

symptoms having been in evidence but a few weeks. Pronounced pain, fixation of the pelvic organs, dysuria, constipation, and notable emaciation were the leading symptoms.

Exploration revealed a large tubercular cyst springing from the left tube, with nodules scattered over the pelvic peritoneum and involving the omentum. Removing this cyst and the affected part of the omentum, with irrigation and drainage, was followed by a convalescence in which, one year later, was found a postuterine tenesmus; vaginal tampons of guaiacol and oil led to a disappearance of the enlargement, and to a symptomatic recovery.

A third case was met in a nullipara, aged 31, whose disease had been present for several months, and in whom the symptom of pain was not leading, but disturbed digestion, loss of weight, partial fixation of the pelvic organs and marked rectal tenesmus were prominent symptoms. A large tubercular cyst was found on exploration, springing from the left side of the pelvis, and surrounding the base of which broken-down glands and purulent material were found. The cyst was removed, the pelvic deposits evacuated, with free irrigation and drainage, followed by convalescence, in which case an unfavorable termination was expected, and this points to similar experiences at the hands of others, which go to prove that a tubercular peritoneum loses, in a large measure, its susceptibility to other forms of bacterial inflammation.

## DISEASES IN SCHOOLS\*.

SPREAD AND PREVENTION.

BY LAMBERT OTT, M.D.

PHILADELPHIA.

By reason of my twelve years' intimate association with a school section of Philadelphia, having thirteen schools and 6031 children—5224 being in primary grades, ranging from 6 to 10 years of age, and the remainder in grammar grades—I have been able to make some valuable observations.

A trite remark of mothers, often heard by the family practitioner is: "My children were free from disease until they began attending school," and I can bear testimony to the truth of this saying, not alone from an experience in my own household, but also from the multitude of evidence gained otherwise.

One thing is evident: that there is an increase of contagious diseases during the continuance of the school period. The condemnation of Froebel's kindergarten schools is based on the necessary aggregation of little children in those tender years, when the susceptibility to contagious diseases is at its height. It is claimed that home teaching, and its consequent isolation, enhances the child's chances of attaining maturity while it lessens the possibility of other children obtaining disease. I have often watched little children in school-rooms, in and out of session, especially when seated at double desks, and have been impressed with their frequent and close personal contact, such as placing their faces together, blowing in each other's faces in a banter and, when scrutinizing a fellow pupil's work, bringing the inspiratory current in a direct cross line of the other's expiration. It often amazes me how careless physicians are in permitting children of an infected house to attend school, catering to the whims of parents,

who from stupidity or vicious indifference would rather see others contaminated than have their own children lose time by enforced absence.

The disease usually spread in schools, naming in the order of their frequency, are: diphtheria, scarlet fever, measles, whooping-cough, varicella and variola, or varioloid. There are three sources of danger: 1, being in school during the inception and development of the disease; 2, returning to school too early in the convalescence, or permitting children of an infected household to attend school; 3, in daily attendance in school during a light and overlooked attack of contagious disease.

When any of the contagious diseases occurred among children of my patrons I found in many instances that a child in the next seat had previously been absent on account of sickness, and often had the same disease as the child I was attending. In some cases I was unable to find the source of personal infection in that special classroom, but in contiguous classrooms on the same floor children had been absent with the same disease, and had but recently returned to school; from this I concluded that the mode of contamination was during recess. I have asked other physicians to investigate similarly, and they have had a like experience. One practitioner, of very large experience, stated that he believed seven-eighths of the contagious diseases in children were contracted in school.

I believe the most damage is done by children being in school during the inception and development of contagious diseases, and by a too early return during convalescence. When we consider the insidiousness of the period of incubation in children's diseases, and how often in their early stages the ambitious child will conceal its ills, knowing that absence lessens its chances of promotion, we readily understand why children are frequently found in filled classrooms with the diphtheria patch well developed in the throat, the scarlet-fever case either with a mild rash or an increasing fever prelude its appearance, or the child who will ultimately develop whooping-cough remaining in school, with that apparently innocent preliminary cough to spread its contagion. One can scarcely believe that fully-developed contagious disease could remain among forty or fifty children any length of time without being discovered, but this I have repeatedly seen. In several instances I have noticed children with their necks tied up, and on examination found them suffering with a light form of tonsillar diphtheria, or, if not with diphtheria, always sufficiently pronounced to alarm me. I have also found in several mild cases of scarlet fever in the class-room, and have frequently found children coughing suddenly in starts, and soon after detained at home with well-developed whooping-cough.

The commoner means of contamination are: by personal contact, inspiring exhalations, kissing; by the common use of a drinking cup; by exchanging working material, such as pencils, cleansing rags, or by passing around from mouth to mouth a whistle or a mouth-organ. The habit of children kissing one another, carrying the end of a lead or slate pencil to the mouth, lending it to a neighbor who also carries it to his mouth, prior to using it, is common.

A grave question arises, viz.:—When should we permit children to return to school during the convalescence of contagious diseases? My practice has been to recommend the return after the following lapse of time.

1. Diphtheria, four weeks from its inception and one week in the open air.

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2. Scarlet fever, four weeks from its inception and one week in the open air.

3. Measles, two weeks from its inception and one week in the open air.

4. Whooping-cough, not until every vestige of the cough has disappeared.

5. Smallpox, two months from its inception and one month in the open air. Some physicians have considered this time as too long, and have also undervalued the one week of out-door life. My answer to them has been, "Where is there a better ventilator of body and clothing than a romping out-door life for a convalescent child?"

We have not only the improved general tone, but a removal of the contagious element—germ which it undoubtedly is—and a consequent lessened possibility of imparting the contagion to the healthy children with whom they at once come in contact. I hold that these restrictions should be regulated and enforced by special enactment, for when left to the too-eager mother to get her child soon into school again, or the easy-going physician, who too often caters to the whims of his patrons, they will fail of their purpose unless supported in the form of a law.

The question may be asked, "Why should all diphtheria cases be detained from school five weeks?" If we should determine the time by the bacteriologist's report, then a much longer time would be necessary. In Philadelphia physicians have sent material obtained from the throats of cases apparently recovered from diphtheria to the city bacteriologist, in the sixth week from the inception of the disease, and after being two weeks out of doors; he reported, microscopically, a number of Klebs-Loeffler bacilli present. I do not believe any one is able to positively state when the last scale of the desquamation of scarlet fever has disappeared from a child, and that there is no possibility of further contagion. Therefore, if there is ever possible an element of doubt, why not allot ample time for their convalescence, and err on the safer side? It is a bad and vicious rule to permit one child to advance by hazarding the lives of fifty others. Parents usually object to the length of time, claiming it is an unnecessary hardship, but how few mothers understand this danger, and yet you will find this same mother offering the most strenuous objections when her child is exposed to this danger to which she subjects others by returning the convalescent too soon.

The fact that contagious diseases of childhood are pre-eminently spread in schools is accepted by the medical and lay public, and yet how tardy have been the efforts toward instituting preventive measures. Every physician can recall some loving, earnest mother among his patrons who has learned to distinguish between the lighter and the major ills of her children, and when such a mother calls for your services, you at once, and rightly, conclude that there is something radically wrong. Why not have every teacher acquire this training, and learn to distinguish a normal from an abnormal throat, to discern the flush of fever, scarlet rash, and any suspicious cough that might lead to pertussis? A few clinic lessons added to her curriculum, and making this a part of her qualifications necessary to acquire a certificate as a teacher, is not only feasible, but practicable, and will be followed by beneficent results. I hope to see the day in which every school teacher is thus qualified to distinguish children's diseases, and with the argus eyes always on the many little ones, what better means have we to prevent the spread of contagious

diseases in schools? She should not only be taught the differential points, but the means of contamination, which she can in turn impart to other pupils. A daily medical inspection is in vogue in some of the European and American cities, but this will only be occasionally necessary if teachers receive the proper instructions. When teachers are qualified in practical clinic essentials, they can make it their morning duty to have the pupils pass in single file, and, if watchful, they will learn to discover the suffused cheek, the dull eye and the heavy countenance. Any child trivially ill is at once sent home with a note of explanation, requesting the attendance of a family physician.

The law of Pennsylvania, compelling children admitted to school to present a certificate of successful vaccination, signed by a physician, is signally defective, for there is no doubt that a number of certificates are forged, by which means parents opposed to vaccination evade the law. An amendment to the law has been passed, to admit children who after repeated trials will not "take" the vaccin virus, which must be confirmed by a qualified physician, but I have never yet found a child who did not respond to primary vaccination, when properly done with fresh and healthy vaccin lymph. The law, by which the physician's signature should be authenticated, should be more stringent, thereby barring any possibility of deception. If it is an accepted fact, and I believe it is in Philadelphia, that enforcing the vaccination law has stamped out smallpox, why not give more attention to preventing the spread of other contagious diseases in all schools, instead of the belated attention of posting a yellow label over the door of the unfortunate victim? This tabooing the infected household prevents the usual intercourse of neighbors, which in itself is advantageous, but it unfortunately leads, on the part of the doctor and family, to collusively withholding such information from the proper authorities, thereby rendering the source of infection more dangerous by inattention to details, and the proper care against intruders.

The Philadelphia Board of Health forbids principals receiving such children in school, reported with infectious diseases, until they notify them when they may be safely returned to their classrooms. In many health boards, prophylaxis does not receive the attention it should, and the major work in that line should be directed within our schools. There should be in every city, as in Philadelphia, where there are 150,000 children attending the public schools, and probably 50,000 in parochial and private schools, a school medical superintendent, with sufficient salary to enable him to devote his entire time to his work, and a complement of qualified assistants apportioned to the different districts, whose duties should be to inspect school buildings, to trace sources of infection, to respond to the call of principals or teachers for the examination of suspicious cases, and especially to guard a classroom of children where any contagion has developed and is likely to spread. Such a board, properly salaried and organized, would in the course of time develop a fund of practical details, which would reduce to a minimum the spread of contagious diseases in our schools. Their work could also be that of instructing teachers in recognizing infectious diseases in their early stages, or where there is need of watchful attention, to aid and guide them in hygienic measures. His duties should be in part to see to the proper physical training of pupils, to the proper posture to be observed in sitting and writing, to suggest remedies against the enormously grow-

ing evil, especially in our public schools, of stooping, and thus acquiring round shoulders, and to superintend the voice and lung gymnastics so essential in the developmental periods of life.

Why should it not be the morning duty of each teacher to inquire of her class whether any child present has headache, sore throat, sick stomach or pain, or is feeling ill in any way? Such children complaining should at once be examined by the visiting medical inspector, and, if sick, should be sent home, or, if malingering, returned to the classroom. Believing, as we do, that infection is for the most part spread by children sitting in school during the inception and development of contagious diseases, the danger, therefore, can be minimized by early detection through these interrogatories, supplemented by a medical examination, which renders it nearly impossible for a child to remain in school two or three days with a diphtheritic patch the throat or a developing exanthemata. Or, if this procedure be objectionable, the teacher can in the early part of the term, or once a week if necessary, instruct her pupils to report immediately when ill.

In Brussels the schools are visited weekly by trained medical inspectors, who look after all matters pertaining to the health of the pupils, in suspicious cases examining the eyes for optical defects, and in frail children suggesting such work and physical training as accords with their capabilities.

#### DISCUSSION.

Dr. HORACE B. ARNOLD, Boston—In November, 1894, we started a system of school inspection by physicians. The city was divided into fifty districts, and one examiner was appointed for each district. A visit was made to the schools each morning. The plan was as follows: Immediately on the assemblage of the school children, the teacher looked them over and decided whether any child was ailing. If any child was found ailing, word was sent to the mother and a notice given to the medical examiner. The medical examiner examined the child and determined the trouble, and, if contagious, or if detrimental to the health of the other children, the case was sent home. We dealt with an extensive run of contagious diseases in the city and many cases in the public schools. During the first year—fourteen months—there were 16,790 pupils examined in the schools; of this number, 6,053 were not sick, but 10,737 were found to be ill, among which number 2,041 were sick enough to be sent home; 453 had contagious diseases and would have been sources of infection through the schools. Since that time the number of contagious diseases in the schools and city has suddenly diminished. In my ward, during the past year—as school inspector—I found more cases that contracted the disease outside the schools than inside. The physicians are obliged by law to report cases of contagious diseases to the Board of Health, when the examiner visits the case to learn if proper isolation, etc., has been carried out; if not properly carried out, the case is removed to the hospital. As a result of this practice, the results have been remarkable, for there are fewer cases of contagious diseases in the tenements than in the well-to-do classes. The reason is that since the new contagious hospital can accommodate all the cases that have their origin in the tenement districts, the prompt removal of the cases to the hospital limits the spread of the diseases.

Regarding Dr. Ott's opinion as to the period at which the child should be allowed to return to school, I believe it is too short. In watching a number of cases of scarlet fever, I found desquamation occurring five and one-half weeks. Dr. Cullom places the average period of desquamation at fifty days. As regards diphtheria, the child should not be allowed to return so long as the Klebs-Loeffler bacilli are demonstrable.

Dr. RAYBURN, Washington, D. C.—Another important point is regarding sending children to school too early in life. No child should be sent to school before the age of seven years. In Washington we have about 50,000 children who attend school. The idea of sending children to school at the ages of 4 or 6 is wrong. At this early period they take diseases easily. Children should not be sent to the primary department before the age of 7 years and no child should be kept in one session more than four hours in length; only an exceptional child is able to bear the strain on the system for a

longer period of time. In other words, no child should come to school before the age of 7 years. The trouble is that the public school system has grown too much. One should bear in mind that the children need sound bodies as well as sound minds.

Dr. BRAGDON, Minneapolis, Minn.—Any one who studies infectious diseases knows that they increase in number during the school period. Any one who studies inspection of schools will admit that Boston has the best system. Teachers can make inspection and they can help, but not without medical inspectors; teachers working with the medical inspectors give the best results. The time limit for scarlet fever and measles may be made, but not for diphtheria; some cases of the latter may not be safe for six weeks, and some not for six or eight weeks, before they may be sent back to the school. Its contagiousness is through direct infection and not through the air. In many instances the bacilli may be in the throat, although there may be no symptoms. If we exclude children with clinic diphtheria, we should exclude children who have bacilli in their throats. The time limit of four weeks is not long enough for scarlet fever, although some cases may be safe in less than that time.

Dr. E. R. AXTELL, Denver.—The statement of Dr. Ott regarding the indiscriminate use of lead pencils is a true one. Two years ago I suggested to a lead pencil manufacturer that he incorporate quinin or some bad-tasting substance with the graphite, but nothing came of it. In the private schools in Denver we had trouble with diphtheria, and I have made visits there from time to time and found patches of diphtheria in the throat.

## Current Medical Literature.

Titles marked with an asterisk (\*) are noted below.

### American Journal of Obstetrics (N. Y.), June.

- 1.—\*Treatment of Labor in Abnormal Pelvis. Edward P. Davis.
- 2.—\*Surgery of the Puerperium. Denslow Lewis.
- 3.—\*The Walcher, the Trendelenburg and the Mercurio Postures in Midwifery. Robert L. Dickinson.
- 4.—\*Prophylaxis and Treatment of Puerperal Fever, with Report of Three Cases of Streptococcus Infection Successfully Treated with Antistreptococic Serum. John F. Moran.
- 5.—\*Occurrence of Streptococcus Pyogenes in Gynecologic Diseases. G. Brown Miller.
- 6.—\*Some Considerations on Gonorrhea in the Female. E. E. Morse.
- 7.—Case of Symphyseotomy. John F. Moran.
- 8.—\*Intestinal Obstruction from Ascarides Basil. M. Taylor.

### Yale Medical Journal (New Haven), June.

- 9.—Malignant Disease of Uterus, Diagnosis and Treatment. F. H. Wiggins.
  - 10.—\*Progress of Medicine. O. T. Osborne.
  - 11.—\*Insanity in its Medicolegal Relations. Gustavus Eliot.
  - 12.—\*Lymphoid Hypertrophies of the Pharyngeal Vault. Carl E. Munger.
- ### Pacific Medical Journal (San Francisco), June.
- 13.—\*Doctor as a Medical Jurist. C. K. Bonestell.
  - 14.—\*Treatment of Bronchopneumonia in Children. D. A. Hodghead.
  - 15.—\*Belladonna in Treatment of Bronchopneumonia in Children. J. A. Coutts.
  - 16.—Parasite and Pathology of Malaria. F. H. Whittitt.
  - 17.—Hydrocele. J. P. LeFevre.
  - 18.—\*General Practitioner in Relation to Insane. Ernest Hall.
  - 19.—Relation between Hyperchlorhydria and Motor Derangements of Stomach. A. W. Perry.

### Therapeutic Gazette (Detroit, Mich.), June 1.

- 20.—\*Treatment of Cardiac Asthenia in Pneumonia. H. L. Elsner.
- 21.—\*Report of Two Cases of Laparotomy for Perforation in Typhoid. W. J. Taylor.
- 22.—\*Evolution of Modern Therapy. Simon Baruch.
- 23.—\*Employment of Kalt Suture in Critical Cases of Cataract Extraction. S. D. Risley.
- 24.—Cutaneous Burns and Treatment. Ellice M. Alger.

### Western Medical Review (Lincoln, Neb.), June 15.

- 25.—\*Modification in Operative Method of Inveterate and Relapsed Cases of Talipes Equinovarus. A. F. Jonas.
- 26.—\*Day in the Country with a General Practitioner. G. R. Highsmith.
- 27.—\*Lead Ileus Mistaken for Appendicitis. J. P. Lord.
- 28.—Circulation of Blood in Sick. T. L. Putman.
- 29.—\*Empyema of Gall-Bladder. J. E. Summers.

### Louisville Journal of Medicine and Surgery, June.

- 30.—\*President's Address. J. M. Mathews.
- 31.—Address of Welcome. T. L. McDermott.
- 32.—Typhoid Fever. E. N. Hall.
- 33.—\*Burns and Scalds. J. S. Leech.
- 34.—\*Accidental Separation of Symphysis Pubis During Labor. B. S. Rutherford.

### Denver Medical Times, June.

- 35.—Commencement Address. A. B. Seaman.
- 36.—\*Puerperal Sepsis, is it always Preventable? A. H. Garnett.
- 37.—\*Acute Bronchopneumonia in Children. C. P. Hough.
- 38.—Ancient vs. Modern Therapeutics. J. R. Baer.

### Colorado Medical Journal (Denver), June.

- 39.—\*Methods and Results in 175 Cases of Simple Fracture of Femur. C. A. Powers.
- 40.—Injuries Occurring in Minnesota Mines. W. E. Harwood.
- 41.—\*Unusual Course of Dissecting Aneurysm of Ascending Aorta. W. E. Shotwell.