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THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASE TO LOCAL AUTHORITIES.

The question of the compulsory notification of infectious diseases to local authorities is one which is becoming of much interest to sanitarians in this country, and the following extracts from a paper on it by A. M. Anderson, M.D., medical officer of health for the burgh of Dundee, Scotland, will be interesting and useful.

The writer says :—I propose, in this paper, to place before you the history and development of the question, without exaggeration or suppression, and to give a brief account of our experience of the system which is now law in Dundee.

I believe this question began to be publicly discussed in 1876. Local Authorities experienced great difficulty in dealing with epidemics of the chief infectious diseases, and this general experience led to suggestions which it was hoped might overcome the difficulty. At first, attention was mainly directed to the householder, or person in charge of the infected patient, and, either by Police Bye-laws or otherwise, powers were obtained in several districts to compel the householder to notify. A little experience soon convinced the authorities that the object aimed at—viz., early and accurate information as to the presence and locality of infection, could not be satisfactorily obtained in every instance by this method. For, while the more intelligent portion of the public generally reported, the very poor and destitute, small shopkeepers and others, delayed or evaded reporting. In Greenock, during a period of four years and four months, the total number of cases known to the authority was 4 423, and of these the householders reported only a percentage of 55.52. The medical practitioners agreed to report voluntarily, and the total number so reported amounted to 106.

As a matter of fact, a considerable proportion of the public are extremely careless, not to say reckless, as to the danger of spreading infection amongst their neighbors, and, even when vigilantly watched and compelled by the law, it is not possible to obtain from every householder information as to infectious disease which shall be early, accurate, and complete. Owing to this experience, Local Authorities have sought in recent years to impose the duty of notification on the medical attendant, and in a number of towns they have succeeded. In 1878 the attention of the Local Government Board was directed to this subject, and that Board framed and passed through Parliament the now well known Manchester Provisional Order Act, 1878. As its provisions have been generally adopted, it may be desirable to mention details. It provides for the compulsory notification of infectious disease by the householder and the medical attendant, direct to the Local Authority, and the penalty attached is "a sum not exceeding forty shillings." The term "infectious disease" means and includes small-pox, cholera, typhus, typhoid, scarlet, relapsing, continued and puerperal fever, scarlatina and diphtheria, "and such other diseases as the Corporation, under the provisions and for the purposes of this act, may from time to time declare to be infectious." The fees payable are 2s. 6d. for each certificate, and 1s. for cases occurring in practice as medical officer to any public body or institution.

In 1881 a Royal Commission was appointed to inquire respecting small-pox and fever hospitals, and in their report the commissioners deal with the notification and isolation of disease. They state as follows:—"In effect, it is only by the medical attendant, if any, that the disease can be intelligently notified, since it is only he who can be presumed to know what it is, and who has no interest in concealing it. But it is represented that to impose this duty upon him directly and unreservedly, would interfere with the relations which ought to exist between him and his patient, and might prevent the aid of a medical attendant being sought at all. If this be so, it may be sufficient that the medical attendant should be required by law to furnish a certificate to the householder, who should be bound to forward it to the authorities." This report has been frequently cited as recommending compulsory notification by the householder, and not directly by the medical attendant. Its terms, however are cautious and qualified, the phrase, "if this be so, it may be sufficient," leaving the whole question open.

Last year eight local bills for police and sanitary purposes were presented to Parliament, and in March the House of Commons appointed a select committee to consider those bills and to report on police and sanitary regulations. At the instance of the committee, the Local Government Board obtained information from the authorities of the twenty-three urban districts in which, up to date, legislation on compulsory notification had been embodied in private or local Acts. This information is published in Parliamentary Paper 164 (1882), and this paper, along with the report of the Select Committee, I have carefully considered. The urban districts referred to are Barrow-in-Furness, Birkenhead, Blackburn, Blackpool, Bolton, Bradford (Yorkshire), Burton-on-Trent, Derby, Huddersfield, Jarrow, Lancaster, Leicester, Llandudno, Manchester, Norwich, Nottingham, Oldham, Preston, Reading, Rotherham, Stafford, Stalybridge, and Warrington, and the total number of their population amounts to 1,997,249; medical men, 932. In addition, there are reports from Edinburgh and Greenock, and the total population of the thirty-one cities and towns in which compulsory notification now exists may be roughly estimated at two millions and three-fourths, and the total number of resident medical men is 1,417. The reports of the local authorities state that the experience of notification gained under the local Acts has been satisfactory, and that it has enabled the authorities in many instances to prevent the spread of infectious disease. There is some difference in the methods of notification, and also in the number of infectious diseases included. Thus, there are thirty towns in which the medical attendant has to notify either directly or to the householder; seven towns in which, when there is a medical man in attendance, it is not the duty of the occupier to notify; twenty-two towns in which the duty to notify devolves upon the occupiers, whether there is a medical man in attendance or not; and twenty-three towns in which, when there is no medical man in attendance, it is the duty of occupiers to notify. The fees paid to medical men for each certificate vary: In twenty-five towns the sum is 2s. 6d. for each certificate, in four towns 1s. each, and in one town 1s. 6d. each. The amount of the penalty also varies: In twelve towns it is 40s., in ten towns £5, in eight towns £10 for each offence, and in four towns there is an increased penalty for a second offence.

The collective opinion of these thirty-one cities and towns is to the effect that the system of compulsory notification has proved beneficial to the health, and greatly assisted in preventing epidemics.

Mr. Hasting's Bill, to apply to England and Scotland, as introduced last session, proposed to place the duty of notification primarily on the medical attendant, the occupier being bound to give notice in the event of no medical man being called in. In his Bill as brought in this session, he adopts the dual system of notification, that is, the householder and the medical attendant are to notify direct to the local authority. The diseases included, the fees payable to medical men, and the penalty attached are similar to those of the Local Government Board. [This Bill was shelved by a count out since the above date.] * * *

The British Medical Association now numbers about 10,000 members, and its *Journal*, as edited by Mr. Hart, fairly represents the views, opinions, and feelings of a very large proportion of the profession. Mr. Hart is Chairman of the Parliamentary Bills Committee of the Association, and by his ability, personal character, and special experience in medico-legal affairs, he has obtained the confidence of the profession, and his views may be taken as fairly representative.

In 1876 the Registration of Disease Committee recommended compulsory notification on the householder, and not upon the medical attendant, in the first instance; and again in 1879, 1880, and 1881, Mr. Hart submitted to the Parliamentary Bills Committee very interesting and exhaustive reports on the subject. In 1879 the Committee resolved in favor of the now well known "Hart's Model Clause." This provides compulsory notification on the householder, the medical attendant being bound to furnish a properly filled up certificate to the householder, who is bound under penalty to forward it forthwith to the Local Authority. The fee to the medical attendant is 2s. 6d. for each certificate, with a limitation as to cases of the same disease occurring in the same building within thirty days of the date of the first certificate. There is no penalty attached to the medical attendant's obligations. * * *

Mr. Hart, in his reports, admits that his model clause has not found favor with Local Authorities, or with the Local Government Board. It has been adopted to some extent in Nottingham, Norwich, and Bradford, but nowhere else. The public authorities and Committees of the House of Commons have evinced a decided preference for the scheme of the Local Government Board. The reasons are obvious. Parliament apparently insists that a penalty shall attach to the legal obligation to notify, and this with the view of controlling any "black sheep" who may be in the profession; and local authorities seem to be generally of opinion that the householder, if left to transmit the certificate, would, in many instances, cause dangerous and unnecessary delay, and, probably where his interest was involved, he might attempt to evade his responsibility * * *

The "Hart Model Clause" may be taken as the system of notification put forward by the medical profession as a body.

Numerous branches of the Medical Association have discussed and adopted resolutions in favor of its principle. The Lancashire and Cheshire Branch, the Metropolitan Counties Branch, the South-Western Branch, the Worcestershire Herefordshire Branch, and others have done so. It was also adopted by the London Society of Medical Officers of Health, and finally at the annual meeting of the Association held at Worcester in 1882, an amendment in favor of compulsory notification on the householder, and not upon the doctor, was on a division carried, and it was also carried as a substantive motion.

In several districts, notably Liverpool and Glasgow, the Local Authorities have recently drafted bills which provide compulsory notification on the system framed by the Local Government Board. The proposal caused considerable agitation amongst the medical practitioners resident in those districts, and they vehemently resisted the granting of such powers to the sanitary authorities. The opposition was so strong, and the medical profession so united, that the corporations delayed proceeding with their bills. It may be questioned whether the position taken up by the profession in those districts is tenable for any length of time, more especially in view of the recommendations of the Select Committee, and the fact that the serious dangers anticipated have not, on actual trial of the system, been realized, while the counter schemes and suggestions offered by the profession fail to meet the difficulties of the case. In Liverpool the opposition of the medical profession was very keen, and the resident medical men were almost unanimous—of a total number of about 310, nearly four-fifths were opponents.

The objections usually raised to direct compulsory notification by the medical attendant, under a penalty, with the answers put forward by supporters of the system, may be briefly summarised as follows:—

1. The State acting for the public interest, exacted, under legal compulsion, certificates as to the cause of death, and vaccination certificates, without payment; and we positively decline to render the State further gratuitous services.

Answer.—Admitted, but on this occasion the State proposes to give a fair remuneration.

2. The system is repugnant to the unwritten law of professional honour, as it compels medical men, under a penalty, to divulge to the authorities knowledge acquired in professional confidence.

Answer.—It is admitted that the duty is disagreeable to a large proportion of the medical profession, but it is urged (a) that it is unavoidable in the public interest, no other method hitherto suggested being adequate to serve the purpose in a complete and satisfactory manner; (b) that by making compulsion under penalties apply to the householder as well, and exacting his compliance in every instance, he cannot complain of his medical attendant con-

forming to the law ; (c) that the penalty attached is necessary, as, if no penalty were attached to the obligation, those who did not comply with it would be subject to an indictment at common law involving expense and trouble ; and (d) that where the system has been tried it has proved uniformly satisfactory.

3. That it causes concealment of infectious disease, and avoidance of or delay in seeking medical aid, which must spread disease and endanger life.

Answer.—Notification being made compulsory is not the cause of concealment, which is chiefly caused either by the ignorance of the poor, or the deliberate and selfish carelessness of bad citizens. It existed in large measure prior to notification being made law, only the fact was not so well ascertained until by notification the extent to which infectious disease prevailed in a district revealed the extent and serious nature of the danger. The evidence as to concealment in towns where notification is law, shows that it prevails to a small extent, and with time tends to diminish ; but opponents wholly ignore its existence prior to notification, and greatly exaggerate its extent since. The law as to vaccination leads to concealment, and many persons evade vaccination to the danger of human life and the peril of the whole community ; but the law remains on the Statute Book, and its provisions are enforced under penalties, with the sanction of the public.

4. It is the first step towards removal to hospital, which, frequently, is badly planned, badly constructed, and indifferently administered ; and such removal is objected to by the patient's friends, and, in the case of children, causes distress to parents.

Answer.—It is admitted that, when proper isolation at home is not attainable, compulsory removal to hospital is the necessary complement of compulsory notification. It cannot be denied either that the presently existing hospital provision for infectious disease throughout the country is not, in point of accommodation, one-tenth of what is necessary ; and in regard to the plans, material, and construction of the buildings, great improvement is absolutely required. Before powers of compulsory removal are granted to Local Authorities, care should be taken to make the provision of properly constructed and well administered fever hospitals free to all infected persons, and supported out of the public assessment, compulsory on the Local Authorities. There is abundant evidence to show that where notification becomes law, it is quickly followed by increased hospital accommodation, greatly improved in construction and administration. Generally the public will gladly enter a good hospital.

5. The system frequently leads to collisions between the sanitary authorities and the medical attendant, and to disturbance of the delicate relationship subsisting between the latter and his patient, and consequently to medical opposition.

Answer.—With wrong headed people anything may lead to collisions, but with a little good sense and good feeling all tension and strife can be easily avoided. In Edinburgh, Dundee, Aberdeen, and other towns there have been no such collisions or disturbance. Mr. Hamilton, in his pamphlet, magnifies every little breeze of irritation into a hurricane, but he and other opponents omit to mention that there is abundant evidence to show that medical men who were either neutral, doubtful, or actually hostile to notification, have become, after a brief experience of the system, reconciled to it, and even to admit its public benefit. I am not aware that any medical supporter of the system has, after experience of it, withdrawn his approval. In the districts where it is in operation, the total number of resident medical men is about 1,417, and opponents of the measure have endeavoured to elicit from them an adverse opinion. The Opposition Association of Liverpool has not, I believe, published the replies received, and until that is done, it is fair to infer that the replies were not encouraging to the Opposition. All Mr. Hamilton has hitherto given to the public is an extract or two from several private letters, with the limitation not to publish the writers' names; if this represents all the medical opposition in thirty-one cities and towns, having a total number of 1,417 resident medical men, it is fair and reasonable to describe it as of no serious moment.

6. The public opinion of these districts is said to be opposed to the local Acts, on the ground of the vexatious interference with individual liberty, and the hardship and loss entailed on small shopkeepers and others.

Answer.—The Local Authorities concerned have officially declared to the Government that public feeling is in favour of the Acts, and if dissatisfaction exists to any considerable extent, it is a singular circumstance that it finds so little expression by the usual channels—petitions to Town Councils and to Parliament, public meetings of citizens, and the local press. As to the hardship and loss entailed on shopkeepers and others, calamities come to us all, and each man has to bear his own portion. Mr. Hamilton's claim to permit these people the liberty of spreading disease and death among their customers, rather than remove the infected person to hospital, or isolate him at home, is wholly preposterous. On the other hand, it is easy to prove, and has been conclusively proved hundreds of times, that sanitary measures are, in a special manner, a protection and benefit to shopkeepers and others who depend upon public custom.

7. The dual system of notification can never be successfully carried out in face of the open or covert hostility of the medical profession; Why, then, not adopt the system favoured by the profession—viz., "Hart's Model Clause?"

Answer.—Without the cordial co-operation of the profession it is perfectly hopeless for any local authority to deal effectively with infectious disease. But the profession is open to conviction.

by reasonable argument, and by facts which tend to demonstrate that the dual system will benefit the public health in larger measure than the system known as "Hart's Model Clause." The latter leaves an open door for delay and evasion, which would, to some extent, defeat the object aimed at, and render the trouble and expense of it comparatively useless. Moreover, to prove the case against an offending householder, his medical attendant would have to be called as a witness against him—not a pleasant thing to do.

8. Where the duty of notification is placed directly on the medical attendant, the people delay or avoid seeking medical aid, and this is followed by a higher death-rate from infectious disease.

Answer.—The fact is stoutly denied by the Local Authorities of the several districts, who are unanimously of opinion that notification is as their right arm in combating infectious disease, and that by its timely aid they have prevented what might otherwise have developed into costly and fatal epidemics.

Speaking in the presence of my medical brethren from Dundee, I believe I am justified in stating that the working of the system has not caused any disturbance of the relationship subsisting between them and their patients. There has been no difficulty as between the sanitary authorities on the one hand, and the medical practitioners and the householders on the other. The public generally appear satisfied with the working of the system, and I have not yet heard of any person complaining of it, or expressing a desire to have it abrogated.

THE "PUBLIC HEALTH" OR DISEASE REPORTS.

In connection with anything like a complete public health system it is essential that the Government of a country and through it the public, should from time to time or as often as possible, be made acquainted with the condition of the public health throughout the country—the amount or proportion of disease prevailing, and the rise, progress and fall of epidemics of any of the infectious diseases. As the mortality in any locality affords but an imperfect index of the general state of the health of the people or the amount of disease in such locality, it is somewhat strange that, in countries especially where much attention has long ago been given to public health matters, measures have not yet been adopted for obtaining regular and reliable statements relating to the public health—to the amount of prevailing disease, from week to week or from month to month, in the various parts of the country. Through such statements or reports the health authorities may best become thoroughly

cognizant of the sanitary condition of such localities, and hence be in a position to direct remedies—remove causes and prevent sickness.

There is no effect without a cause. When the general sickness-rate is high, or when zymotic diseases are common and epidemics prevail, it is a sure indication of insanitary conditions and of want of proper sanitary administration. Where rheumatisms, neuralgia, malarial fevers and acute inflammations are common, it indicates a want of good drainage. And where the more chronic diseases—such as those of the kidneys and liver and heart, are prevalent, it will be found that the general hygienic habits of the people are not what they should be.

In this country as in most others the zymotic diseases are considered the most preventable, and therefore a knowledge as to their prevalency is regarded as of the most practical importance; hence reports concerning these should receive first attention. Next in practical importance come those diseases attributable to want of drainage, and reports as to the prevalency of these are desirable; while as the system of disease reporting reaches greater and greater perfection and is better understood and appreciated by the people, it would be desirable to have included in the reports the more chronic diseases—such as those of the kidneys, liver, heart, etc.

In view of the necessity for some knowledge of the general prevalency of zymotic and infectious diseases especially, and of the course and extent of our ordinary epidemics, the Editor of this Journal last year proposed a plan for obtaining from all parts of the Dominion reports or statements relating to these, or any other diseases. The plan provided for the appointment by the Federal Government of 144 reporters throughout the Dominion—physicians in good practice and residents of the cities, towns and principal villages, which places are usually the starting points and centres of epidemics. Blank forms to be provided for these official reporters, one of which each reporter would fill in every fortnight and mail at once to Ottawa. The small fee of one dollar to be paid for each report, to commence with. There would be no postage to pay, nor other expense of any sort. The collected reports to be studied and compiled in Ottawa by a proper official, and a fortnightly report or bulletin to be prepared therefrom and copies to be freely distributed throughout the Dominion, along with any other sanitary information for the public thought desirable. The total cost would not exceed \$10,000

This plan met with general approval by the medical profession, especially in Ontario, the medical journals commended it, and the Ontario Medical Council passed a resolution recommending it. It was laid before the Minister of Agriculture and the Government afterward passed an Order in Council making each electoral district or constituency of the Dominion a distinct district for the collection of health statistics, after the proposed plan. But the other provinces had not, like Ontario has, any system for the collection of vital or mortuary statistics, and it was afterward decided to suspend the order above mentioned, for carrying into practice the plan for collecting statements of disease alone, and adopt the present plan of collecting statistics of deaths along with certain monthly or quarterly disease reports from the principal cities only, for the present.

Considering the comparatively small cost of obtaining from the two hundred and odd electoral districts of the Dominion of a fortnightly statement of the condition of the public health in each of the districts, and the great advantages such statements would undoubtedly give in the interests of the public health, the medical profession ought to unite in using the influence of its members, collectively and individually, in order that some such plan as proposed last year may be adopted and carried into practice at an early day—for the collection and utilization of disease reports from all parts of the Dominion. These being defined as to locality, would add to the good results of the present health reports of the Ontario health board.

The official reporter in each district should reside in the most central or principal town in the district, and while relying chiefly on the knowledge obtained in his own practice and by direct observation, in making up the reports, he could easily by a little enquiry during the fortnight obtain a good deal of reliable information as to the prevalency of disease throughout the entire district. As before intimated, the condition of the public health, especially as relating to infectious diseases, in the most central town itself and neighborhood would be a fair index of that throughout the district. While the plan would not give a complete knowledge of all prevailing diseases—which indeed it will hardly ever be possible to obtain, it would give such a knowledge of the general condition of the public health, and of the *course* and spread of epidemics, as would prove of immense value to the country, and at once and in a practical way. In large or irregularly outlined districts more reporters could be appointed from time to time as circumstances required. For the

few minutes of time necessary for filling in each of the simple blanks provided, even including a few other minutes occupied in making observations and enquiries, we believe one dollar would be regarded as satisfactory remuneration to make a commencement with. This would make the cost for 26 returns per year in 208 districts, \$5,408. The cost of the work at the central office in Ottawa and the publication of a sufficient number of fortnightly reports or bulletins for distribution need not exceed \$4,500; and the whole cost would therefore be less than \$10,000 per year.

So soon as the Government felt itself to be in a position to extend the present system, commenced this year, for the collection of complete mortuary statistics, the number of burials in every cemetery or burial place of any kind in each district—say in every township in each district—could be obtained through these district reporting officers, and as we show elsewhere, at less expense than has been by some thought to be necessary. Hence in this way could soon be constituted a complete system of vital statistics with regular statements of disease.

VALUE OF VACCINATION—AGAIN.

Our most welcome exchange and cotemporary, the *Sanitary Record* (London, Eng.), has been tasking us somewhat severely on account of the paper in the June number of this JOURNAL relating to the value of vaccination. While we feel rather complimented by the statement (it being incorrect) that the paper is “calculated to do an immensity of harm,” we are quite sure that the *Record* is mistaken and believe that the paper will do an immensity of good. No good measure in this enlightened age can be injured by discussion and the light of truth. The *Record* is in error too when referring to the paper as “an attempt to minimise as much as possible the value of vaccination.”

The prime object in preparing the paper was to induce *less reliance to be placed upon vaccination and more upon the strictest isolation and non-intercourse*. When people rely so implicitly upon vaccination they are often not careful enough about avoiding exposure to cases of smallpox. In the paper are two excellent reasons for its publication, briefly these: On the one hand we find that in Bavaria, in one year (1871), 30,742 persons were attacked with smallpox, of whom 4,784 died, though over 95 per cent. of them had been vaccinated. On the other, we find, and as reported in the *Record*

itself, that last year in Leicester, said to be the "worst vaccinated city" in England, 19 distinct importations of cases of smallpox, representing so many centres or outbreaks of the disease, were so managed, by isolation, quarantine and disinfection that there were only 29 cases in all, or 10 more than the importations—every outbreak being at once thus stamped out. Would vaccination have done this? No. Yet our friend of the *Record* trusts that our paper "will not induce the good people of Toronto to cast aside *the only effective protection against*" smallpox—vaccination. We marvel at this, after all the good things which have appeared in the *Record* bearing upon other most effective and rational prophylactics.

All who scrupulously keep or are kept a safe distance away from every case of smallpox will escape the disease, but all who are vaccinated do not escape it. And with proper sanitary administration— isolation and disinfection, with quarantine of any recently exposed, and with suitable dress, and respirators for attendants, the spread of smallpox or indeed of any other infectious disease may be completely prevented, and the disease soon wholly stamped out. While we cannot command this perfect sanitary administration it may be best to continue the practice of vaccination, as we stated in the paper; when we can command such administration it will not be necessary to give rise to a disease in the human body in order to prevent a more serious one, either of the same character or another.

If our cotemporary will kindly bring forward some evidence against the "strange hypothesis evolved out" of our "inner consciousness," that one epidemic disease may tend to prevent attack from another epidemic disease, we shall be glad to refer to that point again; meantime we must confess we cannot now "evolve" out of our "inner consciousness" any way in which the increase in registered deaths from syphilis, skin diseases, etc., can be explained by "the advance in knowledge" of diagnosis. Had there been no advance in knowledge of diagnosis it is possible the number of registered deaths from such causes might now be still greater than they are. We would feel obliged if the *Record* would better explain our position to its readers. It was not so much our aim to minimise the value of vaccination as to magnify the value of other preventives too much neglected. We have had no intention, nor do we intend, to really oppose the practice of vaccination. It will probably be best to continue it for some time to come, at least. It affords a certain amount of protection, and although many who have been vaccinated take smallpox, death is less likely to result from the attack.

MARRIAGE FROM A MEDICAL STAND-POINT.

Under this head our valuable cotemporary the Philadelphia *Medical Times* (Aug. 25) gives its readers the following very sensible and timely suggestions:—The venerable editor of the *Journal of the American Medical Association*, in a recent issue, propounds the startling query, “Do moral principles change? Are they subject to the Darwinian law of evolution?” Although this important question is unanswered, it is left to be inferred, since it was raised in connection with our Code of Ethics, that it is not within the province of any State medical society to invalidate the Decalogue or to rescind the moral law as it applies to the relations existing between members of the profession or between the profession and the public. Since this point has been satisfactorily settled, it may be as well for a moment to extend the application of the query,—Do moral principles change? Is there one code of morals for physicians, for instance, and another for surgeons, or, let us say, one for general practitioners and another for specialists? Take gynæcology for example. A writer in the *American Journal of Obstetrics*, in discussing a case of chronic invalidism in a neurotic and hysterical young girl, weak in body and mind, concludes, after consultation, that the only remedy that remains is—marriage! As all others have failed, this must be the panacea. Without a word of sympathy for the unfortunate individual who is to take this forced card to the hymeneal lottery, or without apparently a thought as to the possible unfitness of such a mental and physical wreck for undertaking the duties of wife and mother, the recommendation is given, and marriage is to be tried like any other therapeutic expedient. Failure may mean domestic misery and unfaithfulness for the husband, but marriage from a medical stand-point has consideration only for the patient: the husband is left entirely out of the question. We think, however, that in such a case, unless moral principles have changed, the physician has incurred a grave responsibility. Would he willingly consent to have his own son unite his life with such wretchedness? Let us take a surgical illustration. A young man acquires syphilis. Coming into skilful hands for treatment, one of the questions he is sure to ask is, “How soon can I safely marry?” It is not proposed that the young wife or her family should be informed that the husband has a syphilitic taint. Not at all. That would violate professional confidence. It is equally useless to suggest that the patient find some young

woman who has been afflicted in like manner with himself, with whom he could unite on equal terms. No; that is not at all his idea; he wishes to marry in his own set, perhaps some bright and pure young girl, respected and loved by all who know her, because a reformed rake is said to be very particular in this respect. What is the duty of the physician? Shall he give his consent to such an unequal marriage, even if two years of penance under mercury have been offered to atone for previous excesses under Aphrodite? Unless moral principles have greatly changed, he cannot recommend any such union. His own daughter he would shield from such a marriage. Can he consistently sacrifice another on such an altar?

A DOMINION BUREAU OR DEPARTMENT OF HEALTH.

At the present time when sanitary matters are attracting so much public attention in most countries, there is probably not any one thing that would, in proportion to the small expense involved, help more to make Canada popular abroad and regarded as a desirable country to live-in than the organization, in connection with one of the departments of the Federal Government at Ottawa, of a sub-department or bureau of health, including vital statistics. It should consist of a head, say a deputy minister of public health, and in connection with the department of agriculture, and of a council, consisting of at least four or five distinguished physicians, a member of the legal profession and an engineer, and perhaps a veterinary surgeon. The duty of the chief officer would be for the present to superintend the mortuary statistics and the disease reports and to utilize these and all other available means for educating the public in all matters pertaining to the health of the people. With future improvements in sanitary legislation his duties would be much enlarged. He should of course give his whole time to the work of the office and receive a liberal salary. The council should meet at least three or four times a year and consider all matters concerning the public health—vital statistics, health legislation, etc. The position of the council would be chiefly honorary, but all the expenses at least of the members should be paid with a liberal allowance for time occupied in the work of the department.

For many years this JOURNAL has urged the formation of a centre of this sort, and the same has been strongly advocated by several of the presidents of the Canada Medical Association in their address during the past three or four years. It is time more definite and decisive action were taken. There can be no question but it would in the prevention of sickness save the county many-fold the cost incurred.

VALUE OF MORTUARY STATISTICS.

The number of deaths that occur at the early ages of life is very significant as to the vitality of any particular community. While the number for a single year may depend on some local epidemic, the average through a series of years is a very correct record of the vigor of the population. So the ultimate capacity of a nation can quite accurately be foretold by a close study of its vital statistics through a series of years. Forewarned is forearmed, not less to society than to individuals. Through such records States must study their tendencies to decadence, and so check the progress or interpose compensating influences. It is the misfortune of insanitary conditions not only to kill multitudes at an untimely age, but so to enfeeble or reduce race-vitality as to lower the health standard of those that live. Thus the deaths measure the entailments to the living and to their ancestry.

An accurate knowledge of the relation of the death-rate to local conditions, aids very much in the diagnosis, the treatment and the prevention of illness.

Physicians are now watching, also, more closely the types of disease as they are modified by earth structure, topography, climate or by insanitary conditions in the person. We now fail not so much from deficiency in the aggregate of available and life-preserving knowledge, but in our personal possession of such knowledge, and not less in our ability to enforce what we do know upon the popular mind. We shall never attain perfect correctness of methods, but the two most forward steps thereto are to know what is correct and to obtain so far as State, municipal and other local governments are concerned, a power to execute so far as is feasible. The success which has attended other governments and States in this direction is the guaranty that our efforts in the same direction will be of service.

We are forced to study not only the vital but the social conditions of our population by the light afforded through the study of the forces which affect health and life. It is essential, if in one section of the State the population is dying at the rate of thirty to thirty-five per thousand and in another at only sixteen or seventeen per thousand, that we ascertain the causes of the difference. Especially as so many of these causes are to be found within the reach and duty of control. All the more because the epidemic originated or fostered by private or public filth does not stop amid its degraded beginnings, but invades the homes and the persons of those who have been personally careful. It is for this reason that no health administration is permanently effective which does not secure the numerical statement of marriages, of births and of deaths, in order that it may have them as the record of actual results, as the guides to observation and as the indices of those preventive methods which limit or abate such devitalizing influences as enfeeble, demoralize and destroy the people.

MORTUARY STATISTICS IN CANADA, AND THE COST OF THEM.

Although it is very desirable that we should have at least approximate reports at short intervals of the amount or proportion of disease prevailing, we cannot hope to obtain accurate returns of all the cases of sickness in a locality ; but as there are providentially only few deaths as compared with the total number of cases of sickness, and as death is an event of such a serious and marked character, it ought to be possible to obtain a record of every death which takes place in a community. The great value of a perfect record of deaths need not be dwelt upon ; it is universally conceded. It required many years in Great Britain to reach the present almost absolutely complete returns of vital statistics which they obtain there. In this country, with a much more scattered population, it is a much more difficult matter than it has been in Great Britain to obtain a perfect record. In Ontario, a system for the registration of births, marriages and deaths, similar to that of Great Britain, has been in force many years, and has been, especially of late years, vigilantly and vigorously administered, yet the records, especially of deaths, are far from perfect. A plan has been this year put in operation in connection with the Department of Agriculture and Statistics at Ottawa for the purpose of obtaining a more perfect record. In this the number of burials is to be obtained from the cemeteries, and can hardly fail to reach all deaths which take place. It has been commenced in only eleven of the principal cities of the Dominion, with the view of extending it as circumstances make this desirable. We propose to show that the cost of extending it to the whole Dominion would not be so great as some have been led to suppose.

There are probably not more than about 80,000 deaths in the Dominion every year, or, in round numbers, 20 deaths per 1,000 of population, of 4,000,000 of inhabitants. We believe a perfect record of these could be obtained from the cemeteries and burial places for a sum not exceeding 25c. for each death, and that the total sum for collecting the whole would not exceed \$20,000. The sum of 15c. is now paid the caretakers of the cemeteries for a record of each death, which sum is ample enough. This part involves the principal part of the work. They could be received from the caretakers of the different places of burial by a sanitary official in each electoral district, who could also make fortnightly reports of prevailing diseases. This official could receive them direct from the burial places, or perhaps more surely and completely, with but little extra expense, from the municipal clerk of each municipality. The plan ought soon to be extended throughout the whole Dominion.

ON THE CAUSES AND PREVENTION OF EPIDEMICS.

By J. W. MACDONALD, M.D., L.R.C.S.E., Medical Officer of Londonderry
Iron Works, Nova Scotia.

While the general sanitary condition of the country and the prevention of widespread epidemics can only be secured by such systematic supervision as only a government can provide for, I wish particularly to draw attention to what can be done by individuals in preventing and checking local outbreaks of the epidemics which are constantly ravaging this country. I refer particularly to diphtheria, scarlet fever, typhoid and typhus.

Four years ago I travelled over the greater part of Nova Scotia, examined the sanitary condition of its towns and villages and the influences which appeared to affect the origin and spread of the infectious diseases. In all cases it was found that the prevalence of these bore an exact relation to the want of cleanliness of the locality, the impurity of drinking water and the carelessness of the people in allowing the infection to be carried from house to house.

Many persons are fond of saying that our forefathers paid less regard to cleanliness than we do, and yet they were free from many of the epidemics which now afflict us. Such people forget that filth accumulates around dwellings year after year; that as people collect together in villages and towns the soil in the neighborhood of them becomes more and more saturated with filth, contaminating the air and drinking water, thus producing two of the most fruitful sources of disease—foul air and impure water.

Many savage and nomadic tribes finding their village or encampment after a time become unhealthy, ascribe their diseases to the displeasure or departure of their tutelary deity and remove their habitations to some distant and uncontaminated spot. What the savage found by experience we find true to-day, and what he attributes to the departure of his protecting deity we know to be the result of our own neglect. The whole subject of the prevention of disease can be summed up in one word—cleanliness. Not cleanliness of individuals only, but purity of the person, purity of the air, purity of the dwelling, purity of the water, purity of all that surrounds the family. After all we are brought back to the simple faith of the Jews, that demons, evil spirits, call them what you will, diphtheria, typhoid, scarlet fever, are connected with foul places, and the remedy lies in the old and simple words—“wash and be clean.”

Let me give an instance or two of the results which follow when an atmosphere is polluted with emanations from filth. In an eastern county of Nova Scotia a lobster canning establishment commenced operations in 1878, and in the month of July farmers carted the refuse and shells upon the fields. The air was filled with the stench of these decomposing heaps, and although there was no evidence of the disease being brought from outside, within a few weeks thirty-four cases of diphtheria occurred in the immediate neighborhood.

Take another case, related to me by an old and very reliable physician. In a village near the shore of the Bay of Fundy the people were in the habit of drawing large quantities of fish from their boats to the neighborhood of their houses to be cleaned. One man brought his fish to a spot near his well and directly in front of his house. The dwelling was old and dilapidated. Slops and kitchen waters were thrown out the door and ran down the hill toward the well. The fish cleaning began in July, and by the first of August the stench of the combined fish refuse and slops was beyond endurance. Here is the record of the health of the man's family taken from the doctor's books :

In August, 1854, they had "putrid sore throat."

In August, 1857, they had "putrid sore throat."

In August, 1858, diphtheria broke out and one child died.

In August and September, 1860, they had diphtheria.

In August, 1861, they had diphtheria.

Here their dismal story ends, for the remaining three of the family died, and one daughter who had previously married and gone to a distant county, alone escaped. Where can we look for the cause of these frequent visitations occurring with such regularity, but in the filthy surroundings. The disease broke out each year at the time when the temperature of the atmosphere permitted the freest decomposition.

Foul air not only acts as a powerful agent in favoring the outbreak of disease, but its effects upon the course of disease already produced can be observed and measured. In one of the towns which I visited, an open sewer receiving the drainage from sinks, privies and stables passed directly under the kitchen floor of a house. Emerging beneath the threshold of the door it passed through the yard covered by loose boards, and in its further course to the waters of the harbor, a distance of about one hundred yards, it served as a receptacle for eight or ten privies. The odor from this sewer was most offensive,

and when the wind was westerly it was driven into the kitchen. Under these circumstances we cannot wonder that typhoid broke out in the house. A woman, aged 30, was the victim. She had always enjoyed good health, but since coming to live in this house had gradually been failing :

On the 20th of August, 1879, Dr. Perrin, to whom I am indebted for notes of the case, was called to see her and found her suffering from typhoid. The chart which I show you exhibits the temperature and pulse during the course of the disease. For the first two days the wind is easterly, blowing the sewer gas away from the house, and the temperature of the patient ranges from 102 to 103. With a change of wind to the westward, the temperature goes up and continues rising as long as the wind is from that quarter. On the sixth day the wind is easterly, and the improvement in temperature and pulse is very marked,—the pulse falling to 90 and the temperature to 102. On the ninth day the temperature flies up to 107, all the symptoms get worse, for the wind is again driving the poisoned air into the house. On the thirteenth day there is a lull, and by the fifteenth the pulse is down to 90 and the temperature to 101. But on the sixteenth the wind is back to the west, and up goes the temperature to 107, the pulse to 130, and all the other symptoms aggravated, until from the twentieth to the twenty-third, a kindlier breeze brings down the temperature to 103, then 102, and at last to 100. The west wind returns on the twenty-fourth, and at once the thermometer marks 107 and the pulse 130, to fall again to 101 and 90 respectively as soon as the wind changes. On the thirty-second day the temperature is down to 99, the pulse to 100, and convalescence has begun.

In the prevention of epidemics our efforts must be directed to three great points :

1. To ensure perfect purity in all that surrounds the dwelling.
2. To keep the water supply free from impurity.
3. To isolate every case of infection at the earliest possible moment, and thoroughly cleanse and disinfect every article exposed to the infection.

When I assumed the duties of medical officer at the Londonderry Iron Works in January, 1880, I found that the neighborhood, numbering about 3000 of a population, had for several years previously enjoyed a most unenviable reputation as a hotbed of diphtheria, typhoid and other infectious diseases. In the first fortnight I paid

upwards of 400 professional visits, nearly all of which were to persons suffering from infectious diseases. In the first three-quarters of the year 82 cases of diphtheria occurred; scarlet fever, measles, typhoid fever and diarrhoea were also prevalent. Up to this time little or nothing had been done to check the progress of these diseases; people freely visited infected houses; dwellings were surrounded by heaps of filth; many of the dwellings were built on swampy ground with badly drained cellars, and outhouses were neglected, and altogether the same unsanitary conditions prevailed which, alas! are too common all over the country.

In September, 1880, a Board of Health was appointed, of which I have the honor of being chairman. Immediately after our appointment we called a public meeting and laid before the people the plans we proposed to adopt, and I am happy to say that from that time to the present we have received the hearty support of the community. Notices were issued to householders to have ash-heaps and other refuse removed, to have cellars cleaned and bad drains and other nuisances attended to. At the same time every house in which diphtheria broke out was put under strict quarantine. This was done by first ensuring efficient nursing for the sufferers, and then preventing all intercourse between the inmates and the rest of the community. In the case of a death no funeral procession was permitted. The Board of Health took charge of the burial and made sure that the infection had no chance to spread.

The result of our labors was soon apparent, for while we had 82 cases in the first three-quarters of the year, in the last quarter there were only 8, and *from that time to the present, nearly three years, we have not had a single case. Diphtheria was stamped out.*

In the following spring arrangements were made for having the town cleaned up, and a thorough inspection was made from house to house. The neighborhood is not yet what it should be, but the most satisfactory results have followed the measures adopted, as will be seen by the following figures. In the first three-quarters of 1880 there were 83 cases of diphtheria and 23 deaths. In 1881, not a single case. The cost of the 83 cases, for nursing, loss of labor, funeral expenses, etc., was at the lowest calculation \$1800. That amount was saved in 1881, and every year since. In 1880 we had 20 cases of scarlet fever, which I traced to a bad well. The closing of this well and isolation of the sick prevented the disease from spreading further. In 1881 not a single case of scarlet fever

occurred. Six cases of typhoid, one of which was fatal, occurred in 1880. In the following year, one very mild case. Altogether, we may infer that the means adopted prevented 163 cases of tedious and painful illness, saved the lives of 29 people, and effected a money saving of at least \$2500; and all this in a population of less than 3000. But this was not all; the general health of the community was greatly improved. In 1880 my visiting list showed 6000 professional visits; in 1881, only 3200, and it has remained at about that number every year since.

“SAVE THE CHILDREN.”

By all means. In the *Toronto Globe* of September 8th there is a suggestive and useful article under this head, with which we agree, excepting one sentence, this:—“that the medical profession is not wholly free from blame” in that there is so large a mortality amongst children. “The medical profession could do much,” it is stated, “in enlightening mothers,” etc. The profession could, and do, do much. They are more than blameless. As stated by the chairman, the Editor of this JOURNAL, at the meeting at Kingston last week, at which a Sanitary Association for the Dominion was organized, the history of the world has not afforded another exhibition at once so singular, so philanthropic, and so unselfish as those, which have of late years frequently taken place, of medical practitioners (who in this country earn a livelihood solely, with less than half a dozen exceptions, by attending to the sick) consulting together, puzzling their brains, spending their time and money, in devising ways and means for preventing the development of disease. As the *Globe* admits, “many physicians are in the habit of giving valuable and timely advice,” for which indeed we add they are never remunerated, and rarely is it appreciated. If every physician in Canada were to advise the mothers with whom they come in contact to invest a dollar or even twenty-five cents in a book on the management of children and to study it, how many mothers would act upon this advice? probably not one in a hundred. No, the public alone are to blame. They must learn to place more value upon preventive measures—less upon curative. The medical profession are already doing more, much more, than ought to be expected of its members.

FROM DR. JAMES, OF BELLEVILLE, we have received an interesting but lengthy paper on the analysis of the air in certain places in that city. We purpose giving some extracts from it in another number of this JOURNAL.

CORRESPONDENCE.

SANITATION, A SCIENTIFIC PREVENTION FOR SMALLPOX.

(To the Editor of the SANITARY JOURNAL, Toronto, Canada).

SIR,—The impartial manner in which all matters relating to the public health are discussed in your ably conducted JOURNAL, encourages me to ask permission to place before your readers some facts relating to the above important subject. An interesting demonstration of the value of sanitation in affording immunity against smallpox, even when surrounded by a pestilential atmosphere, is afforded by the associations in London which have devoted their attention to improving the dwellings of the poor.

A wholesome habitation in a crowded district is shown to diminish the death-rate by a third or half, as compared with the occupiers of old houses in the same locality. I have a report of the thirty-sixth half-yearly meeting of the Improved Industrial Dwellings Company, held at the Mansion House, London, August 5th, 1881. This association controls 3,681 tenements or habitations (with a population of 18,000 persons), nearly all of which are situated in the dense parts of the Metropolis, and the mortality is only 16.7 per thousand, while the death-rate from the adjoining houses is 30 to 35. Although the report is for a year when there was a severe epidemic of smallpox, the secretary, Mr. James Moore, states that only one death from that disease occurred.

Again, the thirty-seventh report of the Metropolitan Association for Improving the Dwellings of the Industrial Classes, read by the secretary, June 6th, 1881, gives the death-rate of an average population of 5,675 at 15.5 per thousand. And as the average mortality of the entire Metropolis is 23 per thousand, there has been a saving of life of seven or eight per thousand. In the last-named association there has not been one death from smallpox during the past ten years, while the surrounding habitations have often been the hotbeds of variolous contagion.

An equally satisfactory result has been achieved by the Victoria Dwellings Association, which has been in existence eight years. Their buildings are situated at King's Cross, a crowded centre of the Metropolis, and at Battersea, one of the outlying suburbs. The average population has been 2,500, out of which only twenty-four deaths occurred during the past twelve months, or less than half the Metropolitan death-rate, and not a single death from smallpox since the Association was formed.

These prove that sanitation is sufficient to prevent and stamp out all zymotic diseases, including smallpox. Earl Spencer, in opening the Sanitary Exhibition in London, July, 1881, said that already in Great Britain the death-rate had been so much diminished during the past ten years, that 600,000 lives have been saved, as compared with the previous decade, and this was due to improved sanitation. An official report on the sanitary condition of England for 1881, says that more than three fourths of the reduction is due to the decrease of severe zymotic diseases, the product of filth, which good sanitation can remove. Sir Lyon Playfair, the Parliamentary champion of vaccination, said some years ago that "no epidemic could withstand thorough cleanliness."

I am, Sir, yours faithfully,

WILLIAM TEBB, F.R.G.S.

Devonshire Club, St. James's, London, England,

August 28th, 1883.

THE BY-LAWS SUGGESTED BY THE PROVINCIAL BOARD OF HEALTH.

—It was a good thing to issue copies of proposed by-laws and rules and regulations for the guidance of municipal councils in establishing local boards of health throughout the province, as the Provincial Board of Health has recently done. It will promote desirable uniformity in the various municipalities. The proposed by-laws, etc., comprise about all that the public would bear to have enforced at the present time. In reference to rule one, we would suggest that all privy vaults, cesspools and anything of that sort be one hundred feet at least from any dwelling house, shop or other inhabited place, as well as that distance from the water-supply. When will the time come when such collections of filth will be entirely prevented, and no one permitted to keep such excrement on his premises more than twenty-four hours without being mingled with abundance of earth or ashes? There is nothing about vaccination. The board it would seem rightly regard it as secondary to general sanitation.

DR. LAROCQUE of Montreal, at the meeting of the Medical Association in Kingston last week, as chairman of the committee on public health, read an exhaustive and interesting report which he had prepared and which must have involved a good deal of labor. It gave in detail an account of the progress of public health work in Canada during the past few years and more especially of the last year. The report was well received.

THE DOMINION SANITARY ASSOCIATION.—Immediately after the adjournment of the meeting of the Medical Association in Kingston on Friday, 7th inst., a meeting took place for the formation of a Dominion Sanitary Association ; most of the medical men remaining. Dr. Playter, chairman of the committee of representatives from the different provinces appointed last December in Ottawa for organizing the association, called the meeting to order, and briefly stated the objects of the meeting, which were chiefly to enlist the co-operation, with medical men, of all others who feel an interest in public health work in Canada in the education of the people in all matters pertaining to health. There was only time for the election of the principal officers, forming the executive committee.

Dr. Macdonald, of Londonderry, N. S., moved the inauguration of the society. He regarded with envy Ontario people, for whom good public health laws had been enacted. He alluded to the want of public health legislation in the lower provinces. Dr. Oldright seconded the resolution. The following officers were then elected : President, Dr. Sweetland, Ottawa ; Secretary-Treasurer, Mr. F. N. Boxer, Montreal ; Vice-Presidents, Ontario, Dr. Covernton, Toronto ; Quebec, Dr. Roy, Que. ; New Brunswick, Dr. Bottsford, St. John ; Nova Scotia, Dr. Macdonald, Londonderry ; P. E. Island, Dr. Conroy, Charlottetown ; Manitoba, Dr. Lynch, Winnipeg ; Executive Committee for Ontario, Prof. Galbraith, Prof. O. Harris, Dr. McCannan, Dr. Oldright. For Quebec, Dr. Rinfret, Que. ; Dr. Larocque, Ald. Fairbairn, Mr. Hughes, Montreal ; Nova Scotia, Hon. Dr. Parker, Halifax ; T. Slewens, C.E. ; New Brunswick, Dr. Harding ; the other members to be appointed by the Executive Committee itself.

THE AMERICAN PUBLIC HEALTH ASSOCIATION will meet in Detroit on the 13th, to 16th of November. The special subjects chosen for consideration are :—1st Malaria, 2nd Foods, 3rd Vital Statistics, 4th Control and removal of all decomposable material from households. Physical education and drill in the school-room and other topics will be discussed. Enquiries may be addressed to Dr. Wm. Brodie of Detroit.

THE THIRD INTERNATIONAL CONGRESS of opponents to *compulsory* vaccination will be held at Berne, Switzerland, Sept. 27, 28 and 29, when all European States where vaccination is enforced have been invited to send delegates. At the last Congress held at Cologne, 40 delegates, representing 8 States, were present. Invitations it appears have been sent both to Canada and the United States.

ORDERS BY MAIL.

SAMPLES.

WE furnish Samples free upon request ; but as a single Season's Stock usually embraces more than One Thousand Different Lots of Clothing, it is obvious that only a fractional part of Goods on hand can be represented by Sample. An indefinite request gives us no clue to your wants, and a Catalogue is sent to enable you to determine with precision what is desired. We should know the style of garment and the kind and color of material preferred, and whether the clothing is for Dress or ordinary wear, also about the Price you wish to pay. If Boy's clothing is desired, we should by all means have the boy's age. And even for Adults, it is an advantage to know whether the person ordering is a young or an old Gentleman, that we may be governed in our choice of grave or gay Patterns. If the person is an extra large size (over 42 inches Breast measure), it should also be mentioned. If you cannot wait for the return of Samples and are willing to trust the selection of Garments to us, we will undertake to please you, with the understanding that goods not Satisfactory are returnable at our expense.

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SOME CITY GRIEVANCES.—The drivers of vehicles, especially of the heavier sort, are usually exceedingly indifferent as to who are on the crossings of the streets in cities when they drive their great horses and waggons across, and some of them ought to be taught a lesson which would prove a warning to all. It is suprising severe accidents do not occur from their indifference and such probably will if more care be not observed.

THOSE WHO SWEEP THE SIDEWALKS in front of their shops should be required to sprinkle the parts first with water, in order to avoid a disagreeable and often very unwholesome dust for pedestrians to breathe. This is a very common and easily remedied grievance.

SMOKING ON THE SIDEWALKS is a practice which no gentleman indulges in, but it is nevertheless very common and very disgusting, especially when accompanied with careless spitting. It has been urged in this JOURNAL long ago that smoking on the sidewalks be prohibited, and it is gratifying to many to have observed that the question has been recently agitated in the *Toronto World*. It may be safely predicted that the time is not far distant when the localities for indulging in this vile habit will be very limited, unless the smokers take to the fields.

THE KINGSTON MEETING of the Canada Medical Association last week was one long to be remembered. The people of Kingston owe much to the medical men there for producing upon the profession throughout Canada such a favorable impression in relation to that clean, pretty city, with its fine parks, good buildings and beautiful scenery. The reception to the profession was a "right royal" one, and the delightful excursion with the charms of so many ladies, and dinner on the boat, seemed too much for a city of that size—but it has a large heart. The meeting was a good and profitable one.

ON CHOLERA INFANIAM, the *Canada Lancet* gives its readers a practical article. Two sentences of it contain a great deal: "If medicine furnishes no certain cure, it is satisfactory to know that the disease may be in a large measure prevented. Due regard to diet, clothing, cleanliness and purity of air is a pretty efficient safeguard."

A DEATH has just been reported in Philadelphia (*Science and Health*) of a child, from eating candy loaded with "Georgia clay." There seems no use warning parents against candies, frequently made of *clay, arsenic* and *glucose*; nothing but *death* in the cheap candies now in the American market.

THE PEPTONOID BEEF of Reid and Carnick has proved in our hands to be a most valuable nutrient. A little of it added to ordinary vegetable soup gives this a "body" and renders it highly nutritious. We advise physicians, and cooks also, to give it a trial.

ASK EVERY CLERGYMAN in your vicinity to preach one sermon on public health and rural improvement each year, says "*Indoors and outdoors.*"

EDUCATION AND CRIME.—We are glad to observe that the *St. Croix Courier* (N. B.) has been discussing this important question. Some time ago statistics were published in the *Detroit Lancet* showing that crime has been proportionately much more prevalent in the New England States (U. S. A.), where education has been so general, than in the Southern States, with much more limited “educational advantages” (?). We shall endeavor to obtain these statistics and refer to them again.

SMALLPOX STAMPED OUT BY GENERAL SANITATION.—In *Wednesbury* (*Med. Times and Gaz.*) the Sanitary Authority has succeeded in stamping out smallpox in the district, where it has prevailed for two years. The disease was brought into the town, and seven hundred cases have occurred, resulting in fifty deaths. *A thorough system of isolation* was carried out, and the authorities erected marquees in a field, to which affected persons were immediately removed.

THE PUBLIC HEALTH COMMITTEE of the Canada Medical Association for the ensuing year consists of Drs. Canniff, Oldright, Robillard, Yeomans, Harding, Larocque, Playter, Bottsford, Worthington, Wickwire, Covernton and Bryce.

THE BACILLUS OF CONSUMPTION has been discovered by R. Ransome in the vapor of the breath of persons in an advanced stage of this disease. “Moral,” don’t re-breathe the breath of one affected with consumption.

OYSTER SEASON AGAIN.—The raw or merely warmed oyster is almost self-digestive. Much heat destroys a natural digestive principle it contains. When cooked it must be digested like other animal foods.

THE MICROCOCCUS OF CEREBRO-SPINAL MENINGITIS — Herr Leyden has demonstrated this organism before the Berlin Society of Medicine.

CURED HIMSELF.—Mark Twain claims that last year, by chopping wood, he cured himself of thirteen different and distinct diseases.

BOOK NOTICES.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY for the year 1883. Lansing, Mich. : W. S. George & Co.

REPORT ON DISEASES OF WOMEN FROM THE FIRST CONGRESSIONAL DISTRICT. By R. J. Nunn, M.D., Savannah, Ga. Reprint from the Transactions of the Medical Association of Georgia.

REPORT OF THE DEPARTMENT OF AGRICULTURE AND STATISTICS, Province of Manitoba, for the year 1882, a book of over 300 pp., with an unusually large proportion of solid reading matter relating to the crops (fruits, grasses, grains), stock, manufactures, railways, and to the vital statistics of the province. It contains an interesting report of the Provincial Medical health officer, James Kerr, M.D., on smallpox there, and on typhoid fever and the water supply.

PHILADELPHIA MEDICAL TIMES, a bi-weekly Journal of Medical and Surgical Science, edited by Horatio C. Wood, M.D., assisted by Frank Woodbury, M.D. This is a very practical fortnightly journal. Subscription price \$4 per year.

THE MICROSCOPE AND ITS REVELATIONS. By Wm. B. Carpenter, C.B., M.D., LL.D. Sixth edition, with 26 plates and 500 woodcuts. Vol. ii. New York: Wm. Wood & Co. Toronto: Willing & Williamson. For May, '83. Pp. 354, cloth. For sale only by subscription, in monthly volumes at \$15 per year.

For the microscopist this work of Carpenter's is doubtless the best treatise published. This volume treats microscopically of the various forms of animal life, from the protozoa to vertebrata, and for both instruction and entertainment it is a storehouse of great value. It is well illustrated, showing some beautiful specimens of microscopic animals and of tissue structure, and also of geological formations and metallic crystalizations.

HAND-BOOK OF ELECTRO-THERAPEUTICS. By Dr. Wilhelm Erb, Prof. in the University of Leipzig. Translated by L. Putzel, M.D., Neurologist to Randall's Island Hospital, and Physician to the Clinic for Nervous Diseases, Bellevue out-door department, etc.; with 39 woodcuts; pp. 366. New York: Wm. Wood & Co. Toronto: Willing & Williamson. For June, '83.

This is a concise and complete treatise on this important subject, in many respects superior to any other work of the kind published. Part I, the electrical apparatus and governing laws. Part II, the physiological effects of electro-therapeutics. Part III, methods of electrical examination and electro-diagnosis. Part IV, general electro-therapeutics. Part V, special electro-therapeutics. Besides an appendix on electro-therapeutics of the psychoses; diseases of spinal cord; of peripheral nerves; paralysis and atrophy; pain, neuralgia; anæsthesia; general neuroses, etc.

THE PUBLIC HEALTH IN ONTARIO FOR AUGUST.

HAMILTON—From Dr. Ryal's report the public health there was generally good during August. A good many cases of diarrhœa and some of cholera infantum (nearly twice as many deaths from the former as from the latter); a few cases of diphtheria and dysentery, and more of typhoid fever.

LONDON—Dr. Edwards reports no epidemic of any sort there. A large proportion of diarrhœa and some cholera infantum, both on the decline; a few isolated cases of diphtheria and scarlet fever; little of typhoid, whooping-cough or measles; malarial fevers on the increase. On the whole, health remarkably good, mortality low.

CHATHAM—Dr. Bray reports "no epidemic of any kind." A good deal of diarrhœa and some cholera infantum—increasing; no diphtheria nor whooping-cough, measles about disappeared; some scarlet fever—decreasing; more typhoid—increasing. On the whole, an unusually healthy August. Less malarial fevers than usual though a good deal of ague reported. General mortality low.

GUELPH—Dr. Brock reports the public health of that city as having been very good during last month. Some cholera infantum, more diarrhœa, and a few cases of diphtheria and whooping-cough. No epidemic of any kind. Mortality low.

PORT HOPE—Dr. Hamilton reports some cases of cholera infantum, dysentery and diphtheria; more diarrhœa; no measles, scarlet fever nor typhoid; whooping-cough still epidemic—increasing; cases of mild remittent fever and rheumatism. "Funerals numerous enough, but deaths due to very various causes."

BELLEVILLE—Dr. H. James reports many cases of cholera infantum and less diarrhoea ; with considerable dysentery ; cases of diphtheria, more scarlet fever, and a good deal of whooping-cough, lung affections and malarial fevers, with high mortality from lung disease. All except lung diseases of a mild type.

BROCKVILLE—Dr. V. H. Moore reports many cases of diarrhoea—increasing, also of cholera infantum and dysentery—increasing, too ; some diphtheria and typhoid—decreasing ; whooping-cough, epidemic in July, decreasing ; no measles nor scarlet fever ; increase in lung affections. In consequence of cool weather intestinal diseases of children less than usual for August. “The town and surrounding country can be said to be in a very healthy condition.” Mortality low.

BARRIE—Dr. McCarthy reports about the usual proportion of cholera infantum and diarrhoea, and some dysentery ; no diphtheria, nor typhoid, but some scarlet fever. Measles and whooping-cough, epidemic in June, decreased in July, had about disappeared. “Health of town and neighborhood remarkably good.” Mortality low.

ST. CATHARINES—Dr. Greenwood reports that, unlike July, in August there was a great deal of sickness there, but only few deaths. No epidemic, but cases of cholera infantum, diarrhoea, dysentery, typhoid fever, a good deal of bronchitis, with considerable malarial fever and rheumatism. Most diseases on the increase.

TORONTO—There is no particular epidemic here, but about the usual number of cases of infantile summer diseases ; a number of the principal practitioners report the month as unusually healthy on the whole. Now that the cholera scare is about over for the present, we hear less about cleaning up ; still it appears the work of improvement in this regard in going on fairly.

THE CHOLERA.—Dr. John Roche, an English physician who has had remarkable experiences, says the *Scientific American*, gives as his conclusion that cholera is purely and simply a specific fever, only inferior in its ravages to yellow fever, and closely allied to it. Cholera has a period of incubation varying from two to fourteen days : prone to attack the enervated and those subject to depression from any cause. It is contagious, and liable to occur periodically about every ten years in some parts of India. It seems to have visited the British Isles about every sixteen years, and as that period has elapsed since the last outbreak, it is more than likely to occur this year. Those persons who indulge in no enervating habits, and take nothing internally which would arrest the secretions nor too drastically stimulate them, and partake of nothing which is highly fermentable, may safely feel that they are cholera-proof during an epidemic.

DEATH FROM A CARBUNCLE.—Dr. Frank L. Rea, of Chicago, died August 3, of malignant facial carbuncle. His death attracted a great of attention from medical men in the city. On Tuesday, July 31, he applied to a druggist to pull a hair from his moustache. The hair was pulled and examined by Dr. Rea, who said that the condition of the hair root showed the beginning of a carbuncle. He died in five days.