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PERILS OF THE SCHOOL-ROOM.

To those who may have objected to the Public School Regulations relating to the provision for space and ventilation in School-houses, we heartily commend the following address on the subject, which was recently delivered before the American Public Health Association of Philadelphia, by Dr. Bell, editor of the N.Y. *Sanitarian*. After reading that address, so full of startling truths, we trust that no person interested in preserving life in the School-room will not only raise no further objection to these Regulations, but will rather aid, as far as possible, and as they have opportunity, in carrying them out. Our Regulations on the subject are as follows:—

**Adequate School Accommodation.**—The law declares Trustees shall provide adequate accommodation for all the children between the ages of five and twenty-one years resident in their school section, city, town, or village. These "accommodations" to be "adequate," should include

(1.) A site of an acre in extent, but in no case less than half an acre, so as to allow the school-house to be set well back from the road, and furnish play-grounds within the fences. A convenient form for school grounds will be found to be an area of ten rods front by sixteen rods deep, with the school-house set back four or six rods from the road. The grounds should be strongly fenced, the yards and outhouses in the rear of the school-house being invariably separated by a high and tight board fence; the front grounds being planted with shade trees and shrubs. For a small school, an area of eight rods front by ten rods deep may be sufficient, the school-house being set back four rods from the front.

(2.) A school-house (with separate rooms where the number of pupils exceed fifty), the walls of which shall not be less than ten feet high in the clear, and which shall not contain less than nine square feet on the floor for each child in the section or division; so as to allow an area in each room, for at least one hundred cubic feet of air for each child.\* It shall also be sufficiently warmed and ventilated, and the premises properly drained.

\* Thus, for instance, a room for fifty children would require a minimum space for 5,000 cubic feet of air. This would be equal to a cube of the following dimensions in

(3.) A sufficient paling or fence round the school premises.  
 (4.) A play ground, or other satisfactory provision for physical exercise, within the fences, and off the road.

(5.) A well, or other means of procuring water for the school.  
 (6.) Proper and separate offices for both sexes, at some little distance from the school house, and suitably enclosed.

It is the duty of Public and High School Inspectors, in examining into the condition of the school-house, to see:—

(3.) *Space for air.*—Whether the required space of nine square feet for each pupil, and the average space of one hundred cubic feet of air for each child, have been allowed in the construction of the school-house and its class rooms + (See regulation 9, *Duties of Trustees.*)

(4.) *Well; Proper Conveniences.*—Whether a well or other means of procuring water is provided; also, whether there are proper conveniences for private purposes of both sexes on the premises; and whether the regulations in regard to them, contained in regulation.

Dr. Bell's remarks, so full of warning to School Trustees and parents, are as follows. (See also Dr. Clarke's remarks, p. 37):—

"While reflecting on how best to open the discussion of a subject so abundant in detail as the perils of the school-room, came the intelligence of the death of Dr. Francis E. Anstie, one of the brightest ornaments of his profession. His death, as we have since learned, was caused by a wound which he received in a post-mortem examination, while engaged in an investigation which had for its object the discovery of the causes of a fatal school disease, acute idiopathic peritonitis—a disease often found to be due to malaria, which in this particular instance, was caused by sewer gas. I use the word malaria in this connection in its simplest sense, to signify bad air, but recognize the usual distinction of two kinds of malaria, vegetable and animal.

"The diseases common to vegetable malaria, or marshy emanations, are, unfortunately, so well known as not to require special description in this connection. It will suffice to state that they are liable to be greatly modified and aggravated by animal malaria, the kind common to school-rooms.

"Animal malaria may be engendered anywhere by the neglect of animal excretions, whether of mankind or of the lower animals. It is especially liable to occur as the result of crowding, darkness, want of ventilation, want of or defective sewerage, and filthy habits, and is subject to intensification by extremes of temperature in crowded apartments. Crowding, or overcrowding, the more common term, is an indefinite expression, and so generally subject to misinterpretation by persons apparently incapable of understanding its true signification, in relation to school-rooms, that its limits require defining. The importance of air space rests upon the absolute necessity of pure air for healthy respiration; but the amount of space required depends upon a variety of circumstances. Hospital conditions, for example, require the largest amount of space, and modern experience has shown that, other things being equal, no enclosed space equals plenary exposure. But, for various practical purposes, the limits of space vary from 300 to 4,000 cubic feet—the smallest proportion being the exaction for lodging-house dormito-

ry, viz.: 25 x 20 x 10, which is equivalent to a room 25 feet long by 20 wide and 10 feet high. Physicians of experience declare that fifty children require 100,000 cubic feet of fresh air hourly, or 2,000 cubic feet per hour for each child. Our regulation is therefore far below the medical standard.

+ *Ventilation* becomes easy as soon as it is known that it is embraced in these two essential operations, viz. 1st, to supply fresh air; 2nd, to expel foul air. It is evident that fresh air cannot be crowded into a room unless the foul air is permitted to pass freely out; and certainly the foul air will not go out unless fresh air comes in to fill its place. It is useless to open ventilating flues when there is no means provided to admit a constant supply of fresh air from without.

*Temperature.*—In winter the temperature during the first school hour in the forenoon or afternoon, should not exceed 70°, and 66° during the rest of the day.