DISCUSSION ON APPLIED HYGIENE FOR SCHOOL TEACHERS.

(Arranged by Bedford College for Women and The Sanitary Institute.)

Opened by

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THE CHAIRMAN (Mr. M. E. Sadler), in opening the proceedings, said the subject for discussion was very interesting and of great practical importance. The science and art of healthy living was a branch of education specially interesting to the English people. The greatest tribute to sanitary education ever written by an Englishman might properly have been read at that conference: "A sound mind and a sound body is a short but full description of a happy state in this world; he that hath these two has little more to wish for, and he that wants either of them will be but little the better for anything else." If a parallel be sought in this country for the long sustained effort of public spirit and munificence which have rebuilt the educational organisations of France, Germany and the United States within the last one hundred years, we have to turn to that great movement for sanitary reform which has absorbed so much of the best energy and talent in England during the same period. Our English devotion to school games and to physical exercises in the open air is having a profound influence on the educational ideals of every other country at the present time, but we ourselves need to deal with this matter of education in the laws of health in a more systematic way than hitherto. In this as in so many other departments of our national life, do we not need to push our practical handling of the question to a much higher point of scientific thoroughness, without losing the spontaneity of individual effort? Good physique is essential to the greatness of a nation, and enquiries such as those made by Mr. Rowntree at York, and the article by General Maurice published in this month's "Contemporary Review" cause us great searchings of heart as to whether the physique of the English people is being maintained at the high standard necessary to our future national welfare. The new note in education is the social note, and he pleaded that we needed to study hygiene in schools in order that we may impress the rising generation with a deeper sense of the urgent need of improving the conditions under which so many of our people live. We must seek to arouse a feeling of horror against slums and against the evils of drink and overcrowding, and promote a strong sentiment for happy healthy homes and towns.

Prof. C. S. SHERRINGTON (Liverpool), having expressed regret at the absence of Miss Ravenhill, said he could not adequately fill her place be-

cause she would have illustrated her remarks by a wealth of practical point obtained by first-hand acquaintance with the conditions of school life to which he could not lay claim. His remarks therefore would have to be of a general character. Engaged in an ever increasing work he approached the subject with a profound conviction of its importance, but always as it were from the outside. The point of view that repeatedly arose to his mind was the point which for want of a better phrase he would describe as the "Naturalist's" point of view. Although Darwin confined his studies and theorising to plants and animals, his views were soon extended by thinkers who followed him to problems surrounding all the activities of human life. There exists in fact a natural history of man, and the evolution of man is being every day evolved before our eyes. We are apt to take that fact so much for granted as to forget a part of its significance. Swept along in its current ourselves, unless we pause to think about it, we hardly perceive it more than we perceive the motion of the earth to which we belong. If the naturalist is asked to-day what the functions of living beings are, he includes as one of the most important of them the adjustment of themselves to their surrounding conditions. If they do not so adjust themselves they perish; when the change in their surroundings is rapid the adjustment must be rapid. The rapidity of change may be too great for a number of individual species to follow; these then begin to suffer, to be disseminated, and to perish. Speaking of the rapidity of change, time was regarded in the naturalist measure as geological time; its periods are of another order of magnitude to those with which we are accustomed to deal in history. In the history of natural species, a thousand or ten thousand years is really but a little time. Now man influences man, man is a social being; the conditions surrounding man the animal largely consist of conditions made by himself and other men. Where man the animal is concerned, the stream of change is in comparison with lesser things running like a mill race. What do eighty generations count say in the history of a primrose or cowslip? but eighty generations ago men were hunters and herdsmen sheltering in wigwams and caves. We are apt to forget this fact unless we take the book down from the library shelf. At that time our bodies were painted green, but note the change in eighty generations. The solitary forest has given place to towns with buildings called houses. The pure air of the forest is exchanged for the exhalations of ten thousand chimneys, of hundreds of thousands of human beings, and of hundreds of thousands of gas burners. The water of the river had become a thing so precious as to be contended and fought for by huge communities, and its sources of supply, if not carefully guarded, contained dangers which threatened thousands of human lives. We are thus reminded of the conditions of human life, the conditions of man the human creature have been and are being changed with enormous speed. Only the greatest care can mitigate the suffering that the naturalist perceives must accompany this rate of change. The normal child is born with inherited tendencies for the life his or her ancestors lived for ages and ages—the life of

the semi-naked hunter, of the fisher and the shepherd. The child of to-day is born, as Tommy Atkins might say, "a bloomin' savage," and it will be long ere he is moulded to the comparatively freshly arisen laws of modern life. Now-a-days every child has to go through his measles, whooping cough, scarlet fever, and what not, and all the other kindred early conditions necessary to enable him to earn his daily bread. We can hardly estimate the enormous individual strain upon the muscles and nerves of the eyes and upon the eyeball itself and part of the brain that depend upon the eyes by the enormous change occasioned by reading and writing. Conversely these modern occupations render inactive some of the other organs of the body—the chest and lungs, upon which in past times the success of the bread-winner of the family depended. What hereditary capacity can our children yet have for meeting such strange conditions? They are not yet born with an organization enabling them forthwith to speak, let alone to read and write. Now to bring this child, an immature hunter, fisher and shepherd to maturity, we must remember that from his point of view our conditions are artificial and unnatural, and this seemed from the broad point of view to embrace the problem covered by the hygiene of school life. Of course hygiene is, and always should be and must be in its greater part, personal. It is not a public but an individual matter. "Hygiene," says the syllabus issued by The Sanitary Institute, which is really doing so much for the cause that we have met this evening to promote, "belongs properly to the training of the home." We in this country are notoriously adverse to public people coming into our home life, that is one of the difficulties besetting the sanitary officer, because people seem to prefer a certain amount of dirt and ill-health, and to bring them under sanitary supervision means some restriction of individual liberty. Now health is of imperative importance in the formation of character, and it was to be remembered that the children to-day are the citizens of the future. The personal surroundings of the child are best entrusted to the intelligent parent. He could not help thinking that they would all be agreed that the centre of gravity with this question lies naturally with the primary schools. The children of the well-to-do, on the whole, are taken care of hygienically, but the conditions obtaining for proper health precautions are so difficult, so severe, and so hard among the poor, and among these children dealt with in the primary schools, that it is there we have to make our greatest advances. Now, although the child's health and well-being is best and properly entrusted in these matters to the intelligent parent, there is in many homes no intelligent parent, and so much of the child's life is absorbed by school that the maintenance during the school hours of the principles of health as far as is possible is most important. Often a child's advance against physical and other evils must lie more with well-chosen and well-instructed teachers than with ill-instructed and careless parents. For nine months in the year during the period of the formation of the body when mind and body are most impressionable, home life fades into the back ground, and school life holds sway. On the school rests the responsibility of preparing

the citizen for the performance of his paramount duty. Healthy thought is dependent upon a healthy brain, and unhealthy thought is due to an unhealthy brain, and in consequence the principles of health are important, because the conditions of school-life should be especially for the poor. In these matters teachers should be more profound and skilled than are those of most parents, especially among those of the less educated classes. Now the hygiene of most of our schools is bad; there is bad ventilation, bad light, impure drinking water, no proper means of drying wet clothes, even boots and shoes, and one could add many practical instances to prove the point. Now he wished to put before them a suggestion as to how the difficulties could be met. What method can be properly employed? One step had been suggested, and in many cases taken, that of medical inspection. In Germany, France, and in many States of America, as well as in some of our own districts, medical men inspect the schools. They pay in some cases tri-weekly, weekly, and some fortnightly visits to the school, and report to the managing authority the condition of the premises and the health of the children. In some places in New York the Inspectors are under a Chief Inspector, and many considerations indicate the desirability of increasing this medical inspection of our primary schools. The question very naturally arises as to whether such medical inspection should be a part of the Education Authority or a part of the Public Health Authority. That is a matter for discussion. They would all say that the most important duties for medical inspectors of schools are certainly very different to those performed in general by the Medical Officer of Health. The functions of the medical school inspector are of a special character, dealing with such subjects as the dissemination of infection, the aggregation of children and teachers incident to any school system. The ordinary practitioner was not particularly well equipped for overseeing work of this kind, and if the expression could be allowed "he learns too little physiology." Certainly his knowledge of physiology is the reverse of profound as acquired in our medical schools of to-day, still less is our ordinary medical practitioner instructed in the co-relation of the brain and other activities of the body. Now it would be possible to suitably train medical men by a simple modification and addition to their medical curriculum; thus the system of medical inspection, though desirable, can only profitably go hand in hand with a concomitant step. The daily visit would be objectionable besides being expensive, and this daily inspection as a rule is unnecessary; but what is needed is to have the skilful and earnest co-operation of those who were at the school every day, namely, the teachers. Only the teachers could afford the medical inspector this intelligent co-operation; hence the teachers themselves should be sufficiently trained in the laws of the living body and the principles of health in order that they could assist the medical officer regarding the children under her care as the hospital nurse helps the physician with the sick and suffering in our hospitals. This is not really an extraordinary task for the teacher. The laws of health are in one respect like the laws of the land, easy to

obey though difficult to investigate. Many teachers have been well trained in chemistry and physics. The laws of the working of the healthy body are the same as those of chemistry and physics in their relation to the living animal frame in its wear and tear. Teachers might proceed, he would suggest, from their physics and chemistry to physiology, and learn how to apply it by common sense in their schoolroom, not forgetful that in any points of difficulty they can appeal for counsel and help to the expert medical adviser outside.

PROFESSOR ADAMS (University of London) said this subject was not his specialty. He had given more attention to questions of intellectual or mental fatigue. He thought no one is more keenly alive to the hygienic conditions of our elementary schools than the teachers in those schools. Whatever the government or the School Board may think, he believed that on health questions the teachers in the elementary schools are sound. Sometimes the inspectors are sound too—foolishly sound. Some people who have not been in elementary schools speak of them as if they are hotbeds of infection, but there could be no stronger argument used against that than the ratepayer who described the Board Schools as palaces. In the newspapers these buildings were described by the ratepayers as palaces, but it was to be noted that they did not call the teachers princes or kings or queens. Now there could be no stronger argument in favour of maintaining these palaces than the argument of providing better homes for the poorer or working classes whose children had to spend practically their living day in these schools. For something like eight hours the children were under the influence of school conditions, more or less, and therefore hygiene is essentially a matter of concern. In the North the elementary school system of ventilation is generally admirable, and in Scotland the first place they take a visitor is downstairs where the ventilating machine is placed. Now and again that machinery did not work, but it was designed to supply hygienic conditions and to promote health, and that is the meaning of the Conference which they were holding. It is because they felt a want of knowledge and know the value of it, that they had gathered there that day.

Mrs. DICKINSON BERRY (London School Board) said that the improvement in the physique of girls due to physical education was very surprising, but this improvement she feared was largely confined to the children of the upper and middle classes. The development of physical education is very far from having extended to the girls of the lower classes as one could wish to see it. The Technical Education Board of the London County Council had for a good many years taken a step which, so far as she was aware, no other body had done in England as regards school hygiene, namely, that all those children who get scholarships are medically examined. A yearly report is presented to the Board by the medical examiners, and in this way records of the physical condition of the children, their weight, height, &c., are kept; suggestions as to

treatment in special cases are also made. She had been much impressed recently by the poor muscular development of many of these girls; there were many cases of weak back muscles causing a tendency to lateral curvature of the spine. It seemed to her that one of the most important hygienic conditions that they ought to have in connection with elementary education is gymnasia. At present, so far as she knew, the London Board Schools provided little if any gymnastics for girls. Of course gymnastics could be obtained at the Polytechnics, but there ought to be a gymnasium in connection with each elementary school. The swimming in Board Schools had benefited a large number of children and indicated one direction in which they might move. Drill of course is given in most schools, but not that definite gymnastic exercise that is requisite.

MR. A. WYNTER BLYTH (Chairman of the Council of The Sanitary Institute) complimented the authorities of Bedford College in having come to the front in endeavouring to promote hygienic knowledge, thus setting an excellent example to other educational authorities. The immediate subject of the discussion was "How to train teachers in hygiene." The scheme set forth in the syllabus jointly published by The Sanitary Institute and the Bedford College seemed admirably adapted as a basis for theoretical knowledge to be followed by practical application. The application of that theoretical knowledge was the most serious difficulty, and they were not told in the syllabus how to impart that practical knowledge. In The Sanitary Institute in the earlier period of its career they taught more or less theoretically, but now they attempted to teach practically; and in the same way he hoped ultimately the teachers would be educated in practical hygiene. The development of this idea would, no doubt, have to be on somewhat different lines than those on which theoretical hygiene is based. As a medical officer of health he could generally trace a case of scarlet fever to schools, and the circumstances invariably were that the school was infected from an unrecognised case. The public health service really required that teachers should be able to recognise infectious disease in its early form and to diagnose common infantile maladies. Now, there were many infectious diseases which do not come under the law with regard to notification. For instance, there was school ophthalmia, which had caused an immense amount of suffering and mischief. It was impossible for a medical man to inspect daily all the children in a school to see if they were suffering from ophthalmia; the teachers themselves should know something about such an infectious disease and should be able to detect or have some suspicion that their pupils were suffering from school ophthalmia. There was another branch of this subject, and although it is an unpleasant branch, it was important to refer to it, namely, the uncleanly state of many of the poorer children. He knew for a certainty that a large percentage of the school children in the board schools of London had dirty heads. Now, that was a serious thing, and—as was done with people who entered hospitals—there ought to be some method of cleansing children before

they entered the school. These were subjects of practical moment upon which teachers required guidance and instruction.

MISS CONNOLLY (President of the Head Mistresses' Association) related her experiences of the Haberdashers' School at Hatcham, and explained how in time she had been enabled to improve its hygienic condition, and in fact to obtain a new school. In order to do this she had attended the classes and lectures at The Sanitary Institute for a whole year, and with the aid of her brother (Dr. Bloomfield Connolly), who was a medical officer of health in a large garrison town, she had been able to improve from a sanitary point of view the designs for her school. The result was that the sanitary authorities did not trouble about her school. There was no possibility of sewer gas coming into the building, everything was disconnected, and there was not a pipe under the building. Drinking-water was fresh from the main, proper ventilation was provided for, and ample space was provided for the girls. Added to these questions which affected teachers, there were questions of school food, school clothing, and school habits. Reference had been made to the intelligent parent, but the intelligent parent did not grow on every bush. Miss Connolly's experience was that mothers sometimes neglect their children for other duties, and children were sent to school improperly fed and clothed. Teachers were alive to these facts; although they could not bring the responsibility home to the parent they could do something by being alive to the evils, watching especially for brain fatigue, and generally maintaining a salutary influence over their pupils.

MR. W. SCOTT COWARD (H.M.I. Training Colleges) expressed the opinion that what was required was some systematic method of training the teachers who shall in their turn teach the children. It was important also that a beginning should be made to improve those schools in which the hygienic conditions are most defective. He did not hesitate to say that a large number of the voluntary schools in this kingdom fall very far below a proper sanitary level. They furnish the slenderest equipment for the maintenance of proper habits and for the creation of a proper condition of health. The lighting was often extremely bad and in many other respects defects existed. This was a most unsatisfactory state of things, and every effort should be made to bring the state and the necessities of these schools home to the new educational authorities in order that they might raise up this low level of the elementary schools of the country, especially in the rural parts of England. The question of suitable premises was of vast importance. With regard to the board schools in large towns their condition was satisfactory, and there is no doubt that a considerable number of voluntary schools were faithfully fulfilling their duties in this respect. He was, however, prepared to maintain that a very large proportion of the schools to which he alluded were not in a satisfactory state with regard to the elementary conditions of hygiene.

The means of spreading hygiene in schools among the children must rest with the teachers, and provision must therefore be made for the training of the teachers, and on this he could say very little indeed. The present instruction given in hygiene was so strictly scientific and so purely academic as to be of little, if any, practical use. The instruction given in them is so extremely dry and tedious that the study of it became unattractive. Now the first thing to do in our training colleges was to institute some sensible method of teaching hygiene. He ventured to think that the less time they devoted to this dry science the better, and that it would effect the object more fully and enable the students to see that there are certain practical conclusions which have been come to by scientific men in regard to hygienic subjects, based upon careful research. Those conclusions must be accepted and the teachers must popularise them. If this were done they would be able to create interest, and the teachers would go into the schools armed with a number of principles, and furnished with the means of illustrating in a popular way those principles. They would then begin to apply them and make them real. The present system is a delusion so far as any practical effectual teaching of hygiene is concerned.

DR. H. R. KENWOOD (Medical Officer of Health for the Borough of Stoke Newington), pointed out that the speakers hitherto had mostly confined their remarks to the duty of the school teacher in guarding the health of the scholars while at school. He was, however, one of those visionaries who saw, in the near future, school teachers teaching all scholars the elementary principles of health, and instructing all girl scholars upon their main duty in after life, *i.e.*, that of infant rearing. As a medical officer of health he could bear testimony to the enormous amount of preventable infant mortality which occurs in this country. We who are in the van of sanitary progress suffer 25 out of every 100 children who are born to die before they complete one year of life. Dr. Wynter Blyth would agree with him that a large proportion of that mortality is easily preventable, and is due entirely to ignorance. He believed there was a great work to be done by school teachers in this direction when our educational system can make room for the teaching of such an important subject. It will be a great duty and a great privilege for the teachers to educate the rising generation on the essential fact which will enable the people to prevent much disease and premature death. It is only by getting children when they are young and teaching them the principles of health that we shall be able to effectively cope with the parental ignorance which is responsible for such a large amount of mortality, and for such a tremendous amount of sickness every year in this country. The chairman had explained how needful it is for us to have physical strength owing to the stress and difficulty of life at the present time; all would agree that worldly success at the present time is impossible unless a man or woman has physical well-being at the same time. Therefore, for his part, he had rather put this knowledge of science of health before the reading,

writing and arithmetic taught in the elementary schools. It should not be a question as to whether there is room for the subject of elementary hygiene and infant rearing in our code of education, but as to what else there is room for. The great difficulty in teaching children hygiene is the difficulty of presenting matters properly, *i.e.*, intelligibly and interestingly. This, however, could be done by a scheme like that of Miss Ravenhill's, which *almost* meets the difficulty; by providing a series of object-lessons which are constantly being given to the children, and by the avoidance of scientific terms the subject can be made to appeal to all. By these means the children are taught the benefits following the application of certain health principles, and the ill-health and diseases which follow if these principles are not observed. But if children are to learn there must be somebody to teach them. This is the difficulty at the present time. The Bedford College is doing a very good work indeed, in association with The Sanitary Institute, by making an effort to prepare teachers to convey this essential knowledge. Everybody present would wish the two Institutions the best of success in their important and very useful work. Of course, adequate knowledge must be possessed by the teacher, and this should be tested by examination. The certificate provided by The Sanitary Institute is one of an essentially practical nature, and those who conduct the examination for that certificate are men who represent almost every phase of hygienic and educational knowledge combined.

DR. J. KERR (Medical Officer to the School Board for London) observed that there are two notes in education that to him seemed new: one, of the physiological aspect, and the other, of the value of the education of a child as a civic unit. State provision is made to compensate for many of the disadvantages which civilization has entailed. The State provides for the artificial conventions which are useful to its members, but has hitherto neglected too much those natural physiological requirements which are absolute necessities if the child is to develop into a healthy and well-acting citizen. According to the old mediæval idea the school was a place where the children should be prepared to take part in the services of the church, and that idea is still hanging about the educational atmosphere. A few years ago there were educational people talking about teaching the three R's; he thought however that we had passed the three R stage, and had come to the stage when the three R's were regarded as not so very valuable, and that there were other things of much greater weight; for instance, we have begun the separation of children who are incapable of benefiting from the three R's, but there is still that large class of dull and backward children who are not legislated for, and who at great cost and waste are kept in schools working at the three R's when they might be doing something very much better. These things point to the prospect of high ideals being established in the immediate future for educational requirements. The idea of a vague and general efficiency has given place to the idea that we must

educate every function of a child, and we must see that in its education the child's treatment and its surroundings are all hygienic. It appeared to him that in carrying out these ideals the teachers do their best at present—he was only speaking of the elementary schools—in fact, they would carry out instructions with more accuracy and zeal sometimes than one wanted or expected. But if we are to have medical inspection of schools the system must be carried further, and inspectors with hygienic knowledge appointed. Undoubtedly the new Act would lead to the appointment of a large number of inspectors under the County Councils, and women who have taken up sanitary studies will, with their sympathetic ways of looking at various aspects of a question, no doubt in a great measure come to occupy these posts. It will have to be in some such way that the hygienic conditions of schools and school work will be ruled and regulated and made to comply with the modest requirements of the Board of Education, for their minimum is for many schools the maximum to be attained. There are a large number of schools whose hygienic attainments are good, but even these attainments will have to be improved, and for nearly all schools the requirements must be raised to accord with the principles of modern hygiene. In the schools, that which passes almost unconsciously before the children's eyes helps to form their character, and if the schools are dirty and the teachers are careless the children are adversely influenced. It seemed to him that in the schools there is the possibility of invading the home and making it sanitary. Only by development of the sanitary conscience in the children can we hope for a great improvement in the future. This developing of the sanitary conscience can only come directly through the teachers; doctors, sanitary inspectors, and nurses are all futile. It did not matter much how they began with the training so long as it is made necessary for every teacher to have some sanitary education as part of their curriculum, and a requirement before they can obtain their certificate. Then the word will be given and the dry bones will become actual and living substance. Thus the teachers will carry the atmosphere of practical living into the schools to develop the sanitary conscience that we want for future generations, to create sanitary homes all over the country, resulting in the standard of the people and the units of the nation being improved.

MISS ROBERTSON (Bedford College) observed that there was one aspect of the question which appealed to her most strongly, and that was how teachers were to be awakened to the importance of the subject. Prof. Adams had remarked that the teachers in the elementary schools in this respect were sound, but Miss Robertson was not sure that this was true of the secondary teacher, who was apt to think that she had only to deal with the intellects of her children. There were two facts she would like to impress upon every teacher, and especially upon every young teacher: one was that it was so very rare to find a girl well developed physically who was not active in mind as well as in body. Miss Robertson did not mean that the girl would be necessarily

active in her work, but she would be active in something, it might be play or mischief if not in work. It was not difficult to deal with such a girl; if the teacher had common sense and ordinary skill she could make that girl work by a judicious application of pain or pleasure. But if it were a question of a thoroughly listless, indolent girl there was real difficulty, especially if the teacher did not realise that this listlessness was owing, to a very great extent, to physical causes. Miss Robertson, in support of this view, related an experience of her own of a girl of this character, and said that had she recognised the true source of this listlessness, her treatment of the pupil would have been more successful. The other point she desired to impress upon teachers was that many of the difficulties of discipline, especially in the younger forms, might be avoided by the recognition of the value of good hygienic conditions. This was proved by the alacrity and precision with which a class of troublesome and inattentive children would stand up and do, according to command, a few physical exercises. This showed that there was no deliberate inattention on their part, but that there was real physical inability to attend. A teacher had told her that she believed that the good discipline maintained in her school was due to the fact that the children changed their classrooms every hour. The girls came back fresh to their fresh rooms, they had had relief from their sitting posture and work went smoothly for the next hour. Here Miss Robertson thought it would be possible to get hold of the young teacher who was probably anxious to acquire the mysterious power of discipline. If such a teacher could only be made to think that attention to physical conditions could help her she would never neglect them. These facts, however, had to be pointed out to her, and Miss Robertson said that it was at this point that the headmistress could help. Headmistresses sometimes seemed to think that if due regard were paid to hygiene in the construction of the school buildings and in the choice of school furniture, that their responsibilities were at an end, but Miss Robertson did not think she was exaggerating in saying that quite half the teachers did not understand how their rooms were ventilated, or how the various apparatus should be adjusted. Now that professional training was being more and more recognised the rising generation of teachers would be more alive to the points which had been discussed, and that the necessity for care and attention to the hygienic condition of schools would be fully recognised.

MR. J. RUSSELL (Headmaster of the Hampstead School of the King Alfred School Society) remarked that if he could not speak as an authority on hygiene, he could at least make a frank confession and take the conference into his confidence. He had been a schoolmaster for twenty years, and he looked back with much regret at his failure to do the best for his boys from a physical health point of view while they were under his charge. For that failure he held himself partly to blame, but only partly. Primarily the parents of England were to blame, secondly the headmasters, and thirdly the Government, or the State, or the

Department of Education for having allowed him to go to a classroom without seeing that he had a proper sense of the duties he had to perform there. For long years he had never thought of having a thermometer in his classroom; if it was hot they opened the windows wide, if it was cold they nearly shut them. The man at the other end of the hot-water pipes did the rest. For long years he had never suspected that there might be a physical basis for the various phenomena of the classroom, and that the things which he had regarded as stupidity or bad temper were largely due to his own neglect of physical symptoms and conditions. He had never fully realised that the condition of the mind must be as carefully controlled and watched as the condition of the body, and that it is possible to misdirect and overdo mental exercise, just as it is possible to misdirect and overdo physical exercise. He had never dreamed in those earlier days that it was part of his duty to send his boys out into the world with some adequate sense of the duties they owed to their own bodies. Surely the best way, though not the only way, of giving children true ideas of the laws of health was to see that those laws of health were properly carried out in their own schoolroom. He deeply regretted that he had left undone so many things that might so easily have been done, if only someone had come along and given him the hint. Now that he had come to his right mind, he would put the laws of health among the humanities, and would introduce children to the elements as soon as to the elements of reading, writing and arithmetic. Familiarity with those laws now seemed to him to be an essential part of the equipment of all teachers, but he himself found that it was not enough to feel like that. His long lack of experience would always tell. The subject could not be got up satisfactorily in after years when it had been neglected in the early days, and therefore he could not speak with such authority as he ought to speak, considering his long experience as a schoolmaster. All he could do was to offer himself to students at the outset of their career as a warning and an example.

DR. FRANCIS WARNER (London) observed that he had just been attending a little girl who was in an exceedingly inert condition. He had been told the child was suffering from growing pains, but, as a matter of fact, she had developed rheumatism, heart disease had been allowed to grow up, and considerable damage had been done. Now some little knowledge of a special kind on the part of the teachers of that child would have prevented much mischief. He thought they were all perfectly well agreed that we want hygiene in our schools, and we want to be trained well in the knowledge and exercise of it. He thought that what is required is a hygiene teacher, but such an one must not hold an isolated position. Often the teachers of a special subject in schools did hold isolated positions, and the great necessity in their case was the forging of some common link between them all. One means to this end would be the study of children by all teachers by means of actual accurate observation. He believed that this would add a great deal to the healthy hygienic working of the school.

He hoped the work which was being inaugurated by that conference would be successful.

DR. W. H. WILLCOX (London) said they had learnt the very great importance of hygiene as a subject for school teachers. When we realised that something like one-sixth of the total population was at the present time in our schools at the most receptive age, not only mentally but physically, we understood how extremely important it was that this hygienic teaching should be thoroughly undertaken both for the children and the teachers. The teachers were in a better position to carry out much of this work than the medical officers or the inspectors, for the teachers were continually present with the children. It is impossible for a medical officer in a large district to visit all the schools once a week or inspect say 60,000 to 100,000 children. It was quite impossible for a medical officer to have any detailed control over them. But the teachers could do very much, not only in giving attention to the ventilation of rooms and to matters of personal cleanliness, but also they could do so very much if they knew just the main symptoms of many common infectious diseases to which children are subject, and for which the parents did not call in medical advice. Unless the teachers recognised the early condition of those diseases they would be spread by schools and child mortality increased. With regard to the future of hygiene he would point out that hygiene is simply applied physiology. If our school teachers are to have a thorough grasp of hygiene—not the mere rule of thumb hygiene—they must grasp the principles so that they may apply them in actual working; if they are to have a thorough grasp of hygiene it is essential that they should be familiar with the principles of physiology. Of course they did not want the knowledge to be too scientific, to be too filled up with terms, but they wanted it to be as practical as possible and helpful in daily work. Doubtless one of the most important branches of hygiene for school teachers is that of practical physiology. He thought it was essential that the physiology which was learnt should be as practical as possible, and he advocated object lessons and the illustration of lectures by actual experiments, and so on. Although time was very much limited for students of school hygiene, he did urge them to learn physiology and to learn it as practically as possible.

MISS HURLBATT (Principal of Bedford College) proposed a hearty vote of thanks to the Chairman and to the speakers, and said that Bedford College regarded the interest taken in this matter by Mr. Sadler as a very great encouragement to the work they were doing to the best of their ability in promoting the study of hygiene. Apparently the attitude towards the subject taken by the meeting was that it must be made a practical subject. She thought behind the practical knowledge there must be scientific knowledge, and that is a fact which the college must bear in mind. Their teaching could not be successful as popular teaching unless it was based upon theory and a scientific

knowledge. With regard to the teaching of hygiene in schools, they were anxious to have this most important subject understood and brought to bear upon the practical problems of life—domestic, public, civic, and national. Teachers must have an intelligent understanding of all the problems in regard to the care and development of the human body. They could not expect every teacher to have a profound and special knowledge, but they must have someone in the training colleges or large schools, someone behind the teacher with a really expert knowledge, and they must also have some college or some institution that would undertake to impart that knowledge. At Bedford College they were doing their best to supply students with a thorough scientific course in hygiene which should be preceded by a scientific education, and they also realised that teachers must be brought into contact with the meaning of hygiene problems, in order that they could supply some of the remedies that have been and are being pointed out by a thorough investigation of the subject.

The motion having been carried with acclamation,

THE CHAIRMAN (M. E. Sadler), in acknowledgment, observed that the discussion had been practical, and added that all present were greatly indebted to the Bedford College and The Sanitary Institute for arranging the Conference. They greatly regretted the absence of Miss Ravenhill, because the valuable pioneer work which she had done on the subject in the North of England and elsewhere has been most fruitful. The discussion of this question emphasised three points: (1) The great importance of there being in the life of every teacher a course of preparation for his or her work, a period during which the gravity of health problems can be impressed upon his or her mind. Much good can be done by drawing the attention of teachers, during their course of training and afterwards, to the importance of practical hygiene in education, and to the practical steps which can be taken towards the better fulfilment of the laws of health. (2) The teaching of hygiene is of intellectual value, of economical value, and of moral value; and (3) there is taking place amongst all thinking people in this and other countries at the present time a change in our sense of educational values. We are realising that certain things are more important in education than other things to which we at one time attached greater weight.