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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.

SEPTEMBER, 1891.

No. 9.

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CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XIII.

SEPTEMBER, 1891.

No. 9

SMALL-POX STAMPED OUT BY DIS-INFECTION—A VALUABLE REPORT.

EIGHT years ago, the London Sanitary Record was severe on the CANADA HEALTH JOURNAL because the latter gave expression to views throwing doubt on the great value of vaccination as a preventive of small-pox to the exclusion of other important measures, such as the strictest isolation, disinfection etc. But this being a progressive world, and this a progressive age (this JOURNAL being sometimes only a little ahead of the times), the Sanitary Record, not now disposed to be far behind, gives in its last month's issue a paper by Conway Scott, C. E., of Belfast, showing how a small-pox epidemic was successfully and quickly suppressed by disinfection, as follows :

In the year 1881 a sailor landed in Belfast with small-pox ; the disease spread over the city, although every effort was made to stamp it out ; the patients were promptly removed to hospital, the infected bedding and clothing burned, the houses thoroughly disinfected and cleansed, and *re-vaccination was most extensively carried out* : but the epidemic spread and lasted for two years, with about one hundred and twenty deaths, and having caused great alarm and serious loss to trade and commerce.

In the year 1891 a sailor landed in Belfast with small-pox ; the disease spread partially, but was promptly checked, and the entire epidemic was over in May, having lasted three months, with twenty-three cases and three deaths. The satisfactory difference in the results of these very similar epidemics was caused by two improvements in the methods of disinfecting. (1) In 1881 the disinfectant used was sulphurous acid vapour. In 1891 the disinfectant used was carbolic acid vapour.

(2) In 1881 personal disinfection was not used. In 1891 personal disinfection was carried out in every case on a most extensive scale.

Personal disinfection consists in disinfecting persons, who, although they may not have an epidemic disease, yet have been in contact with it, and whose clothing must have some disease organisms clinging to them, by means of which epidemic disease is only too often spread. It is best done by sealing up any small room or chamber, and then filling it with the strongest carbolic acid vapour. The person is then put into this room for ten or fifteen minutes, or until his entire clothing and system is saturated with carbolic vapour. The carbolic vapour is generated by pouring the liquid acid undiluted into a small iron vessel heated to near redness ; by using several of these vessels, as much as a gallon of the acid can be vaporised in a few hours.

HISTORY OF THE CASES.

No. 1.—On February 4th, three young women were removed to the hospital with small-pox from the house where the sailor boarded ; the house and everything in it was disinfected and cleansed and the bedding burned. The sailor and every other person known to have been in contact with the disease were thoroughly disinfected, and the houses where these people resided and everything in them were also disinfected, and although all these people went about their daily business as usual, no case of sickness occurred among them or at their homes, or in their vicinities, or in the works where they were employed. It was afterwards found, however, that a young man who had been in contact with the disease had escaped notice, and al-

though he did not take the disease, he passed it on to a young girl who brought it home and gave it to her family.

No. 2.—On February 14th three young women were removed to hospital with small-pox from a house about a mile from No. 1, where the said young girl lived; two more cases were removed on the following day, making five cases out of a family consisting in all of about fifteen persons, many of them children. Everything in the house was disinfected and the bedding burned, and every person about the house was thoroughly disinfected, and although the head of the house went to his work as usual, and the children could not be kept within doors, no further cases of the disease occurred in the neighborhood. In fact the carbolic vapour must have exterminated the small-pox organisms, for a few weeks afterwards a child was born in the house and neither mother nor child were affected with the disease in any way. Unfortunately one of these girls, before she knew what was wrong with her, gave the disease to a police constable, who brought it to his barracks and gave it to seven of his comrades.

No. 3.—On February 16 and 17 seven constables were removed to hospital with small-pox from this barracks,—that of the Royal Irish Constabulary, and another case was removed about ten days afterwards, making a total of eight cases out of forty men belonging to the barracks. This barracks and everything in it was thoroughly disinfected and vacated, and the infected bedding and clothing burned, and every constable about the place was disinfected, and so anxious were they to escape the contagion that they continued to disinfect one another for weeks afterwards. Not another case of the disease occurred among these men, or among any of the men with whom they came in contact. Thus within a few days twelve cases of small-pox were removed from No. 2 and No. 3, a state of affairs that caused great alarm, and it was feared that the disease would spread over the city, but

the liberal use of the carbolic vapour and the personal disinfection completely checked the disease, and for all practical purposes the epidemic was over.

No. 4.—On February 27 a laborer living near the small-pox hospital and employed in the vicinity took small-pox and was removed to hospital. He had a wife and five small children; the house and everything in it and the inmates were all disinfected, and no further case occurred in this house or in the streets adjoining, although in former epidemics these streets were perfect hotbeds of the disease.

No. 5.—On March 30 a constable from a barracks near to the small-pox hospital was removed to hospital with small-pox. Two other constables had slept in the bed of the patient. The house was disinfected and the bedding burned as usual, and every constable on the premises was thoroughly disinfected, and the barracks vacated. No further cases of the disease occurred among these men, although two of them had been exposed in a most marked manner.

No. 6.—On April 4 a man was removed to hospital with small-pox from the opposite end of the city. He was a coal heaver, and had been on a spree for some time previous, and nothing could be ascertained as to the source of infection. He lived in a densely populated and filthy locality; the same course of treatment was adopted, and no further cases of the disease occurred in this neighborhood.

No. 7.—On May 2 a young man residing near the small-pox hospital was removed with small-pox; a similar course of procedure was adopted, and no further cases occurred.

No. 8.—On May 2 a girl was removed with small-pox from a common lodging house in one of the worst portions of the city. The house and everything in it, and all the persons lodging in the house were disinfected, and no further cases of the disease occurred in the city.

One case occurred in the hospital, and there was one private case not returned, making a total in all of twenty-three out

of which there were three deaths. It is but right to state that two of these had not been vaccinated.

Thus ended an epidemic which under ordinary circumstances might have lasted for years, disorganized business, and cost many valuable lives, but, by the use of carbolic vapour in large quantities, and by disinfecting every person known to have been in contact with the disease, the epidemic was stamped out in three months, with a comparatively small loss of life.

Some years ago a child in a children's hospital for non-infectious diseases was found to have small-pox. This caused alarm, as the disease would be nearly sure to spread among these diseased and delicate children. The child was removed to hospital, the large ward was filled to suffocation with carbolic vapour, and closed up for twelve hours; nothing in

this case was burnt, no further case occurred, the disease organisms being destroyed by the dense fumes of the carbolic vapour.

OTHER DISEASES.

A short time ago scarlatina broke out in a large public institution; the services of the sanitary staff were offered, but politely declined. After sixteen cases of scarlatina had been removed to hospital, they were requested to act. The entire establishment was filled with carbolic vapour; all the disease organisms were poisoned, and no further cases occurred. Exactly similar results have been obtained in typhus fever and diphtheria; in fact, the same system which stamps out one epidemic disease will be equally applicable to all epidemics, that is, to kill off all the disease organisms as expeditiously as possible.

THE QUESTION OF QUARANTINE.

THE views of this journal in respect to quarantines, as long ago indicated, are somewhat as they are in respect to vaccination, — perhaps rather “advanced” for many sanitarians. To be sure, we are not opposed to all forms of quarantine, nor do we regard them, as some do, as “useless measures,” and a “survival of ignorance.” Like vaccination quarantine has served a purpose, and in certain circumstances will continue for a time, yet, to do so; but all such sanitary cordons are of secondary importance, as compared with other measures, not to say anything of their great inconvenience and drawbacks in many respects. Absolute cleanliness, including pure air and water, with prompt notification, strict isolation and such measures will do vastly more good than will quarantine, upon which, when adopted, the people are disposed to rely too much, to the neglect of the more important measures; while, when it fails, as it often does in spite of the utmost care, the infections of disease will find soil for development everywhere, whence then come explosions or sudden outbreaks of

epidemics most difficult of suppression. That most able, advanced and trustworthy periodical, the British Medical Journal, in an editorial on this question in a recent issue (Sept. 12th, inst.) said:

The incessant failure of quarantine restrictions to restrain the diffusion of disease, says that journal, was only one of the points which many years ago led to a reconsideration of this subject in England. “Foremost amongst the objections to it was the obvious fact that the countries which clung to it most tenaciously were the most neglected countries from a sanitary point of view, those in which sanitary progress was all but unknown, and those which suffered most from cholera. And it soon became evident that nations which had to subject themselves to the disabilities and drawbacks of quarantine, were not inclined at the same time to spend money on sanitary measures. The fact, indeed, of being promised protection against disease by means of quarantine seems a reasonable objection to incurring the expense of works of sanitation; and the more ignorant the population, the

more they preferred the risk of the drawbacks of quarantine to the certainty of having to pay for improved water supply, drainage and removal of town refuse. In this country we learnt by bitter experience that just as these improvements were needed, so did cholera prevail in our midst; and at last it was decided that quarantine, sanitary cordons, and the like should no longer be imposed; and that, if the people wished to cope with cholera, they must do so by means of a proper sanitary administration." Of the results achieved in this direction... see the testimony borne in a recent work by M. Monod, Director of the Department of Public Hygiene of France. M. Monod shows how vast has been the saving of life in England, not alone from cholera, but also from a large number of other preventable diseases, in consequence of the action there taken and maintained. He urges "before everything else that his compatriots should follow England's example." In one sense some progress in the direction here advocated has been made throughout the greater portion of Western Europe. None of the nations now like the imposition of quarantine in their own countries.

We have elected to work in the "direction of removing from our midst the conditions under which alone cholera can diffuse itself," the journal continues. It is admitted that "with the exception of Naples, the Mediterranean ports of quarantining countries from east to west remain as neglected and as prepared to receive cholera as ever."... "It is a question whether the cart is to be put before the horse or the reverse. We have elected to put the horse in the shafts, and have given priority to the only trustworthy measure of prevention against cholera." The experience of Australia in relation to small-pox was referred to at the recent Congress, and it was urged that rules which might well apply to England did not, in the same way, apply to the Australasian colony. "But in the sense just indicated there is no material difference between the two countries. Australian reports often deplore the lax views entertained by the population of that continent as regards vaccination. But so long as the inhabitants are taught that, on the

suspicion of small-pox whole shiploads of people, healthy or not, will, irrespective of the consequences to them, be detained in quarantine with a view of protecting the colonists," why should these latter subject themselves to the inconvenience of adopting other measures? "Sanitary administration in relation to cholera stands in precisely the same position as vaccination does towards small-pox, and quarantine measures applied to one or the other disease constitute a distinct hindrance to the adoption of the only true measures of prevention.

In Canada, the Federal Government prides itself, and naturally and properly, on the completeness and efficiency of the Canadian quarantine system. But the Government does nothing more in the way of protecting human life, and we fear the people rely too much on the quarantines, through which, notwithstanding their well-known efficiency, infections have occasionally passed and ever will pass. We would here ask: Is this a satisfactory, wise or profitable position for the Government to continue?—To simply, use and control measures—measures, in principle in themselves questionable, often terribly inconvenient and liable to failure in the most critical time—for preventing the entrance of infectious germs into the Dominion, and when the quarantine vigilance fails of complete success, and the infectious gain access into one or more of the provinces, to leave the provinces to look after themselves, whether they will do so properly or not?

This is an important national question, and must soon be taken into serious consideration by the Federal Government. We contend that its consideration should not be delayed and that much broader preventive measures should soon be provided for, if Canada is to take a respectable position among the nations. Besides provision for obtaining, internationally, information relative to the sanitary condition of vessels leaving foreign ports, and for better ship sanitation generally, something should be done to promote more active and uniform provincial or inter-provincial sanitation, and for the exercise of more federal or central influence, if not powers, for the better protection and preservation of human life in Canada.

THE TWO LINES IN PUBLIC HEALTH WORK.

IT would not be wise to predict where in course of time the limit will be in coercive legal enactments for the prevention of disease. Legislation is now mainly limited to measures for the prevention or removal of accumulations of the excremental and other refuse of life, and dampness of soil, to care of cases of infectious disease, and some restrictions in reference to water pollution. In other words, nearly all public health effort is at the present time confined to the prevention or suppression of infectious or epidemic diseases. It is true this limited promotion of cleanliness aids in the prevention of other diseases too; still the great aim of all hygienic effort now is for the prevention of the communicable or zymotic diseases. Now all the zymotic or infectious diseases together, even including tuberculosis, cause much less than half the deaths—even of the premature deaths, which are indeed all practically preventable. The long list of "local" diseases,—of the kidneys, the lungs, the brain, the heart, intestines, skin, liver and other organs, destroy many more lives than do the zymotic diseases. The last named are no more the result of unhealthy habits and practices than are the zymotics. And moreover, besides this, the unhealthy habits which give rise to the local diseases strongly favor the development of infectious diseases as well. As in the development of all infectious diseases there are at least two factors, one, the specific germ, the other, the suitable soil—the favorable, unresisting body—the latter being hardly second in importance to the former, in all efforts to prevent or suppress the epidemic diseases, therefore, it is always, if not quite, as essential to use means for improving personal habits, as for removing nuisances and destroying the germs. Yet all public health efforts as we have said is to make war upon the germs, to the almost entire neglect of the other factor—the soil or unresisting

body. There is no reason why we should not, in all our hygienic efforts, go further and endeavor to correct unhygienic personal habits. Some, or many, of these, it is true, would not be easily reached, although others could be. Any attempts made of a coercive character to correct such habits and so prevent local diseases, would now be met at once with successful opposition on the ground of their interference with personal rights and liberties. But this JOURNAL has always contended that in any case more can be done in public health promotion, better progress can be made, by instruction or education of the public in the rules or requirements of health than by coercion,—this even in the prevention of epidemic or infectious diseases. It is only the few who cannot be induced with proper instruction, without coercion, to attend to all ordinary and even extraordinary, as now understood, sanitary requirements and demands. More general instruction, therefore, in relation to personal habits would not only aid greatly in the suppression of diphtheria and typhoid, and all other like diseases, which now destroy so many lives, but would also lessen the number of deaths from all other diseases. We would therefore urge upon local boards of health, generally, to put into regular practice, some means for instructing the masses of the people in relation to bathing, clothing, diet &c., and more than all, in relation to the ventilation of their dwellings,—their bed rooms and living rooms. Not only is this essential in the schools, along with physical culture, but it is most desirable outside the schools for the benefit of the present generation. This work is perhaps more essential in rural than in urban localities; for in the former there are probably fewer people who would not be favorably influenced by such instruction. All local boards of health have therefore a broad field for constant cultivation.

COERCION AND EDUCATION IN PUBLIC HEALTH WORK.

IN England Sanitarians have learned, but only apparently in quite recent years, that by coercion alone in matters relating to public health proceedings, but very slow progress can be made. Very little in the line of educating the public, as distinct from carrying out compulsory measures, in relation to public hygiene had been done there previous to the last decade. And, as everybody knows, the sanitary progress made was far from great, not only in England but in all Europe, where the work was in a similar line, until quite recent years; although it is true on the whole a great deal had been done in previous decades.

With mankind it is the same in relation to the general causes of disease, to filthy habits, for example, as it is in relation to "intemperance" and other like evils. The masses must be educated up to a comprehension of the advantages to be obtained from a change in their habits--from filth to cleanliness, from intemperance to temperance. They must be so enlightened as to see the benefits of change and improvement or very slow progress will be made.

This principle has been recognized to perhaps a greater extent on this continent, but still even here the great weight or force of action for promoting the public health has been in legislation for coercing the people into habits of cleanliness, etc., and the practice of educating first has not been nearly as general as it should have been. From the state and provincial boards to the village and township boards it has been nearly all in the line of "Acts" and "By-Laws." In Canada no systematic effort has been made to instruct or guide even the local boards which are usually made up of men who have had no opportunity to get correct and useful knowledge on the subject in the interests of which they are required or expected to act. It

is not the *number* of organized local boards that can be counted up by which we can estimate sanitary progress, as seems to be supposed by some in authority, but it is the number *doing active, useful work*.

If some special means had been provided years ago for the instruction and guidance of those who constitute the various local boards of health, as well as the public generally throughout Ontario, for example, as had been then mapped out by this JOURNAL, doubtless much greater progress would have been made than has been made in suppressing the prevalence of diphtheria, typhoid and other fevers, measles, etc., which are so common and fatal in the province. It almost seems as if in some localities the people think that so long as there is no case of small-pox in the place the public health is "fairly good." Had there been some such means for guidance as indicated, we should not now see in so many of the reports from the local boards such as the following: "The board of health is properly organized, and no complaints requiring official action have come before it during the year"; or "It has not been necessary to call the board together during the year"; or "An aggressive policy which the board intended to adopt... was, ...owing presumably to there being very little sickness and no epidemic... during the year, not put in force;" or "Our board has never been called into action, except on one occasion some years since, when scarlet fever was introduced here by a non-resident

There is *always* work in every municipality for the *prevention* of disease; yet for want of knowledge, boards frequently do nothing until the public, who know still less about the causes of disease and the requirements, make complaints. And so no wonder that disease is everywhere prevalent and fatal.

NOTES OF THE HEALTH OFFICERS MEETING AT TRENTON.

THE annual meeting last month at Trenton of the health officers of Ontario seems to have been a fairly successful one. Below are a few notes bearing on the work of the meeting which appears to have been of most practical value and interest.

Dr. Coventry, of Windsor, in a suggestive paper on "Auxiliaries to the Health Office," advocated the general introduction and encouragement of gymnasia. Gymnastics, he believed, were destined to rescue the youth of the land, now being emasculated by the high-pressure system of education. It was to be hoped that within the next ten years gymnasiums would be erected in every city and town of 5,000 inhabitants and upwards. Women also, as the mothers of the race, should be educated in laws of health. Monthly forms should be required from all medical health officers, and it should be made a statutory obligation for the medical health officer to deliver at least four lectures or readings on sanitary subjects in his municipality during the year. Dr. Coventry had recently addressed a circular to 35 cities and towns in the Dominion having a population of 5,000 and upwards. Replies from 27 of these gave medical officers' salaries varying from zero to \$3,000. Seven towns pay nothing, while twelve pay less than \$300 per annum; and such small pay should make the people of Canada blush for shame. He believed that the Dominion Government ought to make a special grant for the maintenance of general health work.

Public water supplies was the subject of an interesting paper by Mr. W. Chipman, C. E., of Brockville. He said, the first public water supply known of in Canada was introduced by a company in Montreal in 1801, the city purchasing it in 1845. The next was at St. John's N. E., in 1836, sold to the city in 1855. The third was established by a company in Toronto in 1841, and was purchased by the city in 1893 for \$200,000. In 1880 there were 33 towns or cities in Canada having a water

system, and in the present year the number was about 100. Of these works about 60 per cent. are owned by the municipal corporations and 40 per cent. by private companies, but the population served by the private companies was probably not over 30 per cent. of the total population served by a public water supply. The average total family rate in Ontario is about \$20 per annum in works owned by municipal corporations and \$25 where owned by companies. In Ontario the first cost of private works is 35 per cent. less per family, and they charge 20 per cent. more than the municipal works.

Of 40 works built by municipal corporations thirteen were built for fire protection only. In many of these cases an expenditure of a small extra amount would have secured a domestic supply of pure water. Of the remaining 27 works the following can claim to have supplies above suspicion:—Brantford, Dundas, London, Newmarket, Morrisburg, Niagara Falls, Owen Sound, Paris, Sarnia, Woodstock, Galt and Walkertown. Those water supplies which are now of sufficient purity, but liable to pollution and therefore placed in the second class, are Collingwood, Guelph, Hamilton, Brampton, Merriton, Ottawa, St. Catherines, Tilbury Centre, Toronto, Welland, Windsor and Niagara-on-the-Lake. Those classed as suspicious were Kingston, Picton, St. Thomas and Toronto Junction. Those controlled by private companies and condemned by the speaker were Berlin and Belleville.

In a lengthy discussion which followed, Mr. Ball, C. E., stated that Berlin had recently cleaned out its water pond, greatly improving the quality of the water. Dr. Griffin, of Brantford, said that that city had purchased the system at a cost of \$215,000, and he had no doubt but that \$100,000 had been saved by it. Dr. Herod, of Kingston, said the water works of that city had been purchased from a private company for \$120,000 and \$175,000 had been expended since in improving it; and they had recently decided to extend the intake pipe farther

out into the St. Lawrence so as to avoid any danger of sewage contamination.

The place of meeting was converted into a sort of laboratory, and Mr. McGill, of the Department of Inland Revenue, gave the members some simple methods for testing the purity of water.

The special committee on disposal of sewage reported through Dr. Coventry, having held a meeting in April at Toronto. They recommend that the use of privy pits be entirely abandoned everywhere, being highly objectionable on all grounds. The dry-earth system now in use in Brantford was recommended for the favorable consideration of municipalities. The Committee recommended that the separate system of sewerage be adopted wherever

practicable; and that the most desirable method of disposing of sewage is by land irrigation, wherever this is practicable. This method is especially important for cities and towns situated inland, or on such rivers or streams as are or may be used for public water supplies. Some further details were given, and the soils best suited for sewage farms were named, as follows:—Coarse gravels of a calcareous character; coarse sharp sand, more or less calcareous; gravelly loams with gravel subsoils; black loams, with gravelly subsoils, when sewage has been treated with lime as a precipitation. Burnt clays have been used, but solely as filtration beds.

NOTES FROM HEALTH OFFICERS' REPORTS, WHICH TEACH LESSONS.

DR. BROAD reports that diphtheria broke out in two families in Cobocnk, Co. Victoria, one case of which was fatal. The cases were traced to Markham village. The disease broke out in a family there, and a little girl who was just recovering from supposed tonsillitis, but really diphtheria, was sent to friends in Cobocnk to get her out of the way of the disease. She was, unfortunately, sent to school there. The result was that the disease broke out in the family she came to visit, and in another, one of the little girls of which had played with her.

Dr. Sproule (M.P.) reports that, about the time la grippe was dying out a rather severe type of measles set in in the southwest corner of Euphrasia township. They were especially severe on the 11th line, whence they spread. The origin of the epidemic I was able to trace distinctly. It was brought in by a lady who came from Toronto on Christmas day. She was ill at the time, and a physician pronounced the disease measles. It rapidly radiated in all directions until it became prevalent in many townships—Euphrasia, Glenelg, Artemesia, etc. On 25th of February, Dr. Sproule continues, my partner, Dr. Ego, was called to see a boy suffering from

diphtheria. He reported it. The house was placarded and other means taken to prevent its spread. There were two cases in this house, both of which recovered. On making enquiries it was found that one member of the household who had just come home had had a very severe sore throat in Toronto, though a physician there had told him it was not diphtheria. I have no doubt in my own mind that this was the source of the outbreak. After these two cases it seemed to smoulder for about a month, when it reappeared in the family of the next neighbor. There were three or four cases in this house, one proving fatal. The fatal case seemed to add great emphasis to the instructions of the Medical Health Officer, and hence I think the precautions in shape of isolation and disinfection were much more carefully carried out in the second outbreak, with the result that there have been no cases since.

Dr. Howland, of Chaffey twp., writes: In the latter part of spring an outbreak of enteric fever began its ravages in the boarding-house of J. Brennan & Son, lumbermen. Between twenty and thirty employes lodged in this boarding-house. Twenty cases of typhoid fever, mostly of

a severe type, followed with a death rate of twenty per cent. The cause was the result of the grossest violation of health laws. The yard and outhouses were anything but clean. The well where the drinking water was obtained was ten or twelve feet on declining ground from the kitchen window, through which for two or three years kitchen refuse was thrown, and had accumulated to the depth of three feet immediately at the mouth of the well. It is needless to say that the water was bad and offensive to both taste and smell.

Dr. Algie, of Caledon, writes: During the months of September and October the village of Bellefontain suffered from a severe local epidemic of typhoid fever. On making enquiry I found that, with the exception of three wells, the whole village was supplied by drinking water from a stream which rises from a large spring about half a mile to the west and running down through the village empties into one of the branches of the Credit River. During its course through the village several small ponds have been built on the private properties through which the stream runs, and from these ponds the drinking water is taken. The stream crosses three different streets, passes through several gardens, runs within five feet of a barnyard full of manure, passes an occasional privy, runs through beneath the floor of a general blacksmith shop, and finally before discharging into the Credit it fills a tank at the lower end of the village, and from this tank several families are supplied by underground pipes. Complaints were sent that the water was polluted too, by a pond on the farm where the stream arises, by geese. I found no special signs of pollution here, although the occupant of the property admitted that his geese had been previously allowed free access to the stream. This in itself would have been bad enough, but at the first street crossing I saw two pigs wallowing in the stream, and the roadway is so built that the ditch at the roadside drained into the stream. At the second street crossing I saw a cow standing in the stream drinking from it. Just below this was a well

manured potatoe patch from which the stream received not only the manure soakage, but an occasional spicing with Paris green. The worst feature of the stream was the barnyard, containing at least a dozen waggon loads of manure, soaking and oozing into it. Three samples of water were taken. "The first from near the head of the stream we found to be fairly good and might be pronounced safe drinking water. The second sample taken from below the first street crossing was bad and contained a large amount of organic matter and salines. The third, taken below the manure heap and blacksmith shop from the tank at the lower end of the village was simply poisonous, being loaded with organic matter and salines, in fact this sample was so bad that it had an offensive smell in less than 24 hours."

Dr. James Samson, of Rondeau, reports that in Harwich, a number of cases of diphtheria and scarlet and typhoid fevers had been reported, the last named assuming a very serious form. "The teacher of school section 13 is dangerously ill with this disease and on enquiry I find that there is no water supply for the school, that there are very few wells in the neighborhood of the school and none of these good, and that oftentimes in the autumn the children have to go to a half-dozen houses to secure a pail of very poor water. A fortnight ago diphtheria was found in school section 4 in an especially well regulated home with nothing suspicious around it. The water at the school was found to be absolutely unfit for human use, many of the pupils were carrying water from their homes and the balance were drinking from a ditch, which after all contained much better water than the well. Two or three months ago diphtheria was reported in the guilds section. It broke out again a month ago in a number of houses, resulting in the loss of one life. The water was loaded with organic matter.

From Watfort, the secretary, Mr. Reid, writes. An effort was made here to have all privy vaults cleaned out and the contents removed outside the municipality, this measure was readily complied with by

a number of the inhabitants, but a large majority rebelled, and even threatened the authorities if compulsion was adopted. The Board felt disposed to let them down easy. It is a difficult matter to enforce law here.

A BRIGHTER SIDE, TO A SMALL EXTENT.

Dr. Hamilton, of Elma, a flat township with loamy soil, reports: With reference to diphtheria, about which I have already spoken, I am happy to say that the very efficient drainage has proved a very great benefit in the way of helping to stamp out this disease which was once very prevalent here. I don't think we have one case for

every ten of former years, which goes to show that the moist soil and atmosphere were favorable to the spread of the diphtheritic microbe.

Dr. Lake, Ridgeway, says. Great improvements have been made in regard to the drainage of certain parts of the town. The dry earth system in regard to privies has been made universal, this combined with drainage and properly enforced will, I have no doubt, render our town one of the healthiest in the Province. Up to the end of the year the town has been in a remarkably healthy condition.

MISCELLANEOUS NOTES AND EXTRACTS.

REMARKABLE COLLECTIONS OF BACTERIA.

In the bacteriological museum in connection with the recent Congress of Hygiene in London the following collections of bacteria were exhibited:—The Bacteriological Laboratory of Oxford showed sixty different species of bacteria, some of them harmless, and some of dangerous varieties, among the latter being the germ of Asiatic cholera. Sir Henry Boscoe and Mr. Joseph Lunt showed bacteria cultivated from sewage, most of which presented pleasing hues when viewed under the microscope. The germ which produces distemper in dogs was shown by Mr. Millais; while M. Nocard enabled one to compare the bacilli of tuberculosis in man, the horse, pig, pheasant, and pigeon. Professor Kral, of Prague, had a collection of all the microbes at present known, cultivated, according to character, on potato, agar, or turnip. The bacillus producing decay in teeth was shown by Mr. Sewell, in the process of causing the same effect on sound teeth on which it had been cultivated. Dr. Washbourne, of Guy's Hospital showed the microbes of anthrax, pneumonia, and tuberculosis in various stages of existence. Mr. Hunter exhibited chemical poisons of ptomaines produced by germs. Mr. Sheridan Delepine had a collection of sections of skin displaying the bacteria of leprosy. It is found that bacteria thrive best—and they do thrive so as to multiply in a very short space of time by the millionfold—on agar, a jelly formed by boiling an Indian weed.

THE COMMUNICABILITY OF TUBERCULOSIS FROM ANIMALS TO MAN.

The following is a very short abstract of the discussion on this subject at the July annual meeting of the British Medical Association, as reported in the British Medical Journal: Dr. G. S. Woodhead said, that from the results obtained by all observers, there could be little doubt that the milk obtained from tuberculous animals might be instrumental in communicating the disease from animals to man, and that there was great necessity for legislation on this question. The first thing to be done was to insist that a regular staff of veterinary inspectors, well trained for this special work, should be appointed whose duty it should be (1) to examine fortnightly all cattle giving a milk supply, and who should have the power to order isolation of all cattle in which the presence of tuberculosis was suspected; (2) that it should be penal for any dairy farmer to throw into his milk supply the milk from any cattle which had been isolated by the veterinary inspectors; (3) moreover, no phthisical patient should be allowed to have charge of any department in a dairy. With respect to meat the question was much more difficult, for after most careful experimentation it had been found that in only a certain proportion of cattle affected with tuberculosis did there seem to be any great danger to be anticipated from the ingestion of the flesh, but it must be remembered that tuberculosis in cattle was much more common than was

usually supposed, and that if the meat from only 1 per cent. of actually tuberculous animals could produce tuberculosis, the risk would be three or four times as great as the older statistics might lead one to expect, for it was found that the more perfect the inspection of meat in any country, the higher rose the tubercle statistics...and it was evident from what had been observed, both in this country and abroad, that tuberculous carcasses were disposed of for consumption in the uninspected areas, and were thus never heard of. The first thing to institute in connection with the stamping out of tuberculosis was thorough compulsory inspection, in order that data on which to carry on further work might be obtained; that all private slaughter-houses should be gradually abolished. No animal in which tuberculosis was diagnosed and in which it extended to more than one organ, and to serous surfaces should be exposed for sale; and those animals in which tuberculosis was present in a single organ should only be sold to the consumer on the understanding that it was to be specially well cooked. Such temporary measures might be made more severe or they might have to be relaxed, according, as further experiments proved that they were too stringent or were not adequate for the purpose for which they were drawn up. He could scarcely express his sense of the public indebtedness to experts such as Dr. Woodhead. Dr. Ridge called attention to the comparative immunity of Jews from tuberculous disease. It would be interesting if the existence of tuberculosis in vegetarians could be determined. Personally he could not recall any such case. Dr. Franklin Parsons said, vegetarians were continually bringing forward the risks attending the use of animal food, and they had made out their case so far as the actual food supply was concerned; but there was no reason why this should be the case if sanitation in the byres provided for cows was insisted on, and inspection of the animals themselves properly carried out. Dr. Thresh pointed out the desirability of medical officers of health attempting to educate the public with reference to the organ and modes of propagation of tuberculous diseases, and the methods by which tuberculous infection could be best prevented. As this education proceeded the difficulties in the way of obtaining efficient legislation would be diminished, and probably this would be the best way in which medical officers of health could at present benefit the public and render such legislation possible. Dr. Willoughby said that in Italy, under the new Public Health Act,

veterinary surgeons, exercising functions co-ordinate with those of the medical officers of health, were appointed in each province, whose duty it was to supervise the health and sanitary condition of all cattle within their jurisdiction.

A NEW SCHEME FOR THE MANAGEMENT OF CONSUMPTION.

Dr. Sajous, a physician and writer of eminence, of Philadelphia, Pa., (1632 Chestnut St.,) has organized a company for giving to all consumptives, early in the course of the disease, the benefit of treatment, hygienic, climatic, and medicinal, simultaneously. Existing sanatoria for these cases make provision only for the rich or the poor; the great middle class being unprovided for. For this class the company is projected, in which every participant would receive a dividend. The plan is so arranged that each person can regulate his expenses according to his means. It calls for the erection of villages in different parts of the country, built and conducted under medical supervision, conducive to the recovery of consumptives. Each cottage will be separated from its fellow, under constant medical surveillance, and all portions of the house and surroundings kept in a state of perfect asepsis. The rent of cottages completely furnished varies from twenty to sixty dollars per month. Provisions will be furnished at less than rates prevailing in the neighborhood. Trained servants are provided by the company. A special fund has been provided to meet the needs of those who have not the ready money for their immediate needs. The first of the series of villages is to be located at New Florence, near the Gulf of Mexico, on elevated pine-covered lands, a beautiful spot, free from malaria, and remarkable in its effect upon consumptives. Later another village will be established farther north. In these villages every case will be carefully studied and the results given to the profession. It is requested of every physician who approves of the plan, that he send the number of patients that he might send yearly to such a sanatoria, in order that the company may form some idea of the number they may be called upon to provide for.

SHOULD MANKIND EAT SALT?

Most vegetable feeding animals have a natural desire for "salt licks." Man cannot always be guided by such facts, but rather by experience and reason. Some

believe he does not require, and is better without salt, except what forms a natural constituent of his food. Observations and investigations should and probably will in course of time decide this. A writer in the Provincial Medical Journal says: "I am sure we all take too much of this condiment, and then are driven to drink abnormally in order to wash it out of the system. Vegetarians need salt in order to give savor to their diet, mixed eaters much less, pure flesh eaters—like the South American Guachos, and, when they can get enough of it, the Australian Aborigines—none at all, for all the salt we should decompose in order to digest flesh exists in it already. It was one of the most touching, the most pathetic sorrows of the then recently discovered New Zealander, in those vanished days when we believed that the noble savage was all our fancy and Fenimore Cooper painted him, that the missionaries we sent out were too salt, really too savory, for their unsophisticated taste. Indeed, one of those guileless children of nature assured a cousin of mine, with the frankest sincerity and with many apologies, that he would rather not eat him. And this explains much of the endurance of fatigue, or rather its retarded induction, exhibited by the savages. An Australian "boy" will eat a fair sized leg of mutton, and run like the prophet of old with his loins rather scantily girded up, hour after hour, with untired speed. A white man trained into as good condition breaks down, not from exhaustion, but thirst, in an hour's time. He has only to loose a few ounces of the water of his blood by perspiration, to render it so salt that its function as an oxygenator, from the contracted red cells, can no longer be carried on; he pants for breath, not because his lungs are overtaxed; he sinks dead-beat, not because his muscles are overwheeled, but because his blood has become unfit for its most important duty, and the muscles, for want of oxygen, are narcotized into helplessness."

HOW TO STAMP OUT AN EPIDEMIC. BY
CONWAY SCOTT, C. E., OF BELFAST

To stamp out an epidemic simply means to kill the organisms which produce the disease, and this can be effected by burning them, boiling them, or poisoning them, the latter being the easiest method under ordinary circumstances, and can be best done by perchloride of mercury or carbolic acid. As the mercury can only be used in the liquid form, the best ærial

disinfectant is carbolic acid vapour. In fact, to stamp out an epidemic, and to kill bugs or other vermin, is very nearly the same process; the whole thing is to kill them entirely and allow none of them to escape, and this is best done by dense fumes of carbolic acid vapour, as can be proved by long practical experience. I consider that skill, promptness, and energy will stamp out any epidemic that can arise among human beings, and it would be a question worthy of extensive experiments,—would not the same principle stamp out epidemics among animals,? thereby increasing our food supply and saving a large loss of capital. When the small-pox organism has been destroyed in any city or district or country, it can never be generated again there (it must be imported *de novo*), any more than dogs or cats, after being destroyed in any district, could be spontaneously generated; even filth itself cannot generate an epidemic disease. There is no great practical difficulty in exterminating the small-pox organism from Great Britain and Ireland; there are short periods when this has been effected, and small-pox can never occur again unless imported from abroad. There should also be no great difficulty in exterminating the small-pox organism from France, Germany, Italy, Spain, the United States, and all other civilized countries, never to occur again unless imported. There would probably be difficulty but not insurmountable, in exterminating the small-pox organism in Russia, Turkey, and in eastern countries, but by a united effort of all the civilized governments of the world the small-pox organism could be exterminated from the very globe itself, never to occur again for all time. The great difficulty is in our own minds. We have never been able to realize that small-pox is an organism as much as a cat or a dog is, and can be exterminated never again to re-appear. When public opinion fully grasps the idea that small-pox is an organism that can be annihilated, then, and not until then, will society cease to be plagued with this terrible pest, which for the last ten centuries has ravaged humanity. All the lions, tigers, wolves, and hyenas that ever existed have not destroyed one-thousandth part of the human beings that have been destroyed by the small-pox organism, and yet society wages an exterminating warfare against them, but old superstitious feeling protects the more deadly small-pox organism.

EDITORIAL NOTES.

DISGUSTING REPORTS sometimes come to us from the semi-civilized East, which tell us of the foulness of the water the people there drink, as from the bathing tanks, for example, in which the cholera bacillus breeds in abundance, but who would have supposed that in Ontario, with its "boasted civilization" and its Provincial board, and seven hundred local boards, of health, any of the people could drink such water as that drank by the people of Bellefountaine, a village in Caledon township, as reported by Dr. Algie, given on another page of this JOURNAL. Nearly the whole village drank from small ponds made by damming a stream which flowed through the village, and which Dr. Algie found passed within five feet of a "barn yard full of manure," near an "occasional privy, under the floor of a general blacksmith shop," and near a "well-manured potatoe patch," from which it "received not only the manure soakage, but an occasional spicing of Paris-green" [which perhaps acted the part of a bacillicide]: geese had been "allowed free access" to the stream, and the doctor found "two pigs wallowing" in it, a cow standing in and drinking from it, and the "ditch at the roadside" draining into it. Water taken from the lower pond was "simply poisonous," loaded with organic matter, and in "less than twenty-four hours had an offensive smell." It need hardly be said that "the village suffered from a severe epidemic of typhoid fever." Alas! beautifully, but very inappropriately, named, Bellefountaine; was there no one to look after your health interests.

MUCH THE SAME it is in the county of Kent. Dr. Samson, of Rondeau, says a teacher there is dangerously ill with typhoid fever, there was "no water supply for the school," no good wells in the neighborhood, and "oftentimes" the children had to "go to half a dozen houses to secure a pail of very impure water." In another school section, the doctor continues, in which there was diphtheria, the water at the school was "absolutely unfit for human use"; pupils "were drinking from a ditch, which after all contained much better water than the well." In yet another section, with diphtheria in a "number of houses," the water "was loaded with organic matter and unfit for use." Dr. Samson did not report what the pupils in these

schools of our "boasted school system" were being taught;—probably drawing, music, and numerous other "fine arts." Besides diphtheria, scarlet and typhoid fevers had been reported in the locality, the last named "assuming a very serious form." No one will wonder.

A CONTRAST is presented in the following from Dr. Bruce Smith, from the township of McKillop: In the erection of new school-houses in the township every care has been taken by the trustees to provide healthy and cheerful school rooms with ventilation sufficient to provide an abundance of pure air for each pupil. To build up a healthy nation too much attention cannot be paid to the physical well-being of those who are now receiving their intellectual equipment for life's duties in the future. School-room headaches will soon become a thing of the past if the class-rooms are kept properly ventilated. I have to commend the action of our board in appointing different members to visit the several schools of the township and ascertain that the premises were in a thoroughly sanitary condition, and that the water supply was in every case pure and uncontaminated. Some "outside" influence is required to bring all municipalities up to a like condition.

WINDSOR affords an example of another sort, which cannot be very well defined until it be shown whether or not Ontario health laws can be enforced; or so it appears. In April last the secretary of the provincial board of health reported that the Walkerville sewer was emptying probably from three to four millions of gallons of sewage "giving off the characteristic smell of cow manure" every day into the river about half a mile above the intake of the Windsor water supply pipe, and that the brown stream of sewage "was visible for two thirds" of the half mile, in its flow towards the pipe. It is surprising that the enlightened people of that enterprising town could tolerate such a state of matters for a single week. We have known injunctions in Chancery obtained for staying less objectionable and deadly nuisances. Yet there is one person there, who writes editorials for an evening Windsor paper, who contends virtually for some unaccountable reason or object, that the water is good, better indeed.

than that above the sewage inflow, and who, moreover, rudely, indeed in a bullying style, attacks this JOURNAL because we mentioned the condition of the water supply source in our last issue. Fortunately sanitarians in Ontario in their efforts to promote the public health rarely meet with such persons. We have no time nor space to contend with such. The fact may be here noted that the record of deaths in Windsor during the last three years, ending with the 31st August, 1891, is, 119, 138 and 159, respectively; giving a mortality rate of about 13, 14.5 and 16 for the respective years, for each 1000 of population, an increase of about 23 p.c. in the three years.

THE QUALITY of the immigrants coming into this country should receive serious consideration. Canadians are apt to look only to the numbers which come in to occupy the broad fields of Canada, and are somewhat discouraged because the population has not increased to the extent which had been hoped for. A leading medical weekly in the States, referring to the influx of immigrants there, says: It scarcely needs comment to show the enormous influence that such immigration has upon the health, welfare and prosperity of this country. It is a notorious fact that the quality of this stream of humanity has diminished within the last decade, and in just about geometrical ratio with its increase in numbers. What a change from the days when men set out across the seas to escape persecution or to secure wider civil and religious liberty, to the time of "assisted" immigration, when men leave their country not for their own good, but the good of their neighbors. Can we estimate the amount of crime, ignorance and insanity that will be inflicted upon this country in the defective descendants of these wretched beings.

TORONTO CITY papers sometimes congratulate the citizens because their death rate is not very high notwithstanding all their defects of sanitation; although since the census returns it is found that the mortality was considerably higher than had been estimated. Now as we have before pointed out, the death rate affords little or no indication of the sickness rate. There may be a great deal of sickness, diseases, even zymotics, but particularly local diseases, may be very prevalent, and but comparatively few deaths take place. Toronto it appears supports a much larger proportion of practising physicians than any other city in Canada. And although it is best to save life, or to prevent premature death, so far as possible, sometimes one might as well die as to suffer with lingering, and eventually fatal illness. Besides, sickness with the unsanitary conditions which give rise to it,

depreciates the stamina of the people, not to say anything of the pains, anxieties and costs in time and money which invariably accompany it.

THE MORTALITY in Quebec, now that the almost phenomenal birthrate is shown by the recently published vital and mortuary statistics of the Catholic population of the province for 1889-90, appears not very much greater proportionately than in Ontario. In Ontario the chief cities return a birthrate of about 27 per thousand of population; in Quebec, about 47 per thousand. In Ontario, but little short of one-fourth of those born die before completing their first year of life. If we allow that the same proportion die in Quebec under one year, and deduct this from the total mortality, it makes a very material difference in the death-rate of those above one year as compared with the total death rate. Furthermore, of the three-fourths and over who in Ontario survive the first year of life, one-tenth die under five years; although much less than half this proportion die between five and ten years. We must expect at least the same proportion to die under five years in Quebec, and this makes a further material difference in the mortality after the fifth year as compared with the total mortality. Certainly some special effort should be made to lessen the high rate of infant mortality everywhere.

ON DIPHTHERIA, Dr. Alfred Carpenter, at the recent annual meeting of the British Medical Association, said: It was shown that fifty years ago the disease was unknown in this country, but for the last thirty-five years cases had been under his personal observation in country places. Between 1860 and 1870 cases were common in rural districts, and between 1870 and 1880 the towns became affected. The difference between the two cases was that in the rural districts the outbreaks were limited to one or two, whereas in the towns the number was more widespread. Some cases were caused by the distribution of infected milk, some by contagion in schools; while in some cases, when cesspools were cleared away and the basements of houses rendered dry and damp-proof the disease had disappeared. Warmth, moisture and absence of light were necessary agents for the propagation of diphtheria. Dr. Butterfield stated as his experience that diphtheria followed the conveyance of manure in the hop fields. It was possible that it existed in a latent condition in many districts in a smouldering form and was brought out by heat and damp.

A CASE of resuscitation extraordinary is mentioned in the New York Times of the current month. In Paris, a doctor was called to a woman who, with her child, had been suffocated. "They are both dead," he remarked, "we

can do nothing." The unfortunates were removed to the hospital St. Louis, where the same statement was made. The house-doctor, however, asked permission to try artificial respiration with insufflations of oxygen, alternated with hypodermic injections of ether. Four receivers of oxygen were used, and the young doctor worked over his patients for three hours before a sign of life was perceptible. He finally succeeded in saving both. "Moral:" Keep on trying, in all efforts to resuscitate.

A DANGEROUS practice is brought to notice by the secretary of the board of health of Toronto township. There was a case of diphtheria in a hotel at the Streetsville Junction of the C. P. Railway, of a malignant kind, which caused one death. "The doctor and I ordered the clothes to be burned, which was done by a very stout young man who died of the same complaint soon after." Might not the free use of a proper disinfectant at an early period have saved the young man's life?

TIN in Canned Goods was the subject of a recent paper, read in the American Chemical Society by Prof. H. A. Weber. He related a case of poisoning from eating pumpkin pie made from canned pumpkin, in the investigation of which he had found as much as seven maximum or fifty or more minimum doses of tin salts in a pound of canned pumpkin. He also found large traces of tin in canned fruits and tomatoes.

OF FRUITS, Dr. Fothergill says, a great amount of them that would have been of inestimable value in our dietary, has been spoiled by incorporating them in the cooking process with cane sugar. Many stomachs can take mildly acid fruits and be benefited by them, but when taken along with sugar they occasion distress. One or two raw apples, taken with a meal and thoroughly masticated, will often be found an aid to the stomach in digestion.

DRS. Louis and Gustav Lanery publish (L'Un. Med.) the results of their investigations on the effect on offspring of consanguineous marriages. Their conclusions, based on a study of sixty-three consanguineous marriages, are that the marriage of blood relations tends to the diminution of the birth-rate, but that it has no prejudicial influence upon children born of such union.

BRAZIL has, it is said, a law for the medical examination of persons about to marry to determine their fitness. It is a sanitary measure that was found to be necessary to stop the transmission of scrofula, which at one time threatened to destroy the strength of the people.

ON THE "Substitution" evil leading papers all over this continent have been writing long editorials and sending out marked copies, with

many of which we have been much pestered. We looked upon it as an advertising dodge, and as the Sanitary News says, "We are not in that kind of business, nor that kind of market. There is one of two things about it. The newspapers have been handsomely paid for such work, or they have been woefully duped."

It is claimed by those "working" the "substitution" editorials, that when a person goes to a drug store and asks for some of the "dead-wall, plank-fence, high-rock and circus-bill advertised nostrums, the druggist suggests that he has something better for less money, etc." The chances are that if the druggist has anything harmless to offer he has something infinitely better. He can say this and tell the truth in nine cases out of ten, and is doing the purchaser a good turn.

RELATING to Asiatic Cholera: Under the date of August 11 last, the United States Consular Agent at Aleppo reports the departure, on the 6th of August, of the Italian bark *Oliva Specioso*, from Alexandretta, loaded with liquorice root, destined for New York. Alexandretta is a cholera-infected port. The health officer at New York has been notified. He also reports 133 deaths from cholera in Aleppo during the week ended August 19, 1891.

UNDER date of August 20 the United States Consul at Beirut reports the departure, on the 19th of August, of the English steamship *Drewton* from Alexandretta, where she took on 68 bales of unwashed wool bound for New York.

BOSTON, Sept. 22.—Reports from Asiatic Turkey are to the effect that cholera is spreading in the stricken districts. On July 21, 405 deaths occurred in Mecca and Mina alone. The English steamer *Drewton* recently took on a lot of unwashed wool from infected ports. She is said to be bound for some port in America, probably New York.

LONDON, Sept. 22.—The health authorities at Kilburn, a suburb of London, are investigating the sudden death of a man who is supposed to have died from cholera.

THE Medical Officer of Health, Dr. Seaton, strongly urged in a paper on the Evolution of Local Sanitary Administration, at the last meeting of the British Medical Association, is "the Keystone of the administrative arch," and "in order to attract competent men this position should be one of independence and dignity;" and so fairly paid.

SIR ANDREW CLARK, the celebrated London physician said: "I worked twelve years for bread, twelve for butter and twelve more for the luxuries of life."

NOTES ON CURRENT LITERATURE.

THE ILLUSTRATED NEWS OF THE WORLD (London News—Am. Edition), has given during the past few weeks an enormous number of illustrations of scenes in many quarters of the globe, many of them of exciting interest, many very pretty. "The Time of Roses" and "The Old Pilot" are very attractive full page pictures; "Shipmate," "The King of the Castle" and "Piscilla," all full page, are but little less so; "One Too Many" and "A Summer Idyl"—full page, are pretty and amusing. "Cardiff," gives a most excellent birds-eye view of that city. "The French Squadron off Portsmouth" and "Indian Jugglers" are among the double page illustrations. "The Scapegoat, a romance by Hall Caine," is thrilling and profusely illustrated.

THE DOMINION ILLUSTRATED is another admirable weekly which every Canadian should endeavour to patronize. It has taken a long stride forward during the last year, both in selections and execution of subjects. It is purely Canadian in intellect, art and workmanship. Late numbers have given two fine double page illustrations—"Views of Fort Wellington," Prescott, Ont., and of "Ste. Anne's," P. Q. Among other attractive illustrations are "Views of Banff," N. V. T., "Camping near Picton," Ont., and, four in all of the camps, butts, garden party, &c., of the late meeting of the Dominion Rifle Association in Ottawa.

THE GRAPHIC of Chicago is another good weekly, not second to any published in the United States. The illustrations are excellent, clear, on good paper, and many of them of subjects of much interest to all cultivated people.

IN THE COSMOPOLITAN for October, Amelie Rives' striking story "According to St. John" is brought to a dramatic close. No other piece of current fiction by an American author, it is said, has attracted so wide attention as this tale of Parisian life. A new and capital feature of this attractive monthly and one which is original with the magazine, is the publication each month, in the forms of foot notes, of a number of little portraits with brief biographies, of the writers of the various articles. However widely read one may be, there is apt to be something of information lacking regarding the vast number of writers who appear in the periodicals of the present day.

IN ITS November number the Cosmopolitan will publish a series of letters written by Gen. W. T. Sherman to one of his young daughters, between the years 1859 and 1865 and covering most of the important events of the war of secession. These letters present graphic pictures of a great soldier amid some of the stirring scenes in which he was a giant figure.

ST. NICHOLAS seldom publishes a number without some decided novelty. In the October issue we find an account by Margaret Bisland of "A Curious Relic," part of the figurehead of the old frigate "Constitution." Andrew Jackson was the figure chosen by some of his admirers, and one of his opponents stole the head from the bow of the ship. Its after adventures were curious. "Black Art" is a sketch designed to revive the delights and suggest the possibilities of that very antique device, the silhouette. The author, Jack Bennett, protests against the disuse of the art, and presents his strongest arguments in the very humorous black pictures. St. Nicholas is always ahead in interesting young people.

THE CENTURY for October among other things will contain the following: Portrait of Rudyard Kipling, Frontispiece; My Last Days in Siberia, by George Kennan, with pictures by Frost, Sandham and Wiles; Was it an Exceptional Case? Aerial Navigation; The Power Required; Besieged by the Utes; The Massacre of 1879; A Water Tournament (Play in Provence); In Answer to a Question; The Press and Public Men; An Escapade in Cerdova; The Story of a Story, by Brander Matthews, with Decorations; Who was El Dorado, with twenty-six illustrations from the Ruz-Randall collection and Italian Old Masters.

A BEAUTIFUL SOUVENIR—Splendid illustrations, supplements, literary features and artistic arrangement; beautiful engravings, charming stories, sketches and poems, wit and humor, in delightful combination are promised in the Christmas number of the Dominion Illustrated for 1891. No expense will be spared to make it the most magnificent holiday souvenir ever issued in Canada. Published by the Sabiston Litho. & Pub. Co., Montreal.

DR. WEIR MITCHELL, of Philadelphia, has put into narrative form the ripest results of a lifetime of specially trained observations of human nature. He calls his story "Characteristics," and The Century has secured it for the coming year. The editors consider it "more than a novel," made up as it is of science, poetry and the author's self.

THE well-known humorist Edgar Wilson Nye better known as "Bill Nye," will contribute to The Century during the coming year a series of articles descriptive of his experience in different parts of America and in various capacities. His "Autobiographies," the first one "The Autobiography of a Justice of the Peace," will appear in the November Century.

RUDYARD KIPLING'S new novel, written in collaboration with Wolcott Balestier for the Century, "The Naulahka, a Tale of West and East," a story of America and India, will commence with the November Century.