nected and adapted to one another as to form a whole of great simplicity and perfection. But however wonderful the structure of the human frame, more wonderful will is its motive power-the power by which all the varied motions and functions of the body are accomplished-the power by which, without taking thought on our part, the food partaken of is digested and finally converted into blood for the nourishment of the various parts of the body-the power by which, even in moments of unconsciousness, the chest rises and falls in the act of breathing-the power which prompts the heart to its ceaseless toil of distributing the blood to all parts of the system near and remote. What is this power, and whence its origin ? In this age of gigantic monopolies, Gould lays his hands on the lines of a continent and plants his great central batteries in New York, and with the gentlest pressure of his finger upon the electric key he makes his will known to the remotest corners of the earth. Not only can the electrician in New York send the electric current along many wires to many widely separated points at the same instant of time, but selecting a single wire his behests may be sent solely to the humblest hamlet in the land. Very similar are the origin and workings of that power which controls the operations of the human system. The brain is the great nerve battery which moves the whole machinery. The nerve cords are threads which connect the centre v ith every portion of the body, however minute are the wires along which the nerve current flows to accomplish its mission. The mind is the operator which determines to what part of the body a message shall be sent, and what that message shall be. So long as Gould's batteries are efficient, and his wires intact, he can sit down to his instrument with the full assurance that there will be a prompt response to the touch of the key, at any point to which his wire runs. But should his battery become impaired, or his chemicals exhausted, or his wires broken, Gould, with all his wealth, a'l his commercial and electric experience; is feeble as a babe to elicit from his apparatus the response he desires. So it is with the human organization. Impair the nerve batteries or their connections, impair any of the many organs which manufacture and purify the blood, which nourish the nerve centres and keep them in repair, and however well educated the mind and however powerful the will, the system will not, and cannot, respond to the calls upon it. A sound digestive apparatus is essential to the manufacture of blood. Good lungs are essential to its purification, and pure blood essential to the healthy operations of the brain.

Importance of physical exercise. - Bu. experience in all ages and climes has proved that without physical exercise the organs of the system cannot be maintained in a healthy condition, and hence it is that wholesome mental toil is inseparable from physical exercise, or "co-education and development of mind and body" is the sound dectrine. Every intelligent member of the human race affords a wonderful example of what may be accomplished under this com-hined system. Here is a child of five years. Has his mind during bined system. this short period been quiescent ? Has his brain not been the seat of ceaseless energy and activity ? He has learned the name of every article in his home, in the garden, by the roadside, everywhere. He has also learned the use of them all. He has learned to speak a language. How has that tiny form with his delicate, unfolding organs accomplished a task of such magritude? What is the secret of the child's wonderful achievement? It is this : The ceaseless activity of his mind is accompanied by the ceaseless activity of his body. As he runs he learns, and as he learns he runs.

The great error of - ur educational system is that it has overlooked the necessity for this co-education, this co-development of mind and body. A child of f ve or six years upon entering school changes a life of physical freedom for that of physical imprisonment for four, or five, or six hours daily. But I will be told the programme of studies provides that drill and calisthenics shall be taught through every grade of the Public Schools. Yes, these subjects are in the programme, but they are not in the schools, and they are not because they are crowded but by the multitude of other subjects

eight, studied drill and calisthenics. Of the 12,136 who attended the High Schools in this same year, only 2,857, or one in four and a half, studied these subjects. Although I cannot speak authoritatively, my enquiries lead me to believe that oven where these subjects are said to be taught, the instructions are, in most cases, of a very superficial and perfunctory character.

How to combine physical and mental culture.-Practically, there-fore, as a system of instruction, physical development, along with montal culture, is to a very great extent ignored, both in the Public and High Schools of our Province. I shall now endes your to answer the important question. How may mental and physical culture be combined in a system of education ? 1st. In the schoolroom the attitude of the pupil, whether sitting or standing, should nover be prejudicial to health. The importance of this rule will be appreciated when I tell you that deformities which disfigure for life are acquired in the class-room. These are mainly, so far as my ob-servation goes, exclusively spinal in their character.

Spinal deformity and the ease with which it may be produced will be readily understood when we recall the structure of the spinal column. It is composed of 24 bones, connected by 23 soft cushions each about one-quarter the depth of the adjacent bone. A column, therefore, of 25 inches will comprise 5 inches of this connective tissue. One-and the most important--property of this tissue is elasticity. When submitted to pressure it yields to it, just as rubelasticity. ber does ; but whilst the rubber immediately returns to its natural state when the pressure is removed, the elastic cushions do not until after considerable time has elapsed. That I may impress this property of spinal connective tissue the more firmly on your minds. let me narrate the following physiological experiment :-- The height of seven persons was taken at night and in the morning, with the fcllowing results. The ages of the persons measured varied from 40 down to 5 years. The following are the figures, commencing with the eldest :---

:	Age.	Height at night.	Morning.	Increase.
1 2 3 4 5 6 7	40 33 26 14 11 9 5	Ft. In. 5 9 5 2½ 5 1½ 5 1½ 4 5₹ 4 5₹ 4 3 3 4½	Ft. In. 5 93 5 38 5 2 5 11 4 62 4 62 4 82 3 43	In. F

A cause of spinal curvature.—There is thus a gain during the night of from $\frac{1}{2}$ to $\frac{2}{5}$ of an inch, or reversing the order, there is a loss in height going on constantly during the activities of the day, amounting at its close to $\frac{1}{6}$ of an inch in the adult and to $\frac{1}{6}$ an inch in a child of five years; and all this is due to the condensation of the elastic tissue between the bones of the spinal column. You will have no difficulty now in understanding that if any unnatural posi-tion of the spine is assumed and maintained from day to day and week to week, the position becomes a fixity-a deformity. A child seated at a high desk in using the right arm, in writing, &c., cannot avoid curving the spine to the right. A pupil seated at a very low desk must stoop forward to his work, and the spine is bent backward at the shoulders. Humpback is produced. But apart from a want of adaptation between pupil and desk, these deformities are often, I believe most frequently, the result of *sreless*, lazy habits on the part of the pupil, and thoughtlessness or neglect on the part of the teacher. Pupils assume, and are allowed to assume, almost any attitude-ofter, abnormal attitudes in their seats. But a greater mistake, and it seems to be almost universal, is the vicious position a pupil is allowed to maintain in the reciting class, especi-ally in reading. The book is firmly grasped in both hands, the head is bent forward as far as a long suffering spins will allow, and in this mischievous attitude a child in the lower divisions passes hours. daily. But some one will say, what if these curvatures are acquired? After all is said, it is but a little deformity. Were I to ask you to correct these errors for the sake of adding grace to the figure, it would be an object not unworthy your most serious consideration, But apart from elegence of form there are reasons of a sanitary character of far greater importance. Every departure from the because they are crowded wit by the multitude of other subjects instructor of far greater importance. Every departure from the demanding attention. Drill and calisthenics are added to the list eavity, and, consequently, a diminution of lung capacity to purify the blood. To establish this proposition by a reference the comments, and this has been its practical working. Of the 487,012 who plex mechanism of the chest would involve more of your time than attended our Public Schools in 1879, only 58,507, or one in every 1 find at my disposal. The simplest proof I can give you is drawn