

from your own experience. Almost everyone at some period or other, has vied with his companion in endeavouring at the greatest possible distance to make the flame of a lamp or candle flicker by blowing upon it. Should there be anyone within my hearing to-night who has never tried this experiment, I ask you to do so, and note particularly the attitude you instinctively assume. The body is made erect, the shoulders thrown back, the chest forward. And why? Because in this position more air can be taken into the lungs than in any other position, and the more air drawn into the lungs, the more can be driven out, and the more air driven in a particular direction by the same force, the farther its effects will be felt. Hence the straight, the erect, the natural attitude is that in which the lungs are well expanded in breathing, and if kept in this form day by day in the maturing child, they will develop into large lungs—lungs which can with ease and certainty perform their important function of purifying the blood. On the other hand, allow the spine to curve laterally or to bend forward, and full lung development is arrested. Smaller lungs are formed, and the purification of the blood is less perfect, and the tax upon their energies greater. Large lungs in a well formed chest mean comparative immunity from lung disease, especially consumption. Small lungs in a contracted, badly-formed chest, mean a tendency to disease, especially consumption. Much is said about hereditary pre-disposition, or the tendency children have to inherit the disease of their parents. We are told, e. g., that the child of consumptive parents enters upon existence with the germs of disease floating in his system, and only awaiting (it may be for twenty, thirty, or fifty years) a favourable opportunity for development—an opportunity for the germ to take root and bring forth fruit for the grave. This theory, which I cannot believe to be the correct one, has in it a fatalism so sad and discouraging that no one having the ill-fated germ could be aroused to make a struggle for life.

The correct theory I believe to be this: A consumptive parent with a badly formed chest, containing small lungs, may give, indeed is almost certain to give to the child, a chest and lungs of the same conformation; and what will be the destiny of that child? To a very large extent the destiny will be what his parents and teachers make it. I have no hesitation in affirming that a diligent attention to the principles I have been endeavouring to inculcate, with the observance of other sanitary measures, will go far to arrest the calamity which befel the parent. But some objector will complain that a rigid adherence to this straight, erect position will become tedious to the pupils. It will do so, however, only for a very short time, only until properly acquired, and then it will prove a source of comfort rather than a source of weariness.

Class-room calisthenics. 2. This brings me to the discussion of the second method of joint physical and mental culture, viz., class-room calisthenics. These exercises, consisting mainly for the class-room, of certain regular motions of the arms and head quickly executed, are intended, first, to call away the mind from the worry of study, and rest the brain, and second, to give vigor to the system by muscular exercise. At a certain word of command, given in a clear, firm tone by the teacher, see that every pupil instantly drops his work and obeys the order with the promptitude of a disciplined soldier. Give even one minute of vigorous calisthenic exercise, and the pupils will return to their studies with clearer and more vigorous brains, and the minute or two spent in the exercise will prove to be the very best kind of investment, both for mind and body. The traveller at sea hears the cry given, in a clear, stentorian voice, "Man the boats," and instantly it is repeated by the mates, until in a moment of time the command is clearly heard from stem to stern of the vessel. The cooks drop their pastry; the stewards cease their service. Every hand of the vessel hastens to his allotted boat, and in an incredibly short time the boats are swung clear of the vessel and lowered, and then returned to their places, and the hands all back to their work again. The discipline of the tar enables him to accomplish this work in the smallest interval of time. And why not the pupil? But another objector will say, "It will require much time to acquire this discipline and learn these calisthenic exercises." I am not aware that any really good thing can be accomplished without the expenditure of considerable time and energy. But we must remember that the object of our school system is mental discipline, and what better lesson can be instilled into the young mind than prompt obedience and order in carrying out a command.

But my objector must remember, in addition to the mental discipline, that physical culture and relief to the monotony of the school hours are invaluable. I would therefore urge upon the teachers

whom I have the honour of addressing the importance of the practice of calisthenics in the school-room as well as in the play-ground. No child under ten years should be required to sit longer than fifteen minutes without a change involving decided physical exercise. The mere alteration from the sitting posture to the standing in the class is valueless. Nor should those over ten years of age be exempt from calisthenics even in the class-room. The slightest appearance of languor or weariness creeping over a class at any time should be an indication, not to be disregarded, that the class should be called up for calisthenics. I am persuaded, apart from the physical advantages to be derived from these exercises, more real, genuine, healthy mental labour can be performed; the gain is, therefore, both physical and mental. Why, then, is it that a subject of such vital importance is so sadly neglected? I believe there are two reasons. 1st. The amount of work crowded into the programme is so great that teachers require all the time at their disposal to overtake it. 2nd. It is not one of the subjects on that examination to which with fear and trembling they are looking forward. I cannot leave this branch of my subject without expressing the opinion that every teacher in the land should possess and study a small work on "Drill and Calisthenics," by Mr. Hughes, Public School Inspector, of Toronto. It contains not only military drill, but a multitude of different kinds of exercises, all admirably calculated to aid in the development of a graceful and sound physical organization. My time will only allow me to mention the important subject of ventilation.

The air passing out of the lungs each time we breathe is loaded with carbonic acid and other impurities. The 2,300,000 sweat pores opening upon the surface of the body pour out daily from one to two pints of fluid containing impurities, some of which escape into the air. From these two sources, the atmosphere of a room occupied by forty or fifty children soon becomes thoroughly contaminated, unless ample means are provided for ventilation. Pure air is absolutely necessary for the purification of the blood, and pure blood is essential to the proper nourishment of the organs of the body. If, therefore, the air is impure, the blood will be impure, and the brain badly nourished, and consequently unable to afford that nerve power necessary for clear, profitable thought. I can only stop to mention one simple means of ventilation which can be adopted in nine-tenths, perhaps all, of the public schools of the country, and it is quite efficient. The upper sashes of opposite windows are lowered, and if the window blinds are attached to the window frames, they must be removed and fastened to the upper rails of the sashes, so that they will not interfere with the free ingress and egress of the air. The judgment of the teacher must determine the size of the opening. The warmer and stiller the air, the larger they would be, and vice versa. I desire now to ask your attention to the mode of punishment adopted in our schools, and ascertain, if possible, whether it is the method best adapted to promote physical health or otherwise. Man always has been, is, and I suppose always will be, a creature of extremes. A half a century ago and less, punishment was torture and cruelty. To be sentenced for six months to the horrid dungeons and cruelty of those days was almost equivalent to be sentenced to death. But Howard and other philanthropists grappled with the prison wrongs of that period, and the wave of amelioration which then commenced has swept over every civilized land, and now prisons are almost palaces, and all prison life means a loss of liberty. The same wave has unfortunately contaminated the ideas and practices of our teachers, and corporal punishment is completely abandoned, except in extreme cases. Unfortunate transgressors are sentenced to "stay in at intermission or after school is dismissed." The pupils are thus robbed of the fresh air and frolic of the intermission, and to the mental worry of study until the hour of intermission, is added the intensified worry of imprisonment in the vitiated air left by his companions, and without exercise, and without imbibing the pure external air, he must worry on until school is dismissed. Will any one say that these children have not been grossly wronged? Better far, especially for all the younger pupils, inflict corporal punishment, and give the offenders the fullest benefit of their scant opportunities to resuscitate their physical organizations. But my time is more than exhausted, and I must conclude. Teachers of this association, you have a work before you as far-reaching in its destiny as it is deep in importance. To you, in no small degree, is committed the problem of determining what shall be the physical and mental status of the generation that is to follow us. I urge you to realize fully the importance of your work, and to do your duty well.