. The board has not committed itself it appears to the theory of the contagiousness of the disease.

THE Secretary of the State Board of Health of Iowa announces that he is convinced that habitual drunkenness constitutes "palpable evidence of incompetency," as the law reads, and that therefore the physician given up to inebriety should be deprived of his certificate entitling him to practice.

RECENT investigations it is said indicate that the oil or fat of chocolate is very easily digested, in fact more easily than even butter or cream.

A SPECIAL Committee was appointed by the American Medical Association at its last meeting who will petition the next Congress, asking for the creation of a Government Department of Public Health, with a Cabinet officer at its head, to be known as the Secretary of Public Health.

To detect the presence of arsenic in wall paper (N. Y. Med. Times) put some hydro-

chloric acid, a piece of copper wire, and a bit of the wall paper to be examined, together in a test tube, which then should be gently heated. If the paper contains arsenic the wire will be blackened.

AN English court has lately imposed a fine of \$750 upon a landlord for heedlessly stowing guests away in camp beds, thereby causing illness.

#### NOTES ON CURRENT LITERATURE.

THE DOMINION ILLUSTRATED during the past few weeks has presented several of the best numbers ever issued by the publishers of this highly creditable Canadian weekly. Every well wisher of Canadian art and enterprise should endeavor to subscribe for this periodical.

"THE YOUNG RECRUITS" is the title of an oil painting by Mr. Charles Patterson, one of the most gifted representatives of the younger branch of Canadian artists. It is one of the four supplements to be given away with the Christmas number of the Dominion Illustrated, which the publishers are sparing neither pains nor expense to make the most magnificent holiday souvenir ever issued in Canada, far surpassing even their brilliant effort of last year.

IN THE METHODIST MAGAZINE for November is a timely paper on Christopher Columbus and the discovery of America, with numerous illustrations. The Rev. Dr. David Moore, M.A., late of the Nova Scotia Conference, now the Methodist Missionary in India, contributes an interesting paper on Bunhill Fields, with its memories of Bunyan, Watts, Defoe, and many others of the mighty dead. The science paper is one of portentous augury on "The Machinery of the Heavens Running Down." The number is a very good one.

"COME, Live with me, and be my Love, an English Pastoral," is the title of a new story, by Robert Buchanan, the first two chapters of which are given in the Illustrated London News of October 24 (Am. reprint, World Building, New York). It is handsomely illustrated. The "Scape Goat - A Romance," by Hall Caine was concluded in the previous number. In the number two are full page portraits of the late Rt. Hon. W. H. Smith and Mr. Parnell, with portraits of many other well known men of the time, some fine views of "English Homes" and many other subjects.

THE GRAPHIC, Chicago, the king of the United States weeklies, has purchased "America," the sturdy exponent of American principles which has for several years been one of the brightest of Chicago's excellent journals. The consolidation will not change the editorial policy of the Graphic in any respect, but the absorption of "America" by the ambitious representative of illustrated journalism will prove of much value to the latter.

THE COSMOPOLITAN MAGAZINE (an exceptionally good \$3 monthly) has devoted 28 pages of the November number to a most interesting and exhaustive article upon Chicago from the pen of the famous novelist, Col. Charles King. Count Jacassy, who spent some time on the ground for that purpose, and Harry Fenn, have illustrated the most charming features of the city by twenty-eight sketches. An article upon Alfalfa Farming also in this number, is by John Brisben Walker, who, as the result of ten years spent in the saddle, in direct superintendence of his farm "Berkeley," one of the largest Alfalfa farms in Colorado, gives the reader much valuable information in regard to the irrigation and curing of the wonderful plant which is destined to become one of the most valuable products of the United States.

IN THE POPULAR SCIENCE MONTHLY for November, University Extension, which is undoubtedly the foremost educational topic of the day, has the first place. The article is by Prof. C. Hanford Henderson, and embodies the methods and plans of the American Society organized in behalf of the movement. The number is exceptionally good.

#### A GREAT MAGAZINE.

The Century's Programme in 1892—A New "Life of Columbus"—Articles for Farmers, etc..

THAT greatest American periodical, the Century, is going to outdo its own unrivaled record in its programme for 1892, and as many of its new features begin with the November number, new readers should commence with that issue.

In this number are the opening chapters of

#### "THE NAULAHKA,"

a novel by Rudyard Kipling, the famous author of "Plain Tales from the Hills," written in collaboration with an American writer, Wolcott

Balestier. It is the story of a young man and a young woman from a "booming" Colorado town, who go to India, he in search of a wonderful jeweled necklace, called "the Naulahka" and she as a physician to women. The novel describes their remarkable adventures at the court of an Indian maharajah. Besides this, The Century will print three other novels during the year, and a great number of short stories by the best American story-writers.

The well-known humorist Edgar W. Nye ("Bill Nye") is to write a series of amusing sketches which he calls his "autobiographies," the first one of which, "Autobiography of a Justice of the Peace," is in November. This number also contains a valuable and suggestive article on "The Food-Supply of the Future," which every farmer should read, to be followed by others

#### OF GREAT PRACTICAL VALUE TO FARMERS.

treating especially of the relations of the Government to the farmer, what it is doing and what it should do. This series will include contributions from officers of the Department of Agriculture, and other well-known men will discuss "The Farmer's Discontent," "Co-operation," etc., etc.

A celebrated Spanish writer is to furnish a "Life of Columbus," brilliantly illustrated, and the publishers have arranged with the managers of the World's Fair to print articles on the buildings, etc.

One of the novels to appear in 1892 is

#### A STORY OF NEW YORK LIFE

by the author of "The Anglomaniacs." Among other things will be a series of illustrated articles on "The Jews of New York." In November is an illustrated description of "The Players' Club," founded by Edwin Booth, and one of the features of the splendidly illustrated Christmas (December) number will be an article on "The Bowery."

Send the yearly subscription, \$4.00 to The Century Co., Union Square, New York, N. Y.

#### "THE BEST OF CHILDREN'S MAGAZINES."

THE publishers of St. Nicholas that famous young folks' magazine are offering to send a sample copy, free of charge, to any father or mother who would like to consider the question of taking a children's magazine during the year to come.

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