

# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCIV. — THURSDAY, MARCH 23, 1876. — NO. 12.

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## SCHOOL-CHILDREN AND DANGEROUS COMMUNICABLE DISEASES.<sup>1</sup>

BY ARTHUR H. NICHOLS, M. D.

THE reorganization of the school committee of the city of Boston, which has just been carried into effect, renders it an opportune time to direct attention to the expediency of adopting some restrictive regulations tending to check the spread of dangerous infectious diseases among school-children. While the utility of rules designed to deal preventively with this class of affections is clearly demonstrated by writers upon school hygiene, and the absence of such regulations is often deprecated by the more intelligent teachers and parents, it remains, nevertheless, a singular fact, that in the public schools of Boston, and indeed throughout the State, there exists no rule which would sustain the teacher in excluding a pupil who should insist upon attending school from an infected home. To this absence of any regulations designed to check the reckless dissemination of infecting matter, is attributable the fact that the school-houses, especially in large cities, constitute in many instances the principal foci of contagion.

It is stated, for instance, by William Squire, M. D., who investigated the frequent cases of scarlet fever occurring in a section of London in 1874, that by far the greatest number of outbreaks was directly traceable to schools, from which the children carried infection to their homes with serious and fatal consequences.

In a few localities, attempts have indeed been made to interrupt intercourse between infected houses and the school-room, by leaving the matter to the decision of the family physician; but in such cases the conflicting theories advanced by different medical men have often served to embarrass and bewilder the solicitous instructor, without being equally efficient in affording protection to the pupils.

As an instance of the danger to which schools may be exposed, owing to the culpable ignorance of certain practitioners, reference may be made to a fallacy, peculiar, I believe, to physicians of the so-called new school, the notion, namely, that there exists a modified form of scarlet

<sup>1</sup> Read before the Norfolk District Medical Society, January 11, 1876.

fever, analogous to varioloid, and not requiring to be dealt with as a dangerous communicable disease. And it is not many years ago that the non-contagiousness of scarlet fever was openly maintained by a prominent physician of this city. The mere possibility that the welfare of an entire school may be imperiled by the existence of delusions of this nature indicates the urgent necessity for the establishment of definite, fixed rules for the guidance of the teacher.

To consider, then, the character of the danger to which children are exposed within the schools, it may be briefly stated that scarlet fever and small-pox comprise the most serious and fatal maladies to which the pupils are subjected. Of these, scarlet fever is the more frequently encountered, and the one to be especially dreaded; for it destroys by far the greater number of children, besides inflicting serious and permanent injury upon many who survive its attack. The comparatively slight degree to which this disease is amenable to medical treatment, our inability to check or to modify its ravages, in the sense that small-pox is prevented or modified by vaccination, and the indefinite period for which the germs of the disease retain the power of infection serve to render the malady extremely formidable. In Boston, scarlet fever may be said to be uniformly present. It has destroyed during the period of the last twenty-six years above five thousand lives, this excessive mortality from this source being ascribed, by Dr. T. B. Curtis, to the "unrestrained dissemination of contagia." That prophylactic measures should be taken, with the object of correcting the ignorance and carelessness which exists in the community with respect to this destructive malady, will be generally admitted, and surely no better point of departure can be found in this work of reform than our school-houses.

The public, and especially parents, should be warned that it is incumbent upon them, in case of the occurrence of this disease, to resort to all reasonable means for the protection of the healthy. Chief among these precautions is the prompt and complete isolation of the sick, and if circumstances do not permit this in the patient's own home, he ought to be treated in hospital. With regard to small-pox, on the other hand, the very great immunity, or protection, afforded by vaccination renders the danger from contagion small, if we except, perhaps, those rare intervals when this disease prevails as an epidemic, and seems to assume a character of unusual virulence and contagiousness.

Now, in attempting to frame regulations with the object of intercepting communication between infected tenements and the school, it is important to recognize at the outset the tendency upon the part of the lower classes to conceal the existence of these two diseases, and their inclination, also, to oppose vaccination. As an evidence of this disposition to conceal the existence of small-pox, it is reported that

during the past year, out of one hundred and fifty-eight fatal cases occurring in New York, no less than sixty were dead when discovered.

The chief inspector of the vaccinating corps of the same city states, in his report to the board of health, that great difficulty was experienced in the work of his department, on account of the opposition of the parents, the result of which was that but ten to fifteen per cent. of the children requiring vaccination were really vaccinated. "Strange as it may seem," he adds, "we find instances nearly every day where the parents of school-children living in infected houses, and even when small-pox is in their own families, persist in sending them to school, if they be allowed, and yet will not consent to their being vaccinated under any circumstances." This opposition upon the part of parents to vaccination, whether it be the result of vague and ignorant prejudices, or attributable to what has been termed a mere *vis inertiae*, must be met and overcome by improved statutory enactments, and educational influences, before we can hope to intercept all the channels through which the germs of contagious diseases find their way to the school-room.

Considering, however, that it is the imperative duty of the school authorities to adopt the most stringent measures, designed to interpose a check to the unlimited spread of these diseases, I would venture to suggest some such rules as the following, as best calculated to meet the end proposed:—

I. No pupil shall be allowed to attend school from any house in which small-pox, varioloid, or scarlet fever is prevalent.

II. A pupil who has been affected with small-pox, varioloid, measles, or scarlet fever shall not be permitted to return to school until, desquamation having ceased and convalescence being complete, the surface of the body shall have been finally disinfected by means of warm baths (with abundant soap), applied upon four successive days, or until no trace of roughness of the skin remains. The pupil, furthermore, shall not be allowed to reënter school until the teacher shall have received satisfactory evidence that all clothing worn by the patient has been thoroughly disinfected, and that the sick-room and its contents have been properly cleansed. If the teacher is not satisfied that all practicable disinfection has been effected in the case of any pupil, said pupil shall not be readmitted until three weeks shall have elapsed from the beginning of convalescence.

III. No pupil shall be allowed to attend school who is affected with diphtheria or whooping-cough.

Both parents and instructors should be informed as to the measures requisite for the disinfection of the clothing, sick chamber, etc.<sup>1</sup> They should also be made to appreciate that a neglect of these precautions,

<sup>1</sup> See *Manual of Public Health* edited by Ernest Hart, page 266.

when children are allowed to return to school after slight cases, forms often a principal source of epidemic infection.

It is hardly necessary to add that under the supervision of a qualified medical inspector, to whom all obscure or doubtful points might be referred, a much more intelligent and judicious enforcement of these rules might be expected.

It does not appear important or desirable that any school-regulations should take cognizance of other contagious diseases to which children are liable. It would be hardly possible, for instance, that the contagion of cholera or typhoid fever should be conveyed within the school-house, the quality of infectiousness of these diseases being confined, as is commonly believed, to the dejecta of the patient. There is indeed room for a difference of opinion as to whether it is worth while to include in the above category diphtheria, measles, or whooping-cough. Patients under the influence of diphtheria are not generally thought to evolve the poison from the body, as in scarlatina; nor is this disease believed to be communicable by means of infected air or clothing. As regards measles and whooping-cough, the direct mortality from these diseases is commonly quite small, and they are therefore to be dreaded only as they predispose to certain lung diseases, especially bronchitis and pneumonia.<sup>1</sup> In view, moreover, of the popular notion that children must contract these diseases once in the course of their lives, and that it is therefore better for them to take them at an early period and thus insure immunity thenceforth, it is not difficult to understand that many parents would hardly acquiesce in any stringent rules, the utility of which could not always be demonstrated to them.

There are other and less serious contagious diseases communicated within the school-room, attributable for the most part to the presence of animal or vegetable parasites, with the general characteristics of which the instructor would do well to familiarize himself; but as they do not endanger life, they cannot properly be discussed in this connection.

In conclusion, it may be safely alleged that in Boston, as well as in other large cities, an undue mortality occurs among school-children from the effects of contagious diseases, contracted to a great extent within the school-room, and that this undue mortality may be reduced by the adoption and enforcement of appropriate prophylactic measures.

It is indeed true that there exists in all our large cities a certain foreign element in the population, with which it would be impossible to carry out to any great extent the regulations above suggested, or indeed any similar rules. But this fact cannot be urged as presenting any

<sup>1</sup> The direct mortality from measles is not always small. Thus in Fiji, during a recent epidemic, the rate of mortality reached forty per cent. The same rate of mortality was also observed in Paris in the month of January, 1871, among the *garde mobile* forming part of the garrison.

weighty objection against the adoption of stringent prophylactic measures which surely could be enforced among the more intelligent portion of the community. If a large proportion of all murderers escape the penalty imposed for their crimes, it will hardly be maintained that for that reason the laws for the punishment of murder should be repealed. Upon the other hand, the epidemic may be so virulent and extensive as to render all regulations inoperative, or of no avail, and under these circumstances, as a *dernier ressort*, the schools should be temporarily closed. I have often been impressed with the prompt and decided measures taken by the proprietors of some of our popular sea-side hotels, to guard against the entrance of any guest supposed to be suffering from an infectious disease; and in cases where a communicable disorder has broken out, I have observed that they are equally strenuous in advocating speedy removal from the house; or if removal is impracticable, they do not fail to insist upon the importance of complete isolation and disinfection. Their profits for the year are endangered, if a communicable disorder is known to exist in the house. So, too, at the neighboring market at Brighton, the cattle-owners have likewise found it to their pecuniary advantage to adopt stringent rules to prevent the spread of certain contagious diseases among the animals. Is it then, unreasonable to demand of our school authorities the adoption and enforcement of similar sanitary regulations, with the view of promoting the physical integrity and welfare of the school-children?

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## ANALYSIS OF FIVE THOUSAND CASES OF SKIN DISEASE.<sup>1</sup>

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### THIRD PAPER.

THE dermatitides form a separate group of the acute exudative diseases in Hebra's scheme, and are subdivided by him into the idiopathic and symptomatic. The first comprises the varieties traumatica, venenata, and calorica; the latter, erythematosa and phlegmonosa. Under the head of dermatitis venenata, I have placed those inflammatory affections of the skin which are produced by the action of certain vegetable and animal poisons when brought into more or less intimate contact with it. They include fifty-three cases of mosquito poisoning and twenty of rhus poisoning. They will be spoken of here that there may be no deviation from the plan of arrangement according to Hebra proposed in the beginning, even if, as in this case, the affections are regarded by the writer as misplaced. Dermatitis is a very general term, and

<sup>1</sup> Continued from page 177.