

The object of Mr. Chadwick's paper is to establish that in ordinary public schools, too much time is devoted to book instruction, too little to the physical training of the pupil; that the mind is overworked—the body insufficiently exercised; that book-work is generally prolonged much beyond the capacity of the pupil, to the injury alike of his physical and mental powers. He further asserts that it is demonstrable, nay that it has been demonstrated by actual experiment, that by employing in the physical training of the pupils, more particularly in systematic military and naval drill, a portion of the time, now uselessly or hurtfully misspent on books, incalculable benefits, physical, moral, intellectual and economical, will result to the persons taught, and, as a matter of course, also to the nation.

The startling novelty of Mr. Chadwick's views, and the very magnitude of the benefits which he claimed as certain to follow from the general adoption of the plan of Education which he had inaugurated, had a tendency to make most people incredulous of the project, if not to reject it altogether as Utopian. The high reputation, however, of Mr. Chadwick, who had been for upwards of a quarter of a century an earnest and able laborer in the cause of social reforms, especially in matters connected with popular Education, would have amply sufficed with all thoughtful men to secure a respectful consideration for any opinion, however strange or paradoxical, which had received the sanction of his advocacy. But Mr. Chadwick did not rest satisfied with mere opinions or arguments in support of his views. He gave hard, unanswerable facts—facts sustained by the concurrent testimony of the most intelligent and experienced school teachers and of some of the most able military men in Great Britain.

Mr. Chadwick's theories gave rise, as might be expected, to no little discussion in England. France and Germany, and other European countries, took up the question, and on this continent too, especially among our practical neighbors in the States, Mr. Chadwick's views attracted not a little attention. Here, and there too, but particularly in England, the system was put to the true test, that of actual experiment. And it may be asserted, beyond controversy, that all the discussions which have taken place upon the merits of Mr. Chadwick's system, all the experience of its working, wherever it has been fairly tried, have alike served to establish more and more its infinite superiority over the old *regime*.

We shall now proceed to point out some of the evils, so far at least as over mental work is concerned, of the system of education usually followed in our public schools, and we shall then explain the half-time system more in detail, noting the sort of physical training—military and naval drill—which Mr. Chadwick advocates; and lastly, the enormous benefits to the individual and the nation which may be expected to flow from the general adoption of the new system; under the last head will be described, at some length, the important bearing of the proposed reformation in our school system upon one of the great questions of the day in Canada,—the question, namely, of our national defences.

Present routine of Education at the Schools.—First, then, let us consider briefly the routine of education at present pursued in the majority of our public schools, and examine what are its effects upon the mental and bodily health of those who are subjected to it.

We shall here quote the words of a recent able writer in the States, who has discussed this subject with reference to the school system of the Union. His remarks, however, are as applicable to the school system of Canada as to that of the United States:—

"Six hours a day, for the most part, is the allotted school time in this part of the country. Occasionally we find it five, and as often probably seven. The rooms, with some exceptions, are badly warmed and badly ventilated, the thermometer ranging, in winter, from 55 to 80, and the air contaminated by the respiration of one or two hundred pairs of lungs, and the impurities that arise from a leaky, over-heated stove or furnace. The time not devoted to study is occupied in recitations, or exercises that require a considerable degree of mental activity. To accomplish all the tasks, the regular school hours are seldom sufficient, and more or less time must be given to study out of school. It may be a single hour; it may be two, three or four. The time will be determined by the amount of the tasks; by the ambition, capacity or excessive anxiety of the pupil. With quick-witted children, who have no very strong desire to excel, and those who have neither desire nor capacity to excel, it is short. On the contrary, with the sluggish, but conscientious intellects, with the ambitious who strive for distinction, and the morbidly sensitive and timid, it is long."

The author from whom I have quoted then gives several examples of the lessons learned in a day in several public schools taken at random, and adds:—

"These may be considered as average examples of the amount of work now put upon the youthful brain. They are the first that

came to hand, but I have reason to believe that additional statistics of this kind would oftener show a larger than a smaller requirement. They will enable every one to judge for himself with sufficient accuracy, whether the strain to which they subject the mind, is or is not, compatible with the highest degree of healthy endurance.

Evening Study.—"In connection with this matter of out-of-school study, it must be considered that much of it is pursued in the evening, often until a late hour,—a practice more pernicious to the health, in youth or adult, than any other description of mental exercise. The brain is in no condition for sleep immediately after such occupation. The mind is swarming with verbs and fractions and triangles, and a tedious hour or two must pass away before it falls into a restless, scarcely refreshing slumber. Jaded and dispirited it enters upon the duties of the day with little of that buoyancy which comes only from 'nature's sweet restorer.'

"Thus it is that in all our cities and populous villages, the tender mind is kept in a state of the highest activity and effort, six or eight hours a day, for several years in succession, with only such intervals of rest as are furnished by the weekly holiday, and the occasional vacation. Sunday can hardly be admitted among these intervals, for that day has also its special school, with its lessons and rewards. In other words it is subjected to an amount of task-work which, estimated merely by the time it requires, is greater than what may be considered a proper allowance to a cultivated adult mind." * * * * *

Physical Evils Experienced.—But beside these evils to the mental health of children, resulting from the strain upon their mental powers, there is the physical evil resulting from the prolonged and unnatural physical restraint and sedentary confinement of children. We have high authority for stating that the enforced stillness of growing boys or girls in a school-room, however well warmed and ventilated, for five or six hours in the day, is a violation of the primary laws of physiology. The restlessness and inattention of the unfortunate little victims of our modern system, after a few hours schooling, their irrepressible eagerness to escape from their restraint, notwithstanding all the artifices of the teacher to interest them, might of themselves warn us that we are doing violence to nature. "The chief question," writes Dr. Schreiber, of Leipsic, is, "how are our children brought up? Is it according to the laws of nature? The answer is no, or we should not see so many children who were rosy and healthy before going to school, become pale and bloodless after attending school." Another writer says: "Nature commands children to play and romp, just as she does young colts and lambs. Pen them up in school, fetter their limbs, shut them out from God's sunshine and vivifying breezes, and what do we make them? Their physical integrity is certainly impaired, but is not their intellectual, nay, is not their moral integrity also affected by their unnatural and artificial system?" In their zeal for the mind, our modern educationists would seem to have altogether lost sight of the body. They forget that for the perfect man we must have the "*mens sana in corpore sano*;" they consider not that intimate "consent between mind and body," by virtue of which the former must suffer, if the latter is neglected.

In our modern system of education the physical training of children has, for the most part, been left altogether to nature or to accident. The evil effects of the system have, therefore, shewn themselves, as might have been anticipated, more among girls than boys; because the former are less likely than the latter to seek for themselves those out-door sports and amusements which counteract, to some extent, the injurious effect of excessive mental labor and bodily confinement.

Proof of the Evil.—But it may be alleged that we have exaggerated the evil effects of our present school system on the mental and physical health of the children attending school; we may be challenged to produce proof of our assertion. Innumerable instances are adduced of persons who gave gone through the ordeal without any appreciable impairment of their mental or bodily health, and hence the inference is somewhat hastily drawn that the system is innocent of the evils which we have laid at its door.

On this point it will suffice to cite the opinion of Dr. Ray, who, from his well-known ability and large experience in mental diseases, is peculiarly competent to speak with authority upon the subject:—

"The manner in which the evil (resulting from excessive mental application in schools) is manifested, is not very uniform, but however various the results, they agree in the one essential element of a disturbed or diminished nervous energy. It rarely comes immediately in the shape of insanity, for that is not a disease of childhood or early youth. It impairs the power of concentrating the faculties, and of mastering difficult problems, every attempt therat producing confusion and distress. It banishes the hope and buoyancy natural to youth, and puts in their place anxiety, gloom, and apprehension. It diminishes the conservative power of the animal economy to such a degree, that attacks of disease, which otherwise would have passed off safely, destroy life almost before danger is