

## THE CONTROL OF INFECTIOUS DISEASES IN SCHOOLS.

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(MEMBER.)

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IT may seem necessary in commencing a discussion on the control of infectious diseases in schools, to explain the reason why such a subject is of more importance now than it has been for many years past, and when the methods of control adopted are the results of experience, and these methods have justified their adoption by restraining the spread of such disease. A new factor has arisen in school life through the appointment of school medical officers by the various education authorities of England under the Education (Administrative Provisions) Act, 1907. By the terms of these appointments the children attending public elementary schools are to be examined three times in the course of their school life, and the authorities are empowered to obtain treatment for the affections which may be discovered during the examinations. The treatment of these affections is a large item in the administration of the Act, and on every side arrangements are being made to cope with the difficulties. It is not the intention of the Act to deal with acute conditions like pneumonia, pleurisy, or any condition which entails the child being confined to bed, but only with those from which the child suffers when it is able to attend school. Excluding conditions which arise from parasitic and verminous affections of the skin, it seems to me that the sequelæ of infectious disease may be regarded as responsible for the great majority of the trivial ills of childhood that have to be treated under this Act. The affections of the eyes, nose, ears, throat, and teeth, which bulk so largely in the reports of the school medical officer, usually have their origin from the irritation of toxins in the time of weakness following recovery from some infectious disease, and while it is necessary to consider what must be done to cure or alleviate these conditions, it

seems to me that it is more necessary, as far as we can, to eliminate the diseases which produce such results.

It has been the custom for the medical officer of health to notify to teachers within his area the outbreak of notifiable disease in children attending the school, to request the exclusion of affected children and other members of the family, and insist on a quarantine of these members before they return to school. Where all the Public Health Amendments Act, 1907, has been adopted children cannot return to school until they have received a certificate of freedom from infection from the medical officer of health. Where necessary the medical officer of health has closed the school, and it has thereafter been disinfected. Where the teacher has noticed any suspicious case he has reported it to the medical officer of health.

The medical officer of health has the power through two members of his local authority to close any school; and till this year the education authority after closing the school could have appealed against his decision, but this power of appeal has been taken away, and it seems rightly so; for when a medical officer of health thinks it necessary for his district that a school be closed he ought to be the only judge in the matter, as he is responsible that such disease should not spread. Till this year the education authority might close a school on the advice or with the approval of any medical practitioner; but now this can be done only with the advice or the approval of the school medical officer. The medical officer of health is the responsible authority in his district for the control of infectious disease, and whenever the school medical officer advises or approves the closure of a school, he ought to report the closure to the medical officer of health, and state the reasons for his action.

Where the medical officer of health is the chief school medical officer under the education authority, any action taken for the control of infectious disease is under his immediate supervision, and he can work out the scheme most thoroughly and successfully with the new possibilities that arise by his closer connection with the schools. Where the medical officer of health and the school medical officer are separate, it is the duty of the latter to forward any useful information he acquires to the medical officer of health.

There are many ways in which the school medical officer may assist in the control of infectious disease. Visiting the schools he should instruct the teachers what are the points to observe in outbreaks of infectious disease, the importance of sore throats, swollen glands, condition of the tongue, and sudden sickness in a child that has not been in its usual health, and

the necessity of disinfecting or destroying all articles that may have been used by a child who has developed infectious disease. He should visit daily schools at which there have been children suffering from infectious disease, so that no mild case be admitted that has been absent for half a day or longer. In urban areas this may be accomplished, but in large country districts it is not possible; and the difficulty may be met by the procedure adopted by the Bucks. County Education Committee, who, when cases of diphtheria, scarlet fever and measles occur in a school, instruct their teachers not to admit children who have been absent for half a day or longer, and have suffered from sore throat, cold, or swollen glands, without a certificate from a doctor that the child is free from infectious disease; and the committee pays the doctors for these certificates. By this means all children who may have had slight attacks of these diseases are seen by doctors, and the terms of the certificate warn the doctor what to apprehend.

The school medical officer, when any school has been closed, ought to visit such school on its being re-opened, when the disease for which it was closed requires it, to satisfy himself that children are not attending who are mild cases of the disease. The chief argument against the closure of a school is that these mild cases often occur, and as no attention is drawn to them by their absence from school they may continue the outbreak for which the school was closed.

When the school medical officer is a whole-time official, amid many part-time medical officers of health, he ought to arrange for his teachers to send him notifications of all infectious diseases in their schools, and also reports of all suspicious cases, which, however, should be forwarded in a sealed envelope, as these suspicions may not be correct. He should report these suspicious cases to the medical officer of health in whose district they are, and instruct the teacher not to admit the child until it is seen by a doctor, when he considers it necessary, or until action is taken by the medical officer of health.

The school medical officer can also be materially assisted by the attendance officers. These officials are always visiting children who are absent from school, and often are the first to be aware that children are suffering from minor infectious diseases. They inform the teachers, so that the children may be excluded, and the school medical officer notified. I have arranged a code with the attendance officers, so that when they see an unrecognised case of scarlet fever peeling, they can telegraph the disease, name, address, and school of the child, and this information is wired to the medical officer of health for the district, or sent by letter if he prefers.

With regard to controlling the spread of infectious disease, I would like to draw attention to the value of the disinfection of schools in outbreaks of infectious disease before and not after the school has been closed. In June last this plan was adopted during an outbreak of measles, and the results were so satisfactory that as far as possible similar arrangements have been carried out in later outbreaks.

The spread of infectious disease depends on the amount of the infection and the strength of the immunity of those exposed; but the greater the infection the more rapid the spread of the disease. In schools where children have sickened and developed infectious disease, the infection of that disease increases with each new case, and the liability of children succumbing increases proportionally. This infection is in the dust of the school rooms, lobbies and cloak rooms, and unless something is done to render this harmless the disease is certain to prevail. Previous to the introduction of antiseptics, hospital fever, a blood poisoning which threatened all those in the wards of a hospital who were suffering from wounds, was one of the most frequent causes of death in these institutions, but now that wounds are kept aseptic, that is, free from organisms, hospital fever has become a thing of the past. In infection in schools we can endeavour to render the school aseptic by destroying the daily accumulations of germs. It is necessary to remember that all efforts may be nullified unless control is exercised over all who enter the school, and no entertainments should be allowed in a school where a child is absent owing to infectious disease; the teacher ought also to furnish to the head of any night school or Sunday school held in the building the names and addresses of children absent, and no members of these families should be allowed to enter the school unless the child has been removed to an isolation hospital and quarantine has been successfully endured. In country districts the school is frequently the only meeting place in the village, and it is very difficult to obtain good results owing to the avoidance of these precautions.

In undertaking the sterilising of the schools I adopted the results of a long and extensive series of experiments which were undertaken by Mr. Marsh, the Staff Science Master in the County, with a view to the best means of disinfecting schools. Accepting his conclusions, cyllin was used as the antiseptic in a strength of 1 in 350. When a case of infectious disease was reported from a school a watering can, with a special rose, a small measure to give the exact amount of cyllin necessary to obtain the dilution in the canful of water, and a gallon can of cyllin were sent to the school. Instructions were also sent that the

school was to be sprinkled at the end of afternoon school with the solution and thereafter swept. The next morning all the desks and seats were wiped with a duster damped in the same solution. If further cases were notified the walls of the school rooms, lobbies and cloak rooms were sprayed with the same solution in an Invicta sprayer by the attendance officer; and each officer was shown by me how to perform the spraying, and also received minute instructions of the points about which to be careful when work was being done. If it were necessary to close the school (and in the holidays), the schools were washed, special instructions being given, and the same strength of solution was used at this cleaning.

Tables are given on p. 140 shewing the results in some schools. One school was closed for measles after being kept open three months after the epidemic began, because it was impossible to control the entrance of infection. Two schools were closed with diphtheria, but the diphtheria arose from conditions outside the school, and the school was the healthiest place for the children to frequent. As in all cases of preventible disease the results may be treated as due to some other cause than the disinfection, but there seems to be a coincidence of improvement since the new treatment was adopted.

In conclusion, I would draw attention to the results of treatment of infectious disease in an industrial school of sixty girls, who were treated on the hypothesis that certain infectious diseases (scarlet fever, measles, rose-rash, whooping-cough and chicken-pox) develop in the stomach, which is the germ factory of the body. The natural juices of digestion act as an antiseptic, and tend to hinder the formation of germs harmful to the body, but occasionally there is a retardation of the secretion of these juices and germs grow rapidly. If a mild antiseptic is given daily it seems to retard, or remove, the infective germs, or to produce a very mild form of the disease. This antiseptic is given during all the time that the child is exposed to the possibility of infection, and I have treated cases in this manner for more than eleven years. Usually a quarter of a minim of carbolic acid is given in a teaspoonful of water three times a day, or a twenty-fourth of a grain of mercury and chalk at meal-times. I have never seen any bad results from these microscopic doses, and I consider that the benefit they do is simply by assisting the natural antiseptic action. I mention this as the method might be tried in small schools in country districts where there is no doctor, and where whooping-cough and chicken-pox, both very mild infectious diseases, might be most easily controlled in this manner, instead of spreading all over the school and wrecking the attendance of the children for weeks, as often happens.

DIPHThERIA.		PRESENT OUTBREAK.				LAST PREVIOUS OUTBREAK.		
Type of School.	No. on Roll.	Date.	No. of Cases before Disinfection.	No. of Cases after Disinfection.	Closure of School.	Date.	No. of Cases.	Closure of School.
Mixed ...	209	26/11/08	1	0	No	24/9/91	36	3 months
Mixed ...	283	26/6/08	3	2	No	None before.		
Boys .....	104	14/12/08	2	0	No	9/07	12	7 weeks
Mixed ...	35	12/5/08	4	6	4 weeks	2/2/00	3	No

SCARLET FEVER.		PRESENT OUTBREAK.				LAST PREVIOUS OUTBREAK.		
Type of School.	No. on Roll.	Date.	No. of Cases before Disinfection.	No. of Cases after Disinfection.	Closure of School.	Date.	No. of Cases.	Closure of School.
Mixed ...	80	9/11/08	1	0	No	No record.		
Mixed ...	98	22/9/08	1	1	No	1/7/07	12	6 weeks
Mixed ...	283	31/8/08	5	2	No	1894	30	10 weeks
Infants ...	102	17/11/08	1	0	No	10/95	9	—
Infants ...	174	19/10/08	1	0	No	3/2/04	—	4 weeks
Mixed ...	272	21/10/08	0	2	No	26/10/97	4	Yes
Mixed ...	102	8/10/08	5	4	No	16/5/79	—	3 weeks
Mixed ...	42	5/10/08	4	2	4 weeks	5/4/98	—	No record.
Mixed ...	400	1/10/08	0	1	No	26/11/00	—	Yes
Mixed ...	224	23/11/08	1	0	No	3/06	25	4 weeks

MEASLES.		PRESENT OUTBREAK.				LAST PREVIOUS OUTBREAK.		
Type of School.	No. on Roll.	Date.	No. of Cases before Disinfection.	No. of Cases after Disinfection.	Closure of School.	Date.	No. of Cases.	Closure of School.
Mixed ...	292	2/10/08	3	0	No	1898	No record	Yes
Infant .....	188	3/10/08	2	0	No	19/7/05	"	Yes
Mixed ...	180	12/11/08	3	0	No	31/5/07	23	4 weeks
Mixed ...	91	3/11/08	12	6	No	16/9/04	30	3 weeks
Mixed ...	64	2/11/08	3	0	No	26/8/07	25	No
Boys ...	230	16/9/08	0	2	No	12/4/07	40	No
Infants ...	240	2/9/08	1	0	No	3/07	50	3 weeks

*Epidemic Disease in a School of 60 Girls from 1897 to 1907.*

Disease.	No. of Outbreaks.	No. of Primary Cases.	Secondary Cases.
Diphtheria ...	1	1	0
Scarlet fever ...	3	1	0
		1	0
		1	0
Chicken-pox ...	3	4	0
		2	1
		1	4
Mumps ...	1	8	5

The cases of scarlet fever were removed from the school, but the others were treated in the school.

DR. E. C. SEATON (Surrey C.C.) desired to dwell on certain considerations affecting the economic as well as the public health aspect of the subject. The County Education Medical Officer for Bucks had done well to lay stress on the primary importance of the epidemic infectious diseases in connection with official work at schools. At the present day he (Dr. Seaton) took it for granted that school influence was recognised as an important factor in the spread of epidemic diseases such as scarlet fever and diphtheria. The spread of these infectious diseases being materially increased by the aggregation of children at school, it followed that much of the heavy annual cost of special hospital isolation accommodation was due to the operation of the Education Acts. As a further consequence, the sanitary authorities and special boards by whom the hospitals were maintained, were involved in additional expense which fell almost wholly on the ratepayers. At the same time the health of the children was liable to suffer to a far greater extent than formerly, and so the public health became detrimentally affected. For these reasons it was impossible to consider school hygiene apart from the already constituted sanitary organisation of this country. The efficiency of the work of district medical officers of health, of school medical officers (together with those who worked under their direction), and of hospital medical officers, depended so largely on intelligent and hearty co-operation, that without co-operation it would be vain to hope for any large measure of success in the great field of preventive medicine they were now reviewing. The principal aim therefore of authorities, and those who advised and assisted them, must be to secure co-ordination. Reverting to the diseases mentioned in illustration of his argument, Dr. Seaton referred to the comparative failure of isolation hospitals if judged by the notification rate, or case incidence of the population. The results hitherto obtained by the isolation system as applied to both scarlet fever and diphtheria were somewhat disappointing. But they had studied the causes of failure, and were already proceeding to remove them. It was now realised that what chiefly militates against success in the preventive campaign, was the mild or missed cases, for the non-recognition of which no one could, under existing conditions, be held responsible. Prevailing as they did largely among children of school age, it was only by careful observation and investigation, followed by advice and well-directed action, not only at the school but in the homes of the children, that they could expect to stay the mischief done by these elusive cases of slight illness. Their object should be to lessen the chances of infection among the children who were "well," and so reduce the number of beds required at hospitals. To achieve this might be a difficult task, but it was worth a great effort, and with loyal co-operation it would be accomplished. He concluded with a brief description of the official system in the County of Surrey, where there were now seven expert medical officers independent of practice (with districts of from 30,000 to 60,000 population, such as the Reigate division), who worked harmoniously with him and his excellent colleague, the Education Medical Officer.

DR. SIDNEY DAVIES (Woolwich) emphasized the importance of early diagnosis of infectious diseases, and stated that for this purpose it was necessary to provide free medical attendance for all who could not pay for it. As regards disinfection, he agreed with this being a trivial matter in schools kept clean like those in London. But when, as was probably the case in many country schools, dirt was allowed to accumulate on floors, good reasons had recently been given by Dr. Peters and others for thinking that scarlet fever and diphtheria germs might find such dirt a suitable habitat, and then its disinfection would prevent the spread of disease. Dr. Seaton had said that measles, scarlet fever, and diphtheria were preventable. So they were, theoretically, but practically statistics showed that there was very great difference as to the extent to which the measures so far known and employed had been successful. Measles was as prevalent as ever, and on the whole as fatal as ever. Early school closure, rigorously applied in Woolwich, had proved unsuccessful, as Dr. Kerr had foretold would be the case. Apparently every child got measles sooner or later; we could only hope to make it a little later, and so diminish the mortality. Education as to hygienic treatment in Woolwich had greatly diminished the fatality of the disease.

As regards scarlet fever, the London statistics (*see* Sir Shirley Murphy's Annual Report) showed that the case rate had but little diminished, although the death rate had steadily declined. Apparently the cases that occurred were milder, and their treatment more satisfactory, and perhaps there had really been a greater reduction in the number of cases (proportionally to population) than appeared, but mild cases being notified now, which in previous years would have been disregarded, the apparent case rate was kept up.

Diphtheria was the only disease of the three for which it could be said that preventive measures had produced a satisfactory reduction of cases. Not only had antitoxin greatly diminished the fatality, but the bacteriological examination of suspected cases and contacts appeared to have had most beneficial results.

One of the great obstacles to the prevention of school infection was the school grant being given on attendance only. The teachers' chief inducement was to keep up the attendance. Hence infants were attracted to school as soon as they could walk so far, at an age when the mortality from infectious diseases was specially high. The speaker had dealt with the above points more fully in a presidential address to the Metropolitan branch of the Society of Medical Officers of Health on "Twenty years' advance in Preventive Medicine."

DR. F. E. FREMANTLE (Hertfordshire C.C.) considered first the question of disinfection of schools, recalled the views expressed by Professor Kenwood, Colonel Firth, and others, in a recent discussion on the subject, and doubted if the results would not have been equally good with soap and water. Frequent cleansing and removal of dust, rather than a mere annual spring-cleaning, were



obviously desirable, but whether they would control the spread of infectious disease in schools was doubtful. Nor was the question set at rest by Dr. Carruthers' figures, which he must evidently have put forward only as suggestive. Before they were of any scientific value, they should include the number of susceptible children left over from the former attack or attacks; and not till then could any estimate be made of the power of school disinfection to neutralise the fresh infection.

The whole question of such control, at least in the rural counties, was as yet premature. Medical inspection was only introduced last year, and before they could decide on the best action to be taken, they must be in possession of the facts. Exhibiting the cards in use in the Hertfordshire schools he showed how an epidemiologic survey of every school as regards the chief infectious diseases was being undertaken; it would be complete in three years' time; then it would be possible to undertake a study of scientific methods of control.

Meanwhile the chief task with a view to this purpose was to establish the position of the Chief and Assistant School Medical Officers in close touch with the life of the people, to exercise as true a cure of bodies over the children, as the parsons exercised over their souls. For this purpose it seemed far best, as in Hertfordshire, to employ the District Medical Officers of Health, whether whole-time officers, in which case they would require assistance from other local practitioners, or men themselves engaged in general practice. They alone and their sanitary inspectors had, for limited purposes, the power of entry into the people's homes, and no *ad hoc* inspector sent down to the school from the county centre could have one tithe of the influence with parents, teachers, managers, and all concerned, or one tithe the opportunity of exercising it, that was the lot of the District Medical Officer of Health. Nor was it possible in rural areas in any other way to conceive that unification of the public health services, which was so much desired by the Board of Education, the Local Government Board, and social reformers, besides the mass of Medical Officers of Health. Whether engaged in general practice or not, one officer should be responsible for the public health of the community, both in and out of school.

Other agents, however, were of great importance. The Attendance Officers might do much to gather information, as in Reigate, although he would like to know how the general disinfection conducted by the Attendance Officers in Buckinghamshire affected their demand for increased salaries. Still more was the control of disease to be looked for in the education of the general public, of parents, and managers alike.

But, above all, stress must be laid on the teacher, who was with the children day after day, who was *in loco parentis*, and required only to be instructed and to be as observant as a good mother to be the keystone of the whole system of school health, and above all of that for the control of infectious disease. The first thing to urge, therefore, was the instruction of the teacher in the practice of school

health, and the inclusion of the subject as an important and essential item in the examination for admission to the teachers' profession, and in the estimate of a teacher's work for reward and preferment.

DR. A. E. PORTER (Reigate) divided the infectious diseases of childhood, for the purposes of discussion, into two groups; those, such as measles, whooping-cough and mumps, over which much control was not reasonably practicable; and those such as scarlet fever and diphtheria, which might be subjected to further control than has hitherto been exercised.

In rural districts school attendance he considered to be the only influence in connection with these diseases that was of any real importance, and in small urban districts school influence overshadowed all others.

Until recent years consideration had been given to general measures, somewhat to the prejudice of the personal factor, which was the all-important one. The only general measures with regard to schools to which he assigned importance were the treatment of every child as a separate unit, so far as pens, pencils and other school implements were concerned, and the abolition of dry methods of dusting and sweeping.

As regards the personal factor, taking diphtheria as an example, it was necessary to provide against—(1) the slight attack for which no medical advice is obtained; (2) the infectious contact; (3) the case of nasal diphtheria; (4) the chronic infection carrier; (5) the case of scarlet fever or diphtheria returning from an isolation hospital.

In rural districts absentees with suspicious symptoms might perhaps be reported by the teachers, but in urban districts the teachers are unable to obtain prompt and accurate reasons for absence in a considerable proportion of instances, and home visits by the school-attendance officers or sanitary inspectors were essential whenever a child was absent for even half a day. In an urban district he had tried this method, and had visited all cases where the reported symptoms were suspicious and no doctor was in attendance, either personally or by means of an assistant. In this way, for every three cases of diphtheria notified, one was found which would otherwise have been overlooked.

Where a series of cases of diphtheria occurred in a particular class or department, cases of nasal diphtheria and chronic infection-carriers could usually be detected and the epidemic stopped, by an examination of all the children in the class or department, swabs being taken from all cases of nasal discharge, enlarged tonsils, and swollen neck glands. Children from houses where a case of diphtheria occurs should not be allowed to return to school until a bacteriological examination had been made with a negative result.

DR. H. L. P. HULBERT (Northamptonshire C.C.E.C.) wrote: While serving as Assistant Medical Officer to the City of Manchester Education Committee,

much of my time was spent in visiting schools in which infectious diseases were prevalent and excluding suspicious cases. The teachers in Manchester were then instructed in the symptoms which should lead to the prompt exclusion of such cases. This method of instruction has now been going on in Manchester for some five years and has been supplemented by lectures and literature. It is now exceedingly rare to find any child obviously suffering from or incubating an infectious disease in a Manchester school. The closure of schools for infectious diseases in Manchester has been entirely abandoned.

It seems likely that much unnecessary school closure may be avoided in the future by the following methods:—

1. The prompt exclusion of suspicious cases by teachers and medical officers, as described above.
2. The proper use of swabs in cases of diphtheria, and the exclusion of children with infectious throats or noses.
3. The use, in times of epidemics, of accurate information with regard to the infectious diseases from which each child has suffered. Such information will soon be available on the medical inspection cards, and will be especially valuable in the case of measles.
4. The thorough cleansing and the more scientific use of disinfectants in schools.

These are the principal points which I should have liked to have been able to bring to the consideration of the meeting.

DR. H. MEREDITH RICHARDS (Croydon) wrote:—While agreeing as to the necessity of co-ordinating the work of the school medical officer and the local medical officer of health, he would suggest that this result would be best brought about by consulting these officers and arriving at a clear understanding in respect to the treatment of contacts, the quarantine of children from infected houses, the diagnosis of doubtful cases, the conditions that would warrant school closure, and so forth. The Public Health Committee of the County Council would doubtless be only too pleased to arrange a conference for this purpose.

From the conclusions contained in the latter part of the paper he would like to express his most emphatic dissent. At the present moment there seemed to be considerable risk of public elementary schools being exploited in the interest of the vendors of disinfectants, and it behoved all concerned with school hygiene to refrain from making any hasty generalisations that were unlikely to stand the test of thorough investigation.

Dr. Carruthers appeared to support the contention that daily disinfection of schools was an effectual means of checking the spread of epidemic disease. In the first place he would suggest that the sprinkling of floors and damping of desks with a weak solution of a coal tar product cannot legitimately be termed "sterilisation." Be this as it may, it seemed to him to be most important that we should have clear ideas as to the real place of disinfectants in public health

work. Undoubtedly disinfection was occasionally of service in checking the spread of disease. Thus the disinfection of the clothing of the sick, of their infective discharges, and of infected articles such as pencils and slates is amply justified by experience. On the other hand, the attempt to sterilise class-rooms by chemical means was based on a misconception of the natural history of the diseases it was proposed to check, and of the relative importance of the various channels by which they were spread. Consider, for instance, measles and diphtheria. In both diseases infection was given off from the throat or nose. Should any susceptible children inhale the *materiæ morbi* in sufficient dose, they were said to have caught the disease, and will develop characteristic symptoms in due course. Rarely, infective material might settle on the clothing of an unsusceptible person and be conveyed to some other child.

There was not, however, a tittle of evidence that measles infection clings to walls, floors, and desks. Indeed, the contrary was proved by overwhelming evidence. Thus, if a primary case of measles were discovered in a class of susceptible children, say January 1st, and were isolated after one session's attendance at school, one finds that secondary cases arise between January 9th and 14th (*i.e.*, during a period corresponding to the known incubation of the disease). One does not find cases with onsets from January 14th to 20th, as one would do if a measles child infected the walls and floors. In other words, one must control measles on the assumption that it spreads from the sick to the healthy, and not through the medium of infected plaster and boards.

Similar remarks apply to diphtheria of the throat, which happily has a more limited power of spread.

It might, he thought, be affirmed of these diseases:—

1. That infection nearly always spreads in the direct way just described.
2. That, occasionally, infection might be transferred by the medium of clothing, pencils, handkerchiefs, and so forth.
3. That whatever infection reaches the floors and desks is so small in amount that it could be rendered harmless by attention to the ordinary rules of cleanliness, and by free ventilation.

He would, therefore, deprecate resort to routine disinfection, firstly because there was no evidence that it was necessary, and secondly because it would be likely to absorb attention and money that could be spent more profitably in securing greater use of soap and water, and more thorough perfilation of class-rooms.

DR. MEREDITH YOUNG (Marylebone) wrote that he wished particularly to emphasise and give some instances in proof of the value of periodical disinfection of schools as a purely routine measure and entirely apart from the presence of infectious disease. He was convinced that it checked the growth of small foci of infection into outbreaks.

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