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Training Nation

SIR LAUD

R.E. D.S.

Coaching Prof

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given to the Train

Annual Meet

L. W. & Son, Print

Training Colleges and National Health, 19.

BY

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AN ADDRESS

given to the Training College Association at its
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TRAINING COLLEGES AND NATIONAL HEALTH

BY SIR LAUDER BRUNTON, M.D., D.SC., LL.D., F.R.C.P., F.R.S.,
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I feel greatly honoured by being asked to address the Training College Association to-day, because the subject involved, namely, National Health, is one of the very highest importance, and the Training College Association is one of the most powerful agencies in obtaining it. It is said that Dr. Busby, Headmaster of Eton, was accustomed to boast that he was the greatest man in the kingdom, because, said he, "The fathers rule the country, the mothers rule the fathers, the boys rule the mothers, and I rule the boys." There might be a certain amount of exaggeration in his statement, but it, nevertheless, contained a great amount of truth; for the schoolboys of to-day will be the taxpayers, the voters and the legislators of fifteen or twenty years hence. The ideas they hold then will constitute the public opinion which will determine social, religious, and legislative action. Upon the ideas held by them then, will hang the fate of the country, and it is, therefore, of the utmost importance that the training which the school children now have should be of the best possible kind, so that later on they shall think and act aright. It is difficult, then, to measure the influence which teachers can exert upon national thought, national prosperity, and national health.

We are so accustomed to use the word 'health' that we are sometimes apt to overlook the full extent of its meaning, which is that of being whole, free from any crack, flaw, or defect. Health is of the utmost importance to the individual, to the family and to the nation. It is important to the individual because it frees him from discomfort and pain, it enables him to work and to enjoy life and prevents the depression, sorrow or misery which inability either to work or play is sure to entail. It is important to the family because it prevents the sadness or sorrow that a sick member causes to the rest. It prevents the anxiety which a diminished income and increased expense, consequent upon illness, is apt to cause and the misery which poverty, due to illness of the bread-winner, will produce. It is important to the

nation because lack of health means less work and, consequently, less income to the country, and along with this there is increased expense, some of which is met by voluntary aid, as in hospitals, and some of which is levied by compulsory rates to provide workhouses for those who are unable to work for wage, or for premature paupers. Want of health weakens the country by lessening the numbers of those who are able to defend it, and in this regard we see the importance of the old meaning of the word 'health,' because a very large number of would-be recruits are rejected, not on account of their suffering from active disease, but because they are not sound, not whole in respect of their teeth or eyesight. More than this, want of wholeness swells the numbers of the criminal classes who prey upon the more respectable members of society. On a visit to Broadmoor, Surgeon General Evatt found that a very large proportion of the inmates had become criminals, because they had been rejected from the Army for the defects above mentioned, and having no other means of support were obliged to turn to crime for a livelihood.

The question of how to prevent these evils has been for some time past engaging the attention of the country, and there is a general consensus of opinion, that the first step in the right direction is proper care of the health of children. A few months ago a Bill was passed to provide for the medical inspection of children when they enter school, and at such other times as might seem necessary. Medical inspection is the keystone of all schemes for improving the physique of the nation, for until the deficiencies in children have been discovered, it is impossible to correct them, and well-meant endeavours to increase the strength of children by physical training without medical inspection, are quite likely to do more harm than good.

Within the last few weeks an excellent memorandum on the subject of medical inspection has been issued by the Board of Education. This memorandum may not meet with universal assent to all its details, but it is in the main very good and I wish to quote here one passage the truth of which I think no one will question.

"The Board are convinced that the work of medical inspection cannot be properly accomplished by medical men without assistance. The teacher, the school nurse, where such exists, and the parents or guardians of the child must heartily co-operate with the School Medical Officer. In whatever way the system be organised, its success will depend immediately and

ultimately upon the cordial sympathy and assistance of teachers. Some authorities will find that the teachers are able to undertake without undue strain a share of the work of furnishing data respecting each child, and even perhaps to carry out some portion of the inspection, and it is clear that the successful application of the principles of hygiene to school life will depend almost entirely upon their efforts. What the mother is in the home, the teacher is in the school."

But it is clear that in order to render such assistance in the work of medical inspection, as the Board of Education here contemplates, the teachers must have a certain knowledge of the conditions of health and of the indications of illness.

On turning to the regulations for the training of teachers in Training Colleges, we find notices of what the Board of Education desires. The two years' student must study elementary science including hygiene and the principles of teaching including the care of children. The third year students must of necessity have gone through this course, and a one year student must have a knowledge of the subjects. The kind of knowledge required is to be found in Appendix C. of the Regulations. No scheme of elementary science is as yet prescribed by the Board, but the kind of knowledge of hygiene is indicated in the Syllabus for the Principles of Teaching. There we find that teachers are to study the physical health and physique of the scholars, and the means of maintaining it, the signs of distress and fatigue, physical or mental, the methods of detecting and dealing with physically and mentally defective children and the use of games as physical training. Teachers will readily be able to give assistance of the most valuable kind in medical inspection, by noting amongst the children their size as compared with their age, their shape, whether straight, crooked or bent, their condition of plumpness or emaciation, their colour, sallow, pale or rosy, their cleanliness and their clothing, which indicates the nature of their homes, the persistently open mouth, which is an evidence of adenoids, the frown which is often associated with headache, the screwed up eyes which accompanies short sight, the movements of chorea and the condition of the teeth. All these things will be obvious at a glance, but in the course of the classes, the teacher will notice whether the child is alert or stupid, and it is to be remembered that apparent stupidity is frequently due not to any want of brain power, but to defect of hearing or sight, so that the child does not correctly hear the question which is asked of it, nor the

explanation which the teacher gives, or does not see the diagram on a board or even the print of its lesson book. In play, the teachers will notice whether a child is short of breath or whether it is quite unable to run about like its fellows, or whether it may seem simply lazy, and it is to be remembered that laziness in a child is an unnatural thing and may very likely be the indication of serious disease. I have known of a child being regarded by its parents, its brothers and sisters as lazy and cross, and for these supposed faults the poor child was punished, but when taken to a doctor it was found to have serious heart disease which rendered it incapable of playing like the others, and irritable when they pressed it to join in their games. It is quite possible that I may be mistaken, but I think that the measurements of children, at least their height and weight, could be perfectly well taken by two or three of their fellow pupils. In some respects children are much more accurate than grown-up people. Many of you know the catch questions:—Who was the first man? Adam. Who was the first woman? Eve. Who killed Cain? Many a grown up person will answer Abel, but you will rarely or never find a child tripping. It almost invariably detects the catch and replies that nobody killed Cain.

In addition to noting the condition of the child, as a preparation for medical inspection on its entrance to school, the teacher must learn to observe alterations in the child's conditions during school life, such as the aggravation of any of the defects already noted and the occurrence of inattention, listlessness, languor, apparent inattention or irritability; the occurrence of stooping or of awkward positions, or the onset even of a slight cough, for all these may indicate the insidious approach of serious disease.

In addition to the help which the teachers can give to medical officers in inspecting, and the assistance they may afford in preparing an anthropometric survey, one of the most important duties is to teach the laws of health to the children themselves, because it is the ignorance and apathy of people which form one of the most serious hindrances to the improvement in health and physique of the nation. How are these laws of health to be taught? There are two methods of teaching hygiene; one is to give a systematic course on the skeleton, on the muscles, on the digestion, respiration, &c. To treat hygiene as you would treat history, that is as

affording good mental training and so useful as a means of education, but not having, as far as the child can see any bearing on its daily life.

The other way is to awaken the child's interest; to ask it why it feels warm; to show it that something burns inside just as in a locomotive, that instead of iron wheels its movements are carried on by muscles and bones. To teach it how these are made to act together in standing up or in playing cricket, to teach it the nature of food which supplies fuel and materials for repair. To teach it how the food is made available for the uses of its body, and carried to the part by the blood; while air enters the lungs and maintains the temperature and power, just as the draught which goes into the furnace of a locomotive. But even when taught in this way, by engaging the child's attention and leading it to ask questions before any answer is given to them, to make the child wish to learn instead of cramming it with dry facts, the teaching is, nevertheless, apt to be ineffective unless it is accompanied by a demonstration.

Many years ago I attended a course of chemical lectures given by the late Lord Playfair, and amongst the few parts of them that have remained firmly fixed in my memory is my recollection of his demonstration, not merely of his statement, that you can generally tell from the way in which a man washes his hands, whether he has been born in a part of the country where the water is hard or soft. For the man is apt to retain the habits of the child, and if the water is soft, he washes his hands with soap in the water in the basin. If the water is hard, he dips his hands into it repeatedly and washes his hands with the soap out of the basin, only using the water to remove all traces of the soap. This fact being once fixed in my mind the explanation has always remained attached to it, namely, that soft water dissolved soap without forming any precipitate, but that the lime in hard water forms an insoluble lime soap, which will not wash the hands and one is obliged to rub the soap outside the basin. If one looks into it afterwards one sees a thick curdy disagreeable-looking scum, which is the lime soap formed by the hard water. Such an illustration as this will exemplify the kind of teaching that ought to be universal, and I think that for small children, a dolly's class ought to form the basis of hygienic teaching. A lot of unpainted nine pins would

answer perfectly for dolly; the child's imagination supplies all that is necessary, and with them the children might be taught how to wash dolly, how to feed dolly, how to care for dolly and how to dress dolly. It seems to me that telling children to sew a piece of calico without any object, is a task better adapted for a prison cell than for a school room, but if the children are taught to cut out and sew clothes for dolly, it becomes a pleasure instead of a pain, and the learning is of the most thorough character.

It would be difficult perhaps, to teach the care of the teeth in a dolly's class, but this is easily done on the child itself. It is hard to say what is the cause of the defective teeth of the present race, but whether it be a cause or merely a coincidence, I think there can be little doubt that teeth are more defective of late years, since the importation of meat from abroad and its more general consumption at home. Fibres of meat are more apt to stick between the teeth than particles of the bread and afford a better nidus for the micro-organisms which lead to decay. A good deal has been said about the use of the tooth brushes amongst children, but it is apparently often forgotten, that the tooth brush only cleanses the back and front surfaces of the teeth, the very parts which are naturally kept clean by the movements of the lips, cheeks and tongue. It is the space between the teeth which the tooth brush does not cleanse, where decay is most apt to begin, and particles of the food lodging between the teeth are much more readily removed by a toothpick than by a tooth brush. But even if the tooth brush were everything that could be desired to prevent dental decay, the expense of it is prohibitive to many poor children. Sixpence for a tooth brush would be equivalent, in many cases, to dinner for a week, and poverty-stricken households cannot afford such a sum. The proper instrument for cleansing the teeth is one which shall be harmless, efficacious, and above all cheap, and such a thing is at hand in every house in the shape of a lucifer match that has been already used. The end of it simply requires to be cut into the shape of a wedge, and this can be employed either for the purpose of scraping the surface of the teeth or for removing particles of food from between. After it has served its purpose as a tooth brush, it can still be used as fuel by throwing it into the grate. Toothache is such a distressing thing to a little child

that, although it does not strictly belong to the purpose of my address, I may perhaps be pardoned for mentioning an easy way in which the pain may often be removed. Toothache is often caused by the secretions in the mouth becoming acid and biting upon an exposed nerve. If they are rendered alkaline, by washing the mouth out with a weak solution of bi-carbonate of soda, the toothache will often disappear instantaneously. The results which may be hoped for from a medical inspection and teaching of the laws of health to the rising generation, are very great indeed. We may hope that infant mortality would be very greatly diminished, that the tubercular affection of the joints will be recognised, while it is yet time, and that the number of cripples will be very greatly reduced ; that the physical deterioration will be averted, and that the next generation will grow up stronger and healthier.

I must not conclude without touching upon the question of alcohol, and the instruction to be given to children in reference to its injurious effects. There can be no doubt that the abuse of alcohol is one of the greatest evils in the country, but it seems to me that in teaching children about it, we must be very careful not to overstate the case and to avoid training a child to despise its parents. My own belief is that the craving for alcohol is, in the majority of cases, due to insufficient food, an ill-balanced nervous system, or physical weakness, and if we can teach the next generation how to cook dishes that shall be tasty, as well as nutritious, if we can teach them the conditions of ill-health and how they are to be avoided, and those of health and how they are to be attained, the alcoholic question will, to a great extent settle itself; the country will become more sober and more virtuous as well as more healthy and wealthy.









