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DEVOTED TO

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Original Communications.

EDUCATION OF OUR GIRLS.

To the Editor of the SANITARY JOURNAL.

SIR :—The writer not long ago, sitting in a railway car in the company of a Toronto clergyman. Among the various topics of conversation, were the subject of temperance, and the status of the average Canadian girl of the present day. We discussed the evils of intemperance, and the various remedies which have been tried and proposed, and had come to the conclusion that it remained an unsolved problem what means could be adopted to reach the root of the evil—what cure could be employed to destroy this all pervading and deep penetrating cancer which is so malignantly eating and disfiguring the social structure of our country, an evil which consumes vital forces which might be used for noble and beneficent purposes. It was after this that the writer was somewhat startled to hear his companion, with much earnestness, ask the question :—What can be done to save our young women? He expressed his belief that in another generation, if things go on the way they are doing, we shall have no women for mothers. According to his belief Canadian girls are rapidly deteriorating mentally and physically, are rapidly becoming unfit for the duties of life—for usefulness at home or abroad, and that from infirmity or design she failed to accomplish the purposes of her sex. Now while we do not believe that the evil is so great as this reverend gentleman thinks; it is sufficiently so to demand prompt and earnest attention. It is stated on competent authority that the old families who settled the first thirteen states of the American Union are rapidly becoming extinct, that in a few generations

there will be no living descendant of the first intrepid American pioneers. The evil producing this result has unfortunately extended into Canada; and there is danger of its increasing and producing a most baneful effect. Therefore the enquiry of my travelling companion: can nothing be done to save our girls, is at once pressing and most important for the future prosperity of our country. It comes within the scope of Sanitary Science to consider these questions—the question of prevention of alcoholism, and the question of temporal salvation of our women; indeed of the Canadian race.

In reply to his remarks, I suggested that possibly we might find a common cause of intemperance and deterioration of the women in a want of proper education. He replied that such could hardly be the case when our country was well provided with educational institutions for the youth of both sexes. But, the rejoinder was:—the education referred to is of another kind; the education received at home from parents and associations, and it might have been added, the education from the pulpit and the press. How little is known of the requirements of a healthy human being. How few know or care to know the laws of hygiene. Restrictions are placed upon the young by well-meaning parents, and the pulpit declaims against evil customs and practices. But too often the cravings of nature—demands that will assert themselves sooner or later—are ignored or regarded as the promptings of an evil nature which should be crushed out. Now it is submitted that the teacher, be he parent or preacher, who, while pointing out evil amusements and recreations, fails to offer a harmless substitute, comes far short in his duty. Amusements and recreation are essential not only to the young, but at all periods of life. And if these be denied to the young, the chances are that with independence of parental control, there will be reaction. Liberty will be attended with license. Parents as well as preachers often fail to distinguish between the proper use and the abuse of amusements and modes of recreation. In making this remark, we wish to say that we cannot, from observation and experience, allow that the use of spirituous liquors, otherwise than as medicine, is at all permissible. Another evil in connection with the home, pulpit and press education is the encouragement given to false doctrines in science. How many persons, male and female, have to unlearn what they acquired at home both with respect to things sacred and secular. Now take the pulpit. When one hears a minister upholding false theories in science how much it impairs the influence he otherwise might have; how much less likely is one to accept his

dicta on things divine. Almost every imposture that has paraded itself before the world during the past century has flaunted a testimonial from clergymen. These, however, are sometimes fictitious. Newspapers, religious as well as secular, give place to advertisements and often to puffs, the most false and misleading. Sometimes the purport of these advertisements is the most degrading and wicked, and which is by no means concealed by their cunning and ambiguous words.

The demands of society in this so-called civilized age are very trying to females. The love of idleness is a most pernicious evil. The duties of motherhood demand the attention which is often given to other purposes. The consequence is that many find what ought to be the joys of matrimony irksome; the care of children a burden. In many cases the mother sows the evil seed in the mind of her daughter, by complaining of her lot, and the daughter grows up with the onviction that a great objection to matrimony is the danger of having children.

As this communication is intended to be suggestive rather than exhaustive we cannot pursue this point further. But we must glance at the evils of fashion, often encouraged by mothers, at least allowed by them to affect their daughters. The faults of dress are numerous. From the crown of the head tothe sole of the foot the dress of women is full of objections. Inadequately covered head in winter, and the feet at all times lead to a multitude of evils. So the low neck dress, and the constriction at the waist. This last habit is one of the most fruitful causes of disease and suffering. The free action of the lungs is prevented, the heart embarassed, the stomach, bowels and liver are pressed out of place downward; and the important organs below are made to suffer. The dragging pains, the weak back, the periodical pains in the womb, and many of the perils of child-birth, and uterine displacements are the result of the deformity which the vain habit of constricting the waist inflicts. The evil is much enhanced by the general custom of wearing the underclothes suspended from the waist instead of from the shoulders.

The importance of diffusing correct knowledge upon the points referred to cannot be over-estimated. So far as individual hygiene goes, until the medical man is engaged to advise upon everything relating to private health, and his advice is implicitly followed, we can hardly expect perfectly developed manhood or womanhood. And without a perfectly developed physical system it is a question whether we should expect a healthy moral nature.

Yours, &c., OBSERVER.

PRACTICAL NOTES AND EXTRACTS ON HYGIENE.

VENTILATION.—This is the season of closed and double doors and closed and double windows. Too many seem to forget that they are constantly consuming oxygen and that a constant supply of fresh air containing this element is absolutely indispensible to health and vigor of constitution. The want of fresh air is felt most at night, in the bed-rooms. About one-third of one's life is passed in the bed-room. Here there is no moving about from room to room, or out into the fresh air, no opening of doors. According to the most reliable authority, from the most carefully made and considered estimates, every adult requires 3,000 cubic feet of fresh air every hour, if he is to be surrounded with sufficiently pure air. This would about fill a room 16 feet square of floor space, and 12 feet high. And the air in this should be completely changed every hour. Now bearing this in mind and considering that most people pass the eight hours of sleep in rooms with only capacity for, at most, 2,000 cubic feet, with no provision for change or renewal, excepting the minutest cracks and crevices of doors and windows, and the pores of the walls, it should not be a matter of surprise that many awaken dull and depressed in the morning, can take only a light breakfast, instead of a good substantial one after the long fast, and prefer to take the street cars rather than walk a mile; feel a want of vigor, are easily affected by sudden changes in the atmosphere, and are susceptible of disease. Let such try the experiment of making two openings, an inlet and an outlet, in the bed-room, on opposite sides of the room, if possible, as by lowering an upper sash or two, and after a month's experience they will hardly close them. The size of the openings must be adapted to the state of the outer atmosphere, and the number of occupants of the room. Practical directions for regulating the openings to suit the temperature of the air inside and outside have been given in previous numbers of this JOURNAL. Most dwellings now have means for keeping the air a little warmed at night in severe weather, and it may be necessary at such times to consume a little extra fuel in order that the bed-rooms shall not get too cold; though this is a matter of comfort rather than of health, especially after becoming a little accustomed to the change. The bed, especially the head of it, should not be so near the inlet as to cause a draught to be perceptible.

CARE OF THE SKIN.—Hufeland, a celebrated philosophic physician, and professor of medicine, long ago wrote thus, on

the care of the skin: "The more active and open the skin is, the more secure will people be against obstructions, and diseases of the lungs, intestines and stomach; and the less tendency will they have to *gastric fevers, hypochondriases, gout, asthma, catarrh,* and *varicose veins.* One great cause of these disorders being at present so common amongst us is, that we no longer endeavour to cleanse and strengthen the skin by bathing and other means.

"It ought not to be forgotten, that the skin is the grand organ of crises, that is to say, the assistant of Nature in disease; that a man with open pores, and a skin sufficiently vigorous, may depend on being cured of diseases much more easily and with more certainty, and often even without the use of medicine.

"That such an organ must be a great support of health and life, no one will deny; and it is therefore incomprehensible how people in modern times, since mankind have become more enlightened, should neglect it so much.

"Let me here be permitted to call the attention of my readers to an incongruity, which is not the only one of the kind in human life. The most ignorant person is convinced that proper care of the skin is indispensably necessary for the existence and well-being of horses and various animals. The groom often denies himself sleep and other gratifications, that he may curry and dress his horses sufficiently. If they become meagre and weak, the first reflection is, whether there may not have been some neglect or want of care in regard to combing them. Such a simple idea, however, never occurs to him in respect to his child.

"The rules which I have to propose for preserving cleanliness and a sound state of the skin, are remarkably easy and simple; and if observed from youth, may be considered as very powerful means for the prolongation of life.

"1st. Remove carefully everything that the body has secreted as corrupted or prejudicial. This may be done by changing the linen often, daily if it be possible, and also the bedclothes, or at least the sheets; by using, instead of a feather bed, a mattress, which attracts less dirt; and by continually renewing the air in apartments, and particularly in one's bedchamber.

"2nd. Let the whole body be washed daily with cold water, and rub the skin strongly at the same time, by which means it will acquire a great deal of life and vigor.

"3rd. One ought to bathe once a week, the whole year through, in tepid water; and it will be of considerable ser-

vice, to add to it three or four ounces of soap. It is much to be wished that public baths were again erected, that poor people might enjoy this benefit, and thereby be rendered strong and sound, as was the case some centuries ago."

ADVICE TO BATHERS.—The Royal Humane Society, of London, Eng., has issued some excellent instructions for the guidance of bathers.

They are rather intended for those who bathe in the open air during warm weather, yet they apply to all kinds of bathing, and will keep. The *Lancet* says they cannot be too widely circulated:—

"Avoid bathing within two hours after a meal, or when exhausted by fatigue or from any other cause, or when the body is cooling after perspiration; and avoid bathing altogether in the open air if, after having been a short time in the water there is a sense of chilliness, with a numbness of the hands and feet; but bathe when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body by sitting or standing undressed on the banks or in boats after having been in the water. Leave the water immediately there is the slightest feeling of chilliness. The vigorous and strong may bathe early in the morning, on an empty stomach, but the young and those who are weak had better bathe two or three hours after a meal; the best time for such is from two to three hours after breakfast. Those who are subject to attacks of giddiness or faintness, and those who suffer from palpitation and other sense of discomfort at the heart, should not bathe without first consulting their medical adviser."

CONSTANTINOPLE AND ITS SURROUNDINGS.

INTERESTING LETTER FROM LORY MARSH, SECRETARY SANITARY INSTITUTE OF GREAT BRITAIN, TO THE SANITARY RECORD.

Before leaving England to visit the East, the Committee of the Sanitary Institute of Great Britain requested me to note any facts relating to the subject of public health that might come under my observation during my travels. In Constantinople every facility has been afforded me by the resident physicians and the sanitary authorities to investigate, as far as practicable, the sanitary surroundings of this interesting city. On entering the harbour of Constantinople, the appearance of

the city is very striking and picturesque. It is built everywhere on rising ground sloping down to the sea, in which there is always a strong current running, at the rate of about five miles an hour, carrying away all the refuse discharged into it. So strong is the current that the water in the harbour and along the Bosphorus, where the principal part of the houses are situated, preserves an almost crystal purity and transparency. The selection of the site of Constantinople, on which to build a city, has left nothing to be desired. Built, as already observed, upon the side of two hills sloping down to the sea, which, not being subject to tidal fluctuations, deposits no filth in its course, a strong current always running, and a good breeze nearly always blowing from the Black Sea to the Sea of Marmora, sweeping down the Bosphorus past Constantinople, there would appear to be nothing wanting, beyond an intelligent administration of public affairs, to make this a veritable 'City of Hygeia.' To guard the city from the introduction of disease from without, a rigid system of quarantine is imposed, during the prevalence of epidemics, upon all ships entering the harbour, and excellent hospital accommodation is provided for sailors, especially British seamen. The soil upon which the city rests is everywhere dry and porous, greatly resembling apparently the "Kentish rag.' As we enter the city, and note the varied nationalities of its inhabitants, the manners and customs of the people, the construction of the streets and houses, and inquire into the type of disease usually prevalent, we become painfully alive to the fact that man has tried, and succeeded in a manner worthy of a better cause, to counteract in a great measure the advantage nature has almost as it were thrust upon him. The inhabitants here represent all nations of the East, as well as many of the European nations. The estimated population, as far as I can learn, is about 600,000, and for the purpose of hygienic observations may be divided into two great sections, viz. the followers of Mahomet and the allied religions, and Christians of all shades, and degrees. Each section occupies separate quarters of the city, and they hold no intercommunication with each other. One is on one side of the water and one on the other. The Mahomedan, like the Jew, appears to enjoy a greater tenacity of life than the Christian. This difference is in some measure due to race, religion—as regulating the habits and discipline of the people—and to the difference of occupations in which they are engaged. Mahomedans are more temperate in the use of stimulants than Christians; they engage more in trade and less in manual labour; in one sense they are more moral,

i. e. there is very little promiscuous intercourse between the sexes. Syphilis and its allies is very rare, and when met with is of a mild type. Gout is a disease almost unknown amongst them; they recover from injuries and operations in a marvellous manner; and I am informed that amongst the Turks, Arabs, Jews, Persians, and Armenians, pyæmia and erysipelas succeeding operations are almost unknown. The Christians, especially the lower class of Greeks, do the principal part of the rough laborious work; and nearly all the carrying work about the city is done by Armenians, bearing on their backs loads that almost frighten you to look at. As might be expected, they are very liable to hernia, but on the whole they are a very hard, enduring race. Like the Mahomedans, they live principaly upon bread, cheese, olives, and fruit. Stone in the bladder is a very common disease with all. Phthisis is very frequent, and more so amongst the Mahomedans than the Christians. I saw several cases of skin disease, and also amongst Greeks. The absence of skin disease in the Mahomedans may be in some measure accounted for by the fact of their greater personal cleanliness, frequent washing, and use of the bath. All classes are about equally subject to fever which, I am told, is usually of a typhoid character. Diarrhœa is common, and more than half the children die under two years of age. Dr. Nouridjan informed me that in the upper part of the city there were a great many cases of small-pox. I saw several cases of bilious diarrhœa, and learnt that all diseases of the liver of a congestive character were very common amongst all classes. There was a terrible outbreak of cholera here in 1865, and a slighter one in 1870. There is no system of registration of deaths, but the rate of mortality is stated not to be much above that of Europe. Upon this point I am exceedingly sceptical. All the medical men with whom I consulted agreed in stating that small-pox, typhoid fever, diarrhœa, cholera and phthisis, were the most common, and by far too frequent causes of sickness and death. From a careful survey of the city these are just the diseases we should expect to find most prevalent. The streets are very irregularly constructed, badly paved; no system of sewerage; in many places the streets are so narrow and the houses so high that the atmosphere is everywhere oppressive. There is a strong urinous smell all over the city. All the streets being on a very steep gradient, nothing could be easier than the contruction of good sewers discharging direct into the sea and leaving no trace behind. For the want of sewers filth collects, and putrifies everywhere on the surface. But for the dogs, who

are the great and only scavengers, the streets would become impassible. The water is principally derived from reservoirs about sixteen miles from the city, and some in different parts. Doubtless the low type of disease prevalent here is due to the regular, not intermittent, downward filtration of sewage into springs. Instead of 'matted organisms,' in the water, I have frequently seen actual living organisms, and there is no doubt the water used for drinking purposes in Constantinople is very impure. Fruit is very plentiful and cheap. In all cases I received the same reply to my enquiry as to the use of fruit having an effect in producing cholera and diarrhœa, viz., that the fruit had nothing to do in producing these diseases. One gentleman, much engaged in the cholera in 1865, informed me that although people who eat fruit were not more liable to the disease, the fruit nevertheless during that period, however carefully gathered and stored, very rapidly decayed. The same gentleman narrated the following experiment. Two villages near together showed exactly opposite results. In one case the cholera was very severe, whilst in the other there was scarcely a case. The general belief being that the germs of the disease were suspended in the air, a goat was killed and divided into two equal portions; one portion was taken to each village, and attached in either case to a baloon and sent a considerable distance into the air. In the case of the village where the disease prevailed, the meat became quite putrid, whilst in the other case it underwent no change. A great fire broke out in Constantinople in 1865 when the cholera was at its height; the death-rate, having reached its maximum, rapidly declined after the fire. In 1870 the cholera broke out in the region of the Arsenal—a district principally occupied by English residents. A cordon of troops was placed round the district, and no ingress or egress permitted. Although the percentage of deaths was very great, the disease did not spread beyond the cordon. I shall reserve a few remarks upon the pathology of cholera for my next letter from Smyrna.

LORY MARSH,
Secretary of the Sanitary Institute of
Great Britain.

Oct. 28, 1876.

Dr. Lancaster, of London, lately analyzed a man weighing 154.4 pounds. He found 23.1 pounds of carbon, 2.2 pounds of lime, 22.3 ounces of phophorus, and about one ounce each of sodium, iron, potassium, magnesium and silicon, 112 pounds oxygen, 15.4 pounds hydrogen, and 52 cubic feet of nitrogen.

THE RELATION OF THE MEDICAL PROFESSION TO SOCIETY.

In contemplating the numbers, the education, the social position and direction of the labours of the medical profession, every thoughtful mind must become impressed with the enormous influence it is destined to exert in the future of the race. Its peculiar study is *Man*, and he has no relation to his fellows, to his environment, or to history, which it does not become imperative upon the physician to study, and this with a view to alter and direct the future.

For example, we have more than once called attention to that "*natural* history of crime" which has been so ably outlined by Professor Austin Flint, and pursued by Dr. Moritz Benedict within the last year and a half; or we can refer to those studies in heredity and satavism which invest genealogy with a new and broad significance, and supply entirely new forms for the estimate of human motives; or to the late researches in archebiosis and the differentiation of species which united with the study of mental pathology, have already reversed the whole procedure of metaphysical reasoning and supplied a different basis for ethics.

Though probably disease has not been diminished, nor yet will be in any material degree, *tolerance of disease* has been vastly increased, and the average duration of life has been very considerably prolonged. The sociological results of this will prove momentous. "Time and I," said Philip the Second, "against any other two," and it is certain that in modern society a long life properly employed insures wealth and power toward its close. With the general increase in the duration of life, with the growing "betterment of risks," to use a life-insurance expression, it will become more and more rare for young men to inherit fortunes or gain positions of power, for their fathers and uncles will continue in life. Hence, the social forces will more and more come under the control of age and experience. Fortunes will be more rarely squandered, dissipation will be proportionately lessened, rash youth will more rarely hold the helm.

To be sure, this is not an agreeable prospect for those who believe that the moral and intellectual faculties commence their decay in middle life. But these may find some comfort in the undoubted fact that intellectual culture materially aids in securing long life, and that the most intelligent, those who exercise constantly and wisely their brain power, have the best chance to outlive the others, and thus get control of the social

tendencies. Dr. William B. Neftel, in a paper on Melancholia, published last year, makes the following pregnant remarks: "That idiots do not live long is an established fact; but it is, perhaps, less known that even the physically strongest persons, the athletes, if not intellectually developed, seldom, if ever, reach an advanced age, and that the oldest persons in any country are generally also the most intelligent."

With the growing recognition of the value of life comes the desire to defend and prolong it; and hence the profession which makes this study its avowed object must become more highly cherished as time passes. This was well put by Mr. Gladstone in an address he delivered this summer at the Medical College of the London Hospital. He observed, looking to the future, that in proportion as man's enjoyment increases, so will his sufferings, and the necessity for help to relieve those sufferings. It was thirty years since he delivered an address at the Middlesex Hospital, and at that time he was impressed with the altering structure of society, the constant development that it seemed to undergo, and the effect of all this upon the physical and material, as well as upon the mental life. Even then he ventured to say that the importance of the medical profession, which at that time had grown so largely, would still grow in increasing proportion. Looking back across the intervening years, he could say that his anticipations had been fully realized. The public began to comprehend that the medical profession laid no claim to what he might call cabalistic methods—that was to say, it did not depend upon formulæ, but relied upon experience, endeavoured to track the truth, and followed the laws of common sense. That profession presented a future of the highest interest. And he believed it would, most probably, in that future gain increased influence, in greater proportions than other professions would. The legal profession, for example, possessed now no larger social influence than they enjoyed fifty or one hundred years ago. But with the medical profession, as pointed out above, the development of disease and the physical habits of life tended to widen its sphere and increase its influence.

This is sound reasoning, and it comes in this instance based on personal observation of society in one of its most cultivated centres.—*Med. and Sur. Rep., Phil., Oct.* 28th, 1876.

THE small pox is very prevalent in London, Eng., and, according to latest exchanges, is on the increase.

ON A MODE OF GENERATING SULPHUROUS ACID FOR USE AS A DISINFECTANT, &c.

BY THOMAS W. KEATES, CONSULTING CHEMIST TO THE METROPOLITAN BOARD OF WORKS, ETC., ETC.

From the remotest time, burning sulphur has beem employed to fumigate and purify infected air, and to destroy fermentative and putrefactive action. There is no agent more powerful in its effects than this. Unlike chlorine, it not only acts as a dinfectant or destroyer of disease-germs and of the results of putrefaction, but it is also a powerful preservative agent, and, like carbolic acid, is a preventive of chemical changes in dead organic matter of every kind.

Although the value of sulphurous acid is thoroughly understood, its use is necessarily limited by the difficulty which exists in the way of producing it in a form in which it can be readily applied. The ordinary method of generating it by burning sulphur is cumbrous and very uncertain, owing to the difficulty of keeping up the combustion; there are also many situations in which the process cannot be carried on at all, and under the best circumstances it is inconvenient and but little nder control.

Most of the readers of *The Lancet* are no doubt familiar, at least theoretically, with the substance called bisulphide of carbon. This is a compound of one atom of carbon with two atoms of sulphur (C.S.); it is a dense, mobile liquid, heavier than water, and intensely inflammable, burning in the air like spirit of wine.

The bisulphide of carbon can be burned in a common spirit lamp, and in that case the products are sulphurous acid and carbonic acid only, in relative proportion to the atomic composition of the bisulphide; but by a modification of the method of burning, the amount of sulphurous acid produced in a given time can be regulated to any desired extent.

It is a property of the bisulphide of carbon to dissolve in fat oils and hydrocarbon liquids, such as petroleum; so by mixing it with any one of these liquids and burning the mixture in a properly constructed oil or petroleum lamp, sulphurous acid will be generated with the other usual products of the combustion of such materials, and in proportion to the quantity of bisulphide present in the mixture of combustible liquids: any proportionate quantity of sulphurous acid can in this way be thrown into an atmosphere, and the action may be continued for any length of time.

As the sulphurous acid is generated *pari passu* during the combustion of the bisulphide, it diffuses itself in the air, which in a short time will become completely impregnated with it. In a room containing about 1300 cubic feet of air it was found that by burning 280 grains of the bisulphide the atmosphere was so far changed with sulphurous acid that it was impossible to remain in the room for more than a few seconds. In five minutes after the lamp was lighted litmus paper began to be reddened at some distance from it; in ten minutes the air had become very oppressive, and the litmus paper was reddened in the extreme corners of the room; in fifteen minutes the air was so changed with the gas that it could scarcely be breathed, and in twenty minutes it was unbearable. In that time, as I have said, 780 grains of bisulphide were consumed in a single wick lamp.

Sulphurous acid generated in this manner can be applied with facility to the disinfection of any place or object. In the case of rooms in which infectious or contagious disease has prevailed, it is only necessary to light the lamp and allow it to burn until the atmosphere has become impregnated with the gas to any desired extent, and then to remove or entinguish it just like a common spirit-lamp. In the simple form of apparatus which I suggest for this purpose, the lamp is enclosed in a metal case, about three inches in diameter and eight or nine inches high, furnished with holes near the bottom for the admission of air, and others in the top for the emission of the sulphurous gas. This can be conveniently moved about, and placed, while the lamp is burning, in almost any locality. Resceptacles for infected clothing, or the clothes or linen used in connection with disease, or carriages which have conveyed fever or other patients, can be thoroughly purified without difficulty and with very little trouble.

It must be observed that the bisulphide of carbon is extremely volatile, having its boiling point as low 110° F.; it is therefore necessary that the lamp in which it is burned should be furnished with a well-fitting screw-cap, to prevent the liquor from evaporating, and at the same time to keep its peculiar odour from escaping. This odour is often very naseous but the bisulphide is now manufactured by Messrs. C. Price & Co., of Thames street, so pure, that it possesses very little smell, and can be used without the least inconvenience.—*Lancet*, London, November 18, 1875.

THE REGISTRAR-GENERAL'S, (ENG.,) ANNUAL REPORT.

Year after year, for nearly half a century, these Reports, with their carefully compiled and laboriously worked out details, have been given to the public. Have the results been in equal ratio to the time and money expended on them? The answer must be emphatically in the affirmative. The weekly Table of Mortality, here arranged for the whole year, is an old London institution, improved and perfected in every manner that forethought and science can devise, and its utility is now very much increased by a publication of corresponding returns from nearly every city of importance throughout the civilised world; it follows, therefore, that, as the Registrar-General remarks in his introduction, "observers, like watchmen on the walls, are ever on the look-out, so that men can see exactly what is going on, and neither plague nor cholera, nor any other great epidemic can take the nation by surprise." Russia is almost the only country from which no returns are received; but as statistics are beginning to be cultivated there, it is hoped that before long the capitals of that country will co-operate in carrying out the great system of hygienic observation. Little by little the results of fresh sources of inquiry have been added to these returns, and only two points are now required to complete their usefulness—one of these is a record of the age at marriage in all cases, and the other is the age of parents at the births of their children; and though undoubtedly difficult to obtain, there is no reason for supposing they will not eventually be able to be shown. The Report further explains that special inquiry has been made into the connection which exists between great reduction in the mortality and genuine sanitary work; and the result is decisive. There remains no doubt that the increased salubrity of several towns and districts is entirely due to sanitary measures. Where no such effects follow improvements, it may fairly be assumed the improvement is only apparent, or that the works are imperfect. What is certain is, that—thanks to the increasing and improved sanitary measures which are being carried out all over the country—the mortality of the whole population, though not so low as it is in some countries, is much lower than it is in large empires. That the health of the people is not stronger is partially due to the increasing density of the population, without corresponding arrangements for lodging them, for supplying them with pure water, for preventing

the discharge of black smoke into the air they breathe, or for carrying away impurities in the shape of sewage and other deleterious matters. It is, however, satisfactory to find that, after carefully considering the mass of information which reaches him from all quarters, the Registrar-General is able to record that the progress of the health of England is a source of congratulation. Much, he admits, remains to be done; but with a vigilant body of health officers devoting themselves to conservative medicine, it only requires to solve efficiently the sewage and water questions, to build improved dwellings in village, town, and city, to render the health returns as satisfactory as we can ever hope to make them. The Appendix to the Report contains an interesting statement by Dr. Farr on the causes of death in England in 1874, considered under the different groupings of disease.—*Med. Times & Gaz.*

THE SANITARY CONDITION OF SWITZERLAND.

The *Gaz. des Hopitaux*, Oct. 26, contains an abstract of an interesting paper read by Dr. Lombard, of Geneva, at the recent meeting held by the Helvetic Society at Basle, in which he stated the results of his researches as to the present distribution of disease in Switzerland. *Intermittent fevers*, formerly so common, have diminished in all parts of the country, and even have quite disappeared from some localities where formerly they were very common. The mean mortality resulting from *phthisis pulmonalis* is 77 per 1000 deaths, being a much lower proportion than that of most other countries of Europe. Thus in Belgium this varies from 168 to 198, and in England is 124. It varies much in the different cantons and cities of Switzerland, being 104 at Zurich, from 105 to 107 at Basle, 101 at Geneva, 104 at Neufchatel, 37 at Fribourg, 49 in Valais, 50 in Thurgau, and 17 in Zug. Two influences are brought into view by this investigation—viz., the deleterious effects of industrial occupations as compared to agricultural, and the benefit of high altitudes, cases of phthisis being less frequent in proportion to the height attained, so that it entirely disappears in the very high valleys. *Goitre and cretinism* exist in Switzerland—the first, in different degrees, in almost every part; the other in certain regions only, and tending to diminish as prosperity and civilization are extended. With respect to the geographical distribution of the cretinism, the Valais occupies the first place, it being found as well in its principal

valleys as in its numerous lateral valleys—which, with few exceptions, contain many cretins. The cantons of Vaud and Bern have cretins in only very few localities; and the same comparative immunity exists in all the cantons situated in the principal Surassic valleys—as Neufchatel, Solothurn, Argovia, and Basle. The grand mass of the Alps is, consequently, together with the Valais, the principal endemic seat of cretinism. *Inflammations of the respiratory organs* are, as might be expected, amongst the most widely spread diseases in Switzerland, being found with a frequency which increases with the altitude. They are, indeed, met with in a very severe epidemic form in the higher valleys, where what is termed the "*alpenstich*" is a malignant and probably contagious pleuro-pneumonia. *Scrofula* and *rheumatism* are very prevalent throughout the whole of Switzerland, and seem to increase with the altitude. Epidemic *cholera* has never reached the districts of the centre of the country. *Alcoholism*, as everywhere else, is making progress in Switzerland, and in some cantons carries off many victims. The mortality from delirium tremens is limited in many towns and cantons to 1 or 2 per 1000 deaths; while in others it is raised to 5 or 6, and in some localities to 35 per 1000. The number of *blind* persons in Switzerland is 76 per 100,000 inhabitants, which is a relatively very low proportion. In France there are 84 per 100,000, in Sweden 81, in Holland 100, and in Norway 184. On the other hand, in Bavaria there are only 52, in Prussia, 58, and in Belgium 68. The cantons in which most blind are found are the Grisons (130), Appenzell (109), and Tessin (103); while fewest are found in Glarvs (42), Geneva (44), and Schwytz (46). The *deaf-dumb* exist in the proportion of 245 per 100,000 inhabitants, which is nearly five times larger than in France, where it is 58. The Valais occupies the foremost place (498), and after it come Lucerne (436) and Argovia (434). At the other extremity of the scale are Geneva (171), Glarvs (45), and the district of Basle (84.)—*Med. Times & Gazette.*

DISINFECTION WORTHY OF IMITATION.—The Health Committee of the Birmingham Corporation have opened a station for the purpose of effectually disinfecting the clothes and bedding of patients who have suffered from infectious disease. The method of disinfection adopted is that known as Dr. Ransome's hot-air system. The establishment consists of several detached buildings in a large enclosed yard; it is divided into two departments—one where infected articles are received, and the other where they are placed after being disinfected.

The isolation of the two places is so complete that each has separate entrances, yards, out-buildings, stabling, vehicles, and attendants. Persons having need of the disinfecting apparatus have only to give notice to the sanitary inspector, and the infected articles will be removed in a closed van to the station, thoroughly purified and returned; this will be done in the course of a few hours, free of charge, and without any trouble to the owners of the articles. The fabrics to be disinfected are placed in an air-tight iron chamber, and exposed to heated air at a temperature of from 250° to 270°. The station and apparatus cost altogether about £1,000.—*Sanitary Record.*

HYGIENE.—Whether the School Board and the teachers in our ragged and denominational schools intend to teach their little scholars the value of soap and water and to instil into their young minds the truth of the old maxim, that "cleanliness is next to godliness" we will not pretend to say. But with all reverence for what is holy and good, we shall venture to assert that to compel them to learn a short catechism of personal hygiene in respect of its most simple and elementary rules, would even be to them of more practical benefit than that resulting from the teaching of another catechism with which the memories of too young children are frequently burthened. It may certainly be asked of what use would be the teaching of the elements of hygiene and the importance of thrift, industry and cleanliness to children to whom the example set them at home would more than gainsay the precept they learnt at school. There is, however, no reason why the education of parents to such habits as are conducive to health and comfort should not go hand in hand with a similar education of their offspring.—*Med. Press & Circular.*

WHEN AND WHY WHERE MALE PHYSICIANS EMPLOYED AS ACCOUCHEURS?—Dr. Wm. Goodell (*American Journal Obstetrics*, August, 1876), in a very interesting paper answers the above question. It was just subsequent to the discovery of the art of printing that male physicians began to act as accoucheurs, and thus destroy the monoply of midwifery by midwives. The reason for this change seemed to lie in the fact that the people became wiser, read more books, so that they could appreciate the ignorance of the midwives. Physicians developed with the times, the midwives did not. The former wrote elaborate works on obstetrics, which the latter, with rare exceptions, could not even read. What more natural than that intelligent women should prefer the teacher to the inapt pupil—should place their lives in skilled hands rather than

in those which were unlettered. What more inevitable than that the male physician who was hurriedly sent for in cases of emergency, or was kept waiting in an ante-chamber for such emergency, should, despite tradition, prejudice and religion—should, in spite of himself, for it was long deemed dishonourable for him to practice midwifery, ultimately usurp the place of the midwife by the bedside of the woman in travail? *Detroit Review of Medicine.*

PHYSICAL AND INTELLECTUAL QUALITIES OF MAN—THEIR MEASUREMENT.—Dr. Baxter (*Med. Statistics Provost-Marshall's Bureau*, vol. 1, p. 83,) gives as a summary of the conclusions reached by investigators in anthropometry the following: (1.) There is a perfect form or type of man, and the tendency of the race is to attain this type. (2.) The order of growth is regular toward this type (3.) The variations from this type follow a definite law, the law of accidental causes. (4.) The line formed by these variations, when arranged in groups receding on either side of their mean, is the curve well known to mathematicians as the binomial; it was first applied by Newton and Pascal to questions of astronomy and physics, but is applicable to all the qualities of man which can be represented by numbers. (5.) The more numerous the data obtained by actual measurement, supposing them to be made with reasonable care and without bias, the more nearly accurate is the mean result, and the more closely does it correspond with that obtained by calculation.—*Detroit Rev. of Med.*

HYGIENE IN THE RUSSIAN SCHOOLS OF MEDICINE. — The Russian Government exhibited at the Brussels Exhibition for the Saving of Life, some specimens of the models used for illustrating hygiene in Russia Schools. The composition of the human body is shown by a series of jars, which contain separately the approximate quantity of substance that go to make up the human frame. First, a large glass barrel, holding about fifty kilogrammes of water, is shown, and this forms 72 per cent. of the total ingredients. In smaller vessels are the gelatine, the albumen, the fat, the phosphate and carbonate of lime, and divers salts which help to constitute the mortal part of man. The pupils having thus learnt of what they are made, are told how to maintain the natural balance. They are shewn of what various kinds of food consist. In a glass tube is exhibited so much water, so much albumen, so much cellulose, sugar, starch, etc., and the outside is marked 'cabbage,' or 'cucumber.' There are jars of black bullock's blood to be

shaken up with air, in order to show how oxygen reddens and revives the blood in the lungs. There are also jars with lime water and a breathing tube so that the pupil can breathe in and see the water curdle at the action of the carbonic acid. Another breathing apparatus experiment shows that this carbonic acid is fatal to the flame of a taper as it would be to human life, and as it ultimately is to the unhappy dogs periodically thrust for the instruction of the traveller into the Grotto del Cane, near the Avernian lake in Southern Italy. By another of the Russian modes a striking sanitary lesson is taught. The exhibitor breathes into one side of a box, which is divided into two by a strong brick wall. The other side of box is tapped by a tube which ends just above the flame of a candle. When the exhibitor has poured carbonic acid from his breath into one side of the box it passes through the bricks, and coming through the other tube falls down (being heavier than air) upon the candle and extinguishes it. The learner is thus taught that noxious gases are not kept out by brick walls.—*Sanitary Record.*

VACCINIA.—The public should know that the object of being vaccinated is to have produced in the vaccinated person *vaccinia*. It is common for people to talk as if it was enough to have been vaccinated, whether vaccinia was produced by the operation or not. This is a great mistake. Security from small-pox is conferred, not by being vaccinated, but by having the system affected by the disease called *vaccinia*, which, like all other eruptive diseases, should have an eruption, and produce a certain amount of malaise and febrile disturbance in the system. So with revaccination. It is not enough to have the operation performed. What is wanted is the production of the disease a second time, in a milder and modified way, but still in a way to produce certain local manifestations accompanied with a certain amount of feeling of malaise. It is people who have had vaccinia well a second time who are protected from small-pox, not people who have merely gone through the formal operation of vaccination which may fail from various causes. In one case reported to us the temperature of a baby that had been well vaccinated ten days before, was found to be 102°. This was two or three days after the period when public vaccinators are required to see a child. Yet the child was still ill. It had a sore arm and a high temperature. So much the better for the child; but the case show that vaccinated children need a little more sympathy and attention than they get, and it is very likely that they would recover all the better if vaccinia were a little more regarded than it is.—*Lancet*, London, November 18, 1876.

SANITARY TEACHING FOR THE PEOPLE.—With a view to enlighten the working classes on the laws of health, and following in the wake of Manchester and Birmingham, a series of twenty lectures will be given in London this winter, under the auspices of the Natural Health Society and the Trade Guild of Learning. The first lecture was given on Saturday evening before a very large and attentive audience in the large room of the Society of Arts, John Street, Adelphi, a fee of one penny per lecture only being charged to the working-classes. For other members of the community the charge is one guinea for the course. Professor W. H. Cornfield, of University College, has been selected to deliver the lectures, which are all to be in the simplest terms, that a very labouring man and woman will be able to understand, the subjects being the structures of the body; the separate work of the bones, muscles, &c.; the circulation; brain work; preventible diseases; ventilation; water supply; drainage; foods and drinks; the arrangement of dwellings; unhealthy employments; disinfection, &c. The sympathies of the working classes having been appealed to and obtained, such a course of instruction cannot fail to exert a healthy influence upon the masses, and strengthen the hands of those who are engaged in an uphill hygienic warfare.—*Med. Press and Circ.*

FATAL GOOD-BYES.—It has often happened that two persons in good health have bid each other good-bye, not doubting they would meet again in a few days. Within a few days one died, and they met no more. One had accompanied the other to the door to open it; a cold, raw wind was blowing; some other subject came up, and talked just a minute, but during that minute the person visited having on no extra garment, while the visitor was warmly clad, "got chilled through and through;" that means, in many cases, inflammation of the lungs, so often fatal within five days. If you must stand at an open door, place yourself between the lock and the hinge, then the wind cannot blow upon you.—*Ex.*

A NEW DANGER FROM ARSENICAL POISONING.—A rich lady, residing in the Faubourg St. Honore, Paris, found herself growing very ill, and her doctor pronounced her to be suffering from the effects of some slow poison. Finally, it was discovered that candles were kept burning all night in her room. These candles, of a dazzling whiteness, had been strongly impregnated with arsenic during their bleaching process, and the arsenic becoming volatilised by the combustion thus poisoned the air of the bed-chamber. A white filmy powder was found in a glass of water at the bed-side, and was found to be arsenic.

PRACTICAL RESULTS OF SANITARY WORK.

Within the last forty or fifty years, attention having been strongly directed to the large comparative mortality of cities and its connection with manifest local conditions of impurity, "the British parliament passed laws authorizing towns to make improvements, and to raise money to pay the cost. Under this authority many towns and cities have drained their streets with sewers. They have paved streets that were bare, cleansed filthy places, opened closed courts, widened narrow lanes, removed nuisances, and introduced water from pure streams or fountains, to be used in households, instead of the corrupted water of the wells. These improvements have been followed by marked changes in the sanitary condition of the inhabitants. Sickness has diminished; some diseases that were very frequent—fevers, dysentery, cholera, etc.—have become rare, and from some places they have disappeared. The rate of mortality has been reduced, and longevity has materially increased."

In Salisbury the results of such improvements was, that whereas, for nine years before, the annual mortality was 27 in 1,000 of the population, for nine years after the improvements were made it was only 20 in 1,000.

In Liverpool the rate of mortality previous to 1847 was 3.84 per cent., or one in 26 of the population annually. An extensive system of sanitary improvement having been carried into effect, "at once there was a change for the better in the health of the people, especially of the poor. Sickness diminished, and the death-rate was reduced from 3.84 to 2.27 per cent.—nearly one-third." In other words, instead of one death in 26, there was only one in 37 of the population annually.

Many other towns did a similar good work for themselves, and received a similar reward. The rate of mortality was reduced in London from 2.38 to 2.23 per cent.; in Manchester from 3.71 to 2.71 per cent.; in Glasgow from 3.39 to 2.78 per cent. by the same means.

In Macclesfield "the general rate of mortality of the whole city was reduced from 3.3 to 2.6 per cent. * * * But the worst districts, which had been the most foul and most sickly, and where the work of cleansing and purification had been greatest, showed the largest improvement in health and life." The rate of mortality was diminished in some 34, in others 40, 42, and in one 60 per cent. "In the original state of the town the average age of all who died was 24 years; but afterwards it was 29 years, showing a gain of 20 per cent. in longevity."

Another writer sums up the results attained by sanitary reforms in England in the following emphatic terms: "Within the last half century land-draining and town-sewering have ripened into sciences. From rude beginnings, insignificant in extent, and often injurious in the first instance, the systematic sewering of towns and draining of lands have become of the first importance. Land has thus, in not a few instances, doubled its value. Town-sewering, with other social regulations, has contributed to prolong human life from 5 to 50 per cent., as compared with previous rates in the same district. Agues and typhoid fevers are reduced in the frequency of their occurrence. Since 1840 an annual mortality of 44 in 1,000 in English towns has been reduced to 27; an annual mortality of 30 has been reduced to 20, and even as low as 15. Not less remarkable reductions have taken place in the mortality and loss of strength in the army and navy; so that generally it may be said that human life has now more value in England than in any other country in the world—a result entirely due to better sanitary arrangements."—(*Aitken, Sci. & Prac. of Med.*)—*Report of Virginia State Board of Health.*

THE ARCTIC EXPEDITION—The *Sanitary Record* observes, the causes which prevented the late Arctic Expedition from penetrating at least much nearer to their goal are now pretty clearly made out, and have a great public interest extending beyond the range of Arctic exploration, or merely retrospective information. The expedition failed relatively because the commanders of the sledge parties failed in the most vital matters to observe the instructions given to them for the maintainence of the health of their men. It seems incredible, but it appears to be absolutely true, that the sledge parties started without any supply of lime-juice, and that each man was expected to drag over the rough and mountainous ice, a weight averaging upwards of 400 lbs. per man—just double the amount of exertion which could reasonably have been expected of them. Under the continuous influence of want of lime-juice and excessive exertion the joints of the men began to swell, and the characteristic blood-effusions to appear with intense depression and lassitude. The swellings were rubbed with liniment as if they were bruises, and even when the presence of scurvy was but too apparent, there was not any store of lime-juice to be used as a medicine. No wonder that when the remaining men still in health had to pull along the two sledges and the scorbutic invalids, they progressed only a mile a day.

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Communications solicited from Medical Men and others on all subjects pertaining to Public Health.

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A PROVINCIAL BOARD OF HEALTH.

We have on several occasions suggested the advisability of having a Provincial Board of Health established in Ontario. In most civilized countries the State is taking some action in the direction of establishing Central or State Boards for looking after the health and life of the people. In some countries, notably England, much has been done in this way for many years, and there seems not to be in one of them two opinions regarding the usefulness and value of such bodies. It seems to be universally believed that the money and labor thus spent in the interests of public health could not be applied to better use, and the constant tendency is where action has been taken to increased expenditure in that behalf. Eleven of the States of the 'Union' have now State Boards of Health; Massachusetts taking the lead, establishing a Board in 1869. The voluminous reports of this Board are becoming second only to the reports of Mr. John Simon, of the Government Board of Great Britain.

Probably many of our readers have not had opportunity to learn much of the nature and objects of these State Boards, and we give below a brief notice of four of them.

The Massachusetts Board, consists of seven members, appointed by the Governor, with the advice and consent of his Council. Each member holds office for seven years, and the term of one expires every year, the Governor appointing another. The Secretary only receives a salary, though the actual expenses, travelling, etc., of the other members are paid. The Act establishing the Board provides that:

"The Board shall take cognizance of the interests of health and life among the citizens of this Commonwealth. They shall make sanitary investigations and inquiries in respect to the people, the causes of disease, and especially of epidemics, and the sources of mortality and the effects of localities, employments, conditions and circumstances of the public health; and they shall gather such information in respect to those matters as they may deem proper, for diffusion among the people. They shall advise the government in regard to the location of any public institutions. They shall, in the month of January, make report to the legislature of their doings, investigations and discoveries during the year ending December thirty-first, with such suggestions as to legislative action as they may deem necessary.

"It shall be the duty of the Board, and they are hereby instructed, to examine into, and report what, in their best judgment, is the effect of the use of intoxicating liquor as a beverage, upon the industry, prosperity, happiness, health and lives of the citizens of the State. Also what additional legislation, if any, is necessary in the premises."

The Michigan Board, established in 1873, consists of six members, appointed by the Governor; the members shall appoint a secretary, making a seventh member. The secretary only, who is the executive officer, and also Superintendent of Vital Statistics, receives a salary. The term of two members expires every two years. The duties of the board as set forth in the Act are similar to those of Massachusetts. Sections of the Act provide as follows:

"The sum of four thousand dollars per annum, or so much thereof as may be deemed necessary by the State Board of Health, is hereby appropriated to pay the salary of the secretary, meet the contingent expenses of the office of the secretary, and the expenses of the board, which shall not exceed the sum hereby appropriated.

"It shall be the duty of the health physician, and also of the clerk of the local board of health in each township, city, and village in this State, at least once in each year, to report to the State Board of Health their proceedings, and such other facts required, on blanks and in accordance with instructions received from said State Board. They shall also make special reports whenever required to do so by the State Board of Health.

"In order to afford to this board better advantages for

obtaining knowledge important to be incorporated with that collected through special investigations and from other sources, it shall be the duty of all officers of the State, the physicians of all mining or other incorporated companies, and the president or agent of any company chartered, organized. or transacting business under the laws of this State, so far as practicable, to furnish to the State Board of Health any information bearing upon public health which may be requested by said board for the purpose of enabling it better to perform its duties of collecting and distributing useful knowledge on this subject.

"The secretary of the State Board of Health shall be the Superintendent of Vital Statistics. Under the general direction of the Secretary of State, he shall collect these statistics, and prepare and publish the report required by law relating to births, marriages, and deaths."

The Virginia State Board was established in 1872, it consists of seven *physicians*, holding office four years.

"The board is required to place itself in communication with local boards of health, hospitals, asylums, and other public institutions, and to take cognizance of the interests of health and life among the citizens generally. They shall make sanitary investigations and inquiries respecting the causes of disease, especially of epidemics and endemics, the sources of mortality among the whites and the blacks, and the effects of localities, employments, conditions and circumstances upon the public health; and they shall gather such information in respect to these matters as they may deem proper for diffusion among the people. The board is required to inquire into the effect of the use of intoxicating liquor as a beverage upon the industry, happiness, health, and the lives of the citizens of the State, and also what legislation, if any, is necessary in the premises, and to make an annual report to the Legislature of their doings, investigations, and discoveries, with such suggestions as to the legislative action required as they may deem proper."

The Act establishing the Georgia Board, passed January 1875, provides for the appointment of nine *physicians*, to hold office six years, the term of three expiring every two years:

"Who shall have been practitioners of not less than ten years, one from each Congressional district in the State, who for the time being, shall be sanitary commissioners for the said

districts, and the said sanitary commissioners, together with the Comptroller-General, and Attorney-General, and State Geologist, shall constitute a board of health.

"That said board shall take cognizance of the interests of health and life among the people of the State; they shall make inquiries in respect to the cause of diseases, and especially of epidemics, and investigate the sources of mortality, and the effects of localities, employments, and other conditions upon public health.

"Such State Board of Health is authorized to require reports and information (at such times, and of such facts, and generally of such nature and extent, relating to the safety of life, and the promotion of health, as its by-laws or rules may provide) from all public dispensaries, hospitals, asylums, prisons, and schools, and from the managers, principals, and officers thereof; and from all other public institutions, their officers and managers, and from the proprietors, managers, lessees, and occupants of all places of public resort in the State; but such reports and information shall only be required concerning matters and particulars in respect of which it may, in its opinion, need information for the proper discharge of its duties. Said board shall, when requested by public authorities, or when they deem it best, advise officers of the State, county, or local governments, in regard to sanitary drainage, and the location, drainage, ventilation, and sanitary provisions of any public institution, building, or public place.

"That the sum of fifteen hundred dollars is hereby appropriated for the purposes of this Act.

It can hardly be doubted that a Board of Health for Ontario, established on principles similar to the above, would be very useful. "Slowly but surely," the Massachusetts Board writes, "the value of the Board, as a powerful agent for public good, has been recognized, and the desirability of still further extending its field of usefulness has been admitted." The last report of this Board is a volume of 350 pages of most valuable and instructive matter, and 10,800 copies have been printed for distribution; being at the rate of one for every 28 families in the States.

Ontario has a large surplus and spends immense sums on other and much less important things. It is to be hoped this subject will receive at least some attention, as in most other civilized countries.

THE PNEUMATIC SEWAGE SYSTEM.

In the pneumatic system the fecal matters are drawn off by pipes connected with air-tight resorvoirs and steam-worked pumps. It has been introduced chiefly into Holland by Captain Liernur, seemingly the inventor. It was described in the SANITARY JOURNAL over two years ago, and we then stated that if the system proved to be as perfect as its advocates claimed, it ought to supersede the water carriage system. It appears not to have been generally very well received however, though it seems to be well adapted to low-lying cities. It no doubt has points of excellence, but any system in which the pipes for conveying the fecal matter are actually trapped by the fecale itself, which trap is to prevent sewer gases getting into the houses, and which fecale might possibly be from a typhoid patient, and which pipes, as Captain Liernur states himself become coated inside with a moist "schleimartig," must be far from perfect or desirable, and not only inelegant but disgusting and unsafe.

We observe that in Montreal there is a movement to give this system a trial in a part of the city. We would advise our readers there to consider the matter well before adopting such a system. If the sewage of the city is polluting the river, can they not turn it from the river and have it conveyed out of the city by gravitation or pumping to a sewage farm. This method seems now to be very generally regarded as the most practicable one of sewage disposal.

The pneumatic system of Liernur we have looked into somewhat and do not believe its use will become general. A Berlin commission reports that at Prague and Hanau, where it had been tried on a small scale, it had proved offensive and so unsatisfactory as not to be extended. Capt. Liernur however states that the first attempts have been improved upon. In 1867 a commission at the Hague recommended the system for that city but a year ago it had not yet been introduced there. It had a like fate at Rotterdam. Capt. Liernur is introducing it into a part of St. Petersburg, but that city is not to be at any of the expense. He has had an agent in London,

but the system does not appear to meet with a very favourable reception in England.

The Netherlands being reclaimed from the sea, and being surrounded and protected by enormous dykes, upon which the country depends for security against inundations, it is easy to see that the difficulties of drainage and sewerage are very great, and that an abundant supply of pure water is almost an impossibility. Many of the houses in the cities have common privies, discharging by nearly straight tubes into the canals. Among the wealthy class there are a few water-closets and cesspools. The poor have no accommodations, and throw into the stagnant canals the refuse which does not escape by surface-drainage.

In Amsterdam, the odors from the canals have been for years extremely offensive, and naturally, the authorities were willing to try any system which promised a solution of their difficulty, and they adopted the Liernur system in one of the poorest quarters of the city in 1870.

"At the present time,* it has been introduced for a population of 6,000, or one-fiftieth of the whole city. Mayor den Tex, and the present Master of Public Works, state that it has given entire satisfaction in the poorer parts of the city, where there was absolutely no accommodation before, and where the closets connected with it are out of doors. They state, also, that its first cost renders it doubtful whether it will be extended even there; and that among the better classes the system is considered inferior to water-closets and cesspools. In Leyden, a city of 40,000 inhabitants, 1,200 people in the poorest quarter have their houses furnished with Liernur's system. That it is very much better than the previous arrangement of throwing filth into the canals by hand, is universally agreed. The authorities, however, as in Prague, apparently do not consider that the gain is in proportion to the great expense incurred, for no extension of the scheme has been agreed upon.

Dr. C. F. Folson Sec'y of State Board of Health, Mass. says: "By the politeness of Mr. Bergsma, Secretary of the Board of Works of Amsterdam, a friend of the system, I was able to see it in actual operation. The emptying of the tanks was complete, rapid, and as far as I could see, successful. There was no trace of odor. In the central building, where the

* Report of Massachusetts State Board of Health, Jan. '76.

matter was transferred to barrels, and in its immediate vicinity, the stench was very great.

"In the houses of the poorest class, where one house is used by several families, they become soiled, and in some cases filled to overflowing, before any one takes care of them. They become clogged occasionally by coffee-grounds, ashes, etc., which will find their way into them. They are not as offensive as the milden or privy, still to be found in many large cities. They are in all cases out of doors, and the people who use them prefer them to the arrangements which existed before their introduction.

"In a few houses of the middle class, where they are in the yards, a few rods from the houses, they were scrupulously clean, received frequent washing, and were not offensive.

In a primary school-house, where the closets were separated by only a narrow passage way from the class-rooms, they were frequently washed, and, although there was a slight disagreeable odor, there was nothing really offensive at the time of my visit.* It is undoubtedly true, as the teacher said, that the closets are much more satisfactory than anything which they had ever had before.

"In the houses of the better class there is so much complaint of the bad odor that they get rid of it as best they can by flushing, with a sudden dash of a large quantity of water, after each use of the seat. Occasionally they become entirely clogged, when the odors are simply insupportable. Mr. Dyck, a resident of Amsterdam, who has also a farm in the country, states that twice in one year this intolerable stench drove him and his family entirely out of his house until the obstruction could be removed.

"Capt. Liernur proposes to meet this difficulty by automatic water-closets, using only one liter of water at each time of use; but they have not been put to the test of practice, and so small a quantity can be of no more service there than in our ordinary hopper-closets.

"A part of the original plan was to sell the excrement at a remunerative price; but people of the neater class cannot be prevented from flushing their closets liberally, and the contents of the reservoirs contain so large a proportion of water as to have the general appearance of ordinary sewage except in color. Dr. Amersfordt made a contract with the city to take the whole of it, to be delivered on his farm at 11½ cents (U. S. currency) for each one hundred liters. The contract expired January 1,

* In his official report to the Oberbugermeister of Colonge, Stadtbaumeister Becker states that he found in these rooms an offensive odor.

1875, and has not been renewed, for two reasons. Dr. Amersfordt states that the distribution of largely-diluted manure from barrels is costly and difficult; also that, when delivered to him in the winter, it is often frozen in the barrels. It is now sold for 16¾ cents (U. S. currency), delivered by boats on the farms, during the summer only. *In winter it is carted down and thrown into the harbour, as it cannot be sold.*

"At Dodrecht, this system is in process of introduction for 128 houses, with a population of 800 people, and Capt. Liernur is making preparations to make poydrette on a large scale, from which he hopes to obtain a considerable revenue. It should be remembered that a similar experiment failed in Amsterdam twenty years ago; that the Paris poudrette sold for one-twentieth of the value placed upon it by the chemists; and that an English company has become bankrupt in attempting to pay two francs a cubic meter for the contents of the cesspools in Paris, leaving several hundred thousand cubic meters at Bondy, of which the authorities would be glad to rid themselves.

"The "Liernur System" has been very widely proclaimed; but, as has been seen, it has not yet met with much favor, even in Holland, to judge by the number of people now using it."

Annotations.

HEALTH OF MOTHERS.—There is the health of the mother especially during pregnancy. You will have something to say concerning this. If human beings were bred with the care that is bestowed on racehorses and shorthorns, mothers would be compelled to lead very different lives from those they lead now. It is quite certain that if there is a great demand and drain made upon the nervous energy of a woman who has a child *in utero*, the nervous system of that child will suffer. There is no treatise on idiocy which you take up in which you will not find fright given as one of the causes; and in popular language and amongst all classes you will hear that a fright or a shock to a pregnant mother is apt to bring about idiocy or some allied disorder in the child. Now, not only a sudden fright or shock, which probably is accidental or unavoidable, but long-continued emotional excitement and brain-work will have a baneful effect upon the offspring. It is another illustration of not being able to do two things at once. A woman cannot breed healthy children and devote

herself to other and harassing pursuits. Dr. Seguin, an eminent American physician, who has specially studied such subjects, says that idiocy is increasing in the State of New York, and he ascribes it to the social conditions of the women in that country. "We overburden women," he says, "they overburden themselves, and choose or accept burdens unfit for them. As soon as women assumed the anxieties pertaining to both sexes they gave birth to children whose like had hardly been met with thirty years ago—insane before their brain could have been damaged by their own exertions; insane probably by a reflex action of the nervous exhaustion of their mother." If women combine the bearing of children with the work, the anxieties, and the responsibilities of callings which, as a rule, are undertaken by that sex which does not bear children, there can be no question, in my opinion, that the children will suffer. If such vocations are to be undertaken by women, let them be left to such as are unmarried or are past child-bearing. If it does not agree with them, it will at any rate not interfere with the next generation.—(From an introductory lecture by G. F. Blandford, M.D., F.R.C.P., etc. lecturer on Psychological Medicine, at St. George's Hospital Medical School, Lon., Eng.)

Fatality of Nervous Diseases.—In a lecture on the prevalence and fatality of nervous diseases, by Julius Althus, M.D., M.R.C.P., Physician to the hospital for nervous diseases, he shows by tables compiled from the Registrar-General's Report, in which he has collected and compared the deaths from these diseases as they occurred respectively in London, the South-Western Counties and Wales, for a quarter of a century, that the commonly received notion that diseases of the nervous system are more prevalent and fatal in the great centres of social, professional and commercial life than in rural districts is proved to be fallacious, for it appears that the death rate is lowest in London—viz., 10-66 per cent. of the mortality from all causes; that in the South-Western Counties it is higher than in London, amounting in the average to 11·20; and that it is very much higher in Wales—viz., 15·38—that is, nearly five per cent. more than in London. That the nervous system, he says, should be more liable to break down in the fine and wholesome atmosphere of agricultural districts than in the close and foul air of the courts and alleys which abound in great cities, seems to show that excess of manual labor is more exhaustive to the nervous system than excess of mental labour; and that the more nourishing and substantial food which is enjoyed by even the poorest classes in London, as

compared with their brethren in the country, more than compensates them in this respect for the advantages the country affords, as far as air and climate and the supposed wholesomeness of rural pursuits are concerned.

THE SUPERVISION OF MEDICAL SCHOOLS is suggested by the London *Medical Times and Gazette*: "That the Royal Colleges should appoint a number of inspectors, chosen from the different schools much as are the present examiners. If the same care were exercised in the selection of these inspectors as in the election of examiners, and if the same spirit animated the former as seems to animate the latter, there can be no doubt that the pass-lists of the College would soon tell a different tale. If a school inspector could reject a lecturer because his lecture was below a certain standard, either as regards subject matter or adaptibility to the requirements of the students to whom it was addressed, we should soon have a decrease in the number of lecturers, and an increase in the quality of those who continued to hold their chairs. It is simply impossible for a student to tell his teachers that their lectures are not "up to the times." Hence there should be some one to do it for him.

VACCINATION.—Alderman McCord gives (*Can. Med. & Sur. Jour.*) the following figures with reference to the death-rate at the Civic Small-pox Hospitals, Montreal, from Nov. 7th, 1874 to Nov. 1st, 1876. *Protestant Hospital.*—Total number received, 168. Died, 34. = 20.23 per cent. There were 54 unvaccinated, and of these 25 died : = 46.29 per cent. There were 114 vaccinated, of these 9 died : = 7.89 per cent. *Catholic Hospital.*—Total number received, 396. Died 127 : = 32.07 per cent. There were 165 unvaccinated, of these 89 died : = 53.93 per cent. There were 231 vaccinated, of these 38 died : = 16.45 per cent. In both Hospitals, 564 Received. Died, 161.28 = .54 per cent. Unvaccinated, received 219. Died, 117 : = 53.42 per cent. Vaccinated, received 345. Died, 47 = 13.62 per cent.

THE ANCIENTS AND DRAINAGE.—Two thousand five hundred years ago the people thought it necessary to drain the soil in order to preserve the health, and they would abandon a city rather than suffer from *fevers*. Vitruvius tells that "the city of Salabra stood originally in an unhealthy location, so that the inhabitants suffered much from fevers. This induced them to abandon the city and to remove to another location, at a distance of four Roman miles, after Hostilius had thoroughly *drained* the place selected for the new city.

GOOD AND BAD WATER.

In the November number of the SANITARY JOURNAL, the notes of the public analyst, Dr. Ellis, were given of the impurities in the water of a certain well in Toronto, which he had analysed. The water was, probably, but a fair sample of that of a large proportion of the water in the city, and indeed in all other cities. Well water in populous parts of cities is rarely fit for drinking purposes. Most people seem to be in utter ignorance of the fact that a well may actually drain a large area of ground around it, and that foul organic matter from back yards, privy vaults, stables, etc., may percolate a long distance with the rain-fall into the wells; and furthermore that the water may, nevertheless, appear very pure and pelucid. If it happens to taste rather bad, it is not unfrequently called "mineral water," and the owner is rather proud of it.

The "city water" so called, is now, we believe, on good authority, a very fair water, and it is a false economy to use well water, especially in the older parts of the city; while it is, no doubt, the cause of many deaths.

There should be a law to compel owners of such wells to close the wells, that they might not endanger the lives of their families and neighbors.

As illustrative of the effects of bad water as compared with those of water not so bad according to the last annual report of the State Board of Health of Massachusetts, the cholera epidemic of 1853–4 showed very distinctly that in those parts of London where the filtered water taken from above the influence of the sewage of the city was used, the epidemic was very much less malignant than where the more impure was used. The General Board of Health took some pains to gather the statistics illustrative of this fact. Mr. John Simon, F. R. S., &c., in his report to the board, May, 1856, selects the two water companies for comparison which were supplying the same class of houses, and as near as may be the same kind of population; the pipes of the two companies for a portion of their districts being laid in the same streets, each supplying about the same proportion of the houses in these streets. The one, the Lambeth, was delivering in 1853–4, good water, speaking comparatively; the other, the Southwark & Vauxhall, delivering bad water. Mr. Simons report reads:

"Commonly, in attempting such inferences, the inquirer is baffled by difficulties which render exact conclusions impos-

sible; for populations drinking different waters will often be living in different circumstances of wealth, comfort, occupation, cleanliness, soil, climate."

"In reference to the comparison which had to be made, it is especially important to observe that the tenantries of these two great companies were not set on different parts of the South London area, each isolated from the other. On the contrary, the two populations were, so to speak, mutually interfused. Of thirty-one sub-districts into which the large space is divided, only eight were monopolized by a single water company; while of the remaining twenty-three, each was supplied sometimes in equal proportion by one company or the other."

"In the 24,854 houses supplied by the Lambeth Company, comprising a population of about 166,906 persons, there occurred 611 cholera deaths, being at the rate of 37 to every 10,000 living. In the 39,726 houses supplied by the Southwark & Vauxhall Company, comprising a population of about 268,171 persons, there occurred 3,476 deaths, being at the rate of 130 to every one 10,000 living."

"The population drinking dirty water accordingly appears to have suffered three and a half times as much mortality as the population drinking other water."

"But this evidence is only a part of the case; it admits of being greatly strengthened by a second group of facts which the statistical tables exhibit. It was thought proper to see how far any discoverable influence of foul water had been constant to both occasions; and this comparison is of singular interest for our purpose, because the Lambeth Company, which in 1854 gave the superior water, was in 1848-9 purveying even a worse supply than that of the Southwark & Vauxhall Company."

"It has already appeared that the tenantry of the Lambeth Company lost by the epidemic of 1853-4 611 persons. By the epidemic of 1848-9, in the same houses (or rather in as many of them as then existed), the deaths were 1,925." "The earlier figures showed that this population suffered in 1853-4 not a third as much as its neighbors; the present figures give the further fact that it suffered also not a third as much as at the time of its unreformed water-supply."

Now it can hardly be doubted, that the evil effects of bad water as compared with that which is better, which become so manifest in a time of epidemic, do not cease to exist when no epidemic prevails, but are continuous at all times though in a less marked degree.

CITIZENSHIP IN SANITARY WORK.

George Buchanan, M.D., F.R.C.P., &c., Assistant Medical Officer, Local Government Board, Great Britain, in his recent Presidential Address to the Society of Medical Officers of Health, took for his theme "Citizenship in Sanitary Work." The lecture is given at length in the British *Medical Times & Gazette*, which comments on it as follows:—He observed that every one who takes any real interest in sanitary work, and knows anything of its present position, will confess to himself that the science of hygiene, imperfectly understood as it is, is yet far in advance of practice; and will admit that if the community would only act up to the knowledge it has, or might have, of the laws of health, a vast amount of suffering and misfortune might be avoided. It must be admitted also that our laws, such as they are, allow of incomparably more care being exercised over the sanitary welfare of the community by those who are appointed to administer the laws. What, then, he asks, can be done to make people more careful of their own health, and of the health of those dependent upon them; and to make sanitary authorities more active in the performance of the tremendously responsible duties with which they are charged?

Too often, he says, the only answer given to these questions is one that may be summed up in the single word "compulsion," and an incessant desire is expressed for more law, or more astringent law: for stronger powers of regulation and repression to be exercised by local governments over the people, and by the central government over local governments. But the ignorant and careless must be reduced to a minority before they can be compelled to obey sanitary Acts; and the rate at which measures of legislation will prove fruitful, and the amount of regulation and repression that, in the interest of health, can be exercised, will depend on the education of the people to understand the value of sanitary measures to themselves and to the community, and on the trust they have in those who are to devise and execute the requisite sanitary regulations.

Certainly there are, here in England, "many measures, the immediate adoption of which would be the saving of much disease and death, that cannot be made matter of strictly compulsory law till much sanitary education of the people has gone on. And the education that will reduce the number of people needing compulsion will give to the majority the power, as it clearly has the right, to dictate the action required for the sanitary good of the whole community."

Dr. Buchanan in conclusion points the moral to be drawn—"Let us do what we can towards instructing the people, as the surest way, and in the end the quickest, of getting sanitary reform that shall be real, practical and thorough. By all means let Parliament, as representing the better intelligence of the country, say from time to time, in respect of one and another sanitary condition, what is the duty of the whole community, and what particular negligence or misdoing is not to be tolerated in the country; but let the community everywhere be at the same time instructed as to the significance of, and the necessity for, sanitary amendment." At present there is a total absence of any machinery for this purpose; but why, he asked, "should not every city have in it a society like the Manchester and Salford Sanitary Association, interesting the whole community in its special work, giving popular lectures, publishing sanitary papers, distributing sanitary tracts, watching the doings of the sanitary authority, and proposing amendments in sanitary legislation?" The activity and energy of sanitary authorities will depend, very largely at least, on the intelligent interest shown in the matter by the communities they represent. If these are indifferent in sanitary matters, the local authorities will sooner or later become indifferent also. The intelligent and educated part of a community must not stand aside, thinking that all has been done when sanitary authorities have been appointed; they must take a share in the work; and this they may do by means of associations like the Manchester one. An instance of the good such societies may do had been furnished, Dr. Buchanan pointed out, by Tottenham. "There for years sanitary work had been at a standstill, the local board being composed of men who took no particular interest in their sanitary business, and who learnt no lesson from the excessive prevalence of disease in their district. A few years ago a number of the inhabitants formed themselves into a sanitary association, turned out some of the obstructives on the board, and replaced them by members anxious for sanitary amendment; leavened, not the board only, but the whole population, with a care about health; succeeded in no long time in getting the more obvious sanitary faults of the place amended; and can already show, as measured by results, an amount of progress that without their exertions would not have been made." One such example, even, ought to have a most happy effect. The work of the Tottenham Association was purely and simply local work; and "it is by evoking the same kind of action by the local intelligence of the country that far surer progress will be made

than by any compulsion applied to an unprepared and unintelligent people."

VALUE OF FOUNTAINS.—At a recent meeting of the Manchester (England) Literary and Philosophical Society, Mr. Binney stated that the atmosphere of towns may be sensibly ozonized, and improved in quality, by the action of public fountains: "A water fountain may be regarded as a hydro-electric machine, the friction of the water issuing through the jets developing electric action, materially assisted by the conversion of the spray into aqueous vapor. I would suggest that this fact should be prominently brought before municipal bodies, to induce them to erect fountains in all available places in large cities, as sanitary agents. They might prove highly beneficial in crowded localities. An exchange remarks that the mechanical action of pure air over vegetation is productive of ozone, but still more manifestly is this subtle quality produced by the dashing of the waves and spray against the air. These lashings of air and sea mixed are in the nature of one substance rubbing on another. They evoke ozone, which, being inhaled in breathing, gives a stimulus to the constitution. Hence the benefit to health from a sea voyage, or a residence at a pleasant sea-side resort. It is to be hoped others may follow the worthy example of his Worship the mayor of Toronto, and that the city may be well supplied with fountains.

TREATMENT OF DRUNKARDS.—The *Medical Times & Gazette* says:—*Apropos* of a suggestion by a speaker at a recent temperance meeting as to habitual drunkards, we make the following extract from a treatise on naval discipline:—"Separate for one month every man who is found drunk from the rest of the crew, mark his clothes 'Drunkard'; give him six water-grog, or, if beer, mixed one-half water, let him dine when the crew has finished, employ him in every dirty and disgraceful work." In a case where this was tried the effects were so salutary, that in less than six months not a drunken man was to be found in the ship. The same system was introduced by the writer into every ship on board which he subsequently served. The culprits were heard to say that they would rather receive six dozen lashes at the gangway, and have done with it, than be put into the drunken mess—for so it was termed—for a month.

A PEOPLE WITHOUT CONSUMPTION.—Dr. E. M. Wright, of Hamilton County, U.S., has published a small pamphlet with the above heading, in which he gives an interesting account

of a people, about four thousand in number, who live on Walden's Ridge, a district of the Cumberland Table-land. No well authenticated death from consumption has ever occurred among them. The ridge is from 2,000 to 2,500 feet high. The mercury has never been known to be above 95 deg. F. or below 10 deg. F. The people, who are chiefly farmers, live mostly in log-houses, which admit plenty of fresh air, burn wood, wear no flannels, and live on corn bread, bacon, and coffee. The Cumberland Table-land is an extensive district, and comprises territory enough to form a good-sized state.

ALLOPATHY.—We have always objected to this mis-nomer, as applied to the regular school physicians, and we would like to see the following, from the proceedings of the Medical Society of the county of Kings, Brooklyn, N.Y., "passed around:"—"An intelligent writer to a highly respectable English medical journal makes the great mistake of speaking of "allopathy" as the practice of regularly educated physicians. This is a badge which should not be worn for a moment. It is a nickname, the invention of Hahnemann, based on a false conception or misrepresentation of what honorable medicine is; it was never a true descriptive term, and is less so now than ever before. It should be repudiated, in season and out of season, by all who consider themselves *physicians;* no such adjective is necessary."

MILK *vs.* ALCOHOL.—At a recent Dairy Show will serve to give encouragement to those who believe that success is likely to follow any reasonable efforts to provide other than alcoholic refreshments for the million, at moderate prices. On the third day of the show, at the request of the bystanders, the Aylesbury Diary Company began to supply them with draughts of milk at a penny a glass. Above 1,000 gallons were sold within a few hours, and the experiment was only stopped because the refreshment contractor, finding his counters suddenly deserted, threathened the authorittes with an action for damages, considering that such sale involved a breach of contract with him.

RUSSIAN.—It is proposed among the physicians and hygienists of St. Petersburg to open a Hygenic Society in that city, which will be in close connection with the London Sanitary Institute, and with the Paris Societe Nationale d'Hygiene. Hygiene obtains great attention among Russian physicians, and the fortnightly periodical *Zdorovie, (The Health)*, has already published, during the first half year of its existence, some very valuable orignal papers.

AT THE INTERNATIONAL MEDICAL CONGRESS, Phil., one of the best addresses was that "On Hygiene and Preventive Medicine," by Dr. Bowditch, President of the State Board of Health of Massachusetts. He said that in regard to medical social ideas, the past century divides itself into three epochs. The era of theory and dogmatism, from 1776 to 1831; of careful observation, from 1835 to 1869—an epoch often marked by bold and sometimes reckless scepticism—and the epoch from 1867 to 1876, distinguished for the interest that has been taken, and the progress that has been made, in state preventive medicine.

VITAL STATISTICS.—From the Registrar-General's returns we learn that during the week ending Nov. 11, the mortality from all causes was at the rate of 22 deaths annually in every 1,000 persons living. The annual death-rate was 17 per 1,000 in Edinburgh, 20 in Dublin, 21 in Glasgow, and 21 in London. In the other large towns the rates of mortality were—Sunderland 16, Birmingham 19, Hull 19, Portsmouth 19, Bristol 20, Brighton 20, Nottingham 21, Bradford, 21, Newcastle-upon-Tyne 23, Liverpool 24, Manchester 24, Norwich 24, Leicester 25, Plymouth 25, Leeds 26, Sheffield 26, Oldham 28, Wolverhampton 29, and the highest rate 40 in Salford.

IN Foreign Cities, the annual rates of mortality according to the most recent weekly returns of the Registrar-General, were:—In Calcutta 24, Bombay 26, Madras 35, Paris 24, Brussels 22, Amsterdam 22, Rotterdam 29, The Hague 22, Copenhagen 18, Stockholm 25, Christiania 16, Berlin 26, Hamburg 23, Breslau 24, Munich 36, Vienna 22, Buda-Pesth 34, Rome 19, Naples 20, Turin 18, Alexandria 46, New York 21, Brooklin, 16, Philadelphia 20, and Boston 23. The fatal cases of typhoid fever in Paris, which had been 29 and 40 in the two previous weeks, further rose to 59 last week.

CARDINAL MANNING, speaking recently in support of a "Permissive Bill," said that in his opinion the publicans' business came under the law passed against "noxious trades," and ought to be proceeded against as a nuisance. It is a trade directed against the health and morals of the community at large

D. A. Gorton, M.D., an able homœpathist, in a work on medical philosophy, 1875, says that "sulphur is efficacious in obstinate contumacy, and in sin original or acquired; chamomile, in a fretful, peevish disposition; belladonna, in certain forms of temper diseases; hyoscyamus, in jealousy; nux vomica, in maliciousness, and stramonium in cowardice."

SICKNESS AT DIFFERENT AGES.—Dr. Reginald Southey has recently been delivering a course of valuable lectures on "Individual Hygiene" in London. In one he introduced a table of "Expectation of Sickness," which he had prepared and which is as folliws:—At 20 years of age, calculate on four six days yearly. At 20 to 30, 5 or 6 days. At 45, 7 days. At 50, 9 or 10 days. At 55, 12 or 13 days. At 60, 16 days. At 65, 31 days. At 70, 74 days. This refers to people of average good health, and not to those who may be afflicted with any ineranicable or chronic ailment.

THE VERMONT STATE MEDICAL SOCIETY—Met at Montpellier, Vermont, Dr. L. C. Butler in the chair. In his address he said:—"I would recommend that a committee be appointed by this Society to memoralize the Legislature, now in session, for the appointment of a Sanitary Commission of three suitable persons, whose duty it shall be to examine the laws of the State now in force relative to the public health and the prevention of contagious and other diseases, and make a full report, with such legislation as they shall deem necessary, to the next session of the Legislature or meeting of this Society.

THE *Med. Press & Circular*, Nov. 1st, says:—The health of the country continues in a most satisfactory state; the marvellously low rate of mortality having been returned last week by the Registrar-General, of 12 per 1,000 in Edinburgh, 16 in Dublin, 18 in London, and 21 in Glasgow. These figures are lower than we ever remember to have seen them in Edinburgh, Dublin and Glasgow, speaking volumes for the preventive medicine of the day.

COMPLIMENT TO ENGLAND.—It is announced that the Reichsgesundheitsamt (State Board of Health) recently installed at Berlin has been placed under the official direction of Professor Finkelberg, of Bonn, who intends to proceed to London to study the orgaization and management of the department of medical statistics in the office of the Registrar-General. Dr. Finkelberg is known as the author of a work published in 1874, entitled, 'The History of Sanitary Legislation in England.'

A COMMISSION of physicians, appointed by the Boston Board of Health, reports that 1,500,000 gallons of water were sold in that city in 1874 as milk, for which nearly $500,000 was paid. In one instance thirty-four cases of typhoid fever in twenty-four families were traced so the use of milk mixed with water drawn from a well near a cesspond.

DR. CARPENTER, F.R.S., Secretary to the Gilchrist Trust, has, for the benefit of the primary teachers of the metropolis, made arrangements for the delivery of a course of lectures by Dr. B. W. Richardson, F.R.S., at St. Thomas's Charterhouse Schools, on Human Physiology, and its application to daily life. The course was opened on November 3 by Dr. Carpenter, who gave an address on "A Sound Mind in a Sound Body."

DURING the three months ending September last, 119,909 deaths were registered in England and Wales, equal to an annual rate of 10·6 per 1000 of the estimated population. This death-rate was 1·4 per 1000 below the average rate in the corresponding quarter of the ten years 1866-75, and, excepting the rate in 1873 (19·5), was lower than that which prevailed in any of those years.

THE REV. MR. MATHER, of Ohio, wants quack advertisements kept out of the Methodist church journals. He ought to go a step further and make it a clerical misdemeanor for ministers to write quack advertisements. More men, women, and children are annually poisoned by pills and nostrums which are recommended by preachers than in any other way. *Baltimore Gazette.*

THE deaths from small-pox rose in London from 15 in the previous to 21 last week. The mortality from the same cause in Liverpool remained stationary, namely, 10 each week.

BOOKS AND PAMPHLETS RECEIVED.

EPIDEMIC DISEASES AND THEIR PREVENTION in relation to the water supply in the town of Belleville. By James T. Bell, Professor of Mining and Agriculture in Albert University, and chairman of the board of health, Belleville.

VICK'S FLORAL GUIDE. Published quarterly by James Vick, Rochester, N. Y. Price 25 cents per annum.

The number before us the first for the new year 1877. The work is published four times a year, in elegant style, finely illustrated and at a price too low even to pay for the paper alone. It is rich with articles pertaining to the garden and conservatory, and contains a complete price-list of every article kept by the seedman. A handsome chromo precede the whole, representing a bouquet of summer flowers.

A REPORT OF THE DEATH-RATE of each sex in Michigan, and a comparison with Dr. Farr's life tables of healthy districts in England. With a statement of Infant mortality in Michigan. By H. B. Baker, M.D. Sec. State Board of Health, Mich.

INDUSTRIAL CANADA, the duty of developement and how to accomplish it. By A. Baumgarten, Ph. D. Montreal.

NOTES, QUERIES AND REPLIES.

CAUSE OF DECAY OF THE TEETH—Dr. L. B. Palmer, of New York, has been led to conclude from a series of experiments, that the decay of the teeth is not, as is generally supposed, due to acids, but to alkalies, (*Cosmos and British Journal of Dental Science*). With alkalies he reproduced decay of the teeth as it is seen in the mouth, but was unable to do so by acids. With the assistance of an electric current, acids simply acted on and destroyed the whole of the enamel.—*The Doctor.*

PHILOSOPHICAL PUZZLES.—An American writer shows, by a perfectly just argument, that the much-used maxim, "All rules have their exceptions," is really self-contradictory. If all rules have exceptions, this maxim is itself a rule, and therefore must also have its exceptions. Consequently, the proverb at the same time affirms that all rules have their exceptions, and that some rules do not,—which is an obvious case of proverbial suicide.

ROMAN PHYSICIANS visited their patients attended by all their pupils; in allusion to which Martial wrote:

"I'm ill. I send for Symmachus; he's here,
An hundred pupils following in his rear.
All feel my pulse with hands as cold as snow;
I had no fever then,—I have it now!"

THE MORTALITY among the children of peers in England under five years of age, as quoted by the Registrar-General, is at the rate of 20·69 per 1000; among the Society of Friends, the children's death rate is 27·87 the children of the clergy die at the rate 30·27; in the country districts the death-rate under five years is 40·34; while in town districts it reached 80·13 per 1000.

PRAYER AND GOOD WORKS.—The inhabitants of a provincial city demanded of Lord Palmerston that the angel of pestilence should be stayed by a day of national prayer and fasting. "I will fast with you and pray with you," was the statesman's answer, "but let us also drain, scrub, wash, and be clean."

INCORRIGIBLE.—Medical adviser: "Now, first of all, you must not drink beer in the morning." Patient: "No more I should, old fellow, but it so happens there's not a drop of brandy in the house!"

THE referred to accidents, violence, &c., during the last quarter numbered 4,590 in the United Kingdom, (Great Britain and Ireland.) There were 6,459 inquests held during the same period.

DR. JAMES CURRIE said, in a letter to his friend, Dr. Bell, of Manchester, "I get practice, but my patients seem to die out of spite."

DRYDEN wrote:—"He 'scapes the best, who, nature to repair,
Draws *physick* from the fields."

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