Original Articles.

SANITARY ORGANIZATION OF NATIONS.¹

BY HENRY I. BOWDITCH, M. D.

SANITARY science, though of such recent growth, is now fast becoming a most important branch of preventive medicine. I have therefore thought that I could not choose a subject more important than sanitary organization in its widest sense. I give it as my quota of work towards inaugurating the new and excellent plans adopted by this society.

And let me here say that I not only do not shrink from, but I court, the severest criticism upon what I shall advance. I like nothing better than the honest and free expression of opinion. It proves that the matter has attracted some attention. So far, however, as animated discussion in Boston societies is a criterion, one would think that no topic is thought worthy of being discussed at all; for even those subjects universally admitted to be of the most interesting character are usually received with a dead, funereal silence on the part of a Boston medical audience.

Sanitary organization, in its widest sense, would begin with man as an individual and terminate in international law, or his relations with his fellows of the whole race. I intend to throw out a few hints only upon each one of these topics.

Perfect health should be a matter of profound interest to every human being. Without it few of the relations of this life can be fully sustained. It should therefore be constantly sought after by each man and woman; by the state for its citizens; by a nation for the states and communities of which it is composed; and, finally, by every sovereign power in its relations with any and all other civilized or uncivilized sovereignties. The fine Latin maxim "*Salus populi lex suprema*" is peculiarly appropriate in any discussion of these questions.

I propose to submit a few thoughts upon them, beginning with the international relations, and concluding with man as an individual member of the community, but upon the basis of whose perfect health the idea of all sanitary legislation is primarily founded.

INTERNATIONAL SANITARY LAW.

Although upon the question of quarantine every nation has felt that it had the right summarily to deal by law, or by force if need be, with any other nation, it cannot be said that heretofore the various sovereignties of the earth have succeeded in bringing the subject of health within the domain of international law, although there have been a few international medical congresses. All these, though imperfect, in their results have tended to open the whole subject now before us.

At the seventh annual conference of the Association for the Reform and Codification of the Law of Nations, held August, 1879, at Guildhall, London, Sir Sherster Baker, Bart., of Lincoln's Inn Fields, barrister at law, delivered an address on International Rules of Quarantine. From it I glean the following historical memoranda on the subject. Holland has little or no quarantine. Austria has a very severe one. In England a bill was passed in 1825, but it is not called

into requisition, except in epidemics of plague, yellow fever, and cholera. The Port Sanitary Authority, according to a bill passed in 1875, is all that is deemed necessary. But a general law, applicable everywhere, is needed. It should be so uniform as to be capable of international adoption. The writer then gives the following account of various efforts to bring about such an international result. In 1838 France proposed a meeting of delegates from nations bordering on the Mediterranean. Austria opposed the plan, and it was given up. In 1843 Lord Aberdeen sought to bring about such a meeting, but again it failed, owing to the opposition of Austria. In 1851, on invitation of France, an International Sanitary Congress met at Paris, in order, if possible, to obtain a uniform code of quarantine law. France, Great Britain, Austria, Russia, Sardinia, Tuscany, Papal States, Naples, Turkey, Greece, Spain, and Portugal had representatives. All had territory or interests on the Mediterranean Sea. Plague, yellow fever, and cholera were defined and international sanitary regulations were adopted. But only France, Sardinia, Tuscany, Portugal, and Turkey adopted them, because the conference tried to introduce a procedure, which was inconsistent with the laws of some of the countries taking part in the conference. At the end of five years the five named nations also gave up the plan. In 1859 France again made an effort, but failed. In 1865 cholera appeared. In 1866 France suggested a meeting at Constantinople. It was held. All the European states, with Egypt and Persia, were represented. This did much for the prevention of cholera. Finally, the Austro-Hungarian government called a congress at Vienna in 1874. This was not successful, although it tended to promote more cordial union in certain ways. But they all failed because of interference with the rules of quarantine adopted by different nations. The writer lays down certain rules which he deems proper, and which are included under forty articles.

I take the ground that the time is fast approaching, if it be not already at hand, when it becomes the duty of every civilized sovereignty to initiate measures looking to a definite inauguration not only of a national, but also of an international, sanitary code. Each sovereignty should establish its own national board of health. This should have a certain power over the sanitary arrangements of all the states and nations included under that sovereignty. While carefully overlooking its own domain, it should jealously guard its nation from all dangers of infection or contagion from abroad. It should also be prepared, so far as it can do so consistently with the interests committed to its charge, to cooperate with other nations for the promotion of a common public health law. I hold that as civilized states combined to put down buccaneering, piracy, and the slave trade, so nations may rightly unite in mutual defense against violently infectious or contagious diseases. They should also exercise the right of compelling uncivilized states to submit to that amount of sanitary law, which may be deemed necessary for the health of mankind. If, for example, any sovereignty allows vast numbers of human beings to collect together at fairs or holy pilgrimages, etc., which are found to be spreaders of disease over the earth's surface, there should be an international sanitary code to prevent such disasters, in the same way that laws now exist to prevent any persons from spreading rapine and plunder over other people.

¹ A paper read before the Boston Society for Medical Improvement, December 8, 1879.

BUT HOW SHALL SUCH A CODE BE COMMENCED?

This end must be brought about by consultation between representatives of various sovereignties, who, after meeting and discussing general sanitary measures, shall lay down a *few simple but broad* rules of conduct, mere axioms so to speak, to which all the contracting nations would readily agree. Each sovereignty would have the right to reject or adopt one or more or the whole of the propositions. If a single proposition were adopted by all, or even by a large majority, the commencement of an international code would be made which would bind all, and which would be capable of indefinite expansion under the experience of years.

To bring about this international representative meeting, one sovereignty, as has already been repeatedly done, might very properly invite others to join with it and to send representatives to such a congress. No sovereignty has a greater right to inaugurate such a movement than these United States of America. Nay, more, it seems to me that our government ought to deem it *one of its highest privileges* to be able to present this matter most forcibly to the nations of the earth, and I base this opinion on the following reasons:—

First. Because our government was established and is kept in existence by the people for the good of the whole people, and therefore any measure tending to the moral or physical well-being of any nation ought to be one in which our government and all its citizens should take the liveliest interest, and if need be lead other peoples. *Second.* For want of sanitary knowledge and of an efficient international sanitary code of ethics and of law, we have very many times, within the past third of a century, had our domain encroached upon by a foreign invader as horrible as if in times of peace a hostile army had crossed our borders and spread death and destruction in its pathway. Epidemic cholera, largely depending on filth and reckless disregard of sanitary rules amongst ourselves, has boldly come upon us. It has destroyed our citizens by thousands. We did nothing to prevent its coming, although we plainly saw its gradual approach. After it struck us we were powerless to meet the evil. Whether we consider yellow fever as a disease of domestic or of foreign origin, it seems undoubted that it is carried from one place to another by human migration; and how many times during the past century have we freely opened our ports, filthy in the extreme, and therefore fit receptacles for and fomenters of this terrible disease! All these horrors might have been prevented, and they will eventually be prevented when efficient national and international sanitary codes have been established and obeyed. Surely these warnings ought to arouse Congress to do something towards the prevention of like disasters by international friendly consultation, or if need be by the force of national and, if possible, by international law, so far as it can induce other civilized nations to coöperate with America. Such high contracting parties ought to be allowed to blockade, if necessary, any ports which send forth infectious and contagious diseases, as much as England and America had a right to blockade the shores of Africa to prevent the horrors of the middle passage. It may be claimed, and with justice I think, that *a priori* we should have more right to blockade Cuba than Africa, because slavery did not destroy our people, and by some was believed to give aid to us. But yellow fever cannot claim in the slight-

est degree even such doubtful praise. *Third.* Another reason why Congress should inaugurate this movement is the fact that by its generous confidence extended to the National Board of Health, at the late extra session, it enabled that board to grapple with and almost wholly to confine the late epidemic of yellow fever to Memphis, where it first broke forth in fury. Certainly the board's efforts, which were only possible when backed by the whole power of the nation, have been the main instrumentalities which have averted a wide-spread epidemic, such as swept through the Mississippi Valley in 1878. This much may be justly claimed as the joint result of the generosity of Congress and the action of the board, even while we give all praise to the various organizations and sanitarians of the valley, whose labors were immense. May we not hope that these, with other reasons that might be brought forward, will have some influence upon Congress, and induce it to take the necessary preparatory steps towards bringing the whole subject of sanitation into the domain of international law?

NATIONAL SANITARY ORGANIZATION.

A complete sanitary organization of a nation is at present unknown. England, France, the German Empire, and perhaps we may add Italy and America, are at present groping in that direction,—experimenting, as it were, upon the proper methods to be pursued. In this brief paper I can of course make a few suggestions only, born of my experience during the past few years and from watching the desultory attempts at sanitary order made by various peoples and states. The following schedule of a plan for a national organization is prepared simply as a subject for argument, although I confess I am an earnest advocate of its main principles.

A MINISTER OR SECRETARY OF HEALTH.

Without a fitting government of the sanitary matters of a nation no perfect public health can be procured. Power must be lodged somewhere, and it seems to me a self-evident proposition that a cabinet officer, the peer of all the chiefs of the various departments of government, is indicated, and that in him should be vested that power, under restrictions to be hereafter noticed. This officer should be the presiding genius of the whole movement. In theory, at least, he should be the first sanitarian of the country, and a young or at least a middle-aged man, one of its ablest and most honored citizens. He should hold his office from the national executive, whether it be a republic, kingdom, empire, or other national sovereignty. He should reside at the seat of government, and have a salary equal to that received by other officers of state. He should have the right in great emergencies to summon sanitarians from various parts of the country to consult upon the best interests of the states, territories, departments, or other divisions of the country. But this secretary or minister would be at times called to take prompt action, bearing not only upon the public health, but upon the great commerce of a part or of the whole of the country. It therefore seems to be appropriate, if not actually necessary, for him to have an advisory council, near at hand and always accessible, upon whom he could call for advice and support, and without whose active support he could take no important step. Hence arises the necessity for a

NATIONAL BOARD OF HEALTH.

The members of this board should be either residents at the seat of government, or so near to it that in a few hours they could be summoned to council. It should consist of individuals carefully selected by the sovereign executive of the country from the various departments of the government, and therefore would not receive extra pay. With them might be joined two or more citizens, one of whom at least should be a physician. It would, of course, be important that all should feel interested in promoting the public health. The citizens of the board should receive, while on duty, payment commensurate with the importance of their task and the character of the nation employing them.

In the United States the representatives of the following departments would very naturally be selected: one from the department of state, one from the army, one from the navy, one from the marine hospital service, one from the department of justice, one from the department of the interior, one from the signal service. These, with the two civilians, would make a body of nine persons representing all the various interests of the country. The secretary of health should preside at the meetings, and have full rights of voice and of voting possessed by other members. The board should have meetings quarterly, or as much oftener as it saw fit, and the secretary or minister might summon them to meet on any emergency, or as he might deem necessary for the public welfare. He should lay before them at each quarterly meeting an account of his own work and a statement of the sanitary needs and condition of the country. The board should confirm all doings of the secretary, and by a two-thirds vote of the whole board should have the power to veto any proposed action of the secretary, in which emergency an appeal to the sovereign executive should be made, who, with the secretary, should have full power, and would be held responsible by the country for the proper use of such power. In the intervals between the meetings of the board the secretary should have sway. The board might by a unanimous vote inaugurate any sanitary measures it might deem best, and direct the secretary to carry all such measures into execution; provided that in case there should be a disagreement between the secretary and the board the national executive should decide what should be done. The members of the board should hold office for six years, with the privilege of being again selected by the executive, the first terms of service being so arranged that ever afterwards one member's term of service should expire each year.

EXTERNAL RELATIONS OF A NATIONAL BOARD OF HEALTH.

One of the most pressing of these questions at the present time is the inauguration of a system of international sanitary law. The board should urge upon government the importance of taking some action in the premises. It would be the most fitting body in this country, either by itself or in conjunction with the Academy of Science, to present one or more candidates to the executive as fit representatives of the country in any international congress that might be proposed. And, generally, it should overlook all the sanitary relations of the nation in its intercourse with others.

INTERNAL RELATIONS OF A NATIONAL BOARD OF HEALTH.

It should immediately after its inauguration enter into correspondence with all state or department boards of health, urging them to a thorough sanitary organization of each township, parish, or department within their jurisdiction. It should keep a constant watch upon *every portion* of the country, and learn the exact sanitary condition of every locality; for by such knowledge alone could it safely guard the whole nation. It should have frequent intercourse with the various state or other large boards having control of large districts. It should call upon each State Board to nominate one of its number as its representative for a national council. If no state boards should have been legally established, it should immediately appeal to each government to establish a board of the highest character.

It is very evident that, under a wise minister of health and the influence of such a board, the intercourse between the national and state and departmental boards would become more intimate each year.

SANITARY ORGANIZATION OF A STATE OR DEPARTMENT.

Its object should be distinctly for sanitary work, and for nothing else. To mix sanitary matters with any other subject is worse than absurd; it will probably be fatal to the best interests of both. The experience of Massachusetts is full of instruction on this point. For years, the Massachusetts Board of Health consisted of seven members, one of whom was the secretary, a salaried man, but having an independent vote, as any other member. Two physicians, one lawyer, one engineer, and two business men, with this secretary, composed it. The board met quarterly, or as often as necessary, and summarily, efficiently, and harmoniously labored chiefly for two objects, namely, the sanitary education of the people, and the sanitary management of offensive trades, etc., in various parts of the State.

Last year, for political and supposed economical reasons, the boards of health and of charities were both abolished, and one board, entitled the Board of Health, Lunacy, and Charity, was substituted. In other words, two entirely new subjects were put with sanitation. One of them, charity, is wholly foreign to sanitary work. The other, lunacy, is not necessarily connected with it, although not so entirely alien as the first. The care of the charities of the State occupies nearly the whole time of the monthly meeting, and would prevent almost all sanitary work, if the board had not committed that portion of its duty to the care of three members of the former board, who now virtually constitute the whole Board of Health. But even this is not strictly true, because all the doings of the three departments of health, lunacy, and charity must be reported, discussed, and perhaps set aside by the full board.

Again, the two secretaries of the Board of Health, who have held office since its formation, have been the first sanitarians in the State, and equal to any in this or in any other country. They have been, till this new arrangement, members of the board, with full powers of voting and of speech. They felt responsible for the action of the board, and keenly alive to any and all proposed doings of the board, and they approved or opposed any measure according to the dictates of their own judgment, and without let or hindrance from any source. Of course, they added im-

mense force to the board. Strangely enough, our new Board of Health, Lunacy, and Charity deprives the secretary of all this responsibility, and makes him a mere hireling, to obey the behests of men, no one of whom knows one tithe that he does on sanitary matters. The most absurd proposition may be made, but he must be dumb, or be deemed impertinent if he gives advice to his *superiors*. He is virtually under bonds, of a salary of twenty-five hundred dollars a year, to keep silence for fear of giving offense to those who hold his office in their hands. Fortunately, the board has a secretary, at present, whom all respect and believe in. His opinion, at times, is sought for and given. But if, by any accident, a man should hold office hereafter simply for the money, sanitary science would, I think, soon lose its prestige in Massachusetts.

To sum up the whole matter, we deem the present junction of health, charity, and lunacy in one board as grotesque a combination as it would be for a physician, a lawyer, and a clergyman to be compelled to work together, and to carry on their three professions in one office, each by its own representative, but restrained and perhaps wholly set at naught by all three meeting together to vote as to all acts. This proposition doubtless seems to you absurd, but it is not a whit more preposterous than the combination called the Massachusetts Board of Health, Lunacy, and Charity.

We have dwelt longer on this experience in Massachusetts because we have felt that its evil example should be held up to the reprobation it richly deserves. It is to be hoped that under a future legislature the Board of Health will be restored to its former untrammelled position. And let every State learn from the present position in Massachusetts to avoid all such entangling alliances between sanitary and any other work, however good. And let us hope, moreover, that all governments will learn from Massachusetts to eschew any false economy in regard to the noble mission devolving upon all state boards of health in their guardianship of the public health.

As originally founded I think that the Massachusetts Board was well organized. It would be well that one of the physicians should be a practical chemist, as every year numerous chemical questions arise. Considering also the importance of the health of animals used for food, a scientific veterinarian might very properly be added to any state board.

A board should select its own president and secretary. The latter might and usually would be one of its own number, but if chosen from abroad he should, on assuming office, take all the privileges enjoyed by members of the board.

DUTIES OF A STATE BOARD OF HEALTH.

The sanitary supervision of the State should be its chief aim. It should educate the people in sanitary matters; teach them to build their houses appropriately, and how to keep them and their own bodies in a sanitary condition. It should have power summarily to abate or put under surveillance any establishment creating a nuisance, but which the smaller or town board feels unable to cope with. It should as far as possible prevent pollution and sophistication of the people's food and drink. It might issue circulars on all sanitary matters, and by having them sent broadcast over the State do an immense service. It should also by annual reports endeavor to advance the general knowledge of sanitary law and of preventive med-

icine. It should urge the organization of town and municipal boards of health throughout the State, and be in frequent communication with them, and for that purpose should have a correspondent in every town, who, in behalf of the board, should act as sanitary inspector of every locality within the limits of the township or parish. It should assist local boards, if need be, with the larger powers of the State. It might act as umpire between the sanitary authorities of two or more adjacent towns. It might organize a corps of lecturers who would discourse on sanitary matters in the various lyceums of the State. It should appoint one of its members to act as delegate when called upon by the National Board for consultation.¹ It should select a correspondent in every township, town, or village in the territory under its control. These persons should be very carefully chosen with reference to their special fitness for the sanitary inspection of a locality. Usually they would be physicians, but not necessarily so, for, at times, a layman may better serve the State. It would be the duty of a correspondent to act as general sanitary inspector of his locality. He should report all local nuisances to the local board, and in cases of a more formidable character, or beyond its powers, he should report the facts to the State Board of Health for its action. Finally, the board should perform any and all other acts consistent with the laws of the commonwealth tending to the promotion of the public health.

If we judge from the experience in Massachusetts, the sovereign power will be ever ready to increase the authority of a board which appropriately and unselfishly devotes itself to the highest sanitary welfare of the State. Almost annually since the formation of such a board in Massachusetts has some new law been enacted confiding more and more summary power to it.

COUNTY OR DEPARTMENTAL BOARDS OF HEALTH.

Still lower in the sanitary organization of a State might legitimately come a county or departmental board. I am not prepared to urge this division of labor, but it is well to meet the question whether such a division might not, at times, be of great use in some States; for example, where there are few large towns, but small hamlets are dotted all over the land. It would have the supervision of the health of a district several miles in extent, whatever kind of districts they were into which the State might be divided. It would have for its objects similar work to that of the state board, but over a less extensive field. It would tend to harmonize the various sanitary doings of the different municipalities within its limits. It would overlook and try to remove all sources of nuisance in one town causing annoyance in another. It might act as umpire in disputed points argued between two adjacent municipalities. It should consist of at least three members, selected from residents in the county or department by vote at a gathering of delegates from the several city and town boards of health. Each should hold office for six years, except that in the first selection one member should be chosen for two, a second for four, and the third for six years. Each might be reelected as long as his constituents should see fit

¹ These summonses would be perhaps infrequent, but it obviously might be deemed very important for the Health Secretary or the National Board to be able to summon experienced sanitarians from each State or department for consultation on important measures bearing upon the welfare of the nation. The traveling expenses should be paid and per diem salary should be given in this case from the national exchequer. It might be legitimately styled the "Health Council of the Nation."

to do so. The board should have close relations with the State Board of Health.

CITY OR TOWN BOARD OF HEALTH.

The number of persons necessary for this part of a state organization might depend (a) upon the number of inhabitants in a place, and (b) upon the extent of its territory. Three would seem as small a number as would be possible for the proper performance of duty in any locality. One of these should be the correspondent of the State Board of Health. The others should be chosen by the citizens or by the mayor and aldermen of a city, for a period of six years. At least one physician should be a member of the board.

This board should have absolute authority to search out and abate all nuisances, with the right of appeal to the state board. The cleaning of streets, overseeing of sewers, the suppression or regulation of noxious trades, etc., would tend to keep its eyes open to all harmful influences bearing upon the health of the municipality.

It should have a corps of inspectors to aid it in the discovering of nuisances and in keeping the city or village up to the highest level of cleanliness. It should be vigilant, and have sufficient means to carry out its plans. It should make sanitary surveys of the place as often as might be necessary, and prepare legislation, if need be, to meet obvious sanitary wants. It should make annual reports to the city or local authorities, and, if need be, ask for legislation of the state government. It should enter into close relations with the State Board of Health. They should mutually assist each other. Members should hold office six years, and one or two should leave each year, as in the county boards. In case the place were large enough to require five persons, two physicians, a lawyer, and an engineer or chemist should be selected. It should choose its president and secretary, the last of whom should be a paid officer, and, if necessary, give his whole time to the board.

THE INDIVIDUAL.

As public health is nothing but the aggregate of the health enjoyed by all the individual members of any community, this question not only is legitimate, but really is a fundamental one in the more general discussion. A man may not only be diseased himself, but he may also become the cause of disease in others. How, then, can he keep himself in such perfect health as to avoid suffering himself, or bringing it on others?

The first and most obvious remark to be made is that as cleanliness is the most important element towards a perfect sanitary condition of a locality, so it is with the individual man. Cleanliness of body, cleanliness of disposition, and clearness and calmness of intellect comprise the chief, if not the only, elements necessary for human health.

By cleanliness of the body we do not mean a simple daily ablution of the face and hands, and an occasional full bath; but we mean a *daily bath all over the body* with pure water, sometimes using a little soap, and always using it for *certain parts*.¹

¹ For this bath nothing more is *needed* than a hand-basinal of water and one towel. This, though doubtless far less fascinating than some of the fashionable Roman or Turkish baths, is the only one which can be indulged in alike by the beggar and the king. Without it we cannot reach the whole people. With it, and with his own hands to apply the water, every man, however humble, can enjoy all the real advantages of perfect cleanliness of the skin. By using the hand instead of a sponge, by thoroughly wiping and covering one

But cleanliness of the skin does not make a man clean, except in one great system. If he wish for perfect health, he must attend closely to his digestion. He should not overload his stomach, even with good things. A gourmand can hardly be said to be in a perfectly healthy condition; and any one, even a devout anchorite, who neglects to clean his internal *primæ viæ*, as they are styled by the earlier physicians, is dooming himself to ill-health of body and to a disturbance of his morals and mind. The old saying, "Fear God and keep the bowels open" comprises the whole duty of man," may be objected to by some moderns as untrue. Yet there is no more sacred truth than this, namely, that a daily freeing of the body from the effete matters on the skin and in the alimentary canal is essential to individual health, and hence also to public health.

And here let us add one word on the question of beverages for man. Undoubtedly there are persons who can be water or milk drinkers all their lives, and need nothing stronger. We believe that it is rare that the young need anything like stimulants for health; hence it is wrong to use them. Some persons, later in life, find it necessary to use a small amount of wine, or beer, or other even stronger liquor. And provided these be used moderately and simply, to meet an obvious necessity, no evil ensues. But if at any age, for any purposes and under any circumstances, a person indulges to inebriation, nothing but evil can result. Every man knows this by his own feelings after a night of debauch. His clouded intellect, his laggard, non-elastic step, and his general malaise of mind—all prove this to anybody but an arrant simpleton. When the habit becomes chronic, nothing but mischief comes to the individual and to the community. Individual life becomes miserable, the family suffers cruelly, and the public health is impaired. "Total abstinence," in such cases, is the only safeguard for the man, the family, and the public, and "prohibition" to the *drunkard*, becomes the highest sanitary duty of a State, provided that any prohibitory law can meet the emergency.

We ask, then, for pure water for the majority of human beings. But in how few homesteads in this country have proper precautions been taken for securing perfectly pure wells! How many persons place their privies, their cow-yards, or their house drains so near to their wells that it is utterly impossible to avoid contamination. Some wells, in some soils, will drain a cone more than a hundred feet in diameter at the surface of the ground.

PURE AIR AND HEALTH.

When selecting a site upon which he hopes to rear a family, let a man avoid a damp soil as deadly in its influence. This law of dampness of soil and air, especially in its influence upon the production of consumption, is now as certainly proved as the law of gravity. We must accept it and avoid it, or take the consequences. Of two families, one born and reared on a damp soil will be from two to three times as liable to die of consumption as another born and reared upon a dry soil. Yet how few fathers ask about the soil! for, provided the site be agreeable to the eye, or for other reasons, the point of the healthfulness of the place in this particular is wholly ignored.

part before proceeding to bathe another, he could succeed in accomplishing a full bath daily and comfortably with excellent hygienic effect, even in the coldest day in winter.

How many parents, otherwise most kind and thoughtful, allow accumulations of water in the cellars of their homesteads! They wonder at the poor health of the household, and talk about the providence of God being somehow the cause of the difficulty, whereas it is owing to their own ignorance or willful violation of health laws.

Again, how many adults and how many children are daily submitted to the rebreathing of the air that has been used many times in the school-room, workshop, store, warehouse, kitchen, or parlor?

Men seem to forget that pure air in plenteous streams is needed for the perfect health of man. Go into our public assembly rooms, our courts of justice, or our churches, from the external air, and see if you are not oppressed by the noisome vapors, which the folly (or crime, as it seems to me we may sometimes call it) of our public authorities compel our people to breathe, often to their infinite injury.

The time will come when our descendants will look back with horror and disgust at the thought that such a building as the Boston Court House should have ever been built, and still more at the fact that, notwithstanding the annual and piteous complaints of sufferers, who are among our noblest citizens, and who are engaged in the most important public duties, the city authorities should steadily refuse to grant any change.

THE MIND.

A healthy mind in a healthy body is always considered the richest boon bestowed on man. When one can use his mind for real mental work, as he would a sledge-hammer in physical labor, then, and not till then, is a man in perfect health. And in order to have this stalwart condition, he must have all the bodily organs go on smoothly, and without his being aware of any of them save in their regular performance of necessary functions. How many have this delightful state of feeling?

Owing to several causes, among which may be cited as prominent our institutions, the inventions of modern times, enabling us and rather leading us to work *heroically*, and finally our exhilarating atmosphere, etc., almost all the community, young and old, *overwork*, and the result is that our children break down at school; our middle-aged finish their labors, or some have to rest for months, perhaps, when without such overwork their minds could have continued active for an indefinite period of time; others become prematurely aged.

We have thus glanced at the skin, the digestive system, the thorax, and the head, and we have hinted at some few of the evils now pressing upon us all, and causing injury to the public health. We believe that the scientific sanitary culture now going on will either overcome or greatly alleviate them. We have forborne all allusion to other tendencies, which, if followed with reason, elevate, refine, and physically improve both sexes, but which used unreasonably and immorally are likely to bring not only unutterable mischief and sorrow to the violator of law, but woe upon their descendants.

We have accomplished our purpose if we have led even a few minds seriously to reflect upon the importance of having among all nations well-devised sanitary organizations, which, beginning with the individual himself, will endeavor to teach him the rules of health, and afterwards will guard him from various dangers to

which he may be exposed from his own neighborhood, from the State, the nation, or from mankind, outside of his own people.

LITHOLAPAXY.

AN IMPROVED EVACUATOR.

BY HENRY J. BIGELOW, M. D.

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THE operation for the complete removal of a stone at one sitting, by crushing, has been as successful as its most sanguine advocates could have hoped. Several years may still be needed to determine precisely its relative value; but in the mean time it has been abundantly proved that the bladder tolerates long operations, provided the fragments of the stone, which are the principal cause of inflammation, be removed,—and that fragments need no longer be a source of inflammation. Although several cases of litholapaxy have terminated fatally, the cause of death was not the usual one after such operations: it was not an inflammation of obscure origin, connected with previous disease of the bladder or of the kidneys. The few deaths that have occurred were due to mechanical injury, which, with greater experience in operations of this kind, will doubtless, in the future, be avoided.

It has been remarked by more than one writer, that the new lithotritry requires even more care than was necessary in the old method by short sittings. This is true. Each repeated act of crushing or of evacuation is obviously liable to its own casualties, and we must add to this liability any that may arise from the gradual abatement of the operator's vigilance. It was once an object, in persuading surgeons to forego their traditional prejudices, to show that the new operation was safer than they supposed; but this being now generally conceded, it is at present important to insist that it should be attempted only by practiced lithotritists, or by a beginner only after familiar practice upon the cadaver. I know no other surgical operation in which a little want of skill or of care is so insidiously liable to fatal accident. The skill here is of a particular kind; and though a surgeon may use a knife well, it does not follow that he also uses a lithotrite well. Before considering this instrument, however, let us examine the evacuator, or "wash-bottle."

It was an alteration of this instrument that made litholapaxy possible, and led to the discovery of the tolerance of the bladder. This was the enlargement of its tubes from the size of the common catheter to the largest the urethra will admit without injury. In evacuating a small stone the smaller of the new large catheters (26 or 27 French) works well enough; but in order to evacuate a considerable stone with comfort either to the surgeon or to the patient, we need a catheter of from 28 to 31, and for its introduction it is often well to enlarge the meatus, which is the narrowest part of the urethra. I cannot but think that the preference of some operators for the curved tube I at first employed is connected with their previous familiarity with curved catheters. And yet when a curved evacuating-tube is in position, its entire curve is in the bladder; and in the manipulation of the instrument there exists the disadvantage of not seeing, as readily as with a straight tube, where its point lies. The orifice, in either case, is on the side of the extremity, and