

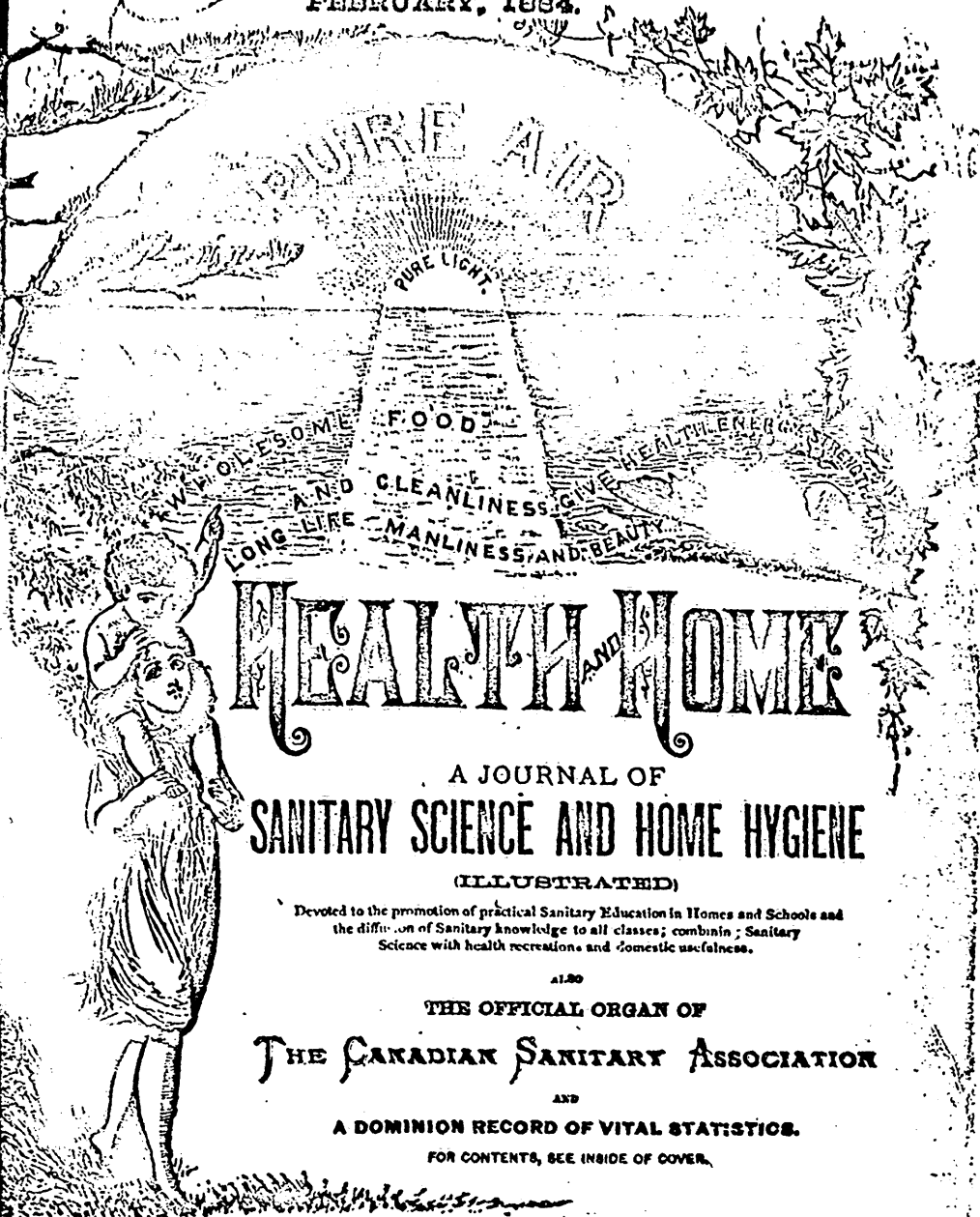
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ISHED FOR THE BENEFIT OF THE MEMBERS OF THE CANADIAN SANITARY ASSOCI.
L. I. Membership Fee \$2.00 per annum including privileges. N
FEBRUARY, 1884.



HEALTH AND HOME

A JOURNAL OF
SANITARY SCIENCE AND HOME HYGIENE

(ILLUSTRATED)

Devoted to the promotion of practical Sanitary Education in Homes and Schools and
the diffusion of Sanitary knowledge to all classes; combinin; Sanitary
Science with health recreations and domestic usefulness.

\$1.00

THE OFFICIAL ORGAN OF

THE CANADIAN SANITARY ASSOCIATION

AND

A DOMINION RECORD OF VITAL STATISTICS.

FOR CONTENTS, SEE INSIDE OF COVER.

Manager and Editor, **FRED N. BOXER**, Civil and Sanitary Engineer,
Secretary Canadian Sanitary Association.

ASSISTED BY PHYSICIANS AND OTHER PROFESSIONAL MEMBERS OF THE ASSOCIATION.

OFFICE, 7 ST. JAMES ST., MONTREAL.

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DATES OF ISSUE.—HEALTH AND HOME will be published once a month.

PURPOSE.—It will be devoted to the promotion of Sanitary Education in Homes and Schools, and the diffusion of Sanitary Knowledge to all classes; combining Sanitary Science and Health recreations with domestic usefulness. Its field covers all relating to health, plumbing, heating, ventilation, drainage, water and food supply, and is a work that will be of value to keep as a book of references in every family.

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HEALTH AND HOME

THE OFFICIAL ORGAN OF

THE CANADIAN SANITARY ASSOCIATION.

DEVOTED TO THE PROMOTION OF PRACTICAL SANITARY EDUCATION IN HOMES AND SCHOOLS,
AND DIFFUSION OF SANITARY KNOWLEDGE TO ALL CLASSES; COMBINING
SANITARY SCIENCE WITH HEALTHFUL RECREATION.

VOL. I.

FEBRUARY.

No. 1.

AN ADDRESS TO MOTHERS.

There is a class of our community to whom the formation of a CANADIAN SANITARY ASSOCIATION is of more vital importance than to any other, that class consists of mothers whose young children so often fall victims to dread diseases—particularly diphtheria—which consign to the grave, at an early age, the helpless innocents. If we were to tell any one of you that under a bed, or behind some piece of furniture in a room in which your little ones were sleeping or playing, there was concealed a deadly COBRA, what horror would seize upon your mind, how quickly you would run for assistance to destroy the poisonous reptile ere its fangs had pierced the flesh of the sleeping or waking child—and why? because you could realize the tragedy that might ensue. You may have seen the poisonous reptile in some menagerie, or, at any rate have seen drawings of it, and read of the deadly result of its bite; and yet, fond mothers, we can tell you, in truth, that a more deadly and insidious enemy, because it is not seen, lies concealed in every house within its drains, ready to pour forth its venomous breath through every chink or crack in rotten or untrapped pipes, or open drain. From such sources emanate the poisonous germs of typhoid, which too often carry off, in the prime of life, a father or mother, leaving, frequently, orphanless children unprovided for to the cold charity of the world. This fair readers is no overdrawn statement. The mortality of this City of Montreal, and the mortality of every city or town, has shown, on investigation, that almost always, wherever a case of typhoid fever or diphtheria has occurred, it has been traced to the gases that issue from foul drains or other filth breeding sources.

To you then, mothers of young children, do we appeal for support in this noble philanthropic object by your interest in the cause. By soliciting your husbands to become members of the association you will enjoy all its privileges likewise, such as mentioned herein—and which are of no slight importance; but when, in addition to these, we send to you—if well supported—this sanitary journal, replete with health promoting information and home instruction, for the trifling sum of \$2 per annum—the membership fee—we feel convinced that few will refuse this trifling amount to secure, for themselves and family as far as possible, immunity from those insidious and imperceptible dangers which are ghostly in their form and deadly in their embrace.

Those who have watched over and waited upon the prostrate sick during long days and nights; who have seen the sufferings of those they love, without the power to alleviate their pains; who have known the anguish of what it is to see those die as dear to them as life itself; may well join with us in this health movement, to assist by their influence, as far as human foresight and precaution will permit, to expel from within their homes all sources from which arise zymotic diseases, and to protect and strengthen those young lives, which God has given to them to rear, from premature death or decline.

TO OUR READERS.

HEALTH AND HOME.—Such is the title we have given to this journal, because its pages will contain, not only articles on hygiene, as a science, but other subjects relating to home matters of an instructive and useful character, so as to enliven the dry reading of sanitary facts, by those of a lighter educational form, and having a tendency to promote Health through sources that will give pleasant occupation, and pleasing amusements to the young members of a household.

When the formation of a sanitary association was first initiated, a prospectus was issued, in which was held forth a hope that a sanitary journal would be published and sent free to the members of the association. This hope is about to be realized, and it now rests with the public to come forward and give to it a cordial support.

The association and the journal are essential to each other. One is the body, the other the food that must sustain it. We feel sanguine that those physicians, and other sanitarians, who assisted in inaugurating the association, and to whom we are deeply grateful for their assistance, will do all in their power to forward the good work in hand, and use their influence to extend its benefits to every part of the Dominion. The editor has taken upon himself the responsibility of publishing this journal for the benefit not only of the members of the association, but for all who may peruse its columns—that is for the sanitary education of the people—and he trusts that in every community, there will be found many to forward its philanthropic objects, and cause its healthful influence to be increased, by devoting some small portion of their time and attention to the promotion of one of the most important efforts ever made in this country for the health of the people. To carry out this object successfully, we must depend upon ourselves alone, it intimately concerns each member of society, as well as the whole body of the people: therefore, although governments and municipalities can assist, and doubtless will assist to some extent, the promotion of objects of really a provincial and national character, we must not cease to work, or relax our efforts, until the whole Dominion has been thoroughly canvassed for members, and committees established in every town and village. The Canadian Sanitary Association, although but in its infancy, can claim a step in advance of all other sanitary associations, inasmuch that it takes into its membership all classes, scientific or otherwise. It unites itself directly with the people, forming them, as it were, into a league to suppress the causes of infectious diseases, and to lengthen out life with the enjoyment of more perfect health.—

The Editor.

THE CANADIAN SANITARY ASSOCIATION

A brief account of its formation organization and objects.

The first steps—for forming this association, were taken on the 6th December 1882, immediately after a meeting of a Health Conference, consisting of physicians and sanitarians from the different provinces, together with the Chairman and members of the Board of Health of Montreal, who had assembled at Ottawa to confer with the Hon. J. H. Pope, Minister of Agriculture, and J. C. Tache, M. D., the Deputy Minister, in relation to the best means to be adopted for the collection of vital and mortuary statistics. After the interview with the minister, it was proposed by F. N. Boxer C. E.,—one of the members of the Montreal Board of Health,—that advantage should be taken of such an opportune occasion, for the members of the Conference to take the initiative steps to form a Sanitary Association for the whole of the Provinces, and that those members present could form its nucleus. The suggestion was unanimously adopted, and a provisional committee named.

On the 7th September 1883, after the meeting of the Canadian Medical Society, at Kingston, Ont. The provisional committee reported progress. The association was then duly inaugurated, and the following members were elected to form the Council and Executive Committee for the first year.

President :

John Sweetland, M. D., Sheriff of Ottawa.

Vice-Presidents :

C. W. Covernton, M.D., Member of Ontario Provincial Board of Health..... Toronto.
 F. E. Boy, M.D..... Quebec.
 Le Baron Botsford, M. D..... St. John, N. B.
 J. W. Macdonald, M. D..... Londonderry, N. S.
 J. W. Lynch, M. D..... Winnipeg, Manitoba.
 P. Conroy, M. D..... Charlottetown, P. E. I.
 F. N. BOXER, C. E. & S. Engr.,
 Secretary-Treasurer.

EXECUTIVE COMMITTEE.

W. Oldright, M.D., Chairman, Ontario Provincial Board of Health..... Toronto.
 Hon. Dr. Parker..... Halifax.
 Professor Galbraith, C. Engr. School of Science... Toronto.
 W. S. Harding, M. D..... St. John, N. B.
 Revd. Professor A. B. Austin, M. A. B. D., Principal Alma College..... St. Thomas.
 James McCammon, M.D..... Kingstou.
 Professor Carr-Harris, C. Engr., Royal Military College..... Kingston
 Dr. Rinfret..... Quebec
 Alderman J. Fairbairn, Board of Health..... Montreal.
 J. W. Hughes, Sanitary Engr..... do
 A. B. Laroque, M. D. Health Officer..... do
 Thomborough Shewan, C. Engr..... Antigonish, N. S.

OBJECTS OF THE ASSOCIATION.

FIRST.—For the promotion of sanitary education and diffusion of sanitary information throughout the whole of the Provinces by means of the influence of its members and the publication of a journal—also, for endeavouring to obtain education in our public schools in the simple laws of hygiene, and the means of suppressing and avoiding those causes which tend to propagate and spread infectious and contagious diseases.

SECOND.—For using the influence of its members to obtain similar legislation in health matters between the Provincial Governments, so as to enable more effectual steps to be taken, when necessary, to check the spread of infectious diseases.

THIRD.—For mutual co-operation with Provincial and Municipal Boards of Health, in order to assist them, by its influence and the personal exertions of its members, in all matters relating to the public health, and to bring to the notice of sanitary authorities all diseases or nuisances of a dangerous character, so that prompt and effectual steps might be taken to suppress them.

FOURTH.—To publish, in its Sanitary Journal, for the use of its members and for schools, lectures on the laws of Physics, Hydrostatics, Chemistry of Sewage; Disinfectants and Deodorizers, Water pollution and Analysis; proper method of laying drains and plumbing; ventilation of dwellings and public buildings, etc., illustrated by object lessons, designs of plumbing appliances, apparatus; &c.

CONSTITUTION.

The Society to be called the CANADIAN SANITARY ASSOCIATION; and incorporated by a special Act of Parliament.

That it shall have no share capital; and that its fees shall not be used for other purposes than for the practical objects of the Association.

That its Government shall consist of an Executive Council and twelve honorary members.

That members residing in cities, towns or villages, shall have power to form Health Committees for their own sanitary protection and instruction; subject to the Rules and Regulations of the Association.

Annual subscription, two dollars, payable in advance.

THE FOLLOWING PRIVILEGES WILL BE ACCORDED TO ALL MEMBERS.

1. Provided a sufficient number of members are enrolled, an illustrated Monthly Sanitary Journal will be published and sent free. If the

number of members will not warrant the expense of publishing once a month, then it will be issued less frequently. This journal will be replete with valuable information.

2. Members will be entitled to receive information through the columns of the journal on sanitary matters. When immediate replies are wanted, a postage stamp must be included in the letter.

3. Members intending to build, or being proprietors, can obtain plans and specifications for drainage, plumbing and ventilation, at minimum charges.

4. Mechanical sanitary appliances advertised in the columns of the journal, can be ordered through the secretary of the association, and obtained without having to pay an agents commission.

5. Books on sanitary engineering—plumbing hygiene, and home instruction, such as advertised on cover will be sent, on receipt of price, without any extra charge for commission or postage.

HOW MEMBERS CAN FORM LOCAL SANITARY COMMITTEES IN TOWNS AND VILLAGES.

There is scarcely a town or village in which there may not be found one or more persons zealous in the cause of public health. Let such call upon the resident physicians, clergy, school teachers and leading citizens, and arrange to meet at a private house, with the object of taking steps to forward the sanitary movement now afoot. By so doing they will be helping the cause most effectually. There is no occasion for expense to be incurred as a school room could always be obtained for lectures, and the heating and lighting would probably be paid by the municipal authorities.

In forming local committees, select always those members who will take an active interest to promote the objects of the association, for there is nothing that retards the advancement of any association, or enterprise, so much as the appointing of men on a committee simply on account of their social standing, but who have neither time nor energy to work for its welfare. Let your committees, if possible, always have among them a physician, civil engineer or architect, etc., and a few young men zealous in the cause.

It would be advisable always to appoint a school teacher as secretary, with whom the secretary of the association could probably make some small remuneration for services performed.

The main duties to be performed by the local committees would be as follows:

1st. To enquire, from time to time, into the sanitation of schools, their ventilation and method of

heating ; a physician would probably undertake this duty.

2. To enquire into all matters affecting the public health ; such as nuisances, unhealthy crowding of dwellings and factories ; the appearance of zymotic diseases ; purity of drinking water and malarial influence in the locality, and on all matters tending to impair health. A special member should be selected for duties which relate particularly to his profession.

3. When any cause for a sanitary investigation becomes necessary, the committee should meet, and use its influence to abate the same, and if the existence of any dangerous epidemic occurs from causes not within their power or that of the municipality to control, then to bring the matter to the notice of the secretary of the association, who will at once notify the Provincial Board of Health or other body having sufficient power, to suppress the same.

4. It should be considered a philanthropic duty for each member to use his influence to obtain one or more persons to join the association, by so doing it would not be long before a sanitary league would be formed, whose influence over the health and prosperity of the country would be beyond estimation.

5. Clergymen, physicians, educators, professional and business men, will naturally become members of a philanthropic association, but it must be borne in mind that this association is intended to embrace other members of society, in which agriculturists and mechanics are a very important class ; it will therefore behoove the members of committees to be particularly solicitous to afford information to all, for by becoming members they receive the journal free, which, in itself, contains a sanitary education.

6. The secretary of local committees should report to the secretary of the association once a month on all important matters of a sanitary character and statistical facts occurring in his locality, in order that they may receive notice and be recorded, or discussed, in the columns of the journal.

DISCIPLINE.—To simply have a “quiet school” during study hours, or even good deportment upon the play-ground or on the way to and from school, is not evidence of good discipline. You are to be judged as teachers with reference to your ability as disciplinarians, by means employed to bring about these results.—*Supt. W. H. Ernst.*

HEALTH.—THE FIRST ELEMENT OF SUCCESS IN LIFE.

When we look into the biography of men of past generations, who had been successful in their lives, no matter in what sphere each had played his part—whether in a civil or military vocation—and examine also the secret of living men, brilliant for their talents and achievements, we will invariably find that the element of their success was mainly due to what may be called *constitutional* talent, by which warmth and vigour is imparted to man's ideas, and a continual growth of fresh shoots of thought spring up, from the mind being strengthened by superior bodily stamina and a healthy strong constitution.

There are exceptions we are aware to this rule, even as there are exceptions to many rules, and many men have been born with the gift of great brain-power set in bodies of delicate frame and of little muscle, but the biography of their lives frequently show that they were abstemious in their habits and careful of their health, and thus preserved their vital powers to the utmost.

“To the strong hand, the capacious lungs and vigorous frame fall—and with always fall—the heavy burthens ; and where the heavy burthens fall, the prizes fall too.” It is also said by another writer that “no man is in true health who cannot stand in the free air of heaven, with his feet on God's free turf, and thank his Creator for the simple luxury of physical existence.”

A great revolution has taken place within the last century, but more recently in the last decade, in public sentiment in respect to over-straining of the mental faculties in youth to the sacrifice of physical power ; and we are discovering, at last, that the youth who wins the most prizes at school or college, at the sacrifice of the development of his muscle and lungs, is passed in the run of life for success by the less studious but more muscular, and that the successful man is the one who sleeps the soundest, has the strongest nerves, and the best digestion. It is said that the Duke of Wellington when looking on at the boys engaged in athletic exercise at Eton, made the remark: “It was there that the battle of Waterloo was won.” We are told, in the history of Lord Nelson—his contemporary and rival for fame—although very delicate as a boy, yet the apprenticeship he served in early days, in the northern seas, built up his constitution, and inured him to exposure to all weathers and to fatigue—with strength of body too came strength of mind coolness of judgment, and nerves that never failed

him in the midst of danger. Napoleon, in one of the most critical periods of his life, and then suffering from fever and hereditary disease, exclaimed that "the first requisite of good generalship is good health;" to see, as if lit up by a flash of light, the opportune moment to achieve a victory. Innumerable instances might be quoted to show that the vigorous working power of the brain largely depends on the healthy state of the body, and this fact is now well recognized and acted upon by the leaders of the English people. Lawyers, statesmen, members of parliament, and the greater number of those who aim at success in life, are known to be particularly studious of the care of their health, as being absolutely necessary to accomplish their aim at eminence, for they know that vigour of body and clearness of head are essential to success, and must be acquired by temperance in habits, daily exercise in the open air, and manual practice of some sort. To do work well, to have a cheerful mind, to enjoy life, as intended that it should be enjoyed by the Creator, we must breathe a pure atmosphere, partake of nourishing food, and be temperate in all things. There is no calling in which men do not need sturdy vigour, bodily strength and agility, without which all mental culture—to the detriment of bodily strength, is but a preparation for disappointment and mortification, as well as for an early death. Nothing we know exhausts the life-force so much as mental effort; and if we burn out the life-force by the spirit of the brain, if we sacrifice the bodily health of our children at school, or our young men at college, (and this applies to both sexes), by overtaking their mental power, and not keeping pace with the drain upon the intellect by manual exercise, and by supplying the lungs with pure air, the pure stimulant of nature—more potent and healthful than aught made by man—the deep inhalations of which bring it in contact with the whole breathing surface of the lungs, ærating the blood with that subtle fluid, upon the purity of which the healthiness and action of every organ of the body depends; if we do not attend to this with our children, while brain and body are maturing and ripening, how few in after life will be able to maintain that full vital force on which the vigorous working power of the brain depends. Horace Mann, in a letter of advice to a student justly remarks, that "a spendthrift of health is one of the most reprehensible of spendthrifts." "I am certain," continues he, "I could have performed twice the labour, both better and with greater ease to myself, had I known in youth as much of the laws of health as I do now. In college I was taught

all about the motion of the planets, as carefully as though they would have been in danger of getting off the track if I had not known their orbit; but about my own organization, and the conditions indispensable to the healthy functions of the body, I was left in profuse ignorance. Nothing could be more preposterous. I ought to have begun at home, and taken stars when it should come to their turn. The consequence was I broke down at the beginning of my second college year, and have never had a well day since. Whatever I have since been able to do, I have done it all on credit, interest of capital: a most ruinous way, either in regard to health or money."

It is true, as before stated, that many men of frail *physique* have risen to greatness, and have performed mental feats of astonishing power—for instance, the Apostle Paul speaks of being in "bodily presence weak." Pascal was an invalid at eighteen; Milton was blind; Cooper was a mere bundle of nerves; Pope was a hunchback and an invalid; Channing was pale and weakly; Lawrence weighed from day to day the morsels of bread which alone his dyspeptic stomach could bear; Julius Cæsar was troubled with epilepsy, and is said to have never planned a great battle without going into fits; the great Swarrows stood but five feet one in his boots; but these are exceptions to the mass of vigorous and stalwart men who have become celebrities of the world. Peel, Brougham, Lyndhurst, Palmerston, and nearly all the great political and legal leaders were prodigious workers at the bar and at the senate; as well as Gladstone and Bright and Bismarck of our own day; the first were all full chested men, and so are the last who have been as sedulous to train their bodies as to train their intellects. Scott, Dickens, Tennyson, and many of the poets and authors had manly forms. Latimer and Luther were stalwart men. Isaac Barrow was a vigorous pugilist in his youth: Andrew Fuller, when a farmer's boy, was skilled in boxing; Wellington and Napoleon, although of medium stature had nerves of whipcord and frames of iron, and so on we might report name after name of the World's great men in favour of our argument that HEALTH IS THE FIRST ELEMENT OF SUCCESS IN LIFE, and therefore if the intellectual powers of the young are over stimulated at the expense of the physical, a collapse in later life will be sure to follow.

TEACHERS often forget that the intellect and will are not the whole of man; that most of his actions are determined by feeling, and the very processes of perception are influenced by the atmosphere of sentiment that surrounds a teacher.—*E. I. Hall.*

THE MONTREAL BOARD OF HEALTH.

Montreal, since the suburban town of Hochelaga has been annexed to it, has now a population of about 150,000; and, in a few years hence, its population will be still further augmented by the annexation of other suburban towns, which, in fact, in all but their civic government, form part of the city. It is not unlikely, therefore, that when the next census is taken, Montreal will have a population of 200,000 inhabitants.

The Board of Health is composed of seven aldermen, and four citizens (not aldermen). Its official staff consists of a Medical Officer—a Sanitary Inspector, Secretary, Clerk, five sanitary policemen, and a messenger.

It need scarcely be stated that the official staff is totally inadequate for the sanitary supervision of so large a city. The by-laws are very imperfect, and seldom rigidly enforced, outside influence being continually at work to impede the prosecution of infractors of the law; and to make matters worse, for years past the working of the executive department has been very defective, and the public health neglected in consequence. However, Light is dawning. The duties of each official have now been clearly defined, and a proper system of carrying on those duties adopted; an additional force of sanitary police will also be asked for, for special purposes, so that good work may be expected from the Board during this year.

A populous city like Montreal should have a government commissioner at the head of the Health Department, who would be entirely independent in his position, and therefore not likely to be influenced by outside parties. The Council never appears to take into consideration the importance of a Board of Health, and, consequently, selects members for that Board who have either no knowledge of hygiene or sanitary engineering, or whose professional or mercantile business prevents them from attending to its duties, consequently, the business of the office is neglected, and work that could be got through in a week, drags on, from month to month, without advancing, whilst people are dying around from preventable diseases. Such is the lamentable state of the Montreal Board of Health at present. This Board has been extolled and held up to the uninformed as a model for other Boards to follow, a deception from which the veil has now to be drawn. However we are pleased to say that Light is dawning.

It is one of the declared objects of the *Canadian Sanitary Association*, to assist Boards of Health in

the execution of sanitary measures, but in order to render the public this service, these Boards should be so constituted as to have, not only good by-laws to meet every case, but a highly efficient staff. Medical Health-Officers should in all cases be men of talent, intelligence and resolution, and of good administrative ability; the services of such men of course cannot be obtained for a paltry remuneration. The salary attached to the office for a first class physician should, for a city as large as Montreal, be \$3,000 per annum and not less than \$2,000 for any city.

WHAT TORONTO IS DOING IN SANITARY MATTERS.

Toronto, under the direction of its new Medical Health Officer, Dr. W. Canniff, is rapidly becoming improved in its sanitary condition.

The report of that officer on the results of the sanitary reform inaugurated last year, is certainly very satisfactory, and very conclusively shows how much every city and town in the Dominion needs a sanitary officer to look after the health of the citizens.

Dr. Canniff has happily been able to secure the co-operation of the citizens to a great extent to assist him in accomplishing sanitary reform,—this is a great point gained for, unfortunately, many citizens are not disposed to forward the interests of hygiene. However, in Toronto, it appears that it has been the doctor's policy to accomplish sanitary reform by persuasion, rather than by coercion or threats. The sanitary police have been employed in making a systematic inspection of every house, which it appears they have done with much care.

THE EAST END NUISANCES.

The polluted water of Ashbridge's Bay.

The report of the committee, consisting of the Medical Health Officer, City Engineer, and Mr. Coatsworth, on the condition of the cow-byers of Messrs. Gooderham and Worts was read at a special meeting of the Market and Health Committee, on the 13th November last.

The subject is a very important one, and will afford a lesson to all cities and towns not to allow offensive trades or nuisances to take root within the limits of the municipality—for when once established, it is a difficult task to get rid of them. We would suggest that if the proprietors of these animals purchased a suburban farm for a market garden, and applied the excreta their to enriching the same, it

would well repay them. The urine could be conveyed into tanks and de-odourized—as is done near Paris,—and after being mixed with soil, used as a fertilizer.

To Ald. Love, Chairman of the Committee on Markets and Health:

SIR,—The communication from the clerk of the township of York and the petition from the residents of the city east of the River Don, complaining of the cow byres, and that Ashbridge's bay has been, and is being polluted by the manure from the said byres, having been referred to the undersigned, we beg respectfully to report that we altogether visited the bay and byres on the 9th inst.

We reached Ashbridge's bay by means of a row boat passing from Toronto bay at the southern extremity of the new crib work north of Ward's Island. The water from the Point to Ashbridge's bay, known as Brown's pond, is a large lagoon, bounded by irregular bodies of bog, some of which are floating, and change their positions from time to time. The channel is consequently irregular, but at present the water of Toronto bay with a small quantity of lake water may, by a western wind, be blown into Ashbridge's bay. When the crib work is completed there will be little action of the water in this lagoon, and the waters of Ashbridge's bay will be stirred only to a limited degree. A distance of three quarters of a mile from the crib work brought us to the western extremity of Ashbridge's bay, and it was observed as we proceeded that the water became turbid and then thick. At this point we found the mouth of a conduit by which liquid manure has been poured into the water. At present, however, we believe little or none enters by this way. Upon examination of the bottom of the bay here we found the depth of the water to be from 4 to 6 feet. By means of an oar we could bring to the surface quantities of material which was found to be

PARTIALLY DECOMPOSED MANURE.

The agitation of the water also brought to the surface numerous bubbles of gas, and a smell of old manure at once pervaded the air. Proceeding a short distance east ward we found the outlet of a second conduit, which had just been cleaned out by workmen. The depth of water here is somewhat greater. An examination of the bottom revealed pretty much a similar condition, only that larger quantities of gas came to the surface, and the characteristic smell was more marked. The water in this locality presented a dark appearance, and evidently contained a large quantity of organic matter, doubtless derived from the manure. Still proceeding eastward the water gradually became clearer, and on a line with Carlaw avenue it was found comparatively clear, but by no means like the water of the lake.

Having landed on the bar or peninsula, which is here from three-quarters to a mile from the main land, it was seen that where had been not long ago a channel between the lake and the bay, was now a continuous bar. Following the bar westward, when we had passed a point corresponding with Carlaw avenue, we became conscious of a heavy offensive odour. It so happened

that at the time of our landing a brisk wind sprang up from the north-west. This wind effectually stirred up the water of the bay, and it was clearly demonstrated that

THE PUTRID SMELL

we experienced was due to the gas brought to the surface by the waves and carried by the wind. Having satisfied ourselves that Ashbridge's bay was all but land-locked, and having obtained unmistakable evidence that its waters were largely polluted, we next directed our way to the byres.

Of the arrangements to care for the animals we can only speak in terms of approbation. We learned at present there are 3,600 head of cattle and 500 pigs. The mode of disposal of the excrement of these animals is to allow the whole, solid and liquid, to flow into drains passing from the stalls. At convenient places are drains or filters made of upright strips of iron or wood from three-quarters to an inch apart. The liquid portion flows through whole; the solid portion is lifted out to be carried away for fertilizing purposes. It is evident that with the fluid which passes through these filters, a considerable quantity of more solid material also is carried. The fact that implements are used to keep the conduits clear corroborates this statement. The total amount of solid matter thus conveyed every season must be very great.

In view of the extensive deposit we found to exist in the bay, as well as of the considerable yearly addition made to the accumulation of years into what is now an inland lake, it is evident that to allow this discharge to continue is

TO JEOPARDIZE THE WELFARE

of the neighbouring community. That the byres and the polluted bay are a public nuisance of great magnitude is unquestionable, and that the health of the citizens is thereby greatly endangered seems equally certain. But this matter must be regarded in the light of the fact that the health and comfort of a large and rapidly-growing city demands that what might be a pleasant and health-giving water front should no longer be the receptacle of so large a quantity of filth. The already existing deposit of the bay will be for years a source of discomfort. If not of pestilence, but for this there is no remedy except the slow but certain operation of natural laws, by which what is now noxious will become innocuous, and in time, if the bay is preserved from the inroads of the lake, there will exist a delightful sheet of water for the benefit of the public.

With regard to the byres apart from the pollution of the water, supposing it practicable to make other disposal of the excrement so that it would not create an unhealthy nuisance, we consider it our duty to submit that in the interest of the city all offensive establishments within the precincts of inhabited districts should be forbidden. The herding together of so large a number of animals, especially of pigs, must necessarily create effluvia not only disgusting, but to many highly prejudicial to health. Industrial establishments of all kinds necessary to meet the requirements of civilized life, should be so placed and so managed as not to infringe upon the rights of the public, especially in matters affecting the general health.

We beg also to submit that the work now in progress by the Harbour Commissioners to straighten the Don should be made the means of assisting to purify Ashbridge's bay by extending the cutting quite to the lake. If the channel is made only to Ashbridge's bay or Brown's pond, as we have been informed is the intention, the waters of the Don, which are much polluted, will add to the existing evils.

THE SIXTH CONGRESS
OF THE
SANITARY INSTITUTE
OF
GREAT BRITAIN.

Held at Glasgow Sept. 25th to Sept, 29th, 1883.

We are in receipt of the October number of the *Sanitary Record*, published by Messrs. Smith, Elder & Co., 15, Waterloo Place, London, England. This is a very valuable monthly Journal of Public Health, and Record of the Progress of Sanitary Science. It is also the organ of the National Health Society.

The October number contains the proceedings of the Congress of the Sanitary Institute of Great Britain held at the city and date above stated.

We draw largely on the valuable information contained in the scientific papers read, for, in the infancy of our own sanitary associations and of the sanitary movement in Canada, we may feel thankful that we are afforded the means of benefiting by the experience of older countries, through the various publications of the proceedings of sanitary associations in Europe and the United States, and feel also grateful that we can repeat, in an abbreviated form, the valuable information and suggestions offered by the eminent physicians, civil engineers, and scientists, who have given to the world so clearly, the result of their investigations and research.

At this Congress there was an exhibition of sanitary inventions and various sanitary appliances, some of which might be introduced with advantage in the construction of buildings into this country—a few of which we shall illustrate in a future number.

Several papers were read on this occasion.

Our space will only admit of giving extracts from the opening address on the all-important subject of

HEALTH.*

BY PROFESSOR HUMPHRY, M.D., F.R.S.

PRESIDENT OF THE CONGRESS.

So close is the interdependence of the physical, the mental, and the moral in man that an improvement or a deterioration in any one of them is certain to be attended by an improvement or a deterioration in the other two. If, from indifferent sanitary arrangements or other cause, the physical be allowed to sink, the mental and moral forces must soon be weakened.

So, also, good sound education and that mental training which gives strength to thought and judgment, and which can only be carried out in the healthful body, will react beneficially upon the body as well as upon the moral tone, and will add to that uprightness and honour and that vigorous bearing which make the man. Still more true is it that moral delinquency ravages both body and mind, throws its dark shadow over coming generations, and infallibly leads to the degradation of the species. It does this mainly by its direct and indirect influence upon the body, by the infecting stain there which—like that upon the character—lurks and leavens the whole, and bears on the father's sin to distant generations.

Now what is so important, and what we want our legislators to feel, especially at the present particular juncture, is this—that in proportion as this stain is allowed to exist and to propagate itself, and by its hydra-headed maladies to damage the bodies and lower the physical status of the people, so much the greater will be the deterioration of character and the tendency to moral obliquities of various kinds. This is one, and a potent one, among the ways in which vice sows the seed of future noxious weeds and fertilises the soil for their growth. The moral delinquencies damage the body, and so the damaged body is the more prone to the moral delinquencies. The action and reaction is direct and swift. One way, therefore, to limit and arrest moral disease and to increase the healthy moral tone of a community is to limit and arrest bodily disease and to labour in every possible manner to improve the sanitary condition of the body. No sentimental fancies, no overdrawn apprehensions of interference with the liberties and rights and free action of citizens should be allowed to hinder the enforcement of those principles and laws which are requisite for the prevention and mitigation of diseases whether they be in the form of Factory Acts, of Educational Codes, of Contagious Diseases Acts, or of provisions for the careful and humane conduct of experimentation upon animals. Let the *salus populi*, simply and sensibly and at the same time scientifically considered, be really and practically the *suprema lex*. Thus shall we best promote strength of mind, with attendant wise judgment and discretion, as well as sound morality, with attendant high-mindedness and honourable feeling, in our people.

How largely does experience show us that the body is not merely the inlet to the mental and the moral chambers and the agent of the forces emanating thence, but that it is also, and to some extent consequentially, the type of them? How much, that is to say, of them can be inferred from it? What do we not learn of the largeness and strength and vigour of them from the corresponding evidences in it? How rarely is a strong and vigorous mind associated with a feeble and inert body? What kind of character do we judge to be the accompaniment of the upright frame, the open face, and the straightforward step?

By the providential, or natural, law of the association of the physical with the other qualities is worked

* Abstract of Inaugural Address delivered at the Sixth Congress of the Sanitary Institute of Great Britain, Glasgow, September 1883, in the section of Sanitary Science and Preventive Medicine.

out the predominance of the best. In the great struggles of nations the best win, because goodness is the associate of strength and healthfulness; and the maintenance of the sanitary condition of a people is a necessity to the maintenance of a high position among others. This becomes yearly more and more the case as increasing civilisation makes us increasingly dependent upon sanitary regulations and determines more clearly what those regulations should be. It is thus that civilisation meets and counteracts her own evils. The clustering of peoples in masses together promotes, in various ways, the liability to disease, while growing intelligence and advancing science point out the means of preventing and arresting it; and as prevention is better than cure, so the science which promotes the former is better than that which attempts the latter. To this the members of my profession are fully alive and willingly assent; and though their pecuniary gains are won by their efforts to cure disease, it is their constant and unselfish aim to trace out and stamp out the sources of disease; and it is their desire and practice to take an active part in every movement which has for its object the improvement of the sanitary condition of our people. Well will it be for our country when increased opportunity is given to them, in Parliament and out of Parliament, of making a deeper impression on the convictions of the country.

Dr. Humphrey then proceeds to point out the necessity of a State Sanitary Department to form a distinct Department in the Legislature and under the direction of a Minister of Sanitary Affairs, extending its administration to the sanitary condition of cattle, and which would find a further scope of action in considering and checking the diseases to which our various food-producing plants become more liable as they are more highly cultivated. He alluded to the University of Cambridge having undertaken and carried on an examination of medical men for certificates in sanitary sciences. Such certificates should be a necessary qualification for medical officers of health. He concludes his remarks on the subject of a State Sanitary Department as follows:—

"I can scarcely conceive anything more likely than this to promote the well-being of our people and their success in everything they undertake, whether it be literary, scientific, commercial or military."

"Good sanitary legislation must ere long be recognized as one of the first necessities for a prosperous people; and the Government of England ought not to lag behind, as it has a tendency to do, in its efforts to provide this great boon for the nation. It should take more active cognisance of the fact that a people must be preserved from the effects of their own imprudence; and it should not leave the carrying out of hygienic works, so much as it does, to parochial administrations and local authorities.

The Government of the United States has shown its consciousness of responsibility to take action in

this direction by a resolution of Congress, introduced at the suggestion of the National Board of Health, requesting the President to call an International Sanitary Conference, with a few to consider and improve the condition of the ports under the jurisdiction of the several Powers, as well as of the vessels departing from them. That Congress was well attended by delegates from Europe and other parts; several questions were seriously and carefully discussed, and important propositions were made. What is perhaps even more to the point, each State, with few exceptions, has its 'State Entomologist'; and they all publish full annual reports upon the damage done to food-plants by various insects, and suggest means of prevention. Why should not something of that sort be done here? In most of the European States there is some recognition of duty in this respect; and much has been done in England through the Board of Health, the Local Government Board, and various legislative enactments. Still there is ample room for England to concentrate and improve her national sanitary organization in such a manner that it may be an example to others."

We regret that from want of space we can only give a few more extracts from his Inaugural Address but will continue the subject in a future number. The following on the "Treatment of Infants" will be found interesting and instructive to young mothers.

Small matters have often great import, especially at the beginning of life; and this may be truly said of those mischievous two yards of calico, which wound round the middle of so many infants on their introduction into the world, as a sort of baptism to the numerous evils of fashion in dress to which they are admitted, constrict and hinder the expansion of that very region of the body where heart and lungs, stomach and liver, organs of no mean importance, are struggling for room to grow and do their work, and where natural mechanical conditions throw some difficulty in the way of full development. The expansion of the lower part of the chest, which is so pronounced a feature in the well-formed human figure, is attained chiefly in the higher animals, and, like most of such higher prerogatives, is the result of more than ordinary effort, and is, proportionately, liable to suffer from interference. The chief effort to accomplish it is made soon after birth, when breathing and food-taking, and the various changes incidental upon them begin; and at this very juncture the opportunity is taken by meddling hands the expansion of the region where these new processes, upon which the well-being of the whole fabric depends, have to be initiated and carried out. A more pernicious device can scarcely be conceived than this relic of antiquated nursedom; and it is impossible to estimate the number of deformed, or pigeon-chests, of hampered stomachs, livers, lungs, and hearts, with their varied attendant life-enduring infirmities, and curtailment of life, that must result from the use of these

'swathers,' as they are called, for which there is not the slightest necessity. The oft-condemned tight waist-banding, and lacing of after years, which affects only the small fashionable section of one-half of the community, is not, even in those who are subjected to it, so mischievous as this concealed semi-strangling process which is diligently carried out in the case of a large proportion of infants of all classes. Of the three demands of the infantile period—liberty of movement, fresh air, and good food—it seems strange that the first two should be limited by smothering bed-clothes, swathers, long petticoats, and other dress-devices, together with imperfect ventilation of rooms, while the last is liable to be supplied sometimes in insufficient quantity and bad quality, but often, whether good or bad, in superabundance. How many poor helpless children are condemned into spasms, diarrhoea, convulsions, and death, which are complacently attributed to teething, that never failing cover for the multitude of the sins of the bottle. No other infant has, altogether, so bad a time of it as the human. None pays such penalties to the caprices, the fancies, the theories, and, above all, to the immoralities of its parents.

A host of maladies with a corresponding death-rate are ignorantly regarded as its rightful heritage; and as a sort of excuse for this many-headed monster in the form of maltreatment, it is urged that, after all, the effect is that the weak are weeded out while the strong survive, so as to result in the production of a healthier average manhood, and the maintenance of a finer stock. It is said that if, by better sanitary arrangements, we keep alive the weaker members, the effect will be that the physical status of the whole family will be lowered. A little consideration, however, show that this is not only an inhuman but also a partial view; and we shall find here no exception to the rule that that which is most right is most politic. The same better methods which preserve some in life who would otherwise have passed out of it give better condition to all those who survive. All are, as it were, raised a step on the physical ladder, and the status of the whole is improved.

VENTILATION.

On this subject, we give the President's words in full, so important are they as bearing on the great source of health.

A few words on the subject of ventilation. Good fresh air and light are the first requirements for health. Our gardens tell the necessity for them—even for plants, and show that the more the plants are shut up from them the more liable they become to blights and disease, and to imperfect development of colour and form. Fresh air means air in motion. We are quickly conscious of the difference to our powers of work, of attention, or of exercise in a closed room and in one open to the air, on a still day and in a brisk wind, in a screened wooded valley, and on a hill top; and we know that still air is peculiarly favourable to the development of the various organ-

isms which give rise to putrescence and communicate disease. The ventilation and lighting of his house is, to some extent, in the power of each man, and is commonly far too little attended to, especially in the bedrooms. These are generally stuffy, with closed and curtained windows, and are replete with emanations from beds, clothes-boxes, and various accumulations under the beds, and dusty corners. The admission of air, scanty during the day, is permitted at night only through the chimney; and often there is not even that sooty channel. Our open fires, needlessly wasteful, and therefore costly though they be, are, no doubt, a very salutary influence; and they make the contrast between English and foreign houses, which latter are for the most part heated by stoves, much in favour of the English. Still the English houses admit of much improvement, which can be easily made. The air which passes up the chimney from the fire must be supplied through some inlets; hence, when windows and doors are closed, it comes through crevices in the boards, carpets, &c., bringing with it various impurities; and too often demands are made upon the water-closets and sink-traps. The ill-fitting of the doors and window-sashes of the houses of the poor serves the good purpose of providing ventilators. But the better houses have not this safeguard; and as dire experience in high quarters tells us, their inmates too often pay seriously for good carpentry, added to that apprehension of draughts which is maintained by an ignorance, or an ignoring, of the fact that fresh air is one of the best preservatives against cold and rheumatism, as well as against fevers and debility.

People go to the seaside and bathe themselves all day long in air, and then wonder that, on returning to their pent-up houses, they feel unwell, perhaps more so than if they had not left them. The amount of 3,000 cubic feet per head per hour, which has been computed to be necessary for the maintenance of the normal purity of the air, cannot of course usually be supplied; but care should be taken in every house that a ready supply of air is provided from the exterior, and that night and day, summer and winter, some window, in the chief passages at least, remains open. In many of the houses there is a fanlight over the entrance. This should be made to open, which it can easily be, though it very rarely is; and it should be kept open, with very few exceptions, throughout the year. This change would make a great improvement in the sanitary condition of our houses. In the country cottages and houses, the windows, especially in the upper storeys, are too small and too much closed; and it is distressing to notice how often the dwellings are closely beset or overhung by trees, which shut out both air and light. It were a wholesome rule that no tree should be allowed to stand so close to a house that it would touch it if it fell. But trees are too commonly planted without consideration of the space they will occupy, and the shade they will throw, when they grow up; and when they have grown up there is a health-disregarding reluctance to

cut them down. The courts and alleys in town do not easily admit of rectification. The only effectual plan appears to be that of clearing them away and erecting buildings with better sanitary arrangements on their site, by which, as experience has shown, the mortality of the residents may be diminished without reducing their number. In the rural districts, however, the sanitary state of habitations might be easily and greatly improved by a little attention to the points I have mentioned, and at small expense. The freer admission of air and light, obtainable by cutting down overhanging and closely-adjointing trees, by enlarging and opening windows, by clearing away curtains, useless furniture, and old clothes, by clearing out dusty corners and cupboards, and by filling up stagnant ditches and ponds, would do much to render our agricultural population healthier and stronger, and more vigorous and active in mind and body than they are, and would lessen consumption, rickets, scrofula, fevers, ague, and other maladies, as well as the poor-rates.

A COMING SCHOOL.—A boy will be a more nearly complete man if, when he leaves school, in addition to his ordinary school acquirements, he can drive a screw, or set type, or saw a board, or file a saw, or make a shoe, or shoe a horse, or plane a board, or hoe a garden, or graft a tree, or forge a bolt, or mend a sail, or weld iron, or braze a joint. Therefore, it is said, the schools should have one or many of these trades. Already the atmosphere is filled with the buzz of a new manual education. Some virtue surely exists in this agitation, but the end is yet far away.—*Aaron Gove: Denver School Report.*

CHILDREN'S READING.—“Teach children to discriminate between the excellent, the poor, and the abominable. While they cannot be expected to enjoy Emerson or John Stuart Mill, they may be led to prefer Trowbridge and Higginson to the vicious records of criminal life, real and imaginary, with which the country is flooded. Don't let children learn emphasis, inflections, pauses, etc., by imitation alone. Don't give children reading-matter entirely above their comprehension, yet don't keep them in baby-land all their lives. Don't read to them too much, but make them depend upon themselves for their stories, etc. Don't let children depend on the definitions given in the school-readers. Don't spend too much of the time in talking about the lesson and telling, or even showing how it should be read, but keep the pupils reading. Don't be discouraged if you fail to see any very brilliant results; and, above all, don't let anything tempt you to work for show.”—*A. H. Stevens, Stamford.*

LONDON SANITARY CONVENTION.

This sanitary convention which took place on the 17th November last at the above city, under the auspices of the Ontario Provincial Board of Health, appears to have been a decided success. This is gratifying to the public and encouraging to the hopes of all those who are advocating the importance of sanitary education. The attendance of the public far exceeded any previous meeting of sanitarians ever held in Ontario for sanitary scientific discussion, and one new and pleasing feature in the meeting was the presence of several ladies. It would greatly tend to promote the philanthropic objects of those solicitous to bring to notice the importance of possessing a perfect knowledge of the laws of hygiene to the home circle, if in all future meetings of a similar kind, ladies would make it a duty to be there; their presence and co-operation would give great impetus to the sanitary wave that is gradually flowing over the surface of the country, and which will, we trust, wash off many of its impurities.

It is in the field of sanitation where woman's rights take precedence over those of the other sex, and in that field there is a rich harvest before them if they will only cultivate in it the seed of hygiene and keep it clean from all poisonous influences. Wherever sickness comes, they are the greatest sufferers; the long night watchings, the anxious hours, the weary days of trial and sorrow ever fall to their greater share. In time of sickness, they are the “*ministering angels.*” On their gentleness and noiseless step, on their watchfulness and care the physician places his main hope in cases when life is held by such a slender thread that the slightest tension would break it asunder. It is upon their careful administering of potent medicines which have to be given in counted drops and at regular intervals that he relies when he himself cannot be there. It is upon them that the sick look up to with confidence for help—it is their gentle hands that smooth the pillow under the aching head, and wets the parched lips or bathes the throbbing brow, and with kind words and sympathetic eyes, soothes the anguish of pain. Yes, the field of sanitation offers a wider scope than ever for woman's talent and usefulness, and with an army of such auxiliaries the country would soon be roused from its inertness, and a health-breathing influence pervade over those places which heretofore were fever breeding haunts or hot beds of disease.

We regret that our limited space will not admit of giving more than a short synopsis of the proceedings of the meeting, which were very interesting

and instructive ; but future numbers will contain copious extracts from the papers read. Among those present at the convention were—

Revd. Dr. Rykeman, Revd. Father Tiernan. Revd. W. Johnson of London East. Revd. J. A. Murray, The Mayor of London East. W. Oldright, M.D., M.A., Chairman of Ontario Provincial Board of Health. Aldermen Cowan and Brown. The Hon. Judge Elliott of Oshawa. F. Rae, M.D., Professor Saunders of London Western University. J. K. Allan, associate editor of Sanitary News, Chicago, Dr. Bray, Chatham. Dr. Bryce, Toronto. Dr. McKeichen, of Thorndale. W. Y. Benton. C. Engr. Drs. Waugh, Brown, Arnott, Campbell and Wishert, of London. W. Walker, London. Dr. Canniff, Medical Health Officer, Toronto. McDougall, Civil and Sanitary Engineer, Toronto. W. H. Bartran, reeve of London West. Dr. Hunt of New Jersey, U. S. Dr. Wight, of Detroit. Professor Galbraith, C. Eng, school of science, Toronto. Thos. Tracy, City Engineer, London. And many others.

The following were the papers read :

- "Public Health," by Dr. J. W. Harding, St. John, N. B., read by Dr. Oldright.
- "Sanitary Drainage," by W. Walker, Esq.
- "London Water Supply," by Prof. Saunders.
- "Insanity, in relation to criminal responsibility," by His Honor Judge Elliott.
- "Results of the London Flood," by Prof. Waugh, M.D.
- "The Province of Sanitary Journalism," by S. H. Allen, Associate Editor Sanitary News, Chicago.
- "Disinfectants," by W. Saunders, Chemist.
- "Infectious Diseases in Schools," by Dr. C. T. Campbell.
- "Infectious Diseases and their prevention," by Dr. Wight of Detroit.
- "Malaria," by Dr. Bray of Chatham.
- "Sewage and Sewerage," by Prof. Galbraith, C.E.
- "Local Health Organization," by Dr. Brice.

IMMORALITY!—This master-thought, which should be most in our minds, ever present with us, is one to which millions seem never to give a passing moment of serious reflection. They are as their dogs and their horses. Of all human beings, the clergy not excepted, those in the educational work should ponder most on this sublime truth, and make it familiar as their native air to the youth who are everywhere passing through the schools. This is meat that doth not perish in the eating.—*Penn. School Journal.*

PRACTICAL SANITARY EDUCATION.

Under this heading we purpose to continue to furnish our readers from month to month with information respecting the CARE OF THE SICK, and how to act in cases of EMERGENCY from accidents, poisons or other causes affecting the immediate loss of human life, until prompt remedies can be applied. This information is of great importance to be known by members of a family, and by every mechanic engaged in factories, on railroads, or in any places of employment where people are exposed to accident.

To know how to take proper care of the sick, is of the utmost importance to the attending physician, who often loses a patient from neglect, or want of care, in nursing ; and physicians will recognize with pleasure these suggestions, as to what should be done in case of accident to give relief, or to save life, until medical aid can be obtained.

CARE OF THE SICK.

BY A FELLOW OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—U.S.

DISEASE MEANS SOMETHING WRONG.

DISEASE means "want of ease," and wherever found it is a sure sign that something is wrong inside of the body our outside of it. Discomfort is one of the earliest signs we have of its approach, and therefore the most valuable. Pain is a later one, more solicitous, perhaps, but none the less kind in its intentions, for all of that.

They both warn us that something is somewhere wrong, and mean that sickness will surely overtake us, unless we see where the wrong is. When found, the mischief which "has" been done should be at once corrected, and its return must be prevented by avoiding in the future that which first "provided" it.

DETECTION OF THINGS WHICH FAVOR DISEASE.

Now there are many little monitors by which these outside conditions favorable to disease are detected. The chief one, or at least the one as much relied upon as any other, is the "smell." Whenever substances which have been alive become dead, and are undergoing decay, little particles of them break away from the main mass, float in the air, come in contact with the nostrils and we "smell" them. These vapors which are bred by decay in decomposing substances, are "poison," and, like all other poisons, a little absorbed will contaminate the health of the body, while more will so much affect the health as to produce sickness and even death.

CAUSE OF UNPLEASANT ODOURS MUST BE REMOVED.

There is but one conclusion to be drawn from this, and it is, that wherever an unpleasant odor is detected, you may be "certain" that there is something in the air which should not be there, and if permitted to remain, it may sooner or later be attended with evil results. The

true means for relief in such a case is, "removal" of the offending cause, whatever it may be. Sometimes this can not well be done, so we must 'lessen,' as much as lies in our power, its tendency to evil,

EMANATIONS INDUCE DISEASE.

Every body knows, nowadays, that these little broken-off particles or emanations from manure-heaps, refuse from slaughter-houses, drippings from the kitchen, defective privy arrangements, etc., etc., when taken into the body through the air we breathe, for a time long enough, will sooner or later bring on "bad health," low fevers; and, with other conditions, induce fever, cholera, yellow fever, etc. Not only may they "produce" such diseases, but they certainly tend to "transform" into serious diseases what would otherwise be but a trifling affection which should yield to the simplest measures. There is not a physician in extensive practice who does not, every day, in his rounds, see "some" disorder withstand his efforts, which he knows should readily yield, and which obstinacy he feels perfectly satisfied is due to the cause referred to, a poisonous blood.

In another place, a matter of this kind will be referred to as deserving an early and earnest consideration by all persons living in houses with a drainage system communicating in the usual way with the street-sewers.

Besides these causes of disease which can be detected through the smell, and removed by the person himself, or the Health Officer, there is another class of poisons, not so readily detected, but whose presence can be quite as readily demonstrated in other ways. We call them "poisons," you see, for they are nothing less than poisons, and physicians, when talking to each other, give them no other name.

They are the "poison vapours" which are bred in the bodies of all living animals.

CONSTANT CHANGES GOING ON IN THE BODY.

Most readers know that the bodies of animals are constantly undergoing changes; that is, the old particles becoming worn out and useless, are thrown into the blood, and carried away, while new ones are taken from the blood and put in their places. These new ones they supplanted, and in due time yield their places to newer ones, better adapted to the purpose intended. This constant "change" goes on until death, or, more correctly speaking, "life continues as long as those changes take place." It will be seen that these old decaying particles as they become useless must be carried away through the blood and out of the body as soon as possible.

WASHED AWAY BY PURE AIR.

The chief means by which this end is accomplished is through the use of pure air, which, as it were, washes away these impure particles from the blood. This air enters pure, through the mouth and nostrils, into the lungs, and comes out laden with these poisonous materials. If these decaying particles are taken into the lungs again, they not only "prevent" the escape of the

poisonous materials from the body, but really add "more" poison to the already laden blood.

BOILED AIR CANNOT PURIFY SOILED BLOOD.

Soiled air can no more purify soiled blood than soiled water can cleanse soiled clothes. There is one thing which can do it, and that is, "plenty of pure air."

ONE GALLON OF PURE AIR SPOILED EVERY MINUTE.

Now, the question is, how much pure air does it require to answer this purpose? You may have some idea of it, when you remember that an ordinary man spoils not less than a gallon of pure air every minute. This is sixty gallons an hour, or near five hundred in eight hours. In round numbers, about "twenty-five flour barrells of pure air are required in a single night, for breathing purposes alone."

A GAS-BURNER CONSUMES ELEVEN GALLONS A MINUTE.

Not only is the air of a room made impure by breathing, but it is made impure by the gas we burn as a light. It is estimated that an ordinary burner consumes as much air as eleven men would do—that is, one gas-burner in three quarters of an hour consumes as much air as would answer a man for a whole night.

STOVES CONSUME TWENTY-FIVE GALLONS A MINUTE.

If there is an ordinary stove in the room, it destroys as much air as would twenty-five men. All these things and estimates must be thought of when you hesitate sometimes about putting up or letting down a sash of lights a few inches.

If the house is an old one, there may be a "fireplace" in the room. If so, do not attempt to seal it up "because the air comes in," as it is just the thing you want, but leave it open, or at least the best part of it. If the house is a more modern one, there is perhaps a "flue;" if so, do not upon any excuse attempt to close it, but let it alone.

OPENING FOR VENTILATION TO COMMUNICATE WITH THE PURE AIR.

A great many persons have an idea that this letting in of pure air, or "ventilation," means raising a window a little from the bottom, or opening a door a short distance. They never mind much where the window or doors opens into—it is all the same, so they open somewhere. The idea is not correct. Ventilation not only means providing a means for the pure air to come in, but for the bad air to get out. This can usually be accomplished by drawing down the top sash a few inches, which will let the heated impure air out of the room, and by raising up the lower sash a few inches to let the fresh air into it. If you wish to know that the hot air really goes out at the upper opening, some time hold a lighted candle near it, when the blaze will be carried outward by the force of the escaping current; and if you will hold it to the opening below the flame will point inward from the current of cool air which comes from without. A more certain way to secure the proper amount of fresh air is to have an opening on opposite

sides of the room, so that the air will circulate through the chamber as much as possible.

Remember not to have the current play over the bed on which the person lies sleeping, as the person might catch cold.

PURE AIR—LITTLE RISK OF CATCHING COLD.

But if there is no other way, and some rooms are so constructed that no other means appear possible, it is better to open the windows, and scape the effects of the "draught" by putting an extra covering over the person. Should there not be two windows in the chamber—raise the only one you have and open the door a little. If no means suggests itself to you by which a desirable amount of pure air can be permanently secured, bear the matter in mind, and some day, when your physician comes in, ask him about it. Persons who habitually, sleep in such badly ventilated houses are seldom compelled to wait long for an opportunity to ask a physician such things, as it is to the occupants of these houses that he is most frequently summoned.

IMPORTANCE OF PURE AIR TO THE SICK.

If pure air, as above stated, is so important to people who call themselves in health, how much more important is it to those who are sick. Especially is it the case with those who have fevers, etc., which physicians now tell us are conditions of the system overcharged with poisonous materials, poisonous vapors, which, for some reason, have not been thrown out of the blood. Perhaps they were produced simply from the want of pure air. The lungs try to throw the load off, as can be detected by the heavy odour the breath has; the skin is trying to do the same thing, as you will see by the sticky, clammy feeling detected there; and a physician will see that a dozen different attempts are made in one place or in another, with the same object in view. These noxious materials, as they are cast off, tend to poison the air around, more and more; so we must assist nature in relieving the patient by keeping a constant supply of fresh air in the chamber where he lies. Not only do we assist in curing the patient, by carrying away these poisonous materials by plenty of pure air, but, at the same time, we greatly lessen the chances of other persons contracting the disease by breathing the concentrated poison.

PURE AIR DESTROYS IMPURITIES AS PURE WATER PURIFIES THE IMPURE.

If we add a pint of pure water to a pint of impure water, we dilute the impure water, and it is made that much the more pure. If we add a dozen pints of pure water to it, we dilute it still more, and bring it nearer purity yet; but if we add a certain number more, instead of the impurity becoming diluted, it is absolutely destroyed, and Dr. Letherby, of London, says that the water is perfectly pure. It is the same way with impure air. A certain quantity of pure air added to it dilutes the bad air and makes it less noxious, while if a certain quantity more is added, the impurity of the air is destroyed, as in the case with impure water.

Any person can judge of this from the good effect of much pure air upon bad air.

CONTAGIOUS DISEASES PREVAIL MOSTLY IN WINTER.

Most observers have noticed that certain contagious diseases, as Small-pox, Scarlet-fever, etc., are very apt to prevail during the winter. The reason of it is a simple one, and is because the poisonous or contagious principle is kept confined in the room from the fear of admitting the cold. It becomes so concentrated and virulent that it is capable of producing the disease in others. In warmer weather, this prejudice against the fresh air does not exist; the doors and windows are kept open, the fresh air enters in abundance, and dilutes the emanations so much that they lose their power to extend the disease. The diseases then cease until closed doors come again with the cold weather.

If pure air can do so much in the warm weather, it should be made to do as much for us at all times, and it will do it if we but give it the opportunity,

This is not only the case in low fevers, scarlet fever, etc., but the same principle holds true with most other diseases, so that the first thing and the last thing a nurse should do is this:

PRACTICAL DISINFECTION.

(From *Health and Healthy Homes.*)

Disinfectants may be described as agents which are intended to destroy the infective power of so-called disease-germs, or indeed of any decomposing matter, whether existing in air, water, or other substances, which tend to produce disease. Some of them act as deodorants by destroying offensive effluvia, or as antiseptics by arresting decomposition, or as destructives by their direct chemical action; and the most efficient amongst them are endowed with all these properties, though in varying degrees. It would be out of place here to weary the reader with a long list of the numerous substances which are recommended for purposes of disinfection, and I shall therefore only mention a few of the agents which have been proved to be of undoubted value in this respect. These are—fire, or dry heat, sulphurous acid gas, sanitas, Condy's Fluid, chloralum, carbolic acid, feralum, and chloride of lime.

While extreme cold prevents putrefactive change, and therefore acts as an antiseptic, extreme heat is destructive of all organic matter, and is therefore the most efficacious, as it is the most ancient, of all disinfectants. But even a temperature much below that of actual combustion is found to be sufficiently powerful, if continued for any length of time, to kill animal or vegetable germs, and to render inert any infectious matter. But the temperature ought not to be below 240° Fahr., and care must be taken that this temperature is actually reached by every particle of matter included in the heated space. What are called disinfecting chambers are now provided in most large towns, and they are so arranged that this temperature can be maintained for any desired length of time, so that

articles of clothing and bedding can be thoroughly disinfected in them and without injuring the material. In all localities, therefore, where such chambers have been provided, the householder should apply to the sanitary officials to have any articles disinfected which cannot be so efficiently purified by other means. In cases of malignant infectious disease, such as confluent small-pox, it is sometimes necessary to have the clothing or bedding destroyed by fire or disinfected and buried, but that is generally done by order of the medical officer of health.*

Sulphurous acid gas is the most convenient and efficient agent for disinfecting empty rooms after cases of infectious disease. The plan of procedure is as follow:—After recovery or death, the sick-room and its contents should be thoroughly fumigated by burning about a pound of lumps of sulphur in an iron or earthenware dish (or the lid of an iron saucepan), supported on a pair of tongs over a bucket of water. Before setting fire to the sulphur, the windows should be closed, and the fireplace or other crevices pasted over with thick paper, or otherwise made air-tight. The door should then be shut, and the room be kept closed for five or six hours. After which it should be freely ventilated, the paper, if any, removed, the walls and ceiling lime-washed, and the floor and furniture washed with disinfectant soap and water.

Disinfectants are not of much value to purify the air of the sick-room, but they are useful in removing unpleasant odours, provided they do not irritate the patient or disguise the signs of deficient ventilation. Chloride of lime or carbolic acid are not suitable for sprinkling about the room, because the odours given off by them are unpleasant; but sanitas or chloralum, or Condy's Fluid,† may be used with advantage. The discharges from the patient should be received in vessels containing either of these disinfectants or carbolic acid, and all bed or body linen should be received into a vessel containing water charged with sanitas, chloralum, or carbolic acid (about half a pint to two gallons of water), removed from the room, and afterwards boiled. Condy's Fluid and chloride of lime are both unsuitable for this purpose, because the former stains, and the latter injures, articles of clothing. The medical attendant or sanitary official will generally give instructions as to what particular disinfectant to use, and it is always advisable to employ one only, such as sanitas,‡ which can be used for all purposes.

GENERAL PRECAUTIONARY MEASURES.

When a case of dangerous infectious disease occurs or is suspected, a medical practitioner should be immediately sent for. No suspected case should be taken to a dispensary or hospital for advice from any house where dangerous infectious disease exists.

If the patient is not removed without delay to a hospital for infectious disease, by advice of the medical attendant, he should, if possible, be separated from the rest of the family.

No householder or employers of labor should send servants suffering from dangerous infectious diseases to their own homes, without rendering themselves liable to be prosecuted by the Sanitary Authority of the district.

If the disease happens to be small-pox, any unvaccinated, and all adults or children with indistinct vaccine marks, should be re-vaccinated.*

As a rule, a room at the top of the house makes the best sick-room, and this should at once be stripped of all carpets, curtains, or other needless draperies.

Persons in attendance on the sick should, by preference, wear cotton dresses, maintain scrupulous cleanliness, and should avoid, as far as possible, associating with others.

Disinfectants which have no unpleasant odour may be sprinkled about the room; but the best of all disinfectants for the air is free ventilation by open windows, and a fire if necessary.

All discharges from the patient, especially if the disease is typhoid fever, small-pox, or scarlatina, should be received into vessels containing some suitable disinfectant, as recommended, and should be removed from the sickroom without delay. In country districts it is advisable that they should be buried in a hole dug in the garden.

Soft pieces of rag should be used for wiping the mouth and noses of the patient when deemed necessary, and these should either be burned, or plunged into some vessel containing a disinfectant, and removed without delay.

All bed or body linen which has been in contact with the person of the patient should be received into a vessel containing water charged with a disinfectant, before removal from the room, and afterwards boiled.

All glasses, cups, or other vessels used in the sick-room should be scrupulously cleaned before being used by others.

If the disease is scarlet fever, the body of the patient should be rubbed all over with camphorated oil daily, so soon as approved by the medical attendant, and when the patient is able to take a warm bath, the whole of the body should be well bathed with water and some disinfectant soap. With the approval of the medical attendant, these baths should be continued every alternate day until such time as he may consider the patient entirely free from the disease, after which, and in clean clothes, he may be allowed to rejoin the family and go out of doors, but not till then.†

If the disease happens to be small-pox, the patient cannot be pronounced free from the disease until all crusts or scabs have been removed and the whole body

*The thorough disinfection of contaminated clothing, bedding, &c., by hot air is performed under the authority of Boards of Health in our large cities, and we hope will soon become general in America.

† Instead of purchasing this disinfectant in solution, it is better to prepare it when wanted, by dissolving one ounce of crystallized Permanganate of Potassa in a gallon of water.

‡ The carbolic acid solution above-mentioned is probably quite as efficient, and in some respect to be preferred.

* It is safer to re-vaccinate every person living in a house where small-pox exists, or exposed to the disease, even those who have distinct vaccine marks.

† Washing with carbolic-acid soap [or other disinfectant] should be particularly thorough among the hair of the head, eyebrows, &c., where flakes of epithelial cells, in the form of dandruff, freighted with germs of contagious disease, are especially apt to linger.

has been well bathed. Indeed, the patient should always be well bathed before putting on clean clothes, and especially if the disease is characterized by any eruption on the skin.

In case of death, the body should be enveloped in a sheet steeped and wrung out of some powerful disinfectant, such as carbolic acid, and buried without delay.

After recovery or death, the sick-room and its contents should be fumigated and disinfected, as previously directed.

Blankets, bedding, and woollen materials should either be sent to a public disinfectant chamber for disinfection, or they should be steeped in water charged with a disinfectant and boiled, and afterwards kept exposed to the outside air for some considerable time. The air of infected mattresses should be teased out, fumigated in the sick-room with sulphurous acid gas, and afterwards exposed to the air, if the mattresses cannot be disinfected in a hot air chamber.

All articles that cannot be properly disinfected should be burned, or buried in a hole dug in the ground with disinfectants thrown over them.

No clothes should be sent from any house where there is fever or infectious disease, to be washed elsewhere; nor if clothes are received to wash, should they be received if a case of illness of the kind exists in the house.

The greatest care should be taken not to allow any children belonging to a house where there is a fever or infectious disease to mix with other children, and the rest of the family should, as far as possible, avoid associating with others.

On no account should any child be sent to school from a house or family where fever or infectious disease exists.

The greatest care should be taken to remove all nuisances from the premises. filth accumulations of any kind should be tolerated, and disinfectants should be freely used for closets, whether inside or outside. Drains should be kept well flushed and disinfected. Above all, the water supply should be looked to if obtained from a private well.

Early information of every case of fever or infectious disease should be forwarded to the sanitary inspector of the district, who is generally authorized to order the supply of disinfectants to all who are too poor to buy them.

Although it may not be possible to carry out these precautions in all cases, it ought to be the duty of every responsible person to strive to do so.

(To be continued in our next.)

Members of the Canadian Sanitary Association must bear in mind, that this Health Journal is sent to them free, and that its continuation will entirely depend upon the support it receives from the Public. It is to be hoped that each member will endeavour to obtain additional members, so as to enable it to be published monthly. No Sanitary Association was ever before organized on such liberal principles, and it is open to all classes.

ACCIDENTS—EMERGENCIES—POISONS.

In 1874 a little work, under the above title, was written by an eminent physician of the Howard Institution of Philadelphia, U. S., for gratuitous distribution; and with that liberality for which the American race is so distinguished, a kind friend of his bore the expense of publishing.

It is our intention to make use of this work for the instruction of our readers—and if ever this journal should be seen by the author, we feel confident he will be gratified to find that in Canada, as well as in his own country, its merits are appreciated. We fervently hope that the dissemination of the information contained in it, accompanied by illustrations, will tend, in our own country, to mitigate unnecessary suffering, and contribute to save lives and restore to activity and usefulness many members of the community.

Mechanics and railway employees are particularly liable to accidents; to them the knowledge we furnish in this journal will doubtless be appreciated,—and every parent must feel, when he is perusing these columns, that he is receiving into his house a friend in need, to which he can refer in cases of emergency. Every teacher into whose hands this journal is placed must confess that it affords to him the means of practically teaching to his classes a knowledge of subjects of the greatest use in every day life, and in order to render such subjects of more general utility for school lectures, large illustrated sheets will be furnished at a small extra cost, to place on the black-board. We give the extracts in the authors own words:

Scarcely a month passes by, to many persons, without meeting somewhere, an accident or an emergency in which a little reliable information is not of the greatest service. One of the difficulties usually to be contended against in such cases is, loss on the part of the bystanders to know just what should be done. It will be found, as a rule, that the simplest things, usually the most useful, are neglected, while there is a disposition to rely upon cumbrous appliances, often of disadvantage, and sometimes, positively hurtful.

The object of the writer of the pamphlet was to present in a compressed form, for easy recollection and ready reference, a few suggestions as to what should be done in certain cases of emergency, until the arrival of skilled professional assistance. It is not saying too much, perhaps, that what is to be done to give relief or save life, in the greater number of cases, must be done by some one else before the aid of a physician can be procured. It has been truly said, "for want of timely care, millions have died of medicable wounds."

As far as possible the use of technical terms are omitted, although where necessary they will be used

with a brief definition enclosed in brackets; but the writer would respectfully suggest that whenever possible the scientific terms should be remembered and used, instead of the popular expressions for the same thing. A scientific term the world over means but one thing, while a popular expression in one place, means one thing, and in another, two or three things; and, possibly, nothing at all.

ACCIDENTS IN GENERAL.

An accident anywhere, if there are people about, assembles a crowd around the victim. The first thing to be done is to disperse it; or, at least, get the people to keep away from the injured person. A space of at least ten feet on every side should be kept wholly free from every body except the one or two in charge of the operations for relief. If others are needed for a moment, to assist in some special duty, as lifting, removing of dress, etc., they can be specially selected from the crowd; and, having been of service, can immediately return where they came from. In several instances the writer has seen a person just removed from water, or gas, so closely surrounded by a dense mass of "relatives" and "friends," that it was impossible for the physician to freely use his arms. The kindest thing a bystander can do, is to insist upon a free space as large as suggested, and select from the crowd persons to hold themselves in readiness to start for whatever the physician or individual in charge of the case may require. To show how little real interest the inside layer of the crowd usually takes in the restoration of the patient, it will often be found that it is almost impossible to get one of them to run an errand in the interest of the sufferer.

If the person has been thrown from a carriage, injured by a fall from a height, blow or other cause; while there may be no fracture, or other external injury evident, the nervous system has received what is called a "shock." As is commonly said, the person is "faint."

A person situated with such symptoms, should if possible, be placed flat on the back, with the head, neck, and shoulders slightly raised. The limbs, at the same time, should be straightened out, if practicable; so that the heart, already depressed in action, may act at as little disadvantage as possible. The cravat, collar, and everything else calculated to in any way impede the circulation toward the head, or the movements of the chest, should be loosened or removed. If the injury is slight, reaction will soon come on after giving the person a sip of cold water; brandy and water (teaspoonful in a tablespoonful of cold water every couple of minutes); or Aromatic Spirits of Ammonia (twenty drops in a tablespoonful of cold water) every couple of minutes. Gentle frictions to the extremities, a few drops of cologne water on a handkerchief to the nostrils; if the weather is hot, the use of a palm-leaf fan; hot flannels to the limbs and epigastrium (pit of the stomach); are all likewise useful in assisting reaction.

By this time should a surgeon have arrived, he will examine and decide upon the special nature of the injury, and inaugurate measures of special relief.

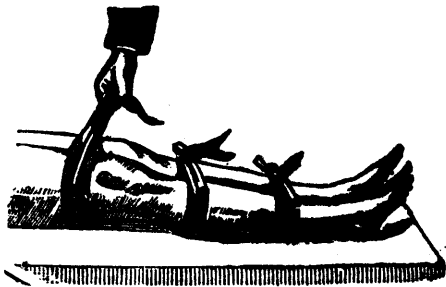
Should he not have appeared, and it is thought best to remove the patient to the hospital, or his home, a stretcher should be secured, or a substitute, in the shape of a settee or shutter, provided. The injured person should then be gently slipped on, seeing that the body is supported as much as possible along its length, something being thrown over or held over the face, to prevent, as much as possible, the uncomfortable feeling of being stared at in passing along. Four persons of uniform gait should then gently lift the stretcher and slowly carry the person to his destination. In all cities there should be appliances for carrying injured persons and should be kept at the station houses, and be obtained, on application, as well as the services of a good policeman. The authority of the latter is almost invaluable in keeping away the crowd referred to, and in securing useful attention in conveying the person through the streets. If the person is to be taken to the General Hospital, a dispatch from the Station House will secure, free of charge, an ambulance with competent persons to take charge of the injured individual.

FRACTURES, DISLOCATIONS AND ACCIDENTS.

It is often evident to a bystander that a fracture or dislocation exists, without knowing what can be done in the interval which must elapse before the arrival of competent professional assistance. Of course no one but a very ignorant and bold man would attempt to do more than make the sufferer comfortable in the meanwhile.

In instances of suspected fracture or dislocation of the lower extremity, the injured parts should be placed in a comfortable position, and as well supported as possible, to prevent the *Twitchings* of the leg from the spasmodic action of the muscles of the injured extremity. If necessary to remove the patient to his home or the hospital, from the spot where the accident happened the arrangement of the limb should be made after he has been placed on the stretcher or substitute.

If found necessary to carry the injured person some distance, and a litter for the purpose cannot be had, the arrangement of the fractured limb against the other, and kept there by handkerchiefs, as shown in the cut is often of great comfort to the sufferer.



If the general character of the injury is evident, in sending for the surgeon it is best to tell the messenger, so that, as far as possible, the necessary appliances can be provided before leaving the office.

In the meanwhile, under no circumstances should the bystanders be permitted to handle the affected part beyond what is absolutely necessary. As a general rule, a much longer time than it commonly supposed, by most people, may pass between the occurrence of the accident and the arrival of the surgeon without serious injury to the patient or ultimate disadvantage to the fracture. Many persons, thinking that the broken bone must immediately be "set," are apt to accept the services of the first person arriving asserting himself qualified to do it. Such an individual necessarily makes a more painful examination than is necessary, applies the splint—perhaps not at all the most useful—which the surgeon, arriving later, is obliged, out of consideration for the condition of the sufferer, to acquiesce in.

If the injury is to the upper extremity, the part should be placed in a supporting sling, and kept in a comfortable position.

WOUNDS.

For systematic study, wounds may be classified according to their direction, or depth, or locality; but for our purpose they may arranged after the mode of their infliction: 1. Incised wounds, as cut or incisions, including the wounds where portions of the body are clearly cut off; 2. Punctured wounds, as stabs, pricks, or punctures; 3. Contused wounds, which are those combined with bruised or crushing of the divided portions; 4. Lacerated wounds, where the separation of tissue is effected or combined with tearing of them; 5. Poisoned wounds, including all wounds into which any poison, venom, or virus is inserted.

Any of these wounds may be attended with excessive "hemorrhage" or "pain," or the presence of "foreign matter." As all wounds tend to present several "common" features, a few words will be said about them before describing the distinctive characteristics of each.



The first is hemorrhage (bleeding). This depends, as to "quantity," upon several condition, the chief of which is the size of the "blood vessels" divided, and, to a degree, upon the "manner" in which it has been done.

A vessel divided with a sharp instrument presents a more favorable outlet for the escape of blood than one that has been divided with a "blunt" or serrated in-

strument, or one that has been "torn" across. Except in the first named, the minute fringes or roughness necessarily left around the edges of the vessel at the point of division "retard" the escape of blood, and furnish points upon which "deposits" of blood, in the shape of clots, can take place. Hence, all other things being equal, an incised wound is usually attended with more "hemorrhage" than contused or lacerated wounds.

Personal peculiarities of the patient, and the health or disease of the wounded part of the body, may exert much influence upon the hemorrhage. Usually it ceases in a short time by the coagulation (clotting) of the blood in the severed extremity of the vessel, without further attention than the application of cold, which favors "contraction" of the blood vessel divided, as well as those leading to the injured part. Should an "artery" or branch have been divided (indicated by a "spurting" of a spray of bright blood at each beat of the heart), the bleeding may not cease at once. To stop it, the firm pressure of the finger for some time to the point of division, should be used, to diminish the size of the vessel at that point, until a clot is formed there.

Sometimes, pressure to the supposed seat of the injured vessel does not "reach" the artery. In such a case the pressure must be used to some known trunk



between the original supply of the blood and the injured branch. Thus, if the finger or the toe is the seat of the arterial hemorrhage, firm pressure applied each "side" of the finger, close to the hand (as in the cut), or 'toe, close to the foot, compresses the arteries passing along to be distributed to the extremity. If the hand or foot is the seat of injury, pressure on the wrist, over the point where the artery is felt for the "pulse," or at the inside of the ankle, will materially retard the passage of the blood beyond those points. Should pressure by the thumb at these suggested points not answer the purpose, the main trunk of the artery, higher up, should be compressed by a tourniquet. Before this is done, it is always well to place the person injured flat on his back, and his hands in a perpendicular position for a time as the heart will then be unable to throw the blood with its usual force to the extremity. Pressure applied by the fingers, with broken ice in a towel bound round

the arm, in conjunction with the elevation of it, will often stop the hemorrhage, or retard it, until professional aid is secured. If the foot is the seat of the injury, elevate the whole limb in the same way, applying pressure and pounded ice on the same principle.

In wounds of the scalp there is usually much loss of blood, owing to the abundant blood supply of that part. The firm skull below offers a good point for pressure, and the vessel rarely fails to be compressed if the thumb is applied over the point of division of the severed vessel.

The amount of blood actually lost is apt to be much over-estimated. Quite a small quantity will seem "a half pint" if distributed over the clothing, and a gallon of water requires no great amount added to it to give it quite a blood-red colour. It is estimated that about one-eighth of the weight of the entire human body is blood; in other words, the quantity of blood in a human body weighing 144 pounds would be about 16 or 18 pounds. Of course, this amount, nor half of it, perhaps, can be withdrawn from the vessels without fatal results; but it is merely mentioned to show that the entire quantity asserted to exist by physiologists is much larger than is popularly supposed. When hemorrhage from a divided blood vessel is seen, there is usually much more apprehension and excitement about it than is warranted.

This figure shows the method of exerting pressure by



NOTE.—The arm and fore-arm with dotted lines, indicate the course of the arteries, and points at which pressure can be most judiciously applied.
The arrow points the course of the current of the blood of the artery, from the heart to the extremities.

the fingers along the course of the brachial artery; between the divided vessel and the heart.

If the wound should be in the arm, above the point indicated by the fingers, or in the axilla ("arm-pit,") pressure could be made by the thumb, a blunt stick, properly protected, or the handle of a door key upon the sub-clavian artery, which passes, as the name suggests, along under the clavicle "collarbone" and down the arm, where it is called brachial artery—just spoken of. Further down the arm at the elbow, this vessel is sub-divided into two others, each following a bone of the fore-arm to the wrist, over one bone, near the surface, the pulsation of the heart is sought by the finger of the physician.

Permanent pressure being exerted by means of a temporary tourniquet to the brachial artery spoken of previously, a common folded handkerchief, with a firm, sharply-defined knot tied at the middle, a long strip of muslin torn from a shirt sleeve, or a suspender, with a suitable knot in it, is rather loosely tied around the arm, and the slack taken up by twisting with a cane or stick until the knot, kept over the vessel, exerts enough pressure to prevent the passage along it of the blood.

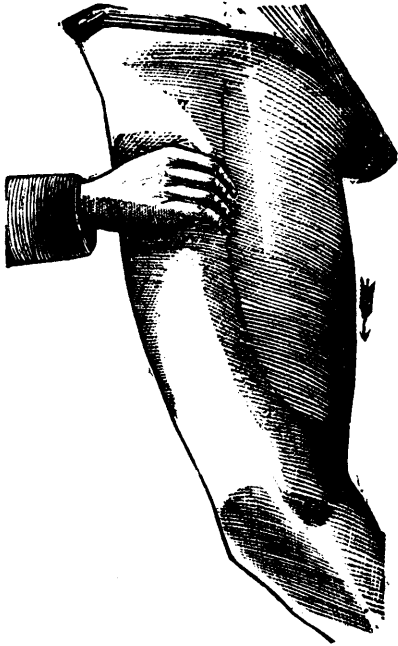
This is easily done if you proceed to it quietly, without talking; especially if previously practiced once upon the extremity of a friend.



Sometimes it is easier to find the artery nearer the surface, at a point along the dotted line, or a little higher up towards the groin. The two thumbs placed together furnish firm resistance, and a blunt stick, suitably protected, will often answer to keep up the pressure until a tourniquet can be extemporised.

The muscular condition of the entire leg does not permit the pressure of the fingers to be as successfully exerted along the main arteries, as in the case of the arm just spoken of.

The other cut presents the tourniquet made as directed, by getting a large firm knot in a handkerchief, or anything else of the kind. A small pebble has often been



THE METHOD OF EXERTING PRESSURE BY THE FINGERS ALONG THE COURSE OF THE FEMORAL ARTERY, BETWEEN THE WOUND AND THE HEART.

introduced for the purpose, with the knot, with success. Twist the ligature with the leverage obtained by passing under it a cane or stick.

Get the knot over the artery—keep the knot there, and tighten until the pressure of the knot closes the vessel.

It is much easier done than imagined, especially if the individual has some day spent three minutes practising the preparation of the ligature, and its application over the course of the artery.

There is no necessity for the alarm shown, especially as it obscures the judgment of those who, if they would but reflect a moment, could much serve the interests of the sufferer by keeping cool and collected.

Pain it may be said accompanies all wounds, for it is almost impossible to sever a blood vessel without severing nerves. It is usually much less severe than might be thought, and as little can be done immediately to relieve it, other prominent features of wounds in general will be spoken of.

Fainting after severe hemorrhage, or in "nervous" persons, frequently requires attention, after the loss of blood has been placed under control. Often it is due to the sight of the blood, and an undefined apprehension as to the extent of the injury on the part of the wounded person. The latter feeling is partly derived

NOTE.—The thigh and groin, with dotted lines, suggest the course of the large artery, and point at which pressure can be most successfully used.
The arrow indicates the direction of the blood of the artery from the heart to the extremities.

from the excited and frightened appearance of those about. A person with a wound attended with hemorrhage, ignorant of the extent and consequences, seeing his friends, upon whom he must rely for succour, in such a state of alarm that he can expect little real aid



from them, cannot be said to be in a comfortable state of mind, and is apt to faint.

The symptoms of fainting are too well known to need description here. The person suffering from fainting should be placed on the back, if possible, the head slightly raised, if at all, obstruction to the circulation in the shape of the cravat, or collar removed, and any obstacle to perfect movement of the chest likewise dispensed with. For an adult, a teaspoonful of brandy in a little water may be given every few minutes, until consciousness and restored action of the heart is observed. Twenty drops of Aromatic Spirits of Ammonia, in a teaspoonful of water, say every five or ten minutes, is quite as useful, but not always as easily secured.

"Too much" stimulation in such a case might do harm by causing the heart to send the blood with such force as to disengage the little clots spoken of at the divided extremity of the vessel.

If the loss of blood has been great, or the condition of the patient before the receipt of the injury such the injury cannot be rapidly restored, the fainting may not rapidly or completely disappear. In such cases, beef tea and easily digested nutritious food, and even tonics, will probably be recommended by the medical attendant.

Foreign matters, such as have been introduced into the wound at the time of the injury or subsequent to it, of course should be carefully removed.

Having thus referred to certain features, "common" to most wounds, the special, and what may be called the "distinctive" points of each class, according to the arrangement herein adopted, will now be given.

(To be continued in our next.)

EXERCISE AND HOME GYMNASTICS.

In our next number we shall give illustrations of gymnastic contrivances which can be fitted up in any house at a trifling cost, and which will serve the purpose of exercising and strengthening the muscles and improving the health of children just as well as the apparatus used in a gymnasium. We shall also afford much*useful information for the Home Circle, which we have been unable to give for want of space in the first number of this journal.

EDUCATIONAL NOTES.

There is no class of educated men, not even excepting physicians, who have it so much in their power to educate the people to the knowledge and value of Hygienic laws, and their practical application, as the Instructors of our children. That which is taught in youth, and taught *knowingly*, will become indelibly fixed upon the mind, and the habits of cleanliness inculcated by precept, encouragement and example, will do more towards improving the health of coming generations, and to suppress zymotic diseases, than any other means that we could devise. We, therefore, earnestly solicit the co-operation of the EDUCATIONAL CORPS of the country, and in return, we will do our best to make our Journal interesting to the Teacher of every school, by affording a few columns in each number of Educational Notes.

FROM THE NEW ENGLAND JOURNAL OF EDUCATION.

THE HOW.—We have too much form, too much red-tape, too much this-and-no-other way of doing things in our schools, What the youth, preparing for manhood's duties, wants, is the quickest, surest *how*. The teacher who fails to give this is not a success.—*N. W. Missouri School Journal*.

SCHOOL PHYSICIANS.—Ought not every municipality to have its skilled physicians, or board of physicians, whose duty it should be to enforce the simple laws of health in the schools, and to relieve from the severities of school discipline all who have not the bodily strength to withstand them?—*Buffalo Courier*.

TEACHING RATHER THAN METHODS.—Prof. Sumner thought the everlasting talking about methods of instruction amounted to nothing. What was wanted was real practical work in the school. The way to improve the schools was not to go to the legislatures nor to get the college professors to help

them out. His private opinion was that the method of instruction in the colleges were not so good as those in the common schools. The teachers should depend on themselves. He thought that the dry-rot had got into the common schools in the rural districts. There is indifference, there is bigotry, there is jobbery in the rural schools.

MANUAL TRAINING.—The argument of utility is not all that should be advocated, but the argument that there is need of a broad, liberal education. A boy who goes to college will do well to take a preliminary course in some school of the manual arts. There, powers that have been lying dormant will be brought out. He will be occupied with realities, not with abstractions. He will be shaped and moulded. The fundamental principles applicable in many trades should be learned. Every piece of work undertaken is chosen with reference to its educational value, not its commercial value.—*Edwin P. Seaver, Boston*.

THE COMING SILENT PLAY-GROUND.—We often pass an admirable graded-school building, situated in the finest and largest school-lots; and yet so far as the children get any good from the excellent yard, they might as well have no yard at all. No playing, no running, no recess. The passer-by may chance to hear the hum of voices during a whispering recess. He will hear nothing else. No merry shout; no earnest struggle on the play-ground, no healthy glow and quickened pulse as recess is ended. It is a delusion against which every parent ought to protest.—*Schoolmaster*.

THERE ARE TWO KINDS OF EDUCATION,—that which merely polishes, and that which furnishes a cutting-edge. The demand in our day is for education which takes hold on life, which imparts power. Whatever studies impart power, whether they be scientific, philosophical, linguistic, or mechanical, belong in the curriculum. Some men come out of college like a metal disc; they are beautifully rounded and polished, but they will not cut. Others are like a circular saw: they have the roundness and the polish, but they have also teeth well set and sharpened, and, when they are put on a mandril and set in motion, they will cut their way through any amount of timber.—*Christian Register*.

UTILITY OF SCHOOL RECESS.—As the boy is father to the man, so the play-ground is the antecedent of the future society of the town or ward, and upon the play-ground, more than in the school-room, the leaders of the future are made; there the

boy must learn, if he ever learns it, how to lead, control, and master the others,—boys to-day, but men to-morrow. The school-room is an autocracy, with the teacher for autocrat and the pupils for subjects, but the play-ground is pure democracy; there each, in proportion to his strength, dexterity, and skill, is equal to any other; there the egotist learns his insignificance, the rude boy gets his first lesson in common courtesy, and there the bully learns that his ways are not approved.—*Prof. J. Carter.*

INDIVIDUALITY.—The teacher has to do with individuals with every variety of temperament, unequal in their previous training and their individual capacity. Every man has a way of his own of looking at truths; no matter what he teaches, he has all the incitement to which he can respond to bring to the mind of the pupil the contents of the text-book. And here he has an unlimited opportunity for skill, individually, and invention. The more ample all the apparatus which is put under his hand, the greater demand upon his genius. He must excite the various dispositions of his pupils to interest. It is often a work of years to obtain the power of doing this. The perfection of what is called German teaching is the arousing of the whole class to an excited interest, all attent, all on the alert, ready to hear, and more ready to be heard,—*Prest. Noah Porter.*

ELEMENTARY TEACHING.—There are a great many people who imagine that elementary teaching might be properly carried out by teachers provided with only elementary knowledge. Let me assure you that that is the profoundest mistake in the world. There is nothing so difficult to do as to write a good elementary book, and there is nobody so hard to teach properly and well as people who know nothing about a subject. That is why, to be a good elementary teacher, to teach the elements of any subject, requires most careful consideration, even if you are a master of the subject; and, if you are not master of it, it is needful you should familize yourself with so much as you are called upon to teach,—soak yourself in it, so to speak,—until you know it as part of your daily life and daily knowledge and then you will be able to teach anybody.—*Prof. Huxley.*

OUT-DOOR GAMES.—It seems to us perfectly within the appropriate sphere of the managers of school to consider this subject, and give such intelligent oversight and direction as its importance demands. Children do not naturally play by rule; but they will play those games for which provision is made

and toward which they are led and guided by sympathetic management. The inquiry should at least go so far as to determine what constitutes a desirable game for out-door exercise. Without doubt the prime requisite, is that it should be attractive. In every school there are some pupils whose joyous spirits prompt them to the necessary physical exercise. These arouse no solicitude on their behalf, unless it be to restrain. But there are likewise others whom the pressure of our educational system will force into sedentary habits. These need a strong out-door attraction. The effect upon these overstudious ones is the crucial test of the game and its attractiveness. From the ranks of these people too busy to take needful exercise, come most of the recruits for the invalids corps.—*Student.*

—It cannot be often said, that any cultivation of mind at the expense of bodily development is a sin against childhood. Children are sent to school at altogether too early an age, and boys and girls are confined to their tasks, out of the pure air and the bright sunshine, too many hours of the day. The causes are apparent: convenience of parents, examinations by school authorities, and the pride of teachers. But the question put by a speaker at a convention in Arkansas is to the point: "Is it right, and is it reason, that we should spend all of these days and hours given to school-work in producing a mechanism of the greatest delicacy, the highest complexity, of infinite value, and then send it out in a shell of glass to be dashed to pieces by the first rude shock from exposure, disease or accident?"

—'If, in reading, the child has got the idea, then the expression of it will take care of itself,' is a remark we often hear from the more radical of our educational reformers; indeed the current, at present, seems to be setting against any "elocutional" teaching in the schools. We have never quite believed that he who best appreciated the thought of an author could always best present that thought to the listener in speech. Many a pulpit orator, able in thought, as acknowledged his obligations to the professional elocutionist, who was far below him in intellectual worth. The ability to read, as one of our English contemporaries has it, and the ability to read well aloud is due to the possession of a natural gift as much as the ability to excel as a musician or a painter. It requires delicate taste, quick perception, and a musical voice. Indeed, it will be found that, as a rule, the same mental qualities that give proficiency in drawing and music are essential to success in reading.

—A London journal, speaking of the influence of examinations in the English schools, has this to say: "One of the evil results of the system of examinations, which has been in vogue during the past twenty years, has been the adoption by teachers of methods calculated to inspire many of their pupils with a distaste for books of any kind, so that, once free from school, they have no desire to adopt a course of profitable reading." One of the strongest things to us is that the examiners of our schools do not see that any judgment of a teacher based on the ordinary examination is deceptive and productive of the poorest kindest of teaching. The truth is, that, so far as children are concerned, the examination can test little else than the memorized knowledge. The narrower the teaching, therefore, up to a certain point, the better the examination. The true test of a lady teacher of little ones is her methods, her appearance at her work, and the kind and degree of her influence over those in her charge.

—Many a boy, says a writer in the *Philadelphia Teacher*, gets to himself a bad name because of the rapidly-developing faculties within him which are seeking employment. Much of what passes for juvenile depravity may be easily accounted for. Mischievousness is not meanness; it is misdirected energy. Intentional wrong-doing is generally the farthest from the boy's thought. The force of temptation and impulse overcomes his own choice and power of resistance, while the imprudence, ill-temper or reckless haste of the teacher sometimes prompts him to make an example of such an unlooked-for infraction, lest advantage be taken of it to overthrow good order. This is an enormous blunder, and cannot be easily excused. The evils of the human heart cannot be cured by harshness; what your boy needs is fair play. What most people of older growth need is more of kindness and forbearance. If a boy has lost his rank among the pure and good, win him back again. He cannot be forced to change his desires, Repression will most likely drive him beyond the power of your influence. but he will take pride in earning his way back to a forfeited place in good society.

Members of the Canadian Sanitary Association must bear in mind that this Health Journal is sent to them free, and that its continuation will entirely depend upon the support it receives from the Public. It is to be hoped that each member will endeavour to obtain additional members so as to enable it to be published monthly. No Sanitary Association was ever before organized on such liberal principles, and it is open to all classes.

DOMESTIC ITEMS.

HINTS FOR HOUSE-CLEANERS.

We give below a few hints which may prove useful to housekeepers:

Soot falling on the carpet from open chimneys, or from carelessly handled stove-pipes, if covered thickly with salt, can be brushed up without damage to the carpet.

A little spirits of turpentine added to the water with which floors are washed, will prevent the ravages of moths.

When carpets are well cleaned, sprinkle with salt and fold; when laid, strew with slightly moistened bran before sweeping; this, with the salt, will freshen them wonderfully.

Fuller's earth, mixed to a stiff paste with cold water spread on the carpet, and covered with brown paper will in a day or two remove grease spots; a second application may be necessary.

Spirits of ammonia diluted with water, if applied with a sponge or flannel cloth to discolored spots in carpets or garments, will often restore the colour.

A paste made of whiting and benzine will clean marble, and one made of whiting and chloride of soda, spread and left to dry (in the sun if possible) on the marble, will remove spots.

Paint splashed upon window-glass can be easily removed by a hot solution of soda.

Use kerosene and bath-brick or lime, to scour zinc, tin or copper; wash in hot suds, and polish with dry whiting.

To give glass great brilliancy, wash with a damp sponge dipped in spirits, then dust with powdered blue or whiting, tied in a thin muslin bag, and polish with chamois cloth.

A flannel cloth dipped in warm soapsuds, then into whiting, and applied to paint, will instantly remove all grease and dirt. Wash with clean water, then dry; the most delicate paint will not be injured, and will look like new.

One pound of copperas dissolved in one quart of boiling water will destroy foul smells. Powdered borax scattered in their haunts will disperse cockroaches.

Plaster of Paris mixed with gum arabic water makes an excellent white cement, but must be used immediately, as it hardens quickly. A mixture of five parts gelatine to one of acid chromate of lime, applied to broken edges, which should be pressed together and exposed to the sunlight, makes an insoluble cement.

To whiten walls, scrape off all old whitewash, and wash the walls with a solution of two ounces of white vitriol to four gallons of water. Soak a quarter of a pound of white glue in water for twelve hours; drain and place in a tin pail, cover with fresh water, and set the pail in a kettle of boiling water. When melted, stir into the glue eight pounds of whiting, and water enough to make a mixture as thick as common whitewash. Apply evenly with a good brush; if the walls are very yellow, blue the water slightly by squeezing in it a flannel bag containing some powdered blue.

To clean matting, wash with a solution of one pint of salt to four gallons of water, and wipe dry immediately.

To clean oilcloths, wash always with warm milk. Once in six months scrub with hot soapsuds, dry thoroughly, and apply a coat of varnish. They will last as long again.

A little kerosene added to stove-polish improves the lustre. Apply while the iron is warm.

To remove spots from furniture take four ounces of vinegar, two of sweet oil, and one of turpentine; mix and apply with a flannel cloth.

Gum camphor wrapped in paper and laid around sugar barrels will disperse ants.

RHEUMATISM.—A correspondent says,—By all means try a purely vegetarian diet—that is if you want a thorough cure, and not a “patch up.” I know numbers who have been perfectly cured by a vegetarian diet. I have been myself a strict vegetarian and abstainer from all drinks except water for three years, and the result is perfect health, the experience of hundreds of others who have tried this mode of diet. Don't be influenced by others who have never given it a fair trial. A three months' trial of vegetarianism and you will never again know the agonies of rheumatism.

HYGIENIC BISCUITS.—An exchange gives a receipt for making a biscuit which shall accord with advanced hygienic ideas concerning the composition of flour, &c. On a baking board put two pounds of oat meal and two pounds of whole wheaten flour, ten ounces of good salt butter, one-half ounce carbonate of soda, one-fourth ounce tartaric acid, and four ounces of sugar. All should be weighed carefully; the butter should be the best that can be procured, and the soda should never be used without the acid. Mix all together. When the butter has been well rubbed into the flour, add buttermilk; mixing with the hand till of a pasty consistency. Knead just as little as possible, to keep the dough light. Roll out; cut with a biscuit-stamp to the required size, prick with marker, and fire in a moderately quick oven. In the absence of a stamp cut with a lid; and if no marker is at hand use a common fork. In rolling out the biscuits little or no fresh flour should be used; otherwise the brownish colour of the biscuit will be lost. When firing in the oven, biscuit trays should be used. Any wireworker will make one. If these directions are followed, a most palatable, agreeable, and nutritious bread will be produced. If cooled in an open basket, and afterward stored away in tins, these biscuits keep sweet and short for a considerable period.

POULTICES.—The common practice in making poultices of mixing the linseed-meal with hot water, and applying them directly to the skin, is quite wrong, because, if we do not wish to burn the patient, we must wait until a great portion of the heat has been lost. The proper method is to take a flannel bag (the size of the poultice required), to fill this with the linseed poultice as hot as it can possibly be made, and to put between this and the skin a second piece of flannel, so that there shall be at least two thicknesses of

flannel between the skin and the poultice itself. Above the poultice should be placed more flannel, or a piece of cotton wool, to prevent it from getting cold. By this method we are able to apply the linseed-meal boiling hot, without burning the patient, and the heat, gradually diffusing through the flannel, affords a grateful sense of relief which cannot be obtained by any other means. There are few ways in which such marked relief is given to abdominal pain as by the application of a poultice in this manner.

VENTILATION OF CUPBOARDS.—The ventilation of cupboards is one of those minor matters that are frequently overlooked in the erection of houses. While the want of a thorough draft is apt to make itself unpleasantly apparent to the smell. The remedy of the defect is, however, very simple; if possible, have perforations made through the back wall of the closet, and a few in the door; when the wall of the closet cannot be perforated, bore holes freely on the top and bottom. To prevent dampness, with the accompanying unpleasantness and injurious effects of mildew in cupboards, a tray of quicklime should be kept, and changed from time to time as the lime becomes slacked. This remedy will also be found useful in safes or muniment rooms, the damp air which is often destructive to valuable deeds and other contents.

KEEP THE HEAD COOL.—An interesting paper was read at a recent meeting of the Royal Society on “Experimental Researches on the Temperature of the Head,” in which the writer, Dr. Lombard, showed that mental activity will at once raise the temperature of the head, and that merely to excite the attention has the same effect in a less degree. This is a curious result, as appearing to show that anything of the nature of volition involves a waste of nerve tissue which is not involved in voluntary perception and observation. There is no difference, we believe, between the temperature of the sleeping body and that of the waking body, or between that of the waking body and that of the head, so long as no act of effect is involved. But if even the least intellectual effort raises the temperature of the head above that which it reaches in amused and idle observations, it would seem to show that there is a waste involved in volition which belongs to no so-called “automatic” action of the mind. And that is itself a fact of no slight significance.

HOW DIPHTHERIA WAS SPREAD.—A few weeks ago a little girl, who had just recovered from diphtheria, was taken by her parents to visit a family in a neighbouring town. She slept with the children in that family, and shortly afterward three or four of them were taken with the malady, and some have since died. The family permitted relatives and neighbours to visit them, and the result is several cases in the neighbourhood. They had public funerals, even keeping the remains of one child an unusual time, waiting for another to die, so as to bury them together, and this also spread the contagion. The physician was not powerfully impressed—as some physicians are not—with the contagious character of the disease; therefore, he did not

take the necessary precautions for the protection of the neighbourhood or of his own family, and the result is that one of his own children has died and another is dangerously ill. A lady who went to one of these houses to robe the victims for the grave has called at houses in the vicinity where there are children, without any change of her garments or any attempt at disinfection, and has fondled the children in those families, apparently in utter ignorance of the danger to which she was exposing them.

CELLARS.—There are hundreds of houses in the country that are built over dark, noisome holes full of dampness, impure air, decaying vegetables, and rotting timbers. The holes in the ground are called cellars, but they are so unsuited for the purpose which they are designed to serve, that they deserve rather to be called "death-traps." Light is as essential to the healthfulness and purity of a cellar as it is to the dining-room or parlour. The requisites of a good cellar are freedom from dampness, light, and a temperature low enough to prevent decay, and there is no difficulty in securing these conditions if cellars are only constructed above ground. Dark, close houses are notoriously unhealthy, and every possible device is resorted to to light and admit air-currents in them; yet we see cellars that are a hundred times worse than the darkest of houses left without light or ventilation, to breed germs of disease and death. All houses require cellars, both for the storing room they afford and their contribution to the comfort and health of the dwellers; but there is no reason why sanitary law should be set at defiance in their construction, neither is there any necessity for groping about in darkness, and, besides, when light is admitted there is an immunity from the danger of fire which attends carrying a light into the darkness, and which, from accident or carelessness, results sometimes in a disastrous fire.

INFLUENCE OF EXERCISE ON THE LUNGS.—One of the conditions of perfect health is physical exercise. In its absence the whole system suffers deterioration and falls short of that development which is necessary to the vigorous action of the different organs. More than any organ, however, do the lungs suffer; and it is not difficult to explain why. In order that an organ should be well nourished, it is necessary that it should be abundantly supplied with blood, and one of the agencies which play an important part in propelling the blood through arteries and veins is muscular contraction. The alternate contraction and dilation of the muscles forces the blood along the vessels. When a person is exercising vigorously, the respiratory movements become greatly increased, the air vesicles become dilated, the blood through the minute capillaries which constitute a portion of their structure, and the lung tissue receives the nourishment which it requires, and what is necessary to its integrity and efficient action. From insufficient bodily exercise, then, the lungs suffer in two ways—viz., for want of sufficient blood to nourish them and for want of necessary expansion. The result is that the lungs, more

frequently than any other organ, become affected in those who lead inactive lives. This fact makes it incumbent on all, and especially on those who have weak lungs, to spend a portion of each day in vigorous physical exercises. We mean by this exercise which calls into vigorous action all the muscles of the body; exercise which causes the skin to glow and the perspiration to start. Two hours of this kind of exercise each day is not too much; and it should be performed, when possible, in the open air. A celebrated French physician says that a person, to be healthy and strong, should exercise to the point of perspiring every day.

CONTAGION IN CARPETS.

Sewerage in these days is receiving a fair share of public and private attention, and the walls of houses, where contagious diseases have been, are very generally cleaned, whitewashed, or newly papered; but carpets are too often overlooked as the carriers of disease. The truth is that they, more than any article of furniture, more even than the walls of the room, gather and retain dust; and this dust, though chiefly inorganic and comparatively harmless, contains organic germs, which only need to be raised into the air and taken into the human economy to develop into active disease, creating, under favourable circumstances, an epidemic. Dust usually considered as comparatively harmless, is a most fruitful source of catarrh and consumption. The irritation of the mucous membrane of the nose, throat and lungs, becoming chronic, leads to serious disease, that undermines health and destroys life.

Many women say: "If it were not for the sweeping of my carpets I could get along with housekeeping very well." Many women know from experience that sweeping is one of the great trials of the housekeeper's life, and that it causes much of "the weakness" among women. "Fore-warned is to be fore-armed." When we see the need of change, we are ready to accept the better methods. What shall these better methods be in relation to carpets and disease?

How easy carpets may convey contagion was proved by a case quoted by Prof. Tyndall, when he showed that a case of scarlatina, which was supposed by the physicians to be sporadic, was not so, but obtained by contagion. He said: "The question arose, How did the young lady catch scarlatina? She had come on a visit two months previously, and it was only after she had been a month in the house that she was taken ill. The housekeeper at once cleared up the mystery. The young lady, on her arrival, had expressed a wish to occupy a nice isolated room. In this room six months previously a visitor had been confined with an attack of scarlatina. The room had been swept and white-washed, but the carpets had been permitted to remain."

DANGER OF FLIES IN THE EAR.—Dr. A. J. Pedlor, of Truckee, Cal., writes to the *Pacific Medical and Surgical Reporter* a description of a case which fortunately is of rare occurrence. He says: On the 11th of June, I was consulted by John R., a stock drover, who complained of excessive pain and violent noise in his left ear. He

said, "A fly entered my ear five days ago, but I got it out in *two minutes*." Ten hours after removing the insect, pain set in and rapidly increased. The old-time remedies of filling the ear with warm water, oil, &c., failed to remove anything, and gave no relief. Inserting a speculum, and illuminating the ear with a Troeltsch mirror, the cause of his suffering was plainly visible. A number of moving worms, or maggots, were seen imbedded in the canal, close to the drum. Careful use of the syringe for one hour resulted in removing one maggot, about three lines in length. The ear was then filled with carbolized almond oil, containing morphia sulph. A cotton plug being inserted, the patient went to bed. During the night four more maggots were dislodged, and the following morning I removed the sixth and last one by aid of the syringe. This last one was fully six lines in length. Three came away dead—the effect of the carbolized oil. These wriggling usurpers were evidently hatched from eggs deposited by the "fly," during its brief sojourn in the ear. The drum was intact, though intensely hyperemic. Daily use of astringent drops, and protection from the air, speedily restored the parts to health.

OUT-DOOR SAFETY.

The fear of the weather has sent multitudes to the grave, who otherwise might have lived in health many years longer. The fierce north wind and the furious snowstorm kills comparatively few, while hot winter rooms and crisping summer suns have countless heta-combs of human victims to attest their power. Except in localities where malignant miasms prevail, and that only in warm weather, out-door life is the healthiest and happiest, from the tropics to the poles.

The general fact speaks for itself, that persons who are out of doors most take cold least. In some parts of our country, near one-half of the adult deaths are from diseases of the air passages. These ailments arise from taking cold in some way or another; and surely the reader will take some interest in a subject, which, by at least one chance out of four, his own life may be lost.

All colds arise from one of two causes.

1. By getting cool too quick after exercise, either as to the whole body, or any part of it.
2. By being chilled, and remaining so for a long time, from want of exercise.

To avoid colds from the former, we have only to go to a fire the moment the exercises cease in the winter. If in summer, repair at once to a closed room, and there remain with the same clothing on, until cooled off.

To avoid colds from the latter cause, and these engender the most speedily fatal diseases, such as pleurisy, croup, and inflammation of the lungs, called pneumonia, we have only to repel chillness. Attention to a precept contained in less than a dozen words, would add 20 years to the average of civilized life; keep away chillness by exercise; and when over-heated cool off slowly. Then you will never take cold in-door or out!—*Hall's Journal of Health*.

ALCOHOL IN THE SYSTEM.

We find also in *Hall's Journal of Health* a vigorous article in reply to an English review which upheld alcohol as food, &c. The article is long and forcible, but we have space only for the general summing up, as follows:

If alcohol is not a poison, but food, because alcohol gives force, muscular power—then, arsenic is not a poison, but food, because arsenic gives force, muscular power.

As nature has formed no element in its purity, which element in large dilution is necessary to health, we conclude that such element in its purity is not essential to health.

As men have lived in perfect health without alcohol, the use of alcohol cannot add to that health, because a man cannot be better than well.

As we know of no article which contains hydrocarbon largely, which would not destroy life, if used alone, not even sugar; so we may conclude that alcohol, which does contain hydrocarbon largely, will destroy life, if used alone.

If any elementary substance in its purity destroys life, if used alone, it is reasonable to conclude that the only safe method of using any elementary substances is, in using it in the proportion in which nature has combined it with other materials; therefore, that however essential to existence hydrocarbon may be, it is not healthful or safe to use it in its concentrated, artificial combination, but only healthful and safe in deriving our supplies of it, as contained in our natural food. Therefore, we consider it established, that alcohol is not essential to health; that it is not promotive of the health of those who are well; and that in proportion as it is used largely, or alone, in such proportion is it, like all other elementary concentrations, certainly destructive of health and life together.

WARM AND DRY FEET.—Life long discomfort and sudden death, writes a medical man, often come to children through the inattention or carelessness of the mothers or nurses. A child should never be allowed to go to sleep with cold feet; the thing to be first attended to is to see that the feet are dry and warm. Neglect of this has often resulted in dangerous attacks of croup, diphtheria, or fatal sore throat. Always on coming from school, on entering the house from a visit or errand in rainy, muddy, or damp weather, the child should remove its shoes, and the mother herself should ascertain whether the stockings are in the least damp. If they are, they should be taken off, the feet held before the fire, and rubbed with the hands till perfectly dry, and another pair of stockings and another pair of shoes put on. The reserve shoes and stockings should be kept ready for use on a minute's notice.

FALLING HAIR.—A correspondent of the *Medical and Surgical Reporter* asks: What will prevent the falling of hair? I have used for the past ten years, in my own case, and prescribed frequently for others, the following with complete satisfaction; Glycerin and tincture capsicum, each 2ozs oil of bergamot, 1 drachm; mix

and perfume to suit. This is to be the only dressing for the hair. Wash the head occasionally with soft water and fine soap.

THE ORANGE.—The orange is very easily digested, admissible in health and disease, and one before breakfast will often prepare the delicate stomach for a good meal better than anything else.

TURPENTINE AS A DISINFECTANT.—Mr. Thos. Taylor, Microscopist of the Department of Agriculture, has an article in a Washington paper, from which we take the following: "Turpentine I also found to be a powerful deodorizer. A tablespoonful added to a pail of water will destroy the odour of cesspools instantly, and in the sick chamber will prove a powerful auxiliary in the destruction of germs and bad odours."

MRS. PARTINGTON ON DISEASES.—Diseases is very various—very. The Doctor tells me that poor old Mrs. Haze has got two buckles upon her lungs! It's dreadful to think of—'tis really. The diseases is so various! One day we hear of people's dying of "hermitage of the lungs," another of "brown creatures;" here they tell us of the "elementary canal" being out of order and there about the "tear of the throat;" here we hear of the "nemrology in the head" and there of an "embargo" in the back. One side of us we hear of a man getting killed by getting a piece of beef in his "sarcophagus," and there another kills himself by "descovering his jocular vein." These things change so that I don't know how to subscribe for any thing now-a-days. New names and "rostrums" take the place of the old and I might as well throw my old yerb bag away.

MONTREAL MORTUARY RETURNS.

Medical Health Officers Report for the past year :

Total deaths, 3,916 : death rate—26·08 per 1,000.

Among these deaths the following diseases predominated :—

Children under 5 years of age.....	1,062
Consumption, between 20 & 40...	429
Bronchitis.....	108
Pneumonia.....	157
Diphtheria.....	155
Typhoid.....	104

Total..... 2,015

A large proportion of these diseases are preventable. The mortality among children from *cholera infantum*, neglect, and want of knowledge on the part of poor people how to feed their children or care for them, causes, at least, one half of their mortality. Bad ventilation, and cold and damp houses, hasten rapidly those having a hereditary disposition to consumption to early graves, and out of 259 deaths from diphtheria and typhoid fever, more than two thirds arise from bad plumbing and broken house drains.

Although the death rate of Montreal for the past year is set down at 27 per 1,000, nearly. We are by no means certain that this statement is quite correct, for we have no return of the population since the last census taken in 1880, and, besides, many who die in the city are not interred in our cemeteries, and citizens dying abroad, although their bodies are sent to Montreal for burial, the certificates of death being signed by the physician who attended them, they are not put down in the mortuary returns as citizens, consequently, unless the statistical clerk recognizes the names, they are struck off the list and counted as strangers. The death rate of Montreal we feel certain is 28 per 1,000, if not more, which is a very heavy death rate for a city that possesses every advantage of nature to make it healthy. In the years 1866 and 1867, Dr. George Fenwick kept a careful record of the mortality of Montreal, which he published—and during those years he showed that there was only *one* death from diphtheria and none from typhoid. What a contrast to the enormous increase in these filth-bred diseases, now amounting to 255 for the past year.

SANITARY REPORT.

We have also before us a voluminous report from the Sanitary Inspector of the work done by his staff of five policemen, but only four of them are employed on regular house inspection.

The quantity of work said to have been done by these policemen is really *prodigious*, but from our own personal experience we know how superficially such work is performed, therefore such reports only serve to deceive the public. To say that four policemen, who seldom leave the health office before 9.30 a.m.; often later, and probably take half an hour to get back to their work—and lose two more in going to and returning from their dinners and to return to their homes about 5 p.m.—besides the time lost by them in attending at the Recorder's Court as witnesses in cases of infractions of the health by-laws, making in all not more than five hours a day for actual inspection of houses and premises, and that these four men visited 8237 places in the months of November and December, besides 489 special visits, in all, 8,726 visits in about 48 working days of only five hours each day—or 44 visits a day made by each policeman in the short space of five hours—that is only seven minutes for thoroughly inspecting each house and premises, and entering the report in his book, is something preposterous, and brings discredit upon

all such reports which only serve to deceive the Board of Health and the public as well.

We do not wish to attach blame to the Sanitary Inspector, he no doubt has copied his statement from the Sanitary police reports, but such statements will not bear the light of criticism.

A LIBERAL OFFER.

The Secretary of the Canadian Sanitary Association in order to make known its objects and the value of this journal—HEALTH AND HOME—as quickly as possible, will make a donation of twelve drawings, quarto size, to each of the first five hundred members belonging to the following professions or trades, who become members of the Association, viz. :—to Teachers of Schools, Builders, or others, to whom they would be of value. The plates consist of the architectural orders in detail, perspective drawing, carpentry, &c., and will be accompanied by descriptive letter press in the Journal. The plates are worth \$1,200, and twelve will be sent with the Journal on receipt of the membership fee of \$2.00.

SANITARY LECTURES.

Mr. J. W. Hughes, Sanitary Engineer, Montreal, is giving this winter a course of lectures, under the auspices of the Mechanics' Institute, on the Science and Art of Practical Plumbing, as applied to domestic purposes. The lectures were intended for the instruction of young plumbers, but have been attended by many others interested in Sanitary Education.

The following are the subjects to be lectured upon :—

On the Hydraulics of the Trade; giving a short sketch of some of the methods of raising, conveying and distributing water, from the most ancient and simple to the more modern and complex.

On Domestic Sewerage and Drainage; with a short historical sketch of the subject, and some practical hints on the materials required for trapping, ventilating, &c.

On the Water Pipe System in Dwellings; hot water circulation, waterbacks, boilers, explosions, etc.

On the various Apparatus and Fixtures in use; Water-Closets, Baths, Sinks, Urinals, &c.

General Summing up; a few remarks on the Plumber and his boy, what he is, what the public think he is, and what he may be in future, with hints on practice and conduct.

SCHOOLMASTER JACOB'S SCRAP BOOKS.

"I have been to visit the schoolmaster who put me through the common English branches and the rudiments of Latin," said a well-known professional gentleman to me a short time since.

"He was a genius in his way, very successful as a teacher, and peculiarly gifted in inciting the farmers' boys in the remote country region where he established his school, to right thinking and right living.

"He had peculiar methods of conveying instruction, as well as a peculiar system of reward and punishment.

"He made very few rules, and in case one was broken in spirit or in letter, the delinquent was set up on a high stool in front of a small, long-legged desk facing the stool, and made to read, for a longer or shorter time, as the case might be, from the 'Bad boy's' scrap book.

"This was a thick, heavy, leather-covered account-book, in which had been pasted clippings from newspapers for the last twenty years relating to the misadventures of boys,—not stories, usually, but items of news. There were all sorts of boys represented here. The boy who disobeyed his parents; the boy who was drowned going in bathing, or fishing, or after pond-lilies on Sunday,—who came to grief prowling around with his gun on that day. The boy who broke his leg while stealing his neighbour's cherries, and the one whose back was broken in a fall from a hickory tree that he was plundering; the boy who was content to remain at the foot of the class was shown up together with the one who procured and read bad books on the sly, and the boy who ran away. In fact, there was something to suit nearly every case of a boy whose head was so filled with mischief that he could not conform to the simple rules of Master Jacob's school.

"These were real happenings,—there was no nonsense about them; the idle boy, the lazy boy, the mischievous boy, the wicked boy, the cruel boy, the profane boy, all came to the same inevitable bad end."

"An hour's reading of these newspaper paragraphs made a boy's heart sink within him, and caused a resolve to shoot up in it that he would turn him right about and classify him in future to quite a different order of boys. On the last page of this scrap-book, written in a fair, bold hand, were the startling words: 'How long before some item of your downward career shall go to help fill the pages of this book?'

"The other scrap-book was a gem in every way. It was a new, large, elegantly bound blank-book, in which was daintily pasted chronicles of noble deeds: Short lives of good men, beneficent acts, of all the sweet and kindly things that go to make this life beautiful, and to prepare for the enjoyment of a Heaven to come; and the book was rendered more attractive by the insertion, at short intervals, of beautiful engravings and many lovely sketches in water-colors.

"This book was used as a reward of merit. When you saw a lad with that book on the desk before him, you might be sure, without asking, that he had deserved the master's approval in some way.

"Such was the salutary effect of these two books that there was seldom a time that the Good boy's book was not somewhere in demand among the twenty boys, while the Bad boy's book was left upon its high desk for the dust to accumulate upon.

"I have been counted as a successful teacher,' my old master said to me on the occasion of my recent visit; 'my boys always improved morally and spiritually, as well as mentally, under my charge: my boys have been heard from in the world as men of integrity who have tried to find the best and truest in life. Oh, I must not forget to show you my Good boy's scrap-book. I am constantly making additions to it,' and he brought forward the worn, but familiar, book saying, 'Look there, and there, and there,' at many items with red pencilings on the margin,—a few words with a date attached. 'That tells when they were with me,' he said, with pride. 'Good boys, they were; all good boys.'

"And the other book,' I asked; how many have helped to fill that?"

"Not one, my boy; I speak with truth; not one,' said the old man, with tears in his eyes now. 'It is singular, but it goes to prove my theory, that if you can impress the consequences of wrong-doing upon a child, he is almost sure to prefer the right to the wrong. Then when emulation burns the breast, a boy is bound to succeed, for competition and emulation have honour for their basis, and that was the spirit that the Good boy's book was intended to inspire."

THE DOMINION SANITARY ASSOCIATION

WHERE IS IT? WHAT IS IT DOING?

The above queries are intended for the secretary of the Canadian Sanitary Association (not Dominion, as misnamed.)

It is not our intention to permit matters of a personal nature to be discussed in the columns of this journal, therefore we regret very much that the "worthy and enthusiastic" doctor and editor of the *Dominion Sanitary Journal* should have made such uncalled for and taunting remarks as he did in an article in his January number under the above heading.

In reply we will simply ask him, what did he ever do towards the promotion of the objects of the Association? and what funds did he ever contribute towards it? about which he now appears to be so solicitous. We will answer for him—*Nothing*. Surely if he had its interests so much at heart he might have become a member by remitting his subscription; or, he might have informed those persons who, "*many a time and oft*" had asked him "where it was and what it was doing," where the secretary resided, who would have given them reliable and satisfactory information.

In reply to the doctor's gratuitous advice we now send him a copy of our journal, *Health and Home*. That was not the title originally intended for it, but when the old "Sanitary Journal" published by the doctor was resuscitated from its long trance, by pecuniary help from wealthy quarters, he coolly, in changing its name, used a title which he must have known was intended for this journal, thereby, as it were, leading the public to suppose that his was connected with the Association.

However, we do not wish to say more, but to satisfy the inquiries of those desirous to know, and willing to become members, we will send them a copy of our journal on application,—which will convey to them full particulars.

We would fain not speak of ourselves, but it is well that the public should know that the secretary has as yet had no assistance from monied sources to help him. He has given time and money to forward a great sanitary object, fraught with great good to the country, and which he feels confident will be supported when once brought before it in a proper shape.

He is borne out in his views of how that can best be done by the opinion of the members of the Council and Executive Committee of the Association, all of them physicians of the highest standing, and having much practical sanitary experience, therefore, with their assistance, he feels quite competent to manage the affairs of the Association without any gratuitous advice from those who have never done ought to promote its interests.

KNOWLEDGE which costs nothing, which is not born of the travail of the soul, is fleeting and unprofitable.—*J. Dorman Steele.*

ALL the grander incitements to thought are common to the race. But it is in the arrangement of the less and subsequent orders of knowledge that the intellectual wealths of the individual are differentiated.—*Teacher.*

EPIDEMICS.

The limitation of epidemic pestilential disease, as the yellow fever, typhus and typhoid, diphtheria, etc., is at all times a question of intense interest to every thoughtful person. A number of the New York *Sanitarian* contains interesting and valuable matter upon the subject of epidemics, which we unhesitatingly appropriate.

The cholera is a product of the jungles of India and Burmah, and the yellow fever is as surely of West Indian origin. That it is an exotic as relates to the United States is the opinion of the last national commission; and that it never originates *de novo*, except in its primal birthplace, whatever elsewhere may be the excess of heat, moisture, filth, and vegetable and animal decomposition, is almost demonstrated, perhaps established. As to communicability, it is certainly conveyed from individual to individual, not precisely by what we understand to be direct contagion, but through various media, especially by bed and body clothing, by articles of furniture, by apartments, cars and steam and sailing vessels, by baggage and by cargoes; and these propagators, deriving from the sick the pestilential material (intentionally not called germ), hold it with wonderful tenacity, and convey it to mankind with intense effect. Both may be held at bay by quarantine and literally "fenced out." In 1851 cholera prevailed in Southern Europe and in Algeria, but not one case occurred that year in Spain by reason of vigorous quarantine. Two years later, when the embargo was not strictly maintained, it ravaged the Spanish peninsula. It always followed the lines of travel and was always carried by mankind. The infectious germ might be long in germinating, but it could always be traced to individuals. Quarantine, to be effectual, however, must have a very wide applicability. It will not suffice to limit it to vessels from foreign ports. It must extend to all conveyances for the transportation of passengers and merchandise—must have relations with municipal, state, and national authority. It is estimated that the cost of the late yellow fever epidemic in loss amounted to \$200,000,000.

Typhoid fever is certainly communicated through a tainted water supply exposed to the taint of infected vaults. Poisoned springs have been traced to this infection, and in a celebrated English dairy case, where poisoned milk was claimed to have been sold, scientific examination disclosed that the milk had been contaminated through the cows having lain upon ground manured from infected

vaults. Another source is in the ice supply, often taken from shallow ponds in the neighbourhood of large cities, freezing not destroying the germ as supposed. The air in localities becomes contaminated from sewage deposits; and Budd states, as early as 1859, that the germ of this disease never originates *de novo*, but proceeds from a special and specific poison, capable of great diffusion and preserving its noxious qualities for a long period, even for many months. In England the preventability of typhoid fever is so thoroughly established that an innkeeper who has a guest ill with it, is held criminally responsible if any other case could be traced to the one under his roof. By this means infectious substances are destroyed and the spread of the disease prevented. Boiling water applied to the discharges is said to destroy the infection. But when the substance is allowed to escape as sewage it must be disinfected by prompt measures.

Diphtheria is much more prevalent and much worse in localities supplied with bad water. The microscope can detect a few of the germs of epidemic diseases either in the water or in the system, and the only sure method is to watch the slightest approaches of disease and investigate the sources of our water supply, whether in city or country. Chlorine gas, from recent experiments, seems to be a disinfectant as well as a deodorizer. This greenish-coloured gas effectually seizes upon and destroys any hidden germs existing in dwellings, ships, etc. This gas has been used successfully at Bellevue hospital and other places. We must purify and quarantine. Mediums of communication have been made available to epidemics as well as to mankind in his business affairs.

MEMORY.—A man's memory is like his stomach. To do its best work it must have good treatment. It must neither be neglected nor overloaded. It can easily be so abused by neglect, or by irregular and unsystematic employment, as to become chiefly a cause of annoyance and discomfort; or, again, it can be so overworked and heavily taxed that it becomes practically the chief organ or agent of the entire system; every other portion dwindling in its comparison. The latter course is the great danger of those who value the help of a tenacious memory.

Both memory and stomach are valuable not in proportion to the burdens they can carry, but in proportion to their training for their part in the work of the system as a whole; and either of them is made effective as much by what is kept from it, as by what is packed into it.—*S. S. Times.*

MAN'S AGE.

Few men die of old age. Almost all die of disappointment, passion, mental or bodily toil, or accident. The common expression "choked with passion," has little exaggeration in it, for even though not suddenly fatal, strong passions shorten life. Strong-bodied men often die young; weak men often live longer than the strong, for the strong use their strength, and the weak have none to use. The latter take care of themselves, the former do not. As it is with the body, so it is with the mind and temper. The strong are apt to break, or, like a candle, to run; the weak to run out. The inferior animals that live temperate lives have generally their prescribed number of years. The horse lives twenty-five; the ox fifteen or twenty; the dog ten or twelve; the rabbit eight; the guinea-pig six or seven years. These numbers all bear a similar proportion to the time the animal takes to grow to its full size. But man, of all the animals, is one that seldom lives this average. He ought to live a hundred years, according to physical law, for five times twenty is a hundred; but instead of that he scarcely reaches on an average four times his growing period; the cat six times, and the rabbit even eight times the standard of measurement. The reason is obvious—man is not only the most irregular and intemperate, but the most laborious and hard-worked of all animals. He is also the most irritable, and there is reason to believe, though we cannot tell what an animal secretly feels, that more than any other animal, man cherishes wrath to keep it warm, and consumes himself with the fire of his own reflections.

BEGIN teaching at the standpoint of the pupils; guide them from there onward, steadily and thoroughly, without interruption.

THOUGHT RULES THE WORLD.—It makes no noise, but lives on and reigns when all the bustling and shouting that seemed to stifle it are hushed, and whilst the great works, which it guided, the hand of man to do, have either perished or remained to tell the work of a pomp and vain glory gone for ever. Thought is with us in the words of wisdom that "Shall not pass away," and to which we do well to give heed.

EUCALYPTUS IN A COLD OF THE HEAD.—Prof. Strgmbio, in a note in an Italian medical journal, says that notwithstanding the failure of all remedies hitherto recommended for the immediate cure of a cold, he wishes to communicate to the profession

the great success he has found attending a new one in his own person, and to ask them to test its efficacy. He found prolonged mastication of a dried leaf or two of the *Eucalyptus globulus* almost immediately liberated him from all the effects of a severe cold.

NEW ANTISEPTIC SALT.—During some experiments in separating sugar from molasses, a double salt of borate of potassium and sodium was found, that proved to have valuable antiseptic properties. The salt is now manufactured on a commercial scale, and costs about 10 cents a kilogramme or five cents a pound. It is obtained by dissolving in water equal quantities of chloride of potassium, nitrate of sodium and boric acid, filtering and evaporating to dryness. The salt is said to be quite deliquescent, and must be kept in tight bottles. It is quick in action, retains its qualities for a long time and has no injurious effect upon the taste, smell or healthfulness of the substances to which it is applied. It has already found a use in making sausages, in preserving meats, in tanning and in butter-making. A small quantity of the salt added to milk will preserve it in good condition for a week. It is also used in preserving beers and wines, and is being made the subject of experiments in several other directions.

BOOK NOTICES.

The prices affixed include duty and postage.

Among many valuable books published in relation to Hygiene, we desire particularly to draw attention to the following:

HOW TO LIVE OR HEALTH AND HEALTHY HOMES.

This work is now in its second edition, and is written by George Wilson, M. D., author of *Hand book of Hygiene and Sanitary Science*. Price 75c.

TECHNICAL AND EDUCATIONAL WORKS.

For the information and instruction of our readers we publish the following list of technical and educational works of a very useful and practical character, particularly for the improved education of those who have not had the advantage of perusing such books. Any of these books can be obtained by remitting to the secretary of the Canadian Sanitary Association the cost, which includes duty and freight. As many of these works are published in Great Britain some time will elapse before they can be received. No commission charged.

If any book ordered from England is not received within two months after date of order, notify us.

THE AMERICAN HEALTH PRIMERS.

This series of American Health Primers, by eminent physicians, is prepared to diffuse as widely as possible among all classes, a knowledge of the elementary facts of Preventive Medicine, and the bearings and applications of the latest and best researches in every branch of Medical and Hygienic Science. They are intended to teach the people the principles of Health, and how to take care of themselves, their children, pupils, employees, &c. The following is a list of the subjects :

1. HEARING, and how to keep it, with illustration.
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 5. EYESIGHT, and how to take care of it, with illustrations.
 6. THE THROAT and Voice, with illustrations.
 7. THE MOUTH AND TEETH, with illustrations.
 8. BRAIN WORK, and over work.
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OTHER VALUABLE BOOKS.

- MALARIA, what it means how and avoided..... \$1 00
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- CONSTIPATION, plainly treated without the use of drugs..... 1 00

The author of these little books, a physician of large experience, believes that many slight ailments of mankind can be prevented if people only understood their nature and the proper way of living. The books are written from this stand point, in plain technical language, and the thousands sold testify to their popularity and usefulness.

THE SANITARY ENGINEER.

This valuable journal is becoming as well known as the Scientific American. No plumber, Board of Health or sanitary body whatsoever, should be without it, or the SANITARY NEWS. Not a number of these publications but is worth—for some special information they contain—the price of the subscription.

SANITARY WORKS PUBLISHED IN ENGLAND.

- HINTS on the water supply of small towns..... \$1 50
- SANITARY WORK in the smaller towns and villages for members of Boards of Health, Health Officers, Surveyors, Builders and Contractors. 2 00
- SANITARY SCIENCE, as applied to the healthy construction of houses, illustrated..... 0 50

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- SEWAGE, The advantage of the separate systems of drainage..... 0 60
- THE PLUMBER AND SANITARY HOUSES. A treatise on the principles of internal plumbing work.. 3 00
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MISCELLANEOUS.

- CHEMISTRY, for the use of beginners, with an appendix on the application of chemistry to agriculture..... 0 40
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NOTES AND QUERIES.

Readers are invited to avail themselves of this section which will be opened in our next number for practical information on questions relating to Sanitary Engineering. Querists are requested to express their wants clearly and definitely, and to write on one side of the paper only. All communications should be addressed to the Editor.

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