

Chaille (S. E.)

THE NEW ORLEANS



AUXILIARY

SANITARY ASSOCIATION

PUBLISHES FOR THE BENEFIT OF THE PUBLIC THE FOLLOWING
INFORMATION AS TO

Small-Pox and Vaccination,

WRITTEN AT THE REQUEST OF THE ASSOCIATION BY

PROF. STANFORD E. CHAILLÉ, M. D.,

MEMBER OF THE EX. COMMITTEE.



NEW ORLEANS, JUNE, 1883.

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W. B. STANSBURY & Co., 38 NATCHEZ STREET.
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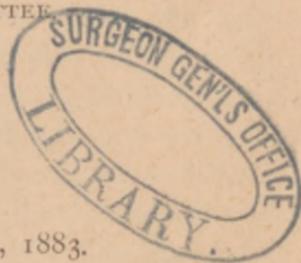
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SMALL-POX AND VACCINATION

— BY —

PROF. S. E. CHAILLÉ, M. D.

Having been requested by the New Orleans Auxiliary Sanitary Association to collect various papers, presented by me during 1883, and to prepare a report on the prevention of small-pox, the following is respectfully submitted :

During the present century man has succeeded in so modifying and preventing small-pox that he, who would now realize what this disease once was and still would be if uncontrolled, must have recourse to historical records. The frightful devastations, caused by the plague, by cholera, by yellow fever or by any epidemic disease, have been so greatly exceeded by small-pox that a faithful historian has truthfully termed it, "the most terrible of all the ministers of death." Although described 3380 years ago in Chinese and Brahmin records, it did not afflict our European ancestors until A. D. 570. What deplorable ravage small-pox must have made, when first introduced among those of whom none were protected by a previous attack of this non-recurring disease, may be estimated by such historical accounts as follows: When first introduced into America whole tribes of Indians were virtually swept out of existence. When, in 1707, first introduced into Iceland, 18,000 persons in a population of 50,000 were destroyed; and when, in 1733, first introduced into Greenland, it is said to have killed two-thirds of all its inhabitants. Even in the seventeenth and eighteenth centuries, hundreds of years after its first introduction into Europe, small-pox caused from one-seventh to one-twelfth, say about one-tenth, of all the deaths. The pre-

eminence of small-pox as a destroyer of life, of health and of happiness, depends on the facts; that *all* countries, climates, seasons, races, ranks, ages and sexes are liable to this plague; that its contagion is stronger and surer and operates at a greater distance than other disease-poisons; that the dormant vitality of this poison is excessive, so that it may be revived into epidemic activity after years of inaction; that some animals, as cows, sheep, horses and monkeys, are liable to this disease; that it attacks so many human beings and destroys from one-half to one-sixth, say about one-fourth, of all attacked; that a large proportion of those who survive are afflicted for life with blindness,* with deafness, with impaired constitutions, and with such disfigurements that, says Macauley, they "turned the babe into a changeling at which the mother shuddered and made the eyes and cheeks of the maiden objects of horror."†

The medical historian, Dr. Guy, well says that, "against this loathsome pestilence, so widely diffused, so unsparing, so fatal, so cruel; blinding, deafening and scarring many whom it spared and sowing the seeds of future mischief in more; there arrayed themselves in course of time two champions,—the one, Inoculation, the other Vaccination." Although long practiced in Oriental countries, inoculation was not introduced into civilized Europe until 1722. It was largely resorted to for about eighty years. When first practiced in Europe, one person in about every fifty of those inoculated fell a victim to the resulting small-pox, but experience gradually reduced this fatality to one in about every five hundred, or, as claimed by some, to one in every thousand. This great mitigation of small-pox by inoculation ought to have proved an enormous gain to mankind, as it did prove to many of the most intelligent and prudent men; but, as usual, the stupid and improvident majority neglected this protection to such extent that inoculation became to this majority a curse rather than a blessing. For, the great misfortune of inoculated

*Formerly $\frac{1}{2}$ to $\frac{1}{3}$ of all who were blind owed this to small-pox.

†While small-pox was known to be contagious, yet it was long contended, just as now about yellow fever, that it *originated* from filth, foul air, climatic phenomena, meteorological and terrene conditions, etc., until Boerhave, who died only in 1738, proved conclusively and finally that small-pox was developed always by communication and never by any other means.

small-pox is, that, though vastly mitigated, it retains full power to communicate unmitigated small-pox. The number inoculated was so much less than the uninoculated, and so many of the latter were infected by the former, that there was an increase of small-pox; epidemics occurring at the rate of 84 in a 100 years, instead of at the rate of about 71 in every 100 years, as had been the case prior to the introduction of inoculation. This increase of the disease, together with the discovery of vaccination, have caused most civilized governments to prohibit inoculation.

Vaccination, that is the inoculation not of human small-pox but of cow-pox, was first practised by Jenner in 1796, made public in 1798, and introduced into America in 1801. Those familiar with the past history of small-pox claim that it is the greatest boon ever bestowed on mankind, certainly the greatest conferred by medical science. The lives, health and happiness, preserved by vaccination, are incalculable. However, even at this day, most communities continue to be so ignorant, prejudiced and improvident, that they neglect to secure from vaccination much of the benefit which it can confer. For, small-pox still prevails to some extent, although, for eighty years, hospitals, armies, navies, etc., have been proving, in innumerable and incessant instances, that this disease can be *effectually stamped out*, whenever intelligent power can enforce thoroughly efficient vaccination and re-vaccination on all persons exposed to infection. The sole thing necessary, whether to prevent or to stamp out small-pox, is to get the people *properly* vaccinated. Communities have found this very difficult to accomplish, the difficulties vary in different communities, and hence the results vary. Therefore, *official* statistics do not and ought not in all instances to coincide. Some interesting lessons taught by these will be stated.

Voluntary Compared with Compulsory and with No Vaccination.

In New Orleans as in most American Communities, vaccination is still voluntary and fails to confer its full benefits because not compulsory. None the less, partly voluntary and partly com-

pulsory vaccination has been practised sufficiently to reduce small-pox epidemics, in Europe, to the rate of only 24 in 100 years, instead of the 70 to 85 epidemics which previously prevailed every 100 years. Prior to vaccination, small-pox caused in England 96 of every 1000 deaths; while during voluntary vaccination the average was only 35 per 1000, different places having varied from 16 to 60. Denmark long had an average of 300 deaths by small-pox annually; these were reduced by voluntary vaccination to the rate of 58 deaths annually; and, having made vaccination compulsory in 1810, there was not from 1810 to 1820 a single death by small-pox. Sweeden having had about 2000 annual deaths by small-pox per million population reduced this to 479 by voluntary, and this to 180 and even to 158 by compulsory vaccination.

In farther illustration, between the results of voluntary and compulsory vaccination, New Orleans, having the former, will be compared with London, which has the latter. London has suffered six years with small-pox, and in 1881 *most severely, as was there thought*. Nevertheless, London had in 1881 only 621 deaths by small-pox per million of population; the figures for 1880 were 124, and for 1882 were 113 per million. On the other hand, New Orleans had, during the 16 years, 1867-1882, about 1280 deaths by small-pox per million population; in 1882 about 1870 per million, and in 1883 it will loose at the rate of 4500 per million, provided that there should be even 1000 deaths during the full twelve months, which now seems certain since there have already been over 850 deaths by small-pox during the first five months alone. These results of voluntary vaccination in New Orleans should be compared also with the results of compulsory vaccination now to be cited:

Compulsory Compared with no Vaccination.

Comparing series of years since vaccination was made compulsory with other series prior to the discovery of vaccination the results are as follows:

Moravia, Bohemia and Silesia, also Copenhagen, 200 deaths by small-pox, instead of 4000 per million population.

Berlin, 176 deaths from small-pox, instead of 3422 per million population.

England, 171 deaths by small-pox, instead of 3000 per million population.

Westphalia, 114 deaths by small-pox, instead of 2643 per million population.

London, 158 deaths by small-pox, instead of 2050 per million population.

"Yet," says Dr. Wight, the able health officer of Detroit, "there are men, apparently rational, who denounce vaccination, without suspecting that they are making themselves public malefactors."

In farther illustration of the results of non-vaccination and of compulsory vaccination, European statistics are as follows:

Prior to vaccination, there were from 70 to 120 deaths by small-pox to every thousand deaths.

After compulsory vaccination, there were from 2 to 8 deaths by small-pox to every thousand deaths.

As the total deaths by all causes were much more numerous in former than in present times, the above great difference, in favor of vaccination, is really much more favorable than it even seems to be.

Imperfections of Vaccination.

On some few persons vaccination can never be made "to take," which is not singular, since some persons will not take small-pox; the estimates of the proportion of persons insusceptible to small-pox vary from 4 to 22 in every 100. Other persons are insusceptible to vaccination at one time, yet susceptible at another; which is also true of small-pox. On some persons vaccination will take several times, which is also true as to small-pox, for there have been persons who have had veritable small-pox not only twice, but even six times.* On some persons, not the majority, the protection given by vaccination wears out in time. Actual experiment by vaccination is the *sole* means of determining whether any person belongs to either of these classes.

*The frequency of second attacks has been variously stated from 1 in 250 to 1 in 10,000 cases.

The most serious imperfection connected with vaccination is its frequently careless and, therefore, imperfect performance. The good results necessarily vary with the efficiency of the operation. Any sensible person can estimate this efficiency by the appearance of the resulting scar or cicatrix. This, if perfect, is indelible, circular, depressed, *dotted with minute pits*, and not less than a quarter of an inch in diameter. Several such scars indicate greater security. English official instructions require four to five separate punctures.

Another imperfection consists in the fact that vaccination is attended in some, but comparatively very few, instances with such evil results as erysipelas and obstinate ulcers. The same results may and do repeatedly follow any raw place or sore, whether this be caused by vaccination or by any other means. The ignorant and prejudiced foolishly dread vaccination as a means to corrupt the human body with beastly blood and disease, and illogically attribute to it *whatever* evil may follow, and in this wise vaccination is fathered with much which it really has nothing to do with. Syphilis is the only disease which there is good reason to believe may be transmitted by vaccination, but any such result can only be due to gross carelessness, and is so rare that very few physicians have ever seen even one instance of it. In discussing the alleged dangers of vaccination, Sir James Paget summarizes the subject as follows: "Vaccination, by disturbing for a time the general health, may give opportunity for the external manifestation and complete evolution of some constitutional affection, which, but for it, might have remained rather longer latent. This is the worst thing that can, with any show of reason, be charged against vaccination, and even this can very seldom be charged with truth." In fine, it is impossible for most physicians to heed the fears of the timid or the denunciations of the prejudiced, because their own personal experience generally fully justifies the evidence of a skillful and trustworthy public vaccinator, who declares that he "has vaccinated 11,000 persons without one case of recurrence or of death, or of *any evil* result, except occasionally vaccinal erysipelas."

Notwithstanding the imperfections of vaccination, it should not be forgotten that life is made up of risks and constantly forces a choice between evils. However great may be the evils of vaccination, the risks of small-pox are so very much greater that no sensible person should for a moment hesitate in his choice. There is no higher or more experienced authority on this subject than Dr. Marson, who says: "The small-pox death-risks of no vaccination are to the death-risks of the very worst vaccination as three to one, and to the death-risks of the best vaccination as seventy to one."

Re-vaccination.

Reasons have already been given why it is indispensable to re-vaccinate in order to insure the best results of vaccination. Some facts will now be given to illustrate the risks to life which even the vaccinated are subject to, and the additional security given by re-vaccination. On these points statistics vary, because the proportion of the vaccinated and of the un-vaccinated who are attacked by small-pox, as also the proportion of deaths among those attacked vary with constantly varying circumstances.* Having reduced the figures reported to corresponding data for comparison, the resulting *rates* are as follows: In the City of Prague for every million persons vaccinated there were 2725 cases of varioloid,† and of these 139 died; and of every million unvaccinated persons there were 25,000 cases of small-pox and 8,300 of these died. English statistics justify the following statement as a fair general average; of a million vaccinated adults there were 1800 cases of varioloid and 90 of these died and of a million un-vaccinated adults there were 13,400 cases of small-pox and 3,350 of these died. In the British army, where vaccination and re-vaccination were still better enforced, the results, 1859-1864, were, that of a million vaccinated soldiers, there were only 1,400 cases of varioloid or small-pox and 84 of these died. History teaches that prior to vaccination not less than one-fifth of all soldiers and sailors were swept away by

*The deaths by small-pox varies among the vaccinated from 5 to 125, and among the unvaccinated from 145 to 535 per 1000 cases; the general *average* of the former being about 50 and of the latter about 300.

†The mitigated and modified small-pox, to which some few of the vaccinated and still fewer of the re-vaccinated are liable, is termed *varioloid*.

small-pox and were so frequently devastated by epidemics, that the armies and navies of great nations were repeatedly paralyzed; *now*, well disciplined armies and navies, because subjected rigidly to compulsory vaccination, never suffer epidemics and present the very best proof of the protective power of vaccination; so that instances could be cited more favorable than the one above given as to the British army. Finally on this point, I cite from Dr. de Kerschensteiner, Chief Medical Officer of Bavaria, the result of the official statistics of Bavaria for the ten years, 1871-1880: "Of those *once* vaccinated 12 per cent. of those attacked, of the re-vaccinated only $7\frac{1}{2}$ per cent., but of the un-vaccinated $46\frac{1}{2}$ per cent. died of small-pox. Therefore there were in proportion to the total number of cases, four times as many deaths among the un-vaccinated as among those once vaccinated, and six times as many as among the re-vaccinated. This confirms the old experience that, as a rule, the disease with the vaccinated appears in much milder form and takes a less dangerous course than with the un-vaccinated. If, in addition to this, the fact is considered, that vaccinated persons are *much less liable* to be attacked than the un-vaccinated, the greatest skeptic, if he be conscientious, is bound to admit the protecting power of vaccination." This is further shown by the exceedingly small number of the vaccinated who are "pitted with small-pox," even among those who have had varioloid.

Whether one needs to be re-vaccinated cannot be determined either by typical vaccine scars or by any other means than trial; if this succeeds the person was liable and if it fails he was not liable to take small-pox. In armies re-vaccination has succeeded in from 18 to even 60 of every 100 soldiers.

Such facts, as have now been cited, have been so frequently, continually and conclusively established by the experience of the last eighty years, that these facts have been recognized and *acted upon* by all enlightened governments and individuals. Hence, the protective power of vaccination is now denied and rejected by none except by the ignorant and improvident, and by a very few educated cranks, some of whom are always on hand to

disparage anything under the sun by which notoriety can be gained and their vanity can be gratified.

Deeply impressed with these views, and with the great danger of the continued prevalence in this city of the existing small-pox, the New Orleans Auxiliary Sanitary Association has liberally contributed its funds and its influence to mitigating, stamping out and preventing, in future, this disease. Among other things the Association invited to and, on March 1, 1883, held a meeting with the colored preachers of New Orleans to secure, as was done, their influence in promoting vaccination among those most needing it—our colored population. Much good was thereby done and on me the important fact was impressed, that preachers could not influence the majority of the unvaccinated, because these are neither members of nor attendants at churches. How can the great mass of the ignorant and improvident be reached, and how can the intelligent and provident secure, for themselves and for all citizens, uninfected homes and a prosperous city freed from the blight of pestilence?

On this subject the writer contributed, at various dates, the three following papers:

NEW ORLEANS AUXILIARY SANITARY ASSOCIATION,)
March 29, 1883.)

Gentlemen—The following facts in regard to small-pox and vaccination *may* prove interesting and serviceable :

During the five years and eight months—December, 1872, to July, 1878—small-pox prevailed continuously in this city; the monthly deaths varied from 1 to 260, the annual deaths from 141 to 1099, and the total deaths were 2939. Only 3 deaths occurred during the following three years. In December, 1881, the disease began *again* to prevail. It caused 415 deaths in 1882 and the deaths this month (more than 200) will exceed those for any single month during many years, except for March, 1877, when there were 260 deaths by small-pox.

This city had ample warning of all that has occurred, and if our city authorities had taken efficient action in December, 1881, the 800 lives since lost would have been saved, the many more lives yet to be sacrificed would remain to promote the general prosperity, and there would be no need now for an official demand for the advice of the Board of Health and of this association to correct an evil which has been unwisely permitted to grow into its present magnitude. Taxpayers would not now be forced to read such discouraging items as, that they are to pay,

for an inefficient small-pox hospital, \$1953 for January, and \$2136 for February, 1883 - that is, at the rate of \$24,000 per annum.

Many lovers of liberty have voluntarily sacrificed their lives in response to the battle-cry, "Millions for defense, not one cent for tribute." We, however, still act, so far as concerns infectious disease, on the stupid principle, "Millions for tribute, not one cent for defense." All should well understand that whatever sum may be paid for the Small-Pox Hospital, such sum will fail to represent even one-tenth part of the expense imposed and of the injury inflicted on this city by the disease now prevailing. For, students of this subject have agreed that every needless death represents a loss to the community of not less than \$1000.

What can and should be done? The problem is an old one, and after innumerable fruitless experiments at many different times, and by many different communities, *one solution only* has been found, viz: *Compulsory vaccination*. This is the sole practical lesson taught by experience. By other means the evils of small-pox may be, in some degree, mitigated, but the disease cannot be eradicated except either by vaccination or by gradual exhaustion of the unvaccinated materials on which the poison feeds. The ignorance and prejudice of citizens may render the application of this remedy impractical at present, but this does not free us as sanitarians from the responsibility of testifying to the manifest truth that compulsory vaccination is the sole remedy thus far found by human experience. And this remedy is so much more simple, inexpensive and efficient for small-pox than our present remedies are for all other infectious diseases, that the community which will not apply this remedy for small-pox cannot be reasonably expected to rid itself of any infectious diseases whatever.

Has compulsory vaccination ever been resorted to in communities of freemen as jealous as ourselves of individual rights? Yes; not only England, but various communities in the United States have decided that every resident has a right to go elsewhere, but has no right to remain among them unvaccinated, and thereby a source of public danger. At the present time every person in this city, unvaccinated or inefficiently vaccinated, is more dangerous to the community than he who disobeys the law forbidding him to carry concealed weapons, and than those forbidden to store gunpowder or explosive oils. Every intelligent citizen ought to demand that every unvaccinated person should either be vaccinated or leave the city. Give any man of sense requisite power for one month, and at its end there need not be a yellow flag left to affright the timid, nor a small-pox hospital to pay tribute to. In the meantime, however, we are more likely to have learned discussions, to hold conferences, to substitute talk for action, and finally to insult Providence by shifting on Him a responsibility which He has given us ample knowledge and power ourselves to discharge.

In evidence of what other free communities have done, I call your

attention to the following: The *Chicago Sanitary News*, of March 15, commenting on our meeting with the colored preachers, says: "The colored people (of New Orleans) seem to have a prejudice against vaccination, as the newly arrived immigrants to this city seem to have. But in Chicago these people can be vaccinated, willing or unwilling, while in New Orleans the authorities find it necessary to resort to persuasion.

In my opinion, English experience furnishes our comparatively inexperienced American communities their best guide in sanitary matters. The laws and the highest official sanitary authority of England teach the following lessons:

Every child must be vaccinated before it is three months old, and when the vaccination has been performed by a public vaccinator, the child must be taken to him for inspection on the same day in the following week. Where any child is found *illegally* unvaccinated, the vaccination officer gives notice requiring the vaccination to be done within a specified time. With regard to unvaccinated children, not yet three months old, who may be in *infected* localities, the vaccination officer advises the parents not to incur the unnecessary risk of waiting for the child to complete that age before having its vaccination performed; for vaccination is performed with perfect safety on children even immediately after birth. "Small-pox is a disease always specially greedy of the blood of children."

"By vaccination in infancy, if thoroughly well performed and successful, most people are completely insured for their whole lifetime against an attack of small-pox, and in the proportionately few cases where the protection is less complete, small-pox, if it be caught, will, in consequence of the vaccination, generally be so mild a disease as not to threaten death or disfigurement. If, however, the vaccination in early life have been but imperfectly performed, or have from any other cause been but imperfectly successful, the protection against small-pox is much less satisfactory, neither lasting so long nor, while it lasts, being nearly so complete as the protection which first-rate vaccination gives.

Hitherto, unfortunately, there has always been a very large quantity of imperfect vaccination; and in consequence the population always contains very many persons who, though nominally vaccinated and believing themselves to be protected against small-pox, are really liable to infection, and may in some few cases contract as severe forms of small-pox as if they had never been vaccinated.

Partly because of the existence of this large number of imperfectly vaccinated persons, and partly because also even the best infantine vaccination sometimes in process of time loses more or less of its effect, it is advisable that *all persons who have been vaccinated in infancy should, as they approach adult life, undergo re-vaccination*. Generally speaking, the best time of life for re-vaccination is about the time when growth is completing itself, say from fifteen to eighteen years of age, and per-

sons in that period of life ought not to delay their re-vaccination till times when there shall be special alarm of small-pox. In proportion however, as there is prevalence of small-pox in any neighborhood, or as individuals are, from personal circumstances, likely to meet chances of infection, the age of fifteen, need not be waited for, especially not by young persons whose marks of previous vaccination are unsatisfactory. *In circumstances of special danger, every one past childhood, on whom re-vaccination has not before been successfully performed, ought, without delay, to be re-vaccinated.*

Re-vaccination, once properly and successfully performed, *does not appear ever to require repetition.* The nurses and other servants of the Small-Pox Hospital, when they enter the service, are invariably submitted to vaccination, which in their case is generally re-vaccination, and is never afterward repeated; and, so perfect is the protection, that, though the nurses live in the closest and most constant attendance on small-pox patients, and though also the other servants are in various ways exposed to special chances of infection, the resident surgeon of the hospital, during his thirty-four years of office there has never known small-pox affect any one of these nurses or servants." Such are some of the lessons taught during many years by English experience and confirmed by that of other communities. Whatever folly fools may babble to the contrary, the wise should well heed these lessons.

NEW ORLEANS AUXILIARY SANITARY ASSOCIATION, }
 May 4, 1883. }

Gentlemen—At our last meeting a desire was expressed to obtain some authoritative action from our medical societies respecting a compulsory law for vaccination. I, therefore, submit the following respecting small-pox and our medical societies :

The following resolutions were *unanimously* adopted at a full meeting on April 6, 1883, of the Louisiana State Medical Society at its fifth annual session, at Shreveport :

Resolved, That this society emphatically affirms its strong confidence in the efficiency of vaccinations and re-vaccinations as the surest and only practicable means of preventing the spread of small-pox.

Whereas, This society is informed that it is the practice of one or more practitioners of medicine within the limits of this State to inoculate human subjects with lymph or pus taken from small-pox patients, previously mixing it with milk or cream, therefore be it

Resolved, That the practice of inoculating small-pox by mixing any product whatever from the body of a small-pox patient with milk, cream, butter or any fluid obtained from the cow, is productive of no modification beyond that of direct inoculation from one person to another. It does not deprive the person thus inoculated of that power to communicate the disease through the atmosphere, which naturally small-pox possesses and is, therefore, dangerous to public health.

On April 30, 1883, the Orleans Parish Medical Society, at a full meeting, *unanimously* adopted the following resolutions, presented by Prof. S. M. Bemiss, M. D., and referred them to the next meeting, May 5, of the New Orleans Medical and Surgical Association, by which they were *unanimously* adopted :*

Resolved 1. That vaccination affords the only feasible means of protection against small-pox known to science.

Resolved, 2. That such facts as the following go to prove that vaccination and re-vaccination afford ample protection against small-pox.

In Sweden, before vaccination was practiced, the deaths per annum from small-pox were 1973 per million population. After being introduced as a voluntary measure for protection, the annual deaths were reduced to 479 per million, and after vaccination was made compulsory, the annual deaths were reduced to 180 per million. During the Franco-Prussian war the German army was numerically double that of the French; the former army lost 263 of its number from small-pox, while the latter army lost 23,368 of its number from the same cause. It is well known that every recruit upon entering the German army undergoes compulsory vaccination.

Resolved, 3. That this society will favor and zealously uphold any ordinance or legislation which will compel every member of the community to accept the protection against small-pox which vaccination and re-vaccination (the latter at sufficiently frequent intervals to test the former) undoubtedly confer.

Resolved, 4. That it has long since been determined by actual experiment that inoculation with small-pox virus, mixed or unmixed with any other substance, is liable to propagate the disease and should therefore be prohibited by legal enactment.

To these resolutions I will add a few remarks. I believe that forty-nine out of every fifty of the two hundred respectable physicians in New Orleans would attach, if solicited to do so, their signatures of approval to these resolutions. Whether our municipal authorities have the power to enact a compulsory ordinance, whether in such case these authorities have the discretion to frame a wise ordinance and to what extent any ordinance, however wisely framed, can be effectively executed are questions which have been raised. The sooner effort is made to answer these questions by inquiry and trial the better. A bad beginning would be in this case preferable, I believe, to none at all.

*These are the only two medical societies in New Orleans.

What this city has to fear and to guard against is a renewed prevalence of small-pox next fall and winter. Unceasing efforts should be made, especially from now until next November, for prevention. If we fold our hands, as soon as the disease abates, then another outbreak next winter will be deserved, because we ought to expect it and to adopt some means to prevent it. We can judge the future only by the past. Our immediate past as to small-pox is as follows: Breaking out in December, 1872, it did not disappear until the advent, in July, 1878, of the terrible yellow fever epidemic of that year. During its prevalence of nearly six years, it annually decreased from about May or June to November or December, and on several occasions almost disappeared, thus inciting false hopes.* The disease did not commit its greatest ravages, in the outbreak of 1872-8, until the *fifth year* of its prevalence. We are now in the second year only of the present outbreak. Shall we trust the next year to luck or to work? Such is the important question to be answered by the citizens of New Orleans.

In addition to the brief evidence which the resolutions contain in favor of a compulsory law, it may be well to refresh your memory with the following facts: The frequency, with which physicians succeed in stamping small-pox out of armies, navies, hospitals, asylums, plantations and the families of their patrons, testifies almost daily to the amount of success which can be achieved by any physician who is given the requisite power and has the sense to use it. Further, the continuous evidence of New Orleans, as of many other places, has always proved that the colored population suffers very much (at least six times) more from small-pox than the white; and there is no satisfactory or reasonable explanation for this, except in the very much greater ignorance and improvidence of the colored population in availing itself of the protection afforded by vaccination and re-vaccination.

*Small-pox is a cold weather disease, however, it flourishes well even in Cuba. The lesson taught by Sydenham 200 years ago, still holds good for England and, with slight modification, for New Orleans also. That lesson was, that small-pox reaches its minimum in June, July and August, increases in September [November or December in New Orleans], follows a regular march of increase during the winter, declines in spring and returns to its minimum in summer.

NEW ORLEANS AUXILIARY SANITARY ASSOCIATION, }
May 17th, 1883. }

GENTLEMEN:

Can New Orleans and ought New Orleans to enact an ordinance for compulsory vaccination? Will our citizens, by neglecting to do more than heretofore, run the risk of a new outbreak of small-pox next winter and thereby jeopardize the renewed prosperity hoped for from our Centennial Cotton Exhibition?

I firmly believe in the application to these questions of the two old saws: "An ounce of prevention is worth a pound of cure," and "where there is a will there is a way."

On a previous occasion I stated that while it was believed that many American communities have protected themselves by compulsory vaccination, it was certain that Chicago and Washington* had done so. To this list I wish now to add Atlanta, and to solicit special attention to some instructive records just received from its Board of Health.

Early in 1882, Atlanta adopted the following ordinance:

"Any resident of the City of Atlanta over 15 years of age who has not been successfully vaccinated, and who shall refuse or fail after 24 hours notice to be so vaccinated, may be summoned to appear, or may be arrested and taken before the Recorder's Court, and may, on conviction be fined in a sum not exceeding \$500, or be imprisoned not exceeding 30 days, *either or both*, in the discretion of the court, for *each day* such person so refuses or fails. And any parent, guardian or other person having control of a child under 15 years of age, who has not been successfully vaccinated and who shall fail to have such child so vaccinated after 24 hours notice, shall be subject to the penalties above prescribed."

To render this ordinance more efficient, four additional ordinances were at the same time adopted.

Besides adopting and enforcing these ordinances, what else did Atlanta do? For instructive comparison, let it be remembered that New Orleans has more than five times the population of Atlanta, and that while about one-fourth of the population of New Orleans is colored, more than two-fifths of the population of Atlanta is colored.

*On April 26 Dr. Ralph Walsh, of Washington, reported, that owing to the efficient execution of compulsory vaccination, Washington, which has about 50,000 colored among its population of 150,000, has had only about 40 cases of small-pox during the past eighteen months, while both Baltimore and Richmond had suffered with serious epidemics.

The Atlanta Board of Health warned the City Council of danger December 20, 1881, and forthwith, when there was not a case of small-pox in town, \$1000 were specially appropriated. During 1882, Atlanta expended nearly \$11,000, and thus far in 1883 some \$3000 to protect itself from small-pox alone. Proportionately New Orleans should have expended \$70,000, but did not expend even one-half what Atlanta did.

Atlanta, in 1882, vaccinated 26,736 persons. New Orleans, to equal this should have vaccinated about 130,000 persons; but it vaccinated only 4725.† Of 3600 school children, 2875 were found unprotected and were vaccinated, and the result was that "not one child, white or colored, belonging to the public schools of Atlanta had the small-pox, nor did a single child even have the varioloid."

To carry out vaccination, four physicians were employed early in 1882 to visit from house to house, and, in addition, two offices were kept open for the public. Notwithstanding these precautions the disease appeared in April, whereon *six* offices for free vaccination were opened, and, in addition, *ten* competent physicians were employed, who, "accompanied by a sufficient number of police officers, made a thorough and systematic inspection of the whole city, *vaccinating by force*, when found necessary, all unprotected persons." To equal this New Orleans should have had 30 offices for free vaccination and 50 competent physicians with policemen to visit from house to house, but New Orleans really had but six offices open, and only six sanitary inspectors, burdened with private practice and many official duties besides attendance on these offices.

In consequence of the precautions first taken, the first case of small-pox did not occur until April 3, whereupon so much more vigorous precautions were at once adopted that the disease was stamped out by July 20, that is in less than three months. Forty-six deaths only resulted from this outbreak, and of a total of 116 cases 111 were colored. A second outbreak began on December 14, and, after causing only 17 deaths, was, by March

†In 1883 to May, the Board of Health of the State of Louisiana vaccinated 4356 persons and the Sanitary Association 1433. The latter did not begin this work until March 8.

5, 1883, completely suppressed by prompt adoption of the same measures at a cost of \$3000.

In contrast New Orleans failed to take special measures for prevention; three deaths occurred in December, 1881; 415 in 1882, and (to May 13) about 750 in 1883; that is, while New Orleans should have had, in comparison with Atlanta, some 315 deaths, it has had about 1165, and is likely to have many more in 1883, without considering how many there may be in 1884.

What were the more vigorous precautions taken by Atlanta when, on April 3, 1882, the first case of small-pox occurred? As has been stated, compulsory vaccination was legalized, and, to execute it, six free vaccination offices were opened and ten physicians, accompanied by policemen, were sent from house to house to enforce the law. In addition, one infected negro resort was burned down, and another infected negro hotel was closed. Further, 5000 circulars were distributed to the citizens, urging them to be vaccinated, to report promptly any suspicious cases, etc.; and "whenever a case of suspicious sickness was reported to the Board of Health, or was discovered by any of its agents or employees, a guard was immediately placed at the house, and as speedily as possible the nature of the disease was determined. In the event of small-pox the patient was conveyed in a covered spring ambulance to the Small-pox Hospital, and all persons who had been exposed, directly or indirectly, to the infection, together with their effects or belongings, were taken to the *quarantine station*, where they were all re-vaccinated and detained two weeks, after which time, if they escaped the disease, they were supplied with necessary clothing and permitted to return to the city. But if the parties expressed a desire to remain at their own homes, and were able to maintain, *at their own expense*, the quarantine prescribed by the board, they were not removed so long as they complied with the requirements of the board. The house in which the disease existed was, under these circumstances, indicated by a yellow flag, conspicuously displayed, and *closely guarded day and night*."

A total of 223 persons in 1882 and 21 in 1883, were confined in

†The total deaths by small-pox in 1883 to May 26 were 839, thus making a grand total for the past eighteen months of more than 1257.

quarantine, and tents were used for this station, as well as for the Small-pox Hospital. It is needless to say that the destruction of infected bedding and clothing and the disinfection of houses and persons were vigorously prosecuted.

Such are the successful protective measures which the intelligent and enterprising little City of Atlanta has adopted, and which, we are told that New Orleans cannot or ought not to adopt. However mortifying the contrast between the two cities, the example of Atlanta should encourage to action all fellow citizens who believe that prosperity is secured best by trusting least to chance, and by putting their shoulders to the wheels of progress.

The interest now taken in the prevention of small-pox, and the desire of many citizens of New Orleans to have the City Council adopt a compulsory ordinance, have induced the writer to gather some facts, which deserve the consideration of those who would promote legislation on this subject. These facts are stated in the following:

APPENDIX ON LEGISLATION AGAINST SMALL-POX.

FOREIGN GOVERNMENTS.

Most European governments have made vaccination compulsory, or, as the French term it, *obligatory*, a better word, since it implies that which vaccination is, a *duty*. English laws are most consonant with American views, and therefore deserve special consideration. England established a National Vaccine Institute in 1809; it farther promoted voluntary vaccination and made inoculation unlawful in 1841; it enacted a faulty and ill-executed law for compulsory vaccination in 1853; it improved this law and encouraged re-vaccination, leaving this however voluntary, in 1867; and it again improved this law by the Vaccination Act of 1871. Notwithstanding these progressive efforts English sanitarians desire additional legislation, and especially to render re-vaccination compulsory. These efforts and this dis-

satisfaction teach that no community ought to expect to secure perfect legislation and execution the first time effort is made to do so, and that the enactment of good laws require careful consideration and due provision for the ways and means of execution.

European experience generally seems to teach the following lessons: Thorough execution of a compulsory law is impracticable without a thorough registration of births. The law must fix the age at which compulsion shall begin; England aroused much hostility to the law by making it compulsory as early as at the end of the third month of life, Scotland fixed it at six months, the German Imperial Diet (1874) at the end of the first year, and Sweden at the end of the second year. Every person should be permitted to be vaccinated by whomsoever he pleases, but good evidence must be furnished the public vaccinator that every one has been properly vaccinated or the vaccinator must himself attend to it. The government should render vaccination acceptable and attractive to the people, and to this end must supply the very best vaccine, discreet officers and convenient offices. Systematic and thorough work is necessary *annually*. Circulars of information, to enable the people to understand and to perform their duty, should be frequently distributed. Except when an epidemic is threatened or prevails, compulsion should be *indirect* and this should precede actual coercion. Indirect compulsion, said to be best practised in Belgium and Sweden, is exercised by bringing to bear, on the neglectful and obstinate, instruction, persuasion, encouragement, reprimands and the abatement of privileges. The last is effected by requiring, for instance, that whosoever seeks admission to any school, asylum, hospital, factory, etc., to become an apprentice, to enter the public service or to exercise any of the rights of citizenship, he shall present the certificate of the public vaccinator. Dr. Elisha Harris, Secretary of the New York State Board of Health, teaches, with good reason, that under ordinary circumstances, "instructional and indirectly compulsory methods should be patiently and exhaustively applied before direct coercion, fines and disabilities are resorted to."

LEGISLATION IN THE UNITED STATES.

Nearly all States, cities and towns have passed laws favoring voluntary vaccination and prohibiting inoculation. How many may have compulsory laws is unknown to the writer. But sufficient information has been collected to aid interested and intelligent legislators. Massachusetts has a compulsory law. New York has had since 1860 an inefficient and unexecuted law. Connecticut, Iowa, Michigan and Virginia encourage compulsion by authorizing local authorities and boards of health to make vaccination compulsory: In addition, Atlanta, Chicago, Houston, Jacksonville, Fla. (adopted May 25, 1883), Richmond and Washington enforce vaccination, and "Bowditch's Hygiene in America" (1876) reported the same as to Charlottesville, Chattanooga, Chester, Pa., Essex, N. H., and Wilkesbarre, Pa.

The ordinance of Atlanta has been previously given, and the laws and ordinances, bearing on the subject, of Louisiana, Massachusetts, Iowa, Michigan, Virginia, Richmond, Chicago and the public schools of New York will be cited.

LOUISIANA.

Act No. 80, 1877, Section 3.

Be it further enacted, etc., That said Board [State Board of Health] shall have power and authority to make all needful rules, regulations and ordinances upon the subject of vaccination within the parish of Orleans; *provided, that nothing in this act shall be construed to render vaccination in any case compulsory;* the said board shall encourage vaccination and shall furnish pure and fresh vaccine matter to the district sanitary inspectors and city physicians for the purpose of gratuitous vaccination and the furnishing of such vaccine matter shall be paid by the said Board of Health.

Act No. 92, 1882.

AN ACT to provide for the organization of Local Boards of Health in the State of Louisiana.

SECTION 1. *Be it enacted by the General Assembly of the State of Louisiana,* That the *municipal* authorities of all incorporated towns where boards of health do not now exist, be empowered to constitute themselves local boards of health for the exercise of the following powers and functions, so far as they may not conflict with the laws of the State: To pass ordinances for the *exclusion and repression of contagious and infectious diseases;* * * *

Our Board of Health is the "Board of Health of the State of Louisiana, organized by the State Legislature and not by the municipal authorities of New Orleans.

The City Charter of New Orleans is, Act No. 20, 1882:

SEC. 7. The Council shall have power and it *shall be their duty* to pass such ordinances and to see to their faithful execution as may be necessary and proper; * * * * * (2) to *maintain* its cleanliness and *health*, and to this end * * * * * to adopt such ordinances and regulations as shall be necessary or *expedient* for the *protection of health* and to *prevent the spread of disease*, * * * * *

Whether under these or other laws, the municipal authorities of New Orleans can adopt a compulsory ordinance is an undecided question of law. However, five well known and distinguished members of the New Orleans bar have united in the decided opinion, that the City Council can *legally* do that which the medical societies of this City have unanimously resolved, as cited on a previous page, *ought* to be done. These legal opinions will be found in the following report of the Conference Committee of the New Orleans Auxiliary Sanitary Association.

" Report of the Conference Committee.

"The committee have to report that in compliance with the resolution of this association an ordinance on 'compulsory vaccination' has been prepared and submitted to the City Council, where it had its first reading, May 29th, and will be acted on finally at their next meeting, June 5th.

"A copy of the ordinance, together with the legal opinions of Mr. Henry J. Leovy, the attorney of the association, concurred in by other eminent legal gentlemen, is subjoined:

"NEW ORLEANS, May 29th, 1883.

"Edward Fenner, Esq., President of the New Orleans Auxiliary Sanitary Association:

"Dear sir—In compliance with your request, and that of Messrs. Horter, Kohn, Aldige, James Jackson and Dr. Devron, the Conference Committee, that I furnish an opinion as to the power of the City Council to compel vaccination, I beg to say:

"That the act approved June 23, 1882, known as the City Charter, contains the usual clause as to health regulations—indeed, a City Charter would be an absurdity that did not vest in a municipal council authority to provide for public health. Section 7, of the Act of 1882, declares, among other things, that the Council 'shall have power, and *it shall be*

their duty, to adopt such ordinances and regulations as shall be necessary or expedient for the protection of health, and to prevent the spread of disease, and to maintain a good sanitary condition in the streets, public places and buildings, and on all private premises.'

"Under similar provisions the courts have declared the legality of ordinances to remove patients from their homes, to destroy infected property, to prohibit patients with contagious diseases from going into streets and other public places; they have even recognized in municipal councils power to destroy buildings to prevent the spread of disease.

"Judge Cooley, in his work on Constitutional Limitations, says that though as a rule property cannot be taken for public purposes without adequate compensation, it may be destroyed when necessary to preserve the public health. He adds in a foot-note, page 729 (and he is sustained by the Supreme Court of the United States), 'that councils may justify themselves in taking possession of, purifying or even destroying the buildings or other property of the citizen, when the public health or comfort demand such strong measures.' It would be idle to enumerate the cases to which this important power has been extended. Under it many cities have enacted ordinances to enforce vaccination, and I know of no case where the right has been contested.

"The exercise of enlarged powers in matters of public health is justified by Judge Dillon, in his admirable work on 'Municipal Corporations.' He says (vol. 1, p. 210): 'Laws and ordinances relating to the comfort, health, convenience, good order and general welfare of the inhabitants are comprehensively styled, 'Police laws or regulations,' and it is well settled that laws and regulations of this character, though they may disturb the enjoyment of individual rights, are not unconstitutional, though no provision is made for compensation for such disturbances. They do not appropriate private property for public use, but simply regulate its use and enjoyment by the owner. If he suffers injury it is either *damnum absque injuria*, or in the theory of the law, he is compensated for it by sharing in the general benefits which the regulations are intended and calculated to secure.'

"If such extreme measures as those enumerated are permitted, to prevent the spread of disease, surely there can be no question as to the comparatively unimportant matter of vaccination.

"I have no doubt of the power of the city, under the Act of 1882, to compel vaccination to prevent small-pox. I am, very truly yours,

"HENRY J. LEOVY,

"Attorney for Auxiliary Sanitary Association.

"I concur in the foregoing opinion of Mr. Leovy.

"THOMAS J. SEMMES,

"JULIUS ARONI,

"JOHN H. KENNARD,

"GUS. A. BREAUX."

MASSACHUSETTS.

The laws of this State, as cited in the Boston "Digest of Statutes and Ordinances Relating to the Public Health, 1873," are as follows :

"27. Parents and guardians *shall* cause their children and wards to be vaccinated before they attain the age of two years, and re-vaccinated whenever the selectmen or mayor and aldermen shall, *after five years* from the last vaccination, require it. For every year's neglect the party offending shall forfeit the sum of five dollars.

"28. The selectmen and mayor and aldermen *shall* require and enforce the vaccination of all the inhabitants, and whenever in their opinion the public health requires, the re-vaccination of all the inhabitants who do not prove to their satisfaction that they have been successfully vaccinated or re-vaccinated within five years. All persons over twenty-one years of age, not under guardianship, who neglect to comply with any such requirement, shall forfeit the sum of five dollars.

"29. Towns shall furnish the means of vaccination to such of their inhabitants as are unable to pay for the same.

"30. Incorporated manufacturing companies, superintendents of almshouses, State reform and industrial schools, lunatic hospitals, and other places where the poor and sick are received; masters of houses of correction, jailors, keepers of prisons, the warden of the State prison, and superintendents or officers of all other institutions supported or aided by the State, shall, at the expense of their respective establishments or institutions, cause all inmates thereof to be vaccinated immediately upon their entrance thereto, unless they produce sufficient evidence of previous successful vaccination within five years.

"31. Each town may make *further* provision for the vaccination of its inhabitants under the direction of the board or a committee chosen for the purpose."

I O W A.

"Section 22, Chapter 151, Laws of 1880, declares, as to small-pox, that local Boards of Health may take such other measures

as may be deemed necessary for the safety of the inhabitants;" and, February 12, 1881, the Attorney-General decided as follows: "I have no question at all, but that local boards of health have the power to regulate and determine how vaccination shall be done and that the boards may direct that all persons *shall* be vaccinated." And, the Attorney-General had previously decided, January 4, 1881, as follows: "Rules and Regulations, made by the State Board of Health and directed to local boards of cities, towns and townships, are of full force and effect upon the people, without subsequent indorsement or action of such boards."

MICHIGAN.

Revised Statutes, Chapter 35.

"SEC. 45. Every township may, at any meeting, make suitable provision for the inoculation of the inhabitants thereof, with the cow-pox, under the direction of the Board of Health or the health officer of the township, and they shall raise all necessary sums of money to defray the expenses of such inoculation, in the same manner that other township charges are defrayed. S. 1736."

VIRGINIA.

"Chapter 166.—An Act to amend and re-enact Sec. 19, Chap. 84 of the Code of 1873. Approved Feb. 21, 1882."

"19. The common council of any city or town and the Board of Supervisors of any county, when in their judgment, occasion requires, may cause persons residing within their limits to be vaccinated with genuine vaccine matter; and the Council of any city or town may *enforce obedience* to its ordinance by affixing fines and penalties for the violation of said ordinance. Should any person or persons, including children who attend the public schools, be unable to pay for vaccination, such person or persons shall be vaccinated with genuine vaccine matter at the cost and expense of the city, town or county, and provision shall be made therefor by the Council of the city or town or by the Board of Supervisors of the county."

RICHMOND, VA.

Ordinance enacted in 1881:

"Be it ordained by the Council of the City of Richmond, That there *shall* be, as soon as possible after the passage of this ordinance, a vaccination of all persons, residents of this city, who have not been vaccinated within the past twelve months, whether adults or children, except in such cases as any regularly licensed physician shall declare it to be injurious or unnecessary. And any adult failing or refusing to be vaccinated—or to have his or her child, children or ward vaccinated, for fifteen days after the passage of this ordinance, shall be liable to a fine of five dollars."

In spite of this ordinance small-pox prevailed in Richmond, as must be the result of any such ordinance if means be not provided for its efficient execution. However, an inefficient ordinance probably accomplishes more good than no ordinance at all.

CHICAGO, ILL.

Health Ordinances Passed, April 18, 1881.

"692. The commissioner of health may take such measures as he may, from time to time, deem necessary to prevent the spread of the small-pox, by issuing an order *requiring* all persons, in the city or any part thereof, requiring vaccination, to be vaccinated within such time as he shall prescribe; and all persons refusing or neglecting to obey such order shall be liable to a fine of not less than three dollars nor more than twenty-five dollars; *provided*, that it shall be the duty of the commissioners to provide for the vaccination of such persons as are unable to pay for the same, at the expense of the city."

BY-LAWS OF THE PUBLIC SCHOOLS OF NEW YORK.

"130. No pupil shall be allowed to attend any school, nor shall any teacher be employed in the same, unless such pupil or teacher has been vaccinated.

"Every principal of a school shall require satisfactory evidence of such vaccination as a requisite for the admission, employment or continuance of a pupil or

teacher; and the principal shall also enter, in the register of the school, the dates, as near as possible, of the respective vaccinations of the pupils and teachers, and shall co-operate with such agents of the Board of Health as may be authorized to visit the schools for the purpose of examining and vaccinating the pupils, and shall require a re-vaccination of all pupils, ascertained by agents of the Board of Health not to be fully protected by a former vaccination, and no pupil refusing to be so vaccinated, either by the agent of the Board of Health or by the physician of the family to which he or she may belong, shall be permitted to attend any public school until such requirement is fully complied with.

“A certificate of any physician in good standing in his profession, stating that the pupil does not require re-vaccination, shall be accepted by the agents of the Board of Health in lieu of a personal examination.”

The certificate given is as follows; “Certificate of Vaccination. The Health Department of the City of New York hereby certifies that —— has received the benefit of a perfect vaccination. In witness whereof, the officers of this department have hereunto set their hands this —— day of —— 188 .

———President.

———Secretary.

———Inspector of Vaccinations

For history of case see Register——of——, No.——.

Anti-Inoculation Laws of Michigan and Virginia.

“Sec. 37. If any person shall inoculate any other person or inoculate himself or suffer himself to be inoculated with the small-pox, unless at some hospital licensed and authorized by law, he shall, for each offense, forfeit a sum not exceeding two hundred dollars. (§ 1728).” Revised Statutes of Michigan.

“Any person who shall inoculate himself or another or suffer himself to be inoculated for small-pox, unless at a hospital established by law, shall forfeit for every such offense a sum not exceeding three hundred dollars.” Laws of Virginia.

